AM 2016 + Project
5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	2	0	1	2	4	3	21	10	6	180	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	2	0	1	2	4	3	23	11	7	196	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	249	249	196	245	243	28	196			34		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	249	249	196	245	243	28	196			34		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	696	650	846	704	654	1047	1377			1578		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	2	8	37	202
Volume Left	0	1	3	7
Volume Right	0	4	11	0
cSH	650	843	1377	1578
Volume to Capacity	0.00	0.01	0.00	0.00
Queue Length 95th (ft)	0	1	0	0
Control Delay (s)	10.6	9.3	0.7	0.3
Lane LOS	B	A	A	A
Approach Delay (s)	10.6	9.3	0.7	0.3
Approach LOS	B	A		

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		20.8%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Project
6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	9	39	20	120	175	13	3	4	4	6	137	34
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	10	42	22	130	190	14	3	4	4	7	149	37
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	204			64			642	538	53	538	542	197
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	204			64			642	538	53	538	542	197
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			92			99	99	100	98	63	96
cM capacity (veh/h)	1367			1538			247	409	1014	417	407	844

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	74	335	12	192
Volume Left	10	130	3	7
Volume Right	22	14	4	37
cSH	1367	1538	425	452
Volume to Capacity	0.01	0.08	0.03	0.43
Queue Length 95th (ft)	1	7	2	52
Control Delay (s)	1.1	3.4	13.7	18.7
Lane LOS	A	A	B	C
Approach Delay (s)	1.1	3.4	13.7	18.7
Approach LOS			B	C

Intersection Summary			
Average Delay		8.1	
Intersection Capacity Utilization		39.8%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Project
7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	4	0	0	14	5	0	0	0	16	0	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	4	0	0	15	5	0	0	0	17	0	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	21			4			30	27	4	24	24	18
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	21			4			30	27	4	24	24	18
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	99
cM capacity (veh/h)	1595			1617			973	865	1079	986	868	1061

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	5	21	0	23
Volume Left	1	0	0	17
Volume Right	0	5	0	5
cSH	1595	1617	1700	1003
Volume to Capacity	0.00	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	0	2
Control Delay (s)	1.5	0.0	0.0	8.7
Lane LOS	A		A	A
Approach Delay (s)	1.5	0.0	0.0	8.7
Approach LOS			A	A

Intersection Summary				
Average Delay			4.2	
Intersection Capacity Utilization			13.3%	ICU Level of Service			A
Analysis Period (min)			15	

LOS Engineering, Inc.

Synchro

AM 2016 + Project
8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	7	54	22	30	56	70	9	66	9	58	85	17
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
Hourly flow rate (vph)	8	59	24	33	61	76	10	72	10	63	92	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	90	170	91	174
Volume Left (vph)	8	33	10	63
Volume Right (vph)	24	76	10	18
Hadj (s)	-0.11	-0.20	-0.01	0.04
Departure Headway (s)	4.6	4.5	4.7	4.7
Degree Utilization, x	0.12	0.21	0.12	0.23
Capacity (veh/h)	715	753	710	723
Control Delay (s)	8.3	8.7	8.4	9.0
Approach Delay (s)	8.3	8.7	8.4	9.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay			8.7	
HCM Level of Service			A	
Intersection Capacity Utilization			37.6%	ICU Level of Service			A
Analysis Period (min)			15	

LOS Engineering, Inc.

Synchro

AM 2016 + Project
9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	9	13	3	14	1	8	16	0	7	166	37
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	10	14	3	15	1	9	17	0	8	180	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	16			24			178	48	17	57	55	16
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	16			24			178	48	17	57	55	16
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	98	100	99	78	96
cM capacity (veh/h)	1601			1591			626	839	1062	922	832	1064

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	28	20	26	228
Volume Left	4	3	9	8
Volume Right	14	1	0	40
cSH	1601	1591	754	868
Volume to Capacity	0.00	0.00	0.03	0.26
Queue Length 95th (ft)	0	0	3	26
Control Delay (s)	1.1	1.2	9.9	10.6
Lane LOS	A	A	A	B
Approach Delay (s)	1.1	1.2	9.9	10.6
Approach LOS			A	B

Intersection Summary				
Average Delay			9.1	
Intersection Capacity Utilization			21.5%	ICU Level of Service
Analysis Period (min)			15	

A

LOS Engineering, Inc.

Synchro

AM 2016 + Project
10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	1	2	1	1	1	40	19	1	3	141	19
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	1	2	1	1	1	43	21	1	3	153	21
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	280	279	164	281	289	21	174			22		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	280	279	164	281	289	21	174			22		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	97			100		
cM capacity (veh/h)	654	608	881	652	601	1056	1403			1594		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	3	65	177
Volume Left	1	1	43	3
Volume Right	2	1	1	21
cSH	735	724	1403	1594
Volume to Capacity	0.01	0.00	0.03	0.00
Queue Length 95th (ft)	0	0	2	0
Control Delay (s)	9.9	10.0	5.2	0.1
Lane LOS	A	A	A	A
Approach Delay (s)	9.9	10.0	5.2	0.1
Approach LOS	A	A		

Intersection Summary				
Average Delay			1.8	
Intersection Capacity Utilization			25.4%	ICU Level of Service
Analysis Period (min)			15	

A

LOS Engineering, Inc.

Synchro

AM 2016 + Project
11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	33	5	77	281	40	4	10	1	9	103	47
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	2	36	5	84	305	43	4	11	1	10	112	51
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	349			41			645	559	39	544	540	327
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	349			41			645	559	39	544	540	327
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			95			98	97	100	98	74	93
cM capacity (veh/h)	1210			1568			273	413	1033	422	424	714

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	43	433	16	173
Volume Left	2	84	4	10
Volume Right	5	43	1	51
cSH	1210	1568	377	482
Volume to Capacity	0.00	0.05	0.04	0.36
Queue Length 95th (ft)	0	4	3	40
Control Delay (s)	0.4	1.8	15.0	16.6
Lane LOS	A	A	B	C
Approach Delay (s)	0.4	1.8	15.0	16.6
Approach LOS			B	C

Intersection Summary			
Average Delay		5.9	
Intersection Capacity Utilization		44.0%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Project
12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	1	0	0	4	7	0	2	0	16	2	52
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	7	1	0	0	4	8	0	2	0	17	2	57
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	12			1			80	26	1	23	22	8
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	12			1			80	26	1	23	22	8
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	95
cM capacity (veh/h)	1607			1622			856	864	1083	983	868	1074

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	8	12	2	76
Volume Left	7	0	0	17
Volume Right	0	8	0	57
cSH	1607	1622	864	1045
Volume to Capacity	0.00	0.00	0.00	0.07
Queue Length 95th (ft)	0	0	0	6
Control Delay (s)	6.2	0.0	9.2	8.7
Lane LOS	A		A	A
Approach Delay (s)	6.2	0.0	9.2	8.7
Approach LOS			A	A

Intersection Summary			
Average Delay		7.5	
Intersection Capacity Utilization		22.7%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Project
1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	32	0	53	34	162	0	0	156	33
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	35	0	58	37	176	0	0	170	36
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	466	438	188	438	455	176	205			176		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	466	438	188	438	455	176	205			176		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	93	100	93	97			100		
cM capacity (veh/h)	463	499	855	518	487	867	1366			1400		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	92	213	205
Volume Left	35	37	0
Volume Right	58	0	36
cSH	1377	1366	1700
Volume to Capacity	0.07	0.03	0.12
Queue Length 95th (ft)	5	2	0
Control Delay (s)	10.6	1.5	0.0
Lane LOS	B	A	
Approach Delay (s)	10.6	1.5	0.0
Approach LOS	B		

Intersection Summary			
Average Delay			2.6
Intersection Capacity Utilization			34.0%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

PM 2016 + Project
2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	79	0	0	0	0	0	0	131	123	125	52	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	86	0	0	0	0	0	0	142	134	136	57	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	538	604	57	538	538	209	57			276		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	538	604	57	538	538	209	57			276		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	79	100	100	100	100	100	100			89		
cM capacity (veh/h)	418	369	1010	418	403	831	1548			1287		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	86	276	192
Volume Left	86	0	136
Volume Right	0	134	0
cSH	414	1700	1287
Volume to Capacity	0.21	0.16	0.11
Queue Length 95th (ft)	19	0	9
Control Delay (s)	16.0	0.0	6.0
Lane LOS	C		A
Approach Delay (s)	16.0	0.0	6.0
Approach LOS	C		

Intersection Summary			
Average Delay			4.6
Intersection Capacity Utilization			38.4%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

PM 2016 + Project
3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	209	39	1	0	9	21	1	1	1	15	0	14
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	227	42	1	0	10	23	1	1	1	16	0	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	33			43			534	530	43	520	519	21
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	33			43			534	530	43	520	519	21
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	86			100			100	100	100	96	100	99
cM capacity (veh/h)	1579			1565			401	389	1027	414	395	1056

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	271	33	3	32
Volume Left	227	0	1	16
Volume Right	1	23	1	15
cSH	1579	1565	497	586
Volume to Capacity	0.14	0.00	0.01	0.05
Queue Length 95th (ft)	13	0	0	4
Control Delay (s)	6.6	0.0	12.3	11.5
Lane LOS	A		B	B
Approach Delay (s)	6.6	0.0	12.3	11.5
Approach LOS			B	B

Intersection Summary			
Average Delay		6.5	
Intersection Capacity Utilization		30.4%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Project
4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1	0	0	10	62	0	167	5	1	18	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	1	0	0	11	67	0	182	5	1	20	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	280	210	21	208	209	184	23			187		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	280	210	21	208	209	184	23			187		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	98	92	100			100		
cM capacity (veh/h)	611	686	1056	748	687	858	1592			1387		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	78	187	24
Volume Left	0	0	0	1
Volume Right	0	67	5	3
cSH	686	829	1592	1387
Volume to Capacity	0.00	0.09	0.00	0.00
Queue Length 95th (ft)	0	8	0	0
Control Delay (s)	10.3	9.8	0.0	0.4
Lane LOS	B	A		A
Approach Delay (s)	10.3	9.8	0.0	0.4
Approach LOS	B	A		

Intersection Summary			
Average Delay		2.7	
Intersection Capacity Utilization		20.1%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Project
5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	0	3	10	2	4	0	168	4	3	8	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	0	3	11	2	4	0	183	4	3	9	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	205	202	9	203	200	185	9			187		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	205	202	9	203	200	185	9			187		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	99	100	99	100			100		
cM capacity (veh/h)	745	692	1073	751	694	857	1611			1387		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	8	17	187	12
Volume Left	4	11	0	3
Volume Right	3	4	4	0
cSH	858	767	1611	1387
Volume to Capacity	0.01	0.02	0.00	0.00
Queue Length 95th (ft)	1	2	0	0
Control Delay (s)	9.2	9.8	0.0	2.1
Lane LOS	A	A		A
Approach Delay (s)	9.2	9.8	0.0	2.1
Approach LOS	A	A		

Intersection Summary			
Average Delay		1.2	
Intersection Capacity Utilization		19.1%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc.

Synchro

PM 2016 + Project
6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	39	152	7	0	33	17	17	127	100	2	11	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	42	165	8	0	36	18	18	138	109	2	12	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	54			173			312	308	169	477	303	45
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	54			173			312	308	169	477	303	45
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			97	77	88	99	98	99
cM capacity (veh/h)	1551			1404			613	589	875	351	594	1025

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	215	54	265	22
Volume Left	42	0	18	2
Volume Right	8	18	109	8
cSH	1551	1404	682	644
Volume to Capacity	0.03	0.00	0.39	0.03
Queue Length 95th (ft)	2	0	46	3
Control Delay (s)	1.6	0.0	13.6	10.8
Lane LOS	A		B	B
Approach Delay (s)	1.6	0.0	13.6	10.8
Approach LOS			B	B

Intersection Summary			
Average Delay		7.5	
Intersection Capacity Utilization		40.6%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc.

Synchro

PM 2016 + Project
7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	12	0	0	7	19	0	0	0	12	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	3	13	0	0	8	21	0	0	0	13	0	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	28			13			39	48	13	38	38	18
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	28			13			39	48	13	38	38	18
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	99	100	100
cM capacity (veh/h)	1585			1605			964	842	1067	966	853	1061

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	16	28	0	14
Volume Left	3	0	0	13
Volume Right	0	21	0	1
cSH	1585	1605	1700	973
Volume to Capacity	0.00	0.00	0.00	0.01
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	1.5	0.0	0.0	8.8
Lane LOS	A		A	A
Approach Delay (s)	1.5	0.0	0.0	8.8
Approach LOS			A	A

Intersection Summary			
Average Delay		2.5	
Intersection Capacity Utilization		13.3%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc.

Synchro

PM 2016 + Project
8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	31	114	13	3	62	90	26	102	29	94	61	13
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
Hourly flow rate (vph)	34	124	14	3	67	98	28	111	32	102	66	14

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	172	168	171	183
Volume Left (vph)	34	3	28	102
Volume Right (vph)	14	98	32	14
Hadj (s)	0.02	-0.31	-0.04	0.10
Departure Headway (s)	5.1	4.8	5.0	5.1
Degree Utilization, x	0.24	0.22	0.24	0.26
Capacity (veh/h)	652	691	667	651
Control Delay (s)	9.7	9.1	9.5	9.9
Approach Delay (s)	9.7	9.1	9.5	9.9
Approach LOS	A	A	A	A

Intersection Summary			
Delay		9.6	
HCM Level of Service		A	
Intersection Capacity Utilization		48.6%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc.

Synchro

PM 2016 + Project

9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	13	2	1	5	3	7	134	8	18	34	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	36	14	2	1	5	3	8	146	9	20	37	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	9			16			118	98	15	178	97	7
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	9			16			118	98	15	178	97	7
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			99	81	99	97	95	100
cM capacity (veh/h)	1611			1601			810	774	1064	654	775	1075

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	52	10	162	60
Volume Left	36	1	8	20
Volume Right	2	3	9	3
cSH	1611	1601	787	741
Volume to Capacity	0.02	0.00	0.21	0.08
Queue Length 95th (ft)	2	0	19	7
Control Delay (s)	5.1	0.8	10.8	10.3
Lane LOS	A	A	B	B
Approach Delay (s)	5.1	0.8	10.8	10.3
Approach LOS			B	B

Intersection Summary			
Average Delay		9.3	
Intersection Capacity Utilization		25.7%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc.

Synchro

PM 2016 + Project

10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	19	3	28	2	0	2	15	129	3	1	36	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	21	3	30	2	0	2	16	140	3	1	39	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	218	217	39	248	216	142	39			143		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	218	217	39	248	216	142	39			143		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	97	100	100	100	99			100		
cM capacity (veh/h)	730	673	1032	677	674	906	1571			1439		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	54	4	160	40
Volume Left	21	2	16	1
Volume Right	30	2	3	0
cSH	868	775	1571	1439
Volume to Capacity	0.06	0.01	0.01	0.00
Queue Length 95th (ft)	5	0	1	0
Control Delay (s)	9.4	9.7	0.8	0.2
Lane LOS	A	A	A	A
Approach Delay (s)	9.4	9.7	0.8	0.2
Approach LOS	A	A		

Intersection Summary			
Average Delay		2.7	
Intersection Capacity Utilization		24.3%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc.

Synchro

PM 2016 + Project
11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	34	232	1	12	35	15	3	88	46	42	25	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	37	252	1	13	38	16	3	96	50	46	27	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	54			253			416	407	253	497	399	46
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	54			253			416	407	253	497	399	46
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			99	81	94	88	95	100
cM capacity (veh/h)	1551			1312			510	515	786	379	521	1023

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	290	67	149	76
Volume Left	37	13	3	46
Volume Right	1	16	50	3
cSH	1551	1312	583	432
Volume to Capacity	0.02	0.01	0.26	0.18
Queue Length 95th (ft)	2	1	25	16
Control Delay (s)	1.1	1.6	13.3	15.1
Lane LOS	A	A	B	C
Approach Delay (s)	1.1	1.6	13.3	15.1
Approach LOS			B	C

Intersection Summary			
Average Delay		6.1	
Intersection Capacity Utilization		38.4%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Project
12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	52	17	1	0	3	3	0	1	0	12	0	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	57	18	1	0	3	3	0	1	0	13	0	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	7			20			148	139	19	138	138	5
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	7			20			148	139	19	138	138	5
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			100	100	100	98	100	99
cM capacity (veh/h)	1614			1597			790	726	1059	810	727	1078

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	76	7	1	24
Volume Left	57	0	0	13
Volume Right	1	3	0	11
cSH	1614	1597	726	913
Volume to Capacity	0.04	0.00	0.00	0.03
Queue Length 95th (ft)	3	0	0	2
Control Delay (s)	5.5	0.0	10.0	9.0
Lane LOS	A		A	A
Approach Delay (s)	5.5	0.0	10.0	9.0
Approach LOS			A	A

Intersection Summary			
Average Delay		6.0	
Intersection Capacity Utilization		25.1%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

Appendix R

Year 2016 + Project Construction + Cumulative Intersection LOS Calculations

AM 2016 + Cumulative
1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	239	0	131	34	46	0	0	179	115
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	260	0	142	37	50	0	0	195	125
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	452	381	257	381	443	50	320			50		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	452	381	257	381	443	50	320			50		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	54	100	86	97			100		
cM capacity (veh/h)	435	535	782	564	494	1018	1240			1557		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	402	87	320
Volume Left	260	37	0
Volume Right	142	0	125
cSH	873	1240	1700
Volume to Capacity	0.46	0.03	0.19
Queue Length 95th (ft)	62	2	0
Control Delay (s)	14.0	3.5	0.0
Lane LOS	B	A	
Approach Delay (s)	14.0	3.5	0.0
Approach LOS	B		

Intersection Summary			
Average Delay			7.4
Intersection Capacity Utilization			44.0%
Analysis Period (min)			15
		ICU Level of Service	A

LOS Engineering, Inc.

Synchro

AM 2016 + Cumulative
2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	21	0	4	0	0	0	0	48	9	49	376	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	23	0	4	0	0	0	0	52	10	53	409	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	572	577	409	574	572	57	409			62		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	572	577	409	574	572	57	409			62		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	99	100	100	100	100			97		
cM capacity (veh/h)	419	413	643	415	415	1009	1150			1541		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	27	62	462
Volume Left	23	0	53
Volume Right	4	10	0
cSH	499	1700	1541
Volume to Capacity	0.05	0.04	0.03
Queue Length 95th (ft)	4	0	3
Control Delay (s)	13.5	0.0	1.2
Lane LOS	B		A
Approach Delay (s)	13.5	0.0	1.2
Approach LOS	B		

Intersection Summary			
Average Delay			1.6
Intersection Capacity Utilization			39.2%
Analysis Period (min)			15
		ICU Level of Service	A

LOS Engineering, Inc.

Synchro

AM 2016 + Cumulative
3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	7	0	1	33	26	0	1	0	187	0	191
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	8	0	1	36	28	0	1	0	203	0	208
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	64			8			276	83	8	69	68	50
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	64			8			276	83	8	69	68	50
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	78	100	80
cM capacity (veh/h)	1538			1613			537	805	1075	920	819	1018

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	12	65	1	411
Volume Left	4	1	0	203
Volume Right	0	28	0	208
cSH	1538	1613	805	967
Volume to Capacity	0.00	0.00	0.00	0.42
Queue Length 95th (ft)	0	0	0	54
Control Delay (s)	2.7	0.1	9.5	11.4
Lane LOS	A	A	A	B
Approach Delay (s)	2.7	0.1	9.5	11.4
Approach LOS			A	B

Intersection Summary			
Average Delay		9.7	
Intersection Capacity Utilization		38.8%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative
4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	3	0	3	2	0	2	16	1	0	226	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	3	0	3	2	0	2	17	1	0	246	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	271	270	247	271	271	18	249			18		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	271	270	247	271	271	18	249			18		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	100	100	100	100	100			100		
cM capacity (veh/h)	679	635	791	678	634	1061	1317			1598		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	3	5	21	249
Volume Left	0	3	2	0
Volume Right	0	0	1	3
cSH	635	660	1317	1598
Volume to Capacity	0.01	0.01	0.00	0.00
Queue Length 95th (ft)	0	1	0	0
Control Delay (s)	10.7	10.5	0.8	0.0
Lane LOS	B	B	A	
Approach Delay (s)	10.7	10.5	0.8	0.0
Approach LOS	B	B		

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization		22.1%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative
5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1	0	1	2	0	3	20	5	34	183	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	1	0	1	2	0	3	22	5	37	199	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	305	307	199	304	304	24	199			27		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	305	307	199	304	304	24	199			27		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			98		
cM capacity (veh/h)	633	592	842	634	594	1052	1373			1587		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	3	30	236
Volume Left	0	1	3	37
Volume Right	0	0	5	0
cSH	592	607	1373	1587
Volume to Capacity	0.00	0.01	0.00	0.02
Queue Length 95th (ft)	0	0	0	2
Control Delay (s)	11.1	11.0	0.8	1.3
Lane LOS	B	B	A	A
Approach Delay (s)	11.1	11.0	0.8	1.3
Approach LOS	B	B		

Intersection Summary			
Average Delay		1.4	
Intersection Capacity Utilization		27.4%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative
6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	43	51	120	179	13	3	4	4	2	148	34
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	9	47	55	130	195	14	3	4	4	2	161	37
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	209			102			672	561	74	561	582	202
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	209			102			672	561	74	561	582	202
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			91			99	99	100	99	58	96
cM capacity (veh/h)	1362			1490			222	395	987	402	385	839

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	111	339	12	200
Volume Left	9	130	3	2
Volume Right	55	14	4	37
cSH	1362	1490	398	428
Volume to Capacity	0.01	0.09	0.03	0.47
Queue Length 95th (ft)	0	7	2	61
Control Delay (s)	0.6	3.4	14.3	20.6
Lane LOS	A	A	B	C
Approach Delay (s)	0.6	3.4	14.3	20.6
Approach LOS			B	C

Intersection Summary			
Average Delay		8.3	
Intersection Capacity Utilization		40.2%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative
7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	4	0	0	14	5	0	0	0	68	0	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	4	0	0	15	5	0	0	0	74	0	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	21			4			30	27	4	24	24	18
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	21			4			30	27	4	24	24	18
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	93	100	99
cM capacity (veh/h)	1595			1617			973	865	1079	986	868	1061

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	5	21	0	79
Volume Left	1	0	0	74
Volume Right	0	5	0	5
cSH	1595	1617	1700	991
Volume to Capacity	0.00	0.00	0.00	0.08
Queue Length 95th (ft)	0	0	0	7
Control Delay (s)	1.5	0.0	0.0	8.9
Lane LOS	A		A	A
Approach Delay (s)	1.5	0.0	0.0	8.9
Approach LOS			A	A

Intersection Summary			
Average Delay		6.8	
Intersection Capacity Utilization		14.1%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative
8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	7	96	160	75	76	94	12	66	11	110	143	11
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
Hourly flow rate (vph)	8	104	174	82	83	102	13	72	12	120	155	12

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	286	266	97	287
Volume Left (vph)	8	82	13	120
Volume Right (vph)	174	102	12	12
Hadj (s)	-0.33	-0.13	-0.01	0.09
Departure Headway (s)	5.2	5.4	5.9	5.6
Degree Utilization, x	0.41	0.40	0.16	0.45
Capacity (veh/h)	647	622	519	590
Control Delay (s)	11.7	11.8	10.0	13.2
Approach Delay (s)	11.7	11.8	10.0	13.2
Approach LOS	B	B	B	B

Intersection Summary			
Delay		12.0	
HCM Level of Service		B	
Intersection Capacity Utilization		60.1%	ICU Level of Service B
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative

9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	9	13	3	14	1	8	20	0	7	437	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	2	10	14	3	15	1	9	22	0	8	475	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	16			24			289	44	17	54	51	16
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	16			24			289	44	17	54	51	16
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	97	100	99	43	99
cM capacity (veh/h)	1601			1591			362	845	1062	923	838	1064

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	26	20	30	490
Volume Left	2	3	9	8
Volume Right	14	1	0	8
cSH	1601	1591	612	842
Volume to Capacity	0.00	0.00	0.05	0.58
Queue Length 95th (ft)	0	0	4	96
Control Delay (s)	0.6	1.2	11.2	15.1
Lane LOS	A	A	B	C
Approach Delay (s)	0.6	1.2	11.2	15.1
Approach LOS			B	C

Intersection Summary			
Average Delay		13.7	
Intersection Capacity Utilization		34.0%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative

10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	1	1	1	1	1	26	20	11	23	358	53
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	1	1	1	1	1	28	22	12	25	389	58
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	554	558	418	554	581	28	447			34		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	554	558	418	554	581	28	447			34		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	97			98		
cM capacity (veh/h)	428	420	635	428	408	1048	1114			1578		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	3	3	62	472
Volume Left	1	1	28	25
Volume Right	1	1	12	58
cSH	477	522	1114	1578
Volume to Capacity	0.01	0.01	0.03	0.02
Queue Length 95th (ft)	1	0	2	1
Control Delay (s)	12.6	11.9	3.9	0.5
Lane LOS	B	B	A	A
Approach Delay (s)	12.6	11.9	3.9	0.5
Approach LOS	B	B		

Intersection Summary			
Average Delay		1.1	
Intersection Capacity Utilization		33.5%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative
11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	33	5	100	272	52	4	9	2	18	91	47
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	2	36	5	109	296	57	4	10	2	20	99	51
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	352			41			685	612	39	591	587	324
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	352			41			685	612	39	591	587	324
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			93			98	97	100	95	75	93
cM capacity (veh/h)	1207			1568			257	379	1033	387	392	717

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	43	461	16	170
Volume Left	2	109	4	20
Volume Right	5	57	2	51
cSH	1207	1568	364	453
Volume to Capacity	0.00	0.07	0.04	0.37
Queue Length 95th (ft)	0	6	4	43
Control Delay (s)	0.4	2.3	15.4	17.6
Lane LOS	A	A	C	C
Approach Delay (s)	0.4	2.3	15.4	17.6
Approach LOS			C	C

Intersection Summary			
Average Delay		6.2	
Intersection Capacity Utilization		45.9%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative
12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	48	1	0	0	4	7	0	2	0	16	2	21
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	52	1	0	0	4	8	0	2	0	17	2	23
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	12			1			138	117	1	115	114	8
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	12			1			138	117	1	115	114	8
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			100	100	100	98	100	98
cM capacity (veh/h)	1607			1622			794	748	1083	839	751	1074

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	53	12	2	42
Volume Left	52	0	0	17
Volume Right	0	8	0	23
cSH	1607	1622	748	945
Volume to Capacity	0.03	0.00	0.00	0.04
Queue Length 95th (ft)	3	0	0	4
Control Delay (s)	7.2	0.0	9.8	9.0
Lane LOS	A		A	A
Approach Delay (s)	7.2	0.0	9.8	9.0
Approach LOS			A	A

Intersection Summary			
Average Delay		7.1	
Intersection Capacity Utilization		25.0%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative
1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	35	0	53	54	268	0	0	178	35
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	38	0	58	59	291	0	0	193	38
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	650	621	212	621	640	291	232			291		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	650	621	212	621	640	291	232			291		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	90	100	92	96			100		
cM capacity (veh/h)	341	386	828	386	376	748	1336			1270		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	96	350	232
Volume Left	38	59	0
Volume Right	58	0	38
cSH	971	1336	1700
Volume to Capacity	0.10	0.04	0.14
Queue Length 95th (ft)	8	3	0
Control Delay (s)	12.3	1.7	0.0
Lane LOS	B	A	
Approach Delay (s)	12.3	1.7	0.0
Approach LOS	B		

Intersection Summary			
Average Delay			2.6
Intersection Capacity Utilization			41.9%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative
2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	124	0	31	0	0	0	0	205	209	125	77	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	135	0	34	0	0	0	0	223	227	136	84	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	692	805	84	709	692	336	84			450		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	692	805	84	709	692	336	84			450		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	58	100	97	100	100	100	100			88		
cM capacity (veh/h)	325	277	976	305	322	706	1513			1110		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	168	450	220
Volume Left	135	0	136
Volume Right	34	227	0
cSH	406	1700	1110
Volume to Capacity	0.42	0.26	0.12
Queue Length 95th (ft)	50	0	10
Control Delay (s)	20.7	0.0	5.8
Lane LOS	C		A
Approach Delay (s)	20.7	0.0	5.8
Approach LOS	C		

Intersection Summary			
Average Delay			5.7
Intersection Capacity Utilization			51.4%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative
3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	193	29	1	0	9	203	1	1	1	41	0	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	210	32	1	0	10	221	1	1	1	45	0	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	230			33			586	682	32	573	572	120
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	230			33			586	682	32	573	572	120
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	84			100			100	100	100	88	100	98
cM capacity (veh/h)	1337			1579			365	314	1042	377	363	931

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	242	230	3	59
Volume Left	210	0	1	45
Volume Right	1	221	1	14
cSH	1337	1579	436	440
Volume to Capacity	0.16	0.00	0.01	0.13
Queue Length 95th (ft)	14	0	1	11
Control Delay (s)	7.3	0.0	13.3	14.4
Lane LOS	A		B	B
Approach Delay (s)	7.3	0.0	13.3	14.4
Approach LOS			B	B

Intersection Summary			
Average Delay		5.0	
Intersection Capacity Utilization		41.6%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative
4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1	0	0	2	1	0	202	5	0	18	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	1	0	0	2	1	0	220	5	0	20	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	246	246	21	244	245	222	23			225		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	246	246	21	244	245	222	23			225		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	705	656	1056	709	657	817	1592			1344		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	3	225	23
Volume Left	0	0	0	0
Volume Right	0	1	5	3
cSH	656	703	1592	1344
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	10.5	10.1	0.0	0.0
Lane LOS	B	B		
Approach Delay (s)	10.5	10.1	0.0	0.0
Approach LOS	B	B		

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		20.9%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative
5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	0	3	5	1	36	0	171	4	3	8	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	0	3	5	1	39	0	186	4	3	9	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	243	205	9	207	203	188	9			190		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	243	205	9	207	203	188	9			190		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	99	100	95	100			100		
cM capacity (veh/h)	676	689	1073	747	691	854	1611			1384		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	8	46	190	12
Volume Left	4	5	0	3
Volume Right	3	39	4	0
cSH	804	835	1611	1384
Volume to Capacity	0.01	0.05	0.00	0.00
Queue Length 95th (ft)	1	4	0	0
Control Delay (s)	9.5	9.6	0.0	2.1
Lane LOS	A	A		A
Approach Delay (s)	9.5	9.6	0.0	2.1
Approach LOS	A	A		

Intersection Summary				
Average Delay			2.1	
Intersection Capacity Utilization			19.2%	ICU Level of Service	A
Analysis Period (min)			15	

LOS Engineering, Inc.

Synchro

PM 2016 + Cumulative
6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	39	156	8	0	37	3	48	138	100	2	12	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	42	170	9	0	40	3	52	150	109	2	13	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	43			178			314	302	174	484	305	42
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	43			178			314	302	174	484	305	42
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			91	75	87	99	98	99
cM capacity (veh/h)	1565			1398			611	594	870	340	592	1029

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	221	43	311	22
Volume Left	42	0	52	2
Volume Right	9	3	109	7
cSH	1565	1398	672	625
Volume to Capacity	0.03	0.00	0.46	0.03
Queue Length 95th (ft)	2	0	61	3
Control Delay (s)	1.6	0.0	14.9	11.0
Lane LOS	A		B	B
Approach Delay (s)	1.6	0.0	14.9	11.0
Approach LOS			B	B

Intersection Summary				
Average Delay			8.7	
Intersection Capacity Utilization			46.9%	ICU Level of Service	A
Analysis Period (min)			15	

LOS Engineering, Inc.

Synchro

PM 2016 + Cumulative
7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	12	0	0	7	71	0	0	0	14	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	3	13	0	0	8	77	0	0	0	15	0	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	85			13			67	104	13	66	66	46
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	85			13			67	104	13	66	66	46
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	100
cM capacity (veh/h)	1512			1605			924	784	1067	926	823	1023

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	16	85	0	16
Volume Left	3	0	0	15
Volume Right	0	77	0	1
cSH	1512	1605	1700	932
Volume to Capacity	0.00	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	1.5	0.0	0.0	8.9
Lane LOS	A		A	A
Approach Delay (s)	1.5	0.0	0.0	8.9
Approach LOS			A	A

Intersection Summary			
Average Delay		1.4	
Intersection Capacity Utilization		14.8%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative
8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	25	141	18	4	101	124	180	160	74	113	63	13
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
Hourly flow rate (vph)	27	153	20	4	110	135	196	174	80	123	68	14

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	200	249	450	205
Volume Left (vph)	27	4	196	123
Volume Right (vph)	20	135	80	14
Hadj (s)	0.00	-0.29	0.01	0.11
Departure Headway (s)	6.5	6.1	5.8	6.4
Degree Utilization, x	0.36	0.42	0.72	0.36
Capacity (veh/h)	482	520	598	501
Control Delay (s)	13.1	13.4	22.5	13.0
Approach Delay (s)	13.1	13.4	22.5	13.0
Approach LOS	B	B	C	B

Intersection Summary			
Delay		17.0	
HCM Level of Service		C	
Intersection Capacity Utilization		55.0%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative

9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	13	2	1	5	3	7	421	8	18	44	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	3	14	2	1	5	3	8	458	9	20	48	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	9			16			56	33	15	268	32	7
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	9			16			56	33	15	268	32	7
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	47	99	95	94	100
cM capacity (veh/h)	1611			1601			899	858	1064	392	858	1075

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	20	10	474	68
Volume Left	3	1	8	20
Volume Right	2	3	9	1
cSH	1611	1601	861	642
Volume to Capacity	0.00	0.00	0.55	0.11
Queue Length 95th (ft)	0	0	86	9
Control Delay (s)	1.2	0.8	14.2	11.3
Lane LOS	A	A	B	B
Approach Delay (s)	1.2	0.8	14.2	11.3
Approach LOS			B	B

Intersection Summary			
Average Delay		13.1	
Intersection Capacity Utilization		33.3%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative

10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	53	3	14	12	0	22	14	277	3	2	43	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	58	3	15	13	0	24	15	301	3	2	47	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	409	387	48	402	386	303	49			304		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	409	387	48	402	386	303	49			304		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	89	99	99	98	100	97	99			100		
cM capacity (veh/h)	530	541	1021	543	542	737	1558			1256		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	76	37	320	51
Volume Left	58	13	15	2
Volume Right	15	24	3	2
cSH	587	654	1558	1256
Volume to Capacity	0.13	0.06	0.01	0.00
Queue Length 95th (ft)	11	4	1	0
Control Delay (s)	12.0	10.8	0.4	0.3
Lane LOS	B	B	A	A
Approach Delay (s)	12.0	10.8	0.4	0.3
Approach LOS	B	B		

Intersection Summary			
Average Delay		3.0	
Intersection Capacity Utilization		34.3%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative
11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	34	223	1	13	35	14	3	76	69	44	24	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	37	242	1	14	38	15	3	83	75	48	26	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	53			243			407	398	243	507	391	46
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	53			243			407	398	243	507	391	46
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			99	84	91	87	95	100
cM capacity (veh/h)	1552			1323			518	521	796	369	526	1024

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	280	67	161	77
Volume Left	37	14	3	48
Volume Right	1	15	75	3
cSH	1552	1323	621	423
Volume to Capacity	0.02	0.01	0.26	0.18
Queue Length 95th (ft)	2	1	26	16
Control Delay (s)	1.1	1.7	12.8	15.4
Lane LOS	A	A	B	C
Approach Delay (s)	1.1	1.7	12.8	15.4
Approach LOS			B	C

Intersection Summary			
Average Delay		6.3	
Intersection Capacity Utilization		38.5%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative
12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	63	17	1	0	3	3	0	1	0	12	0	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	68	18	1	0	3	3	0	1	0	13	0	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	7			20			172	162	19	161	161	5
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	7			20			172	162	19	161	161	5
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			100	100	100	98	100	99
cM capacity (veh/h)	1614			1597			758	699	1059	777	700	1078

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	88	7	1	24
Volume Left	68	0	0	13
Volume Right	1	3	0	11
cSH	1614	1597	699	890
Volume to Capacity	0.04	0.00	0.00	0.03
Queue Length 95th (ft)	3	0	0	2
Control Delay (s)	5.8	0.0	10.2	9.2
Lane LOS	A		B	A
Approach Delay (s)	5.8	0.0	10.2	9.2
Approach LOS			B	A

Intersection Summary			
Average Delay		6.2	
Intersection Capacity Utilization		25.7%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative + Project
1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	290	0	131	34	47	0	0	199	115
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	315	0	142	37	51	0	0	216	125
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	475	404	279	404	466	51	341			51		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	475	404	279	404	466	51	341			51		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	42	100	86	97			100		
cM capacity (veh/h)	420	519	760	544	479	1017	1218			1555		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	458	88	341
Volume Left	315	37	0
Volume Right	142	0	125
cSH	739	1218	1700
Volume to Capacity	0.62	0.03	0.20
Queue Length 95th (ft)	109	2	0
Control Delay (s)	17.5	3.5	0.0
Lane LOS	C	A	
Approach Delay (s)	17.5	3.5	0.0
Approach LOS	C		

Intersection Summary			
Average Delay			9.4
Intersection Capacity Utilization			47.9%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative + Project
2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	21	0	14	0	0	0	0	49	11	49	447	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	23	0	15	0	0	0	0	53	12	53	486	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	652	658	486	659	652	59	486			65		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	652	658	486	659	652	59	486			65		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	97	100	100	100	100			97		
cM capacity (veh/h)	371	371	581	357	374	1006	1077			1537		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	38	65	539
Volume Left	23	0	53
Volume Right	15	12	0
cSH	619	1700	1537
Volume to Capacity	0.06	0.04	0.03
Queue Length 95th (ft)	5	0	3
Control Delay (s)	13.7	0.0	1.1
Lane LOS	B		A
Approach Delay (s)	13.7	0.0	1.1
Approach LOS	B		

Intersection Summary			
Average Delay			1.7
Intersection Capacity Utilization			42.9%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative + Project
3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	7	0	1	43	27	0	1	0	197	0	262
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	7	8	0	1	47	29	0	1	0	214	0	285
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	76			8			369	99	8	85	84	61
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	76			8			369	99	8	85	84	61
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	76	100	72
cM capacity (veh/h)	1523			1613			419	787	1075	897	802	1004

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	14	77	1	499
Volume Left	7	1	0	214
Volume Right	0	29	0	285
cSH	1523	1613	787	955
Volume to Capacity	0.00	0.00	0.00	0.52
Queue Length 95th (ft)	0	0	0	78
Control Delay (s)	3.4	0.1	9.6	12.8
Lane LOS	A	A	A	B
Approach Delay (s)	3.4	0.1	9.6	12.8
Approach LOS			A	B

Intersection Summary			
Average Delay		10.9	
Intersection Capacity Utilization		44.9%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative + Project
4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	11	0	7	2	1	2	17	5	61	246	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	12	0	8	2	1	2	18	5	66	267	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	429	430	269	433	429	21	271			24		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	429	430	269	433	429	21	271			24		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	98	100	98	100	100	100			96		
cM capacity (veh/h)	516	495	770	506	496	1056	1293			1591		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	12	11	26	337
Volume Left	0	8	2	66
Volume Right	0	1	5	3
cSH	495	531	1293	1591
Volume to Capacity	0.02	0.02	0.00	0.04
Queue Length 95th (ft)	2	2	0	3
Control Delay (s)	12.4	11.9	0.7	1.7
Lane LOS	B	B	A	A
Approach Delay (s)	12.4	11.9	0.7	1.7
Approach LOS	B	B		

Intersection Summary			
Average Delay		2.3	
Intersection Capacity Utilization		36.2%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative + Project
5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	3	0	1	2	4	3	21	15	38	203	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	3	0	1	2	4	3	23	16	41	221	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	346	349	221	342	341	31	221			39		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	346	349	221	342	341	31	221			39		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	100	100	100	100	100			97		
cM capacity (veh/h)	591	559	819	596	564	1043	1349			1571		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	3	8	42	262
Volume Left	0	1	3	41
Volume Right	0	4	16	0
cSH	559	773	1349	1571
Volume to Capacity	0.01	0.01	0.00	0.03
Queue Length 95th (ft)	0	1	0	2
Control Delay (s)	11.5	9.7	0.6	1.3
Lane LOS	B	A	A	A
Approach Delay (s)	11.5	9.7	0.6	1.3
Approach LOS	B	A		

Intersection Summary			
Average Delay		1.6	
Intersection Capacity Utilization		29.5%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative + Project
6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	45	53	120	179	13	3	4	4	6	160	34
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	15	49	58	130	195	14	3	4	4	7	174	37
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	209			107			695	578	78	577	599	202
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	209			107			695	578	78	577	599	202
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			91			98	99	100	98	54	96
cM capacity (veh/h)	1362			1484			202	385	983	390	374	839

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	122	339	12	217
Volume Left	15	130	3	7
Volume Right	58	14	4	37
cSH	1362	1484	375	414
Volume to Capacity	0.01	0.09	0.03	0.53
Queue Length 95th (ft)	1	7	2	74
Control Delay (s)	1.0	3.4	14.9	22.9
Lane LOS	A	A	B	C
Approach Delay (s)	1.0	3.4	14.9	22.9
Approach LOS			B	C

Intersection Summary			
Average Delay		9.3	
Intersection Capacity Utilization		41.2%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative + Project
7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	4	0	0	14	5	0	0	0	82	0	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	4	0	0	15	5	0	0	0	89	0	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	21			4			30	27	4	24	24	18
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	21			4			30	27	4	24	24	18
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	91	100	99
cM capacity (veh/h)	1595			1617			973	865	1079	986	868	1061

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	5	21	0	95
Volume Left	1	0	0	89
Volume Right	0	5	0	5
cSH	1595	1617	1700	990
Volume to Capacity	0.00	0.00	0.00	0.10
Queue Length 95th (ft)	0	0	0	8
Control Delay (s)	1.5	0.0	0.0	9.0
Lane LOS	A		A	A
Approach Delay (s)	1.5	0.0	0.0	9.0
Approach LOS			A	A

Intersection Summary			
Average Delay		7.1	
Intersection Capacity Utilization		14.8%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative + Project
8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	7	96	170	95	80	94	13	67	12	110	167	17
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
Hourly flow rate (vph)	8	104	185	103	87	102	14	73	13	120	182	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	297	292	100	320
Volume Left (vph)	8	103	14	120
Volume Right (vph)	185	102	13	18
Hadj (s)	-0.33	-0.11	-0.02	0.07
Departure Headway (s)	5.4	5.6	6.2	5.8
Degree Utilization, x	0.44	0.45	0.17	0.51
Capacity (veh/h)	618	596	487	575
Control Delay (s)	12.5	13.1	10.5	14.8
Approach Delay (s)	12.5	13.1	10.5	14.8
Approach LOS	B	B	B	B

Intersection Summary			
Delay		13.2	
HCM Level of Service		B	
Intersection Capacity Utilization		63.7%	ICU Level of Service B
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative + Project
9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	9	13	3	14	1	8	21	0	7	461	37
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	10	14	3	15	1	9	23	0	8	501	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	16			24			339	48	17	59	55	16
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	16			24			339	48	17	59	55	16
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			97	97	100	99	40	96
cM capacity (veh/h)	1601			1591			307	839	1062	914	832	1064

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	28	20	32	549
Volume Left	4	3	9	8
Volume Right	14	1	0	40
cSH	1601	1591	568	847
Volume to Capacity	0.00	0.00	0.06	0.65
Queue Length 95th (ft)	0	0	4	122
Control Delay (s)	1.1	1.2	11.7	16.7
Lane LOS	A	A	B	C
Approach Delay (s)	1.1	1.2	11.7	16.7
Approach LOS			B	C

Intersection Summary				
Average Delay			15.3	
Intersection Capacity Utilization			37.1%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative + Project
10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	1	2	1	1	1	50	21	11	23	376	59
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	1	2	1	1	1	54	23	12	25	409	64
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	630	634	441	631	660	29	473			35		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	630	634	441	631	660	29	473			35		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	95			98		
cM capacity (veh/h)	373	371	616	372	358	1046	1089			1577		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	3	89	498
Volume Left	1	1	54	25
Volume Right	2	1	12	64
cSH	464	466	1089	1577
Volume to Capacity	0.01	0.01	0.05	0.02
Queue Length 95th (ft)	1	1	4	1
Control Delay (s)	12.8	12.8	5.3	0.5
Lane LOS	B	B	A	A
Approach Delay (s)	12.8	12.8	5.3	0.5
Approach LOS	B	B		

Intersection Summary				
Average Delay			1.4	
Intersection Capacity Utilization			35.1%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative + Project
11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	33	5	110	290	70	4	10	2	19	113	47
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	2	36	5	120	315	76	4	11	2	21	123	51
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	391			41			748	673	39	643	638	353
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	391			41			748	673	39	643	638	353
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			92			98	97	100	94	66	93
cM capacity (veh/h)	1167			1568			212	347	1033	354	364	690

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	43	511	17	195
Volume Left	2	120	4	21
Volume Right	5	76	2	51
cSH	1167	1568	322	414
Volume to Capacity	0.00	0.08	0.05	0.47
Queue Length 95th (ft)	0	6	4	61
Control Delay (s)	0.4	2.3	16.8	21.2
Lane LOS	A	A	C	C
Approach Delay (s)	0.4	2.3	16.8	21.2
Approach LOS			C	C

Intersection Summary			
Average Delay		7.3	
Intersection Capacity Utilization		49.9%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2016 + Cumulative + Project
12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	49	1	0	0	4	7	0	2	0	16	2	53
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	53	1	0	0	4	8	0	2	0	17	2	58
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	12			1			174	120	1	117	116	8
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	12			1			174	120	1	117	116	8
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			100	100	100	98	100	95
cM capacity (veh/h)	1607			1622			725	745	1083	836	749	1074

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	54	12	2	77
Volume Left	53	0	0	17
Volume Right	0	8	0	58
cSH	1607	1622	745	998
Volume to Capacity	0.03	0.00	0.00	0.08
Queue Length 95th (ft)	3	0	0	6
Control Delay (s)	7.2	0.0	9.8	8.9
Lane LOS	A		A	A
Approach Delay (s)	7.2	0.0	9.8	8.9
Approach LOS			A	A

Intersection Summary			
Average Delay		7.5	
Intersection Capacity Utilization		27.0%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative + Project
1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	35	0	49	62	277	0	0	167	32
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	38	0	53	67	301	0	0	182	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	661	635	199	635	652	301	216			301		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	661	635	199	635	652	301	216			301		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	90	100	93	95			100		
cM capacity (veh/h)	335	376	842	376	368	739	1353			1260		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	91	368	216
Volume Left	38	67	0
Volume Right	53	0	35
cSH	903	1353	1700
Volume to Capacity	0.10	0.05	0.13
Queue Length 95th (ft)	8	4	0
Control Delay (s)	12.5	1.8	0.0
Lane LOS	B	A	
Approach Delay (s)	12.5	1.8	0.0
Approach LOS	B		

Intersection Summary			
Average Delay			2.7
Intersection Capacity Utilization			42.1%
Analysis Period (min)			15
		ICU Level of Service	A

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative + Project
2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	118	0	31	0	0	0	0	227	254	115	76	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	128	0	34	0	0	0	0	247	276	125	83	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	717	855	83	734	717	385	83			523		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	717	855	83	734	717	385	83			523		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	59	100	97	100	100	100	100			88		
cM capacity (veh/h)	313	260	977	294	313	663	1515			1044		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	162	523	208
Volume Left	128	0	125
Volume Right	34	276	0
cSH	395	1700	1044
Volume to Capacity	0.41	0.31	0.12
Queue Length 95th (ft)	49	0	10
Control Delay (s)	21.1	0.0	5.8
Lane LOS	C		A
Approach Delay (s)	21.1	0.0	5.8
Approach LOS	C		

Intersection Summary			
Average Delay			5.2
Intersection Capacity Utilization			54.4%
Analysis Period (min)			15
		ICU Level of Service	A

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative + Project
3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	253	37	1	0	8	212	1	1	1	41	0	14
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	275	40	1	0	9	230	1	1	1	45	0	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	239			41			730	830	41	716	715	124
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	239			41			730	830	41	716	715	124
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	79			100			100	100	100	85	100	98
cM capacity (veh/h)	1328			1568			279	242	1030	289	282	927

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	316	239	3	60
Volume Left	275	0	1	45
Volume Right	1	230	1	15
cSH	1328	1568	346	350
Volume to Capacity	0.21	0.00	0.01	0.17
Queue Length 95th (ft)	19	0	1	15
Control Delay (s)	7.6	0.0	15.5	17.4
Lane LOS	A		C	C
Approach Delay (s)	7.6	0.0	15.5	17.4
Approach LOS			C	C

Intersection Summary			
Average Delay		5.6	
Intersection Capacity Utilization		45.9%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative + Project
4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1	0	0	10	62	0	210	5	1	18	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	1	0	0	11	67	0	228	5	1	20	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	327	257	21	255	256	231	23			234		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	327	257	21	255	256	231	23			234		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	98	92	100			100		
cM capacity (veh/h)	566	646	1056	697	647	808	1592			1334		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	78	234	24
Volume Left	0	0	0	1
Volume Right	0	67	5	3
cSH	646	781	1592	1334
Volume to Capacity	0.00	0.10	0.00	0.00
Queue Length 95th (ft)	0	8	0	0
Control Delay (s)	10.6	10.1	0.0	0.4
Lane LOS	B	B		A
Approach Delay (s)	10.6	10.1	0.0	0.4
Approach LOS	B	B		

Intersection Summary			
Average Delay		2.4	
Intersection Capacity Utilization		22.4%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative + Project
5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	0	3	15	3	36	0	179	4	3	8	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	0	3	16	3	39	0	195	4	3	9	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	253	214	9	215	212	197	9			199		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	253	214	9	215	212	197	9			199		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	98	100	95	100			100		
cM capacity (veh/h)	664	682	1073	738	684	844	1611			1373		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	8	59	199	12
Volume Left	4	16	0	3
Volume Right	3	39	4	0
cSH	794	802	1611	1373
Volume to Capacity	0.01	0.07	0.00	0.00
Queue Length 95th (ft)	1	6	0	0
Control Delay (s)	9.6	9.8	0.0	2.1
Lane LOS	A	A		A
Approach Delay (s)	9.6	9.8	0.0	2.1
Approach LOS	A	A		

Intersection Summary			
Average Delay		2.4	
Intersection Capacity Utilization		19.7%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative + Project
6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	36	144	7	0	37	17	49	141	92	2	11	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	39	157	8	0	40	18	53	153	100	2	12	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	59			164			307	297	160	465	292	49
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	59			164			307	297	160	465	292	49
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			91	74	89	99	98	99
cM capacity (veh/h)	1545			1414			615	599	885	355	603	1019

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	203	59	307	27
Volume Left	39	0	53	2
Volume Right	8	18	100	13
cSH	1545	1414	673	701
Volume to Capacity	0.03	0.00	0.46	0.04
Queue Length 95th (ft)	2	0	60	3
Control Delay (s)	1.6	0.0	14.7	10.3
Lane LOS	A		B	B
Approach Delay (s)	1.6	0.0	14.7	10.3
Approach LOS			B	B

Intersection Summary			
Average Delay		8.6	
Intersection Capacity Utilization		45.7%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative + Project
7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	11	0	0	6	85	0	0	0	13	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	3	12	0	0	7	92	0	0	0	14	0	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	99			12			72	117	12	71	71	53
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	99			12			72	117	12	71	71	53
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	100
cM capacity (veh/h)	1494			1607			916	771	1069	919	817	1015

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	15	99	0	15
Volume Left	3	0	0	14
Volume Right	0	92	0	1
cSH	1494	1607	1700	925
Volume to Capacity	0.00	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	1.6	0.0	0.0	9.0
Lane LOS	A		A	A
Approach Delay (s)	1.6	0.0	0.0	9.0
Approach LOS			A	A

Intersection Summary			
Average Delay		1.2	
Intersection Capacity Utilization		15.6%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative + Project
8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	29	136	18	5	96	117	189	178	93	106	59	12
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
Hourly flow rate (vph)	32	148	20	5	104	127	205	193	101	115	64	13

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	199	237	500	192
Volume Left (vph)	32	5	205	115
Volume Right (vph)	20	127	101	13
Hadj (s)	0.01	-0.28	-0.01	0.11
Departure Headway (s)	6.6	6.2	5.7	6.4
Degree Utilization, x	0.36	0.41	0.80	0.34
Capacity (veh/h)	491	508	611	494
Control Delay (s)	13.3	13.4	27.3	12.8
Approach Delay (s)	13.3	13.4	27.3	12.8
Approach LOS	B	B	D	B

Intersection Summary			
Delay		19.4	
HCM Level of Service		C	
Intersection Capacity Utilization		58.3%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative + Project
9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	12	2	1	5	3	6	436	7	17	42	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	36	13	2	1	5	3	7	474	8	18	46	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	9			15			121	97	14	340	96	7
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	9			15			121	97	14	340	96	7
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			99	39	99	94	94	100
cM capacity (veh/h)	1611			1603			799	775	1066	307	776	1075

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	51	10	488	67
Volume Left	36	1	7	18
Volume Right	2	3	8	3
cSH	1611	1603	779	552
Volume to Capacity	0.02	0.00	0.63	0.12
Queue Length 95th (ft)	2	0	112	10
Control Delay (s)	5.2	0.8	17.1	12.4
Lane LOS	A	A	C	B
Approach Delay (s)	5.2	0.8	17.1	12.4
Approach LOS			C	B

Intersection Summary			
Average Delay		15.3	
Intersection Capacity Utilization		39.8%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative + Project
10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	58	3	38	12	0	22	14	286	3	2	41	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	63	3	41	13	0	24	15	311	3	2	45	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	417	395	46	436	394	312	47			314		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	417	395	46	436	394	312	47			314		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	88	99	96	97	100	97	99			100		
cM capacity (veh/h)	524	536	1024	502	536	728	1561			1246		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	108	37	329	49
Volume Left	63	13	15	2
Volume Right	41	24	3	2
cSH	645	628	1561	1246
Volume to Capacity	0.17	0.06	0.01	0.00
Queue Length 95th (ft)	15	5	1	0
Control Delay (s)	11.7	11.1	0.4	0.4
Lane LOS	B	B	A	A
Approach Delay (s)	11.7	11.1	0.4	0.4
Approach LOS	B	B		

Intersection Summary			
Average Delay		3.5	
Intersection Capacity Utilization		36.4%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2016 + Cumulative + Project
11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	31	224	1	12	32	14	3	93	76	60	23	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	34	243	1	13	35	15	3	101	83	65	25	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	50			245			396	388	244	513	380	42
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	50			245			396	388	244	513	380	42
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			99	81	90	81	95	100
cM capacity (veh/h)	1557			1322			529	530	795	352	535	1028

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	278	63	187	93
Volume Left	34	13	3	65
Volume Right	1	15	83	3
cSH	1557	1322	621	398
Volume to Capacity	0.02	0.01	0.30	0.24
Queue Length 95th (ft)	2	1	32	23
Control Delay (s)	1.1	1.7	13.3	16.8
Lane LOS	A	A	B	C
Approach Delay (s)	1.1	1.7	13.3	16.8
Approach LOS			B	C

Intersection Summary				
Average Delay			7.2	
Intersection Capacity Utilization			40.3%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc.

Synchro

PM 2016 + Cumulative + Project
12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	93	16	1	0	3	3	0	1	0	11	0	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	101	17	1	0	3	3	0	1	0	12	0	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	7			18			236	227	18	226	226	5
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	7			18			236	227	18	226	226	5
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			100			100	100	100	98	100	99
cM capacity (veh/h)	1614			1598			677	631	1061	694	631	1078

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	120	7	1	23
Volume Left	101	0	0	12
Volume Right	1	3	0	11
cSH	1614	1598	631	836
Volume to Capacity	0.06	0.00	0.00	0.03
Queue Length 95th (ft)	5	0	0	2
Control Delay (s)	6.3	0.0	10.7	9.4
Lane LOS	A		B	A
Approach Delay (s)	6.3	0.0	10.7	9.4
Approach LOS			B	A

Intersection Summary				
Average Delay			6.5	
Intersection Capacity Utilization			27.3%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc.

Synchro

Appendix S

Year 2019 Intersection LOS Calculations

AM 2019

1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	111	0	143	5	35	0	0	114	76
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	121	0	155	5	38	0	0	124	83
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	292	214	165	214	255	38	207			38		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	292	214	165	214	255	38	207			38		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	84	100	85	100			100		
cM capacity (veh/h)	559	681	879	740	646	1034	1365			1572		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	276	43	207
Volume Left	121	5	0
Volume Right	155	0	83
cSH	1694	1365	1700
Volume to Capacity	0.16	0.00	0.12
Queue Length 95th (ft)	15	0	0
Control Delay (s)	9.8	1.0	0.0
Lane LOS	A	A	
Approach Delay (s)	9.8	1.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay			5.2
Intersection Capacity Utilization			23.5%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

AM 2019

2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	0	2	0	0	0	0	18	7	53	179	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	24	0	2	0	0	0	0	20	8	58	195	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	333	337	195	334	333	23	195			27		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	333	337	195	334	333	23	195			27		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	100	100	100	100	100	100			96		
cM capacity (veh/h)	603	563	847	601	565	1053	1379			1587		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	26	27	252
Volume Left	24	0	58
Volume Right	2	8	0
cSH	658	1700	1587
Volume to Capacity	0.04	0.02	0.04
Queue Length 95th (ft)	3	0	3
Control Delay (s)	11.1	0.0	1.9
Lane LOS	B		A
Approach Delay (s)	11.1	0.0	1.9
Approach LOS	B		

Intersection Summary			
Average Delay			2.5
Intersection Capacity Utilization			29.0%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

AM 2019

3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	7	0	1	35	11	0	1	0	20	0	148
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	5	8	0	1	38	12	0	1	0	22	0	161
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	50			8			226	71	8	65	65	44
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	50			8			226	71	8	65	65	44
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	84
cM capacity (veh/h)	1557			1613			614	816	1075	925	823	1026

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	13	51	1	183
Volume Left	5	1	0	22
Volume Right	0	12	0	161
cSH	1557	1613	816	1013
Volume to Capacity	0.00	0.00	0.00	0.18
Queue Length 95th (ft)	0	0	0	16
Control Delay (s)	3.1	0.2	9.4	9.3
Lane LOS	A	A	A	A
Approach Delay (s)	3.1	0.2	9.4	9.3
Approach LOS			A	A

Intersection Summary			
Average Delay		7.1	
Intersection Capacity Utilization		27.0%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019

4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	4	0	4	2	0	2	18	1	0	185	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	4	0	4	2	0	2	20	1	0	201	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	229	228	203	230	230	20	205			21		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	229	228	203	230	230	20	205			21		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	100	99	100	100	100			100		
cM capacity (veh/h)	724	670	837	721	669	1058	1366			1595		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	7	23	205
Volume Left	0	4	2	0
Volume Right	0	0	1	4
cSH	670	703	1366	1595
Volume to Capacity	0.01	0.01	0.00	0.00
Queue Length 95th (ft)	0	1	0	0
Control Delay (s)	10.4	10.2	0.7	0.0
Lane LOS	B	B	A	
Approach Delay (s)	10.4	10.2	0.7	0.0
Approach LOS	B	B		

Intersection Summary			
Average Delay		0.5	
Intersection Capacity Utilization		20.3%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019

5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	1	2	0	4	21	0	2	173	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	1	2	0	4	23	0	2	188	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	225	224	188	224	224	23	188			23		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	225	224	188	224	224	23	188			23		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	726	672	854	729	672	1054	1386			1592		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	0	3	27	190
Volume Left	0	1	4	2
Volume Right	0	0	0	0
cSH	1700	690	1386	1592
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	0.0	10.2	1.2	0.1
Lane LOS	A	B	A	A
Approach Delay (s)	0.0	10.2	1.2	0.1
Approach LOS	A	B		

Intersection Summary				
Average Delay			0.4	
Intersection Capacity Utilization			19.4%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc. Synchro

AM 2019

6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	40	20	120	175	14	4	5	5	2	125	37
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	43	22	130	190	15	4	5	5	2	136	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	205			65			630	529	54	530	533	198
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	205			65			630	529	54	530	533	198
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			92			98	99	99	99	67	95
cM capacity (veh/h)	1366			1537			262	415	1013	422	413	843

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	70	336	15	178
Volume Left	4	130	4	2
Volume Right	22	15	5	40
cSH	1366	1537	434	467
Volume to Capacity	0.00	0.08	0.04	0.38
Queue Length 95th (ft)	0	7	3	44
Control Delay (s)	0.5	3.4	13.6	17.4
Lane LOS	A	A	B	C
Approach Delay (s)	0.5	3.4	13.6	17.4
Approach LOS			B	C

Intersection Summary				
Average Delay			7.5	
Intersection Capacity Utilization			39.0%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc. Synchro

AM 2019

7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	5	0	0	15	6	0	0	0	2	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	5	0	0	16	7	0	0	0	2	0	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	23			5			34	30	5	27	27	20
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	23			5			34	30	5	27	27	20
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	99
cM capacity (veh/h)	1592			1616			967	862	1078	982	865	1058

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	7	23	0	9
Volume Left	1	0	0	2
Volume Right	0	7	0	7
cSH	1592	1616	1700	1038
Volume to Capacity	0.00	0.00	0.00	0.01
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	1.2	0.0	0.0	8.5
Lane LOS	A		A	A
Approach Delay (s)	1.2	0.0	0.0	8.5
Approach LOS			A	A

Intersection Summary			
Average Delay		2.2	
Intersection Capacity Utilization		13.3%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019

8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	7	59	13	11	57	76	8	71	8	63	66	12
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
Hourly flow rate (vph)	8	64	14	12	62	83	9	77	9	68	72	13

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	86	157	95	153
Volume Left (vph)	8	12	9	68
Volume Right (vph)	14	83	9	13
Hadj (s)	-0.05	-0.27	0.00	0.07
Departure Headway (s)	4.6	4.3	4.7	4.7
Degree Utilization, x	0.11	0.19	0.12	0.20
Capacity (veh/h)	719	775	724	726
Control Delay (s)	8.2	8.3	8.3	8.8
Approach Delay (s)	8.2	8.3	8.3	8.8
Approach LOS	A	A	A	A

Intersection Summary			
Delay		8.5	
HCM Level of Service		A	
Intersection Capacity Utilization		31.5%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019

9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	9	14	4	15	1	8	17	0	7	155	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	2	10	15	4	16	1	9	18	0	8	168	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	17			25			139	48	17	57	55	17
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	17			25			139	48	17	57	55	17
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	98	100	99	80	99
cM capacity (veh/h)	1600			1589			695	840	1061	922	833	1062

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	27	22	27	184
Volume Left	2	4	9	8
Volume Right	15	1	0	8
cSH	1600	1589	787	844
Volume to Capacity	0.00	0.00	0.03	0.22
Queue Length 95th (ft)	0	0	3	21
Control Delay (s)	0.6	1.5	9.7	10.4
Lane LOS	A	A	A	B
Approach Delay (s)	0.6	1.5	9.7	10.4
Approach LOS			A	B

Intersection Summary			
Average Delay		8.6	
Intersection Capacity Utilization		19.2%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019

10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	1	1	1	1	1	18	20	1	4	133	14
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	1	1	1	1	1	20	22	1	4	145	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	224	223	152	224	230	22	160			23		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	224	223	152	224	230	22	160			23		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	99			100		
cM capacity (veh/h)	721	665	894	721	659	1055	1419			1592		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	3	3	42	164
Volume Left	1	1	20	4
Volume Right	1	1	1	15
cSH	748	779	1419	1592
Volume to Capacity	0.00	0.00	0.01	0.00
Queue Length 95th (ft)	0	0	1	0
Control Delay (s)	9.8	9.6	3.6	0.2
Lane LOS	A	A	A	A
Approach Delay (s)	9.8	9.6	3.6	0.2
Approach LOS	A	A		

Intersection Summary			
Average Delay		1.2	
Intersection Capacity Utilization		21.6%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019

11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	35	6	73	286	24	5	9	1	8	89	51
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	2	38	7	79	311	26	5	10	1	9	97	55
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	337			45			632	541	41	534	532	324
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	337			45			632	541	41	534	532	324
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			95			98	98	100	98	77	92
cM capacity (veh/h)	1222			1564			288	424	1030	430	430	717

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	47	416	16	161
Volume Left	2	79	5	9
Volume Right	7	26	1	55
cSH	1222	1564	379	499
Volume to Capacity	0.00	0.05	0.04	0.32
Queue Length 95th (ft)	0	4	3	35
Control Delay (s)	0.4	1.8	14.9	15.6
Lane LOS	A	A	B	C
Approach Delay (s)	0.4	1.8	14.9	15.6
Approach LOS			B	C

Intersection Summary			
Average Delay		5.5	
Intersection Capacity Utilization		42.3%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019

12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	1	0	0	5	7	0	2	0	18	2	21
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	7	1	0	0	5	8	0	2	0	20	2	23
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	13			1			47	27	1	24	23	9
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	13			1			47	27	1	24	23	9
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	98
cM capacity (veh/h)	1605			1622			929	862	1083	982	867	1072

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	8	13	2	45
Volume Left	7	0	0	20
Volume Right	0	8	0	23
cSH	1605	1622	862	1019
Volume to Capacity	0.00	0.00	0.00	0.04
Queue Length 95th (ft)	0	0	0	3
Control Delay (s)	6.2	0.0	9.2	8.7
Lane LOS	A		A	A
Approach Delay (s)	6.2	0.0	9.2	8.7
Approach LOS			A	A

Intersection Summary			
Average Delay		6.7	
Intersection Capacity Utilization		20.9%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019

1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	33	0	58	26	155	0	0	169	35
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	36	0	63	28	168	0	0	184	38
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	459	428	203	428	447	168	222			168		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	459	428	203	428	447	168	222			168		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	93	100	93	98			100		
cM capacity (veh/h)	468	508	838	529	496	876	1347			1409		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	99	197	222
Volume Left	36	28	0
Volume Right	63	0	38
cSH	1374	1347	1700
Volume to Capacity	0.07	0.02	0.13
Queue Length 95th (ft)	6	2	0
Control Delay (s)	10.5	1.3	0.0
Lane LOS	B	A	
Approach Delay (s)	10.5	1.3	0.0
Approach LOS	B		

Intersection Summary			
Average Delay			2.5
Intersection Capacity Utilization			33.9%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

PM 2019

2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	86	0	0	0	0	0	0	110	78	136	53	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	93	0	0	0	0	0	0	120	85	148	58	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	515	558	58	515	515	162	58			204		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	515	558	58	515	515	162	58			204		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	78	100	100	100	100	100	100			89		
cM capacity (veh/h)	431	391	1009	431	413	883	1547			1367		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	93	204	205
Volume Left	93	0	148
Volume Right	0	85	0
cSH	428	1700	1367
Volume to Capacity	0.22	0.12	0.11
Queue Length 95th (ft)	21	0	9
Control Delay (s)	15.7	0.0	6.0
Lane LOS	C		A
Approach Delay (s)	15.7	0.0	6.0
Approach LOS	C		

Intersection Summary			
Average Delay			5.4
Intersection Capacity Utilization			35.6%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

PM 2019

3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	150	32	1	0	9	12	1	1	1	15	0	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	163	35	1	0	10	13	1	1	1	16	0	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	23			36			392	384	35	379	378	16
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	23			36			392	384	35	379	378	16
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			100			100	100	100	97	100	99
cM capacity (veh/h)	1592			1575			516	493	1037	532	497	1063

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	199	23	3	30
Volume Left	163	0	1	16
Volume Right	1	13	1	14
cSH	1592	1575	609	692
Volume to Capacity	0.10	0.00	0.01	0.04
Queue Length 95th (ft)	9	0	0	3
Control Delay (s)	6.3	0.0	10.9	10.4
Lane LOS	A		B	B
Approach Delay (s)	6.3	0.0	10.9	10.4
Approach LOS			B	B

Intersection Summary			
Average Delay		6.3	
Intersection Capacity Utilization		26.7%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019

4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1	0	0	2	1	0	159	6	0	19	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	1	0	0	2	1	0	173	7	0	21	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	201	202	23	199	201	176	25			179		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	201	202	23	199	201	176	25			179		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	755	694	1054	758	695	867	1589			1396		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	3	179	25
Volume Left	0	0	0	0
Volume Right	0	1	7	4
cSH	694	744	1589	1396
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	10.2	9.9	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	10.2	9.9	0.0	0.0
Approach LOS	B	A		

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		18.7%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019

5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	0	4	0	0	5	0	160	5	4	7	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	5	0	4	0	0	5	0	174	5	4	8	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	198	196	8	197	193	177	8			179		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	198	196	8	197	193	177	8			179		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	100	100	99	100			100		
cM capacity (veh/h)	754	698	1075	757	700	866	1613			1396		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	10	5	179	12
Volume Left	5	0	0	4
Volume Right	4	5	5	0
cSH	869	866	1613	1396
Volume to Capacity	0.01	0.01	0.00	0.00
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	9.2	9.2	0.0	2.8
Lane LOS	A	A		A
Approach Delay (s)	9.2	9.2	0.0	2.8
Approach LOS	A	A		

Intersection Summary				
Average Delay			0.8	
Intersection Capacity Utilization			20.4%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc. Synchro

PM 2019

6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	42	165	7	0	34	4	17	125	109	2	12	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	46	179	8	0	37	4	18	136	118	2	13	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	41			187			321	316	183	500	317	39
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	41			187			321	316	183	500	317	39
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			97	77	86	99	98	100
cM capacity (veh/h)	1568			1387			606	583	859	333	581	1032

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	233	41	273	16
Volume Left	46	0	18	2
Volume Right	8	4	118	1
cSH	1568	1387	679	543
Volume to Capacity	0.03	0.00	0.40	0.03
Queue Length 95th (ft)	2	0	48	2
Control Delay (s)	1.6	0.0	13.8	11.8
Lane LOS	A		B	B
Approach Delay (s)	1.6	0.0	13.8	11.8
Approach LOS			B	B

Intersection Summary				
Average Delay			7.7	
Intersection Capacity Utilization			41.1%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc. Synchro

PM 2019

7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	13	0	0	7	6	0	0	0	13	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	14	0	0	8	7	0	0	0	14	0	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	14			14			35	37	14	34	34	11
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	14			14			35	37	14	34	34	11
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	99	100	100
cM capacity (veh/h)	1604			1604			969	853	1066	971	857	1070

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	18	14	0	15
Volume Left	4	0	0	14
Volume Right	0	7	0	1
cSH	1604	1604	1700	978
Volume to Capacity	0.00	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	1.7	0.0	0.0	8.7
Lane LOS	A		A	A
Approach Delay (s)	1.7	0.0	0.0	8.7
Approach LOS			A	A

Intersection Summary			
Average Delay		3.4	
Intersection Capacity Utilization		14.2%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019

8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	27	119	13	2	67	98	18	85	9	103	65	14
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
Hourly flow rate (vph)	29	129	14	2	73	107	20	92	10	112	71	15

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	173	182	122	198
Volume Left (vph)	29	2	20	112
Volume Right (vph)	14	107	10	15
Hadj (s)	0.02	-0.32	0.02	0.10
Departure Headway (s)	5.0	4.7	5.1	5.1
Degree Utilization, x	0.24	0.24	0.17	0.28
Capacity (veh/h)	664	710	647	661
Control Delay (s)	9.6	9.1	9.1	10.0
Approach Delay (s)	9.6	9.1	9.1	10.0
Approach LOS	A	A	A	A

Intersection Summary			
Delay		9.5	
HCM Level of Service		A	
Intersection Capacity Utilization		44.8%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019

9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	14	2	1	6	4	7	119	8	20	35	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	15	2	1	7	4	8	129	9	22	38	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	11			17			56	38	16	109	37	9
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	11			17			56	38	16	109	37	9
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	85	99	97	96	100
cM capacity (veh/h)	1608			1600			906	851	1063	760	852	1073

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	22	12	146	61
Volume Left	4	1	8	22
Volume Right	2	4	9	1
cSH	1608	1600	864	820
Volume to Capacity	0.00	0.00	0.17	0.07
Queue Length 95th (ft)	0	0	15	6
Control Delay (s)	1.5	0.7	10.0	9.7
Lane LOS	A	A	B	A
Approach Delay (s)	1.5	0.7	10.0	9.7
Approach LOS			B	A

Intersection Summary			
Average Delay		8.7	
Intersection Capacity Utilization		20.2%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019

10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	4	5	2	0	2	15	120	4	1	38	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	15	4	5	2	0	2	16	130	4	1	41	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	211	211	41	216	209	133	41			135		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	211	211	41	216	209	133	41			135		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	99	99	100	100	100	99			100		
cM capacity (veh/h)	738	679	1030	726	681	917	1568			1450		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	25	4	151	42
Volume Left	15	2	16	1
Volume Right	5	2	4	0
cSH	774	811	1568	1450
Volume to Capacity	0.03	0.01	0.01	0.00
Queue Length 95th (ft)	3	0	1	0
Control Delay (s)	9.8	9.5	0.9	0.2
Lane LOS	A	A	A	A
Approach Delay (s)	9.8	9.5	0.9	0.2
Approach LOS	A	A		

Intersection Summary			
Average Delay		1.9	
Intersection Capacity Utilization		24.0%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019

11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	37	232	1	13	38	15	4	72	39	26	26	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	40	252	1	14	41	16	4	78	42	28	28	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	58			253			429	419	253	492	411	49
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	58			253			429	419	253	492	411	49
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			99	85	95	93	94	100
cM capacity (veh/h)	1547			1312			497	506	786	395	511	1019

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	293	72	125	61
Volume Left	40	14	4	28
Volume Right	1	16	42	4
cSH	1547	1312	575	464
Volume to Capacity	0.03	0.01	0.22	0.13
Queue Length 95th (ft)	2	1	21	11
Control Delay (s)	1.2	1.6	13.0	13.9
Lane LOS	A	A	B	B
Approach Delay (s)	1.2	1.6	13.0	13.9
Approach LOS			B	B

Intersection Summary				
Average Delay			5.3	
Intersection Capacity Utilization			33.8%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc. Synchro

PM 2019

12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	21	19	1	0	4	4	0	1	0	13	0	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	23	21	1	0	4	4	0	1	0	14	0	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	9			22			83	76	21	74	74	7
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	9			22			83	76	21	74	74	7
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	98	100	99
cM capacity (veh/h)	1611			1594			886	803	1056	906	805	1076

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	45	9	1	24
Volume Left	23	0	0	14
Volume Right	1	4	0	10
cSH	1611	1594	803	968
Volume to Capacity	0.01	0.00	0.00	0.02
Queue Length 95th (ft)	1	0	0	2
Control Delay (s)	3.8	0.0	9.5	8.8
Lane LOS	A		A	A
Approach Delay (s)	3.8	0.0	9.5	8.8
Approach LOS			A	A

Intersection Summary				
Average Delay			5.0	
Intersection Capacity Utilization			23.5%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc. Synchro

Appendix T

Year 2019 + Project Construction Intersection LOS Calculations

AM 2019 + Project
1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	162	0	143	5	36	0	0	134	76
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	176	0	155	5	39	0	0	146	83
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	315	237	187	237	278	39	228			39		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	315	237	187	237	278	39	228			39		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	75	100	85	100			100		
cM capacity (veh/h)	540	661	855	715	627	1032	1340			1571		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	332	45	228
Volume Left	176	5	0
Volume Right	155	0	83
cSH	1347	1340	1700
Volume to Capacity	0.25	0.00	0.13
Queue Length 95th (ft)	24	0	0
Control Delay (s)	10.5	1.0	0.0
Lane LOS	B	A	
Approach Delay (s)	10.5	1.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay			5.8
Intersection Capacity Utilization			27.3%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

AM 2019 + Project
2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	0	12	0	0	0	0	19	9	53	250	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	24	0	13	0	0	0	0	21	10	58	272	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	412	417	272	419	412	26	272			30		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	412	417	272	419	412	26	272			30		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	100	98	100	100	100	100			96		
cM capacity (veh/h)	535	507	767	520	510	1050	1292			1582		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	37	30	329
Volume Left	24	0	58
Volume Right	13	10	0
cSH	826	1700	1582
Volume to Capacity	0.04	0.02	0.04
Queue Length 95th (ft)	4	0	3
Control Delay (s)	11.2	0.0	1.6
Lane LOS	B		A
Approach Delay (s)	11.2	0.0	1.6
Approach LOS	B		

Intersection Summary			
Average Delay			2.3
Intersection Capacity Utilization			32.8%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

AM 2019 + Project
3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	7	0	1	45	12	0	1	0	30	0	219
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	8	8	0	1	49	13	0	1	0	33	0	238
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	62			8			318	87	8	81	80	55
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	62			8			318	87	8	81	80	55
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	96	100	76
cM capacity (veh/h)	1541			1613			483	799	1075	902	805	1011

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	15	63	1	271
Volume Left	8	1	0	33
Volume Right	0	13	0	238
cSH	1541	1613	799	997
Volume to Capacity	0.00	0.00	0.00	0.27
Queue Length 95th (ft)	0	0	0	28
Control Delay (s)	3.7	0.1	9.5	10.0
Lane LOS	A	A	A	A
Approach Delay (s)	3.7	0.1	9.5	10.0
Approach LOS			A	A

Intersection Summary			
Average Delay		7.9	
Intersection Capacity Utilization		33.5%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019 + Project
4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	12	0	8	2	1	2	19	5	61	205	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	13	0	9	2	1	2	21	5	66	223	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	388	388	225	392	388	23	227			26		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	388	388	225	392	388	23	227			26		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	98	100	98	100	100	100			96		
cM capacity (veh/h)	550	523	814	538	523	1053	1341			1588		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	13	12	28	293
Volume Left	0	9	2	66
Volume Right	0	1	5	4
cSH	523	560	1341	1588
Volume to Capacity	0.02	0.02	0.00	0.04
Queue Length 95th (ft)	2	2	0	3
Control Delay (s)	12.1	11.6	0.6	1.9
Lane LOS	B	B	A	A
Approach Delay (s)	12.1	11.6	0.6	1.9
Approach LOS	B	B		

Intersection Summary			
Average Delay		2.5	
Intersection Capacity Utilization		35.0%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019 + Project
5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	2	0	1	2	4	4	22	10	6	193	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	2	0	1	2	4	4	24	11	7	210	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	266	266	210	262	261	29	210			35		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	266	266	210	262	261	29	210			35		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	678	635	830	685	639	1045	1361			1577		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	2	8	39	216
Volume Left	0	1	4	7
Volume Right	0	4	11	0
cSH	635	832	1361	1577
Volume to Capacity	0.00	0.01	0.00	0.00
Queue Length 95th (ft)	0	1	0	0
Control Delay (s)	10.7	9.4	0.9	0.3
Lane LOS	B	A	A	A
Approach Delay (s)	10.7	9.4	0.9	0.3
Approach LOS	B	A		

Intersection Summary				
Average Delay			0.7	
Intersection Capacity Utilization			21.3%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc.

Synchro

AM 2019 + Project
6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	42	22	120	175	14	4	5	5	6	137	37
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	11	46	24	130	190	15	4	5	5	7	149	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	205			70			653	546	58	546	550	198
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	205			70			653	546	58	546	550	198
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			91			98	99	99	98	63	95
cM capacity (veh/h)	1366			1531			241	404	1009	410	402	843

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	80	336	15	196
Volume Left	11	130	4	7
Volume Right	24	15	5	40
cSH	1366	1531	413	451
Volume to Capacity	0.01	0.09	0.04	0.43
Queue Length 95th (ft)	1	7	3	54
Control Delay (s)	1.1	3.4	14.1	19.0
Lane LOS	A	A	B	C
Approach Delay (s)	1.1	3.4	14.1	19.0
Approach LOS			B	C

Intersection Summary				
Average Delay			8.2	
Intersection Capacity Utilization			40.0%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc.

Synchro

AM 2019 + Project
7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	5	0	0	15	6	0	0	0	16	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	5	0	0	16	7	0	0	0	17	0	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	23			5			34	30	5	27	27	20
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	23			5			34	30	5	27	27	20
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	99
cM capacity (veh/h)	1592			1616			967	862	1078	982	865	1058

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	7	23	0	24
Volume Left	1	0	0	17
Volume Right	0	7	0	7
cSH	1592	1616	1700	1002
Volume to Capacity	0.00	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	0	2
Control Delay (s)	1.2	0.0	0.0	8.7
Lane LOS	A		A	A
Approach Delay (s)	1.2	0.0	0.0	8.7
Approach LOS			A	A

Intersection Summary			
Average Delay		4.0	
Intersection Capacity Utilization		13.3%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019 + Project
8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	7	59	23	31	61	76	9	72	9	63	90	18
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
Hourly flow rate (vph)	8	64	25	34	66	83	10	78	10	68	98	20

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	97	183	98	186
Volume Left (vph)	8	34	10	68
Volume Right (vph)	25	83	10	20
Hadj (s)	-0.11	-0.20	-0.01	0.04
Departure Headway (s)	4.7	4.5	4.8	4.7
Degree Utilization, x	0.13	0.23	0.13	0.24
Capacity (veh/h)	701	742	696	711
Control Delay (s)	8.4	8.9	8.5	9.3
Approach Delay (s)	8.4	8.9	8.5	9.3
Approach LOS	A	A	A	A

Intersection Summary			
Delay		8.9	
HCM Level of Service		A	
Intersection Capacity Utilization		38.9%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019 + Project
9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	9	14	4	15	1	8	18	0	7	179	37
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	10	15	4	16	1	9	20	0	8	195	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	17			25			189	52	17	61	59	17
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	17			25			189	52	17	61	59	17
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	98	100	99	76	96
cM capacity (veh/h)	1600			1589			605	835	1061	913	827	1062

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	29	22	28	242
Volume Left	4	4	9	8
Volume Right	15	1	0	40
cSH	1600	1589	747	861
Volume to Capacity	0.00	0.00	0.04	0.28
Queue Length 95th (ft)	0	0	3	29
Control Delay (s)	1.1	1.5	10.0	10.8
Lane LOS	A	A	B	B
Approach Delay (s)	1.1	1.5	10.0	10.8
Approach LOS			B	B

Intersection Summary				
Average Delay			9.2	
Intersection Capacity Utilization			22.3%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc.

Synchro

AM 2019 + Project
10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	1	2	1	1	1	42	21	1	4	151	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	1	2	1	1	1	46	23	1	4	164	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	300	299	175	301	309	23	186			24		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	300	299	175	301	309	23	186			24		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	97			100		
cM capacity (veh/h)	633	591	868	631	584	1053	1389			1591		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	3	70	190
Volume Left	1	1	46	4
Volume Right	2	1	1	22
cSH	718	706	1389	1591
Volume to Capacity	0.01	0.00	0.03	0.00
Queue Length 95th (ft)	0	0	3	0
Control Delay (s)	10.0	10.1	5.1	0.2
Lane LOS	B	B	A	A
Approach Delay (s)	10.0	10.1	5.1	0.2
Approach LOS	B	B		

Intersection Summary				
Average Delay			1.8	
Intersection Capacity Utilization			26.2%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc.

Synchro

AM 2019 + Project
11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	35	6	83	304	42	5	10	1	9	111	51
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	2	38	7	90	330	46	5	11	1	10	121	55
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	376			45			695	602	41	586	583	353
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	376			45			695	602	41	586	583	353
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			94			98	97	100	98	70	92
cM capacity (veh/h)	1182			1564			240	389	1030	394	399	690

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	47	466	17	186
Volume Left	2	90	5	10
Volume Right	7	46	1	55
cSH	1182	1564	337	456
Volume to Capacity	0.00	0.06	0.05	0.41
Queue Length 95th (ft)	0	5	4	49
Control Delay (s)	0.4	1.9	16.3	18.2
Lane LOS	A	A	C	C
Approach Delay (s)	0.4	1.9	16.3	18.2
Approach LOS			C	C

Intersection Summary			
Average Delay		6.4	
Intersection Capacity Utilization		46.2%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019 + Project
12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	1	0	0	5	7	0	2	0	18	2	53
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	8	1	0	0	5	8	0	2	0	20	2	58
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	13			1			84	29	1	27	26	9
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	13			1			84	29	1	27	26	9
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	95
cM capacity (veh/h)	1605			1622			849	859	1083	978	864	1072

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	9	13	2	79
Volume Left	8	0	0	20
Volume Right	0	8	0	58
cSH	1605	1622	859	1041
Volume to Capacity	0.00	0.00	0.00	0.08
Queue Length 95th (ft)	0	0	0	6
Control Delay (s)	6.4	0.0	9.2	8.7
Lane LOS	A		A	A
Approach Delay (s)	6.4	0.0	9.2	8.7
Approach LOS			A	A

Intersection Summary			
Average Delay		7.4	
Intersection Capacity Utilization		23.7%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Project
1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	35	0	58	36	175	0	0	170	35
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	38	0	63	39	190	0	0	185	38
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	504	472	204	472	491	190	223			190		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	504	472	204	472	491	190	223			190		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	92	100	93	97			100		
cM capacity (veh/h)	433	476	837	491	464	852	1346			1384		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	101	229	223
Volume Left	38	39	0
Volume Right	63	0	38
cSH	1304	1346	1700
Volume to Capacity	0.08	0.03	0.13
Queue Length 95th (ft)	6	2	0
Control Delay (s)	10.8	1.5	0.0
Lane LOS	B	A	
Approach Delay (s)	10.8	1.5	0.0
Approach LOS	B		

Intersection Summary			
Average Delay			2.6
Intersection Capacity Utilization			35.6%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

PM 2019 + Project
2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	86	0	0	0	0	0	0	140	129	136	56	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	93	0	0	0	0	0	0	152	140	148	61	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	579	649	61	579	579	222	61			292		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	579	649	61	579	579	222	61			292		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	76	100	100	100	100	100	100			88		
cM capacity (veh/h)	388	344	1004	388	377	817	1542			1269		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	93	292	209
Volume Left	93	0	148
Volume Right	0	140	0
cSH	385	1700	1269
Volume to Capacity	0.24	0.17	0.12
Queue Length 95th (ft)	23	0	10
Control Delay (s)	17.3	0.0	6.1
Lane LOS	C		A
Approach Delay (s)	17.3	0.0	6.1
Approach LOS	C		

Intersection Summary			
Average Delay			4.9
Intersection Capacity Utilization			40.5%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

PM 2019 + Project

3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	221	42	1	0	9	22	1	1	1	16	0	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	240	46	1	0	10	24	1	1	1	17	0	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	34			47			565	560	46	550	549	22
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	34			47			565	560	46	550	549	22
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	85			100			100	100	100	96	100	98
cM capacity (veh/h)	1578			1561			379	370	1023	392	376	1055

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	287	34	3	34
Volume Left	240	0	1	17
Volume Right	1	24	1	16
cSH	1578	1561	475	564
Volume to Capacity	0.15	0.00	0.01	0.06
Queue Length 95th (ft)	13	0	1	5
Control Delay (s)	6.6	0.0	12.6	11.8
Lane LOS	A		B	B
Approach Delay (s)	6.6	0.0	12.6	11.8
Approach LOS			B	B

Intersection Summary			
Average Delay		6.5	
Intersection Capacity Utilization		31.2%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc.

Synchro

PM 2019 + Project

4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1	0	0	10	62	0	179	6	1	20	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	1	0	0	11	67	0	195	7	1	22	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	297	227	24	224	226	198	26			201		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	297	227	24	224	226	198	26			201		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	98	92	100			100		
cM capacity (veh/h)	595	672	1053	730	673	843	1588			1371		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	78	201	27
Volume Left	0	0	0	1
Volume Right	0	67	7	4
cSH	672	815	1588	1371
Volume to Capacity	0.00	0.10	0.00	0.00
Queue Length 95th (ft)	0	8	0	0
Control Delay (s)	10.4	9.9	0.0	0.3
Lane LOS	B	A		A
Approach Delay (s)	10.4	9.9	0.0	0.3
Approach LOS	B	A		

Intersection Summary			
Average Delay		2.6	
Intersection Capacity Utilization		20.8%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc.

Synchro

PM 2019 + Project
5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	0	4	10	2	5	0	180	5	4	8	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	5	0	4	11	2	5	0	196	5	4	9	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	222	218	9	220	216	198	9			201		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	222	218	9	220	216	198	9			201		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	99	100	99	100			100		
cM capacity (veh/h)	725	678	1073	731	680	843	1611			1371		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	10	18	201	13
Volume Left	5	11	0	4
Volume Right	4	5	5	0
cSH	847	754	1611	1371
Volume to Capacity	0.01	0.02	0.00	0.00
Queue Length 95th (ft)	1	2	0	0
Control Delay (s)	9.3	9.9	0.0	2.6
Lane LOS	A	A		A
Approach Delay (s)	9.3	9.9	0.0	2.6
Approach LOS	A	A		

Intersection Summary			
Average Delay		1.3	
Intersection Capacity Utilization		19.8%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Project
6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	42	165	7	0	36	18	19	137	109	2	12	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	46	179	8	0	39	20	21	149	118	2	13	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	59			187			338	333	183	516	327	49
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	59			187			338	333	183	516	327	49
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			96	74	86	99	98	99
cM capacity (veh/h)	1545			1387			588	569	859	316	574	1020

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	233	59	288	23
Volume Left	46	0	21	2
Volume Right	8	20	118	8
cSH	1545	1387	663	616
Volume to Capacity	0.03	0.00	0.43	0.04
Queue Length 95th (ft)	2	0	55	3
Control Delay (s)	1.6	0.0	14.5	11.1
Lane LOS	A		B	B
Approach Delay (s)	1.6	0.0	14.5	11.1
Approach LOS			B	B

Intersection Summary			
Average Delay		8.0	
Intersection Capacity Utilization		43.2%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Project
7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	13	0	0	7	20	0	0	0	13	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	14	0	0	8	22	0	0	0	14	0	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	29			14			42	52	14	41	41	18
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	29			14			42	52	14	41	41	18
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	99	100	100
cM capacity (veh/h)	1584			1604			958	837	1066	960	848	1060

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	18	29	0	15
Volume Left	4	0	0	14
Volume Right	0	22	0	1
cSH	1584	1604	1700	967
Volume to Capacity	0.00	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	1.7	0.0	0.0	8.8
Lane LOS	A		A	A
Approach Delay (s)	1.7	0.0	0.0	8.8
Approach LOS			A	A

Intersection Summary			
Average Delay		2.6	
Intersection Capacity Utilization		14.2%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Project
8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	33	123	14	3	67	98	28	109	29	103	66	14
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
Hourly flow rate (vph)	36	134	15	3	73	107	30	118	32	112	72	15

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	185	183	180	199
Volume Left (vph)	36	3	30	112
Volume Right (vph)	15	107	32	15
Hadj (s)	0.02	-0.31	-0.04	0.10
Departure Headway (s)	5.2	4.9	5.1	5.2
Degree Utilization, x	0.27	0.25	0.26	0.29
Capacity (veh/h)	635	672	647	635
Control Delay (s)	10.1	9.5	9.9	10.3
Approach Delay (s)	10.1	9.5	9.9	10.3
Approach LOS	B	A	A	B

Intersection Summary			
Delay		9.9	
HCM Level of Service		A	
Intersection Capacity Utilization		51.3%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Project
9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	34	14	2	1	6	4	7	143	8	20	36	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	37	15	2	1	7	4	8	155	9	22	39	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	11			17			124	103	16	188	102	9
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	11			17			124	103	16	188	102	9
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			99	80	99	97	95	100
cM capacity (veh/h)	1608			1600			800	768	1063	636	769	1073

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	54	12	172	64
Volume Left	37	1	8	22
Volume Right	2	4	9	3
cSH	1608	1600	781	728
Volume to Capacity	0.02	0.00	0.22	0.09
Queue Length 95th (ft)	2	0	21	7
Control Delay (s)	5.0	0.7	10.9	10.4
Lane LOS	A	A	B	B
Approach Delay (s)	5.0	0.7	10.9	10.4
Approach LOS			B	B

Intersection Summary			
Average Delay		9.3	
Intersection Capacity Utilization		27.1%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Project
10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	20	4	29	2	0	2	16	138	4	1	39	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	22	4	32	2	0	2	17	150	4	1	42	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	234	234	42	265	232	152	42			154		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	234	234	42	265	232	152	42			154		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	99	97	100	100	100	99			100		
cM capacity (veh/h)	713	659	1028	657	661	894	1567			1426		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	58	4	172	43
Volume Left	22	2	17	1
Volume Right	32	2	4	0
cSH	850	757	1567	1426
Volume to Capacity	0.07	0.01	0.01	0.00
Queue Length 95th (ft)	5	0	1	0
Control Delay (s)	9.5	9.8	0.8	0.2
Lane LOS	A	A	A	A
Approach Delay (s)	9.5	9.8	0.8	0.2
Approach LOS	A	A		

Intersection Summary			
Average Delay		2.7	
Intersection Capacity Utilization		25.3%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Project
11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	37	250	1	13	38	16	4	94	49	44	27	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	40	272	1	14	41	17	4	102	53	48	29	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	59			273			450	440	272	535	432	50
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	59			273			450	440	272	535	432	50
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			99	79	93	86	94	100
cM capacity (veh/h)	1545			1290			480	493	766	347	498	1018

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	313	73	160	82
Volume Left	40	14	4	48
Volume Right	1	17	53	4
cSH	1545	1290	559	405
Volume to Capacity	0.03	0.01	0.29	0.20
Queue Length 95th (ft)	2	1	29	19
Control Delay (s)	1.1	1.6	14.0	16.1
Lane LOS	A	A	B	C
Approach Delay (s)	1.1	1.6	14.0	16.1
Approach LOS			B	C

Intersection Summary				
Average Delay			6.4	
Intersection Capacity Utilization			40.6%	ICU Level of Service
Analysis Period (min)			15	

A

LOS Engineering, Inc.

Synchro

PM 2019 + Project
12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	53	19	1	0	4	4	0	1	0	13	0	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	58	21	1	0	4	4	0	1	0	14	0	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	9			22			154	145	21	143	143	7
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	9			22			154	145	21	143	143	7
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			100	100	100	98	100	99
cM capacity (veh/h)	1611			1594			783	720	1056	802	721	1076

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	79	9	1	25
Volume Left	58	0	0	14
Volume Right	1	4	0	11
cSH	1611	1594	720	902
Volume to Capacity	0.04	0.00	0.00	0.03
Queue Length 95th (ft)	3	0	0	2
Control Delay (s)	5.4	0.0	10.0	9.1
Lane LOS	A		B	A
Approach Delay (s)	5.4	0.0	10.0	9.1
Approach LOS			B	A

Intersection Summary				
Average Delay			5.8	
Intersection Capacity Utilization			25.3%	ICU Level of Service
Analysis Period (min)			15	

A

LOS Engineering, Inc.

Synchro

Appendix U

Year 2019 + Project Construction + Cumulative Intersection LOS Calculations

AM 2019 + Cumulative

1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	248	0	143	35	48	0	0	188	121
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	270	0	155	38	52	0	0	204	132
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	476	398	270	398	464	52	336			52		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	476	398	270	398	464	52	336			52		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	51	100	85	97			100		
cM capacity (veh/h)	413	523	769	549	480	1015	1223			1554		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	425	90	336
Volume Left	270	38	0
Volume Right	155	0	132
cSH	865	1223	1700
Volume to Capacity	0.49	0.03	0.20
Queue Length 95th (ft)	69	2	0
Control Delay (s)	14.6	3.5	0.0
Lane LOS	B	A	
Approach Delay (s)	14.6	3.5	0.0
Approach LOS	B		

Intersection Summary			
Average Delay			7.7
Intersection Capacity Utilization			45.5%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

AM 2019 + Cumulative

2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	0	4	0	0	0	0	50	9	53	390	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	24	0	4	0	0	0	0	54	10	58	424	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	598	603	424	601	598	59	424			64		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	598	603	424	601	598	59	424			64		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	99	100	100	100	100			96		
cM capacity (veh/h)	402	397	630	398	400	1006	1135			1538		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	28	64	482
Volume Left	24	0	58
Volume Right	4	10	0
cSH	475	1700	1538
Volume to Capacity	0.06	0.04	0.04
Queue Length 95th (ft)	5	0	3
Control Delay (s)	13.9	0.0	1.2
Lane LOS	B		A
Approach Delay (s)	13.9	0.0	1.2
Approach LOS	B		

Intersection Summary			
Average Delay			1.7
Intersection Capacity Utilization			40.1%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

AM 2019 + Cumulative

3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	7	0	1	35	27	0	1	0	189	0	203
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	5	8	0	1	38	29	0	1	0	205	0	221
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	67			8			294	88	8	74	73	53
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	67			8			294	88	8	74	73	53
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	77	100	78
cM capacity (veh/h)	1534			1613			513	799	1075	913	814	1015

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	13	68	1	426
Volume Left	5	1	0	205
Volume Right	0	29	0	221
cSH	1534	1613	799	963
Volume to Capacity	0.00	0.00	0.00	0.44
Queue Length 95th (ft)	0	0	0	58
Control Delay (s)	3.1	0.1	9.5	11.7
Lane LOS	A	A	A	B
Approach Delay (s)	3.1	0.1	9.5	11.7
Approach LOS			A	B

Intersection Summary			
Average Delay		9.9	
Intersection Capacity Utilization		40.0%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc.

Synchro

AM 2019 + Cumulative

4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	4	0	4	2	0	2	18	1	0	240	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	4	0	4	2	0	2	20	1	0	261	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	289	288	263	290	290	20	265			21		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	289	288	263	290	290	20	265			21		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	100	99	100	100	100			100		
cM capacity (veh/h)	661	621	776	658	619	1058	1299			1595		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	7	23	265
Volume Left	0	4	2	0
Volume Right	0	0	1	4
cSH	621	645	1299	1595
Volume to Capacity	0.01	0.01	0.00	0.00
Queue Length 95th (ft)	1	1	0	0
Control Delay (s)	10.8	10.6	0.8	0.0
Lane LOS	B	B	A	
Approach Delay (s)	10.8	10.6	0.8	0.0
Approach LOS	B	B		

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization		23.2%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc.

Synchro

AM 2019 + Cumulative
5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1	0	1	2	0	4	21	5	34	196	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	1	0	1	2	0	4	23	5	37	213	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	322	324	213	322	321	26	213			28		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	322	324	213	322	321	26	213			28		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			98		
cM capacity (veh/h)	616	578	827	618	580	1050	1357			1585		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	3	33	250
Volume Left	0	1	4	37
Volume Right	0	0	5	0
cSH	578	592	1357	1585
Volume to Capacity	0.00	0.01	0.00	0.02
Queue Length 95th (ft)	0	0	0	2
Control Delay (s)	11.2	11.1	1.0	1.2
Lane LOS	B	B	A	A
Approach Delay (s)	11.2	11.1	1.0	1.2
Approach LOS	B	B		

Intersection Summary				
Average Delay			1.4	
Intersection Capacity Utilization			26.8%	ICU Level of Service	A
Analysis Period (min)			15	

LOS Engineering, Inc.

Synchro

AM 2019 + Cumulative
6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	9	46	53	120	179	14	4	5	5	2	148	37
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	10	50	58	130	195	15	4	5	5	2	161	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	210			108			682	569	79	570	590	202
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	210			108			682	569	79	570	590	202
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			91			98	99	99	99	58	95
cM capacity (veh/h)	1361			1483			216	391	982	395	380	839

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	117	340	15	203
Volume Left	10	130	4	2
Volume Right	58	15	5	40
cSH	1361	1483	385	427
Volume to Capacity	0.01	0.09	0.04	0.48
Queue Length 95th (ft)	1	7	3	63
Control Delay (s)	0.7	3.4	14.7	20.9
Lane LOS	A	A	B	C
Approach Delay (s)	0.7	3.4	14.7	20.9
Approach LOS			B	C

Intersection Summary				
Average Delay			8.4	
Intersection Capacity Utilization			40.5%	ICU Level of Service	A
Analysis Period (min)			15	

LOS Engineering, Inc.

Synchro

AM 2019 + Cumulative
7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	5	0	0	15	6	0	0	0	68	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	5	0	0	16	7	0	0	0	74	0	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	23			5			34	30	5	27	27	20
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	23			5			34	30	5	27	27	20
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	92	100	99
cM capacity (veh/h)	1592			1616			967	862	1078	982	865	1058

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	7	23	0	80
Volume Left	1	0	0	74
Volume Right	0	7	0	7
cSH	1592	1616	1700	988
Volume to Capacity	0.00	0.00	0.00	0.08
Queue Length 95th (ft)	0	0	0	7
Control Delay (s)	1.2	0.0	0.0	9.0
Lane LOS	A		A	A
Approach Delay (s)	1.2	0.0	0.0	9.0
Approach LOS			A	A

Intersection Summary			
Average Delay		6.6	
Intersection Capacity Utilization		14.1%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019 + Cumulative
8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	7	101	161	76	81	100	12	72	11	115	148	12
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
Hourly flow rate (vph)	8	110	175	83	88	109	13	78	12	125	161	13

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	292	279	103	299
Volume Left (vph)	8	83	13	125
Volume Right (vph)	175	109	12	13
Hadj (s)	-0.32	-0.14	-0.01	0.09
Departure Headway (s)	5.3	5.5	6.1	5.7
Degree Utilization, x	0.43	0.42	0.17	0.48
Capacity (veh/h)	632	611	506	581
Control Delay (s)	12.2	12.4	10.3	13.9
Approach Delay (s)	12.2	12.4	10.3	13.9
Approach LOS	B	B	B	B

Intersection Summary			
Delay		12.6	
HCM Level of Service		B	
Intersection Capacity Utilization		61.7%	ICU Level of Service B
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019 + Cumulative

9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	9	14	4	15	1	8	22	0	7	450	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	2	10	15	4	16	1	9	24	0	8	489	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	17			25			299	48	17	59	55	17
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	17			25			299	48	17	59	55	17
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			97	97	100	99	41	99
cM capacity (veh/h)	1600			1589			344	840	1061	914	833	1062

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	27	22	33	504
Volume Left	2	4	9	8
Volume Right	15	1	0	8
cSH	1600	1589	607	837
Volume to Capacity	0.00	0.00	0.05	0.60
Queue Length 95th (ft)	0	0	4	103
Control Delay (s)	0.6	1.5	11.3	15.6
Lane LOS	A	A	B	C
Approach Delay (s)	0.6	1.5	11.3	15.6
Approach LOS			B	C

Intersection Summary			
Average Delay		14.1	
Intersection Capacity Utilization		34.8%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc.

Synchro

AM 2019 + Cumulative

10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	1	1	1	1	1	28	22	11	24	368	54
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	1	1	1	1	1	30	24	12	26	400	59
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	574	578	429	574	602	30	459			36		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	574	578	429	574	602	30	459			36		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	97			98		
cM capacity (veh/h)	414	408	626	414	396	1045	1102			1575		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	3	3	66	485
Volume Left	1	1	30	26
Volume Right	1	1	12	59
cSH	464	508	1102	1575
Volume to Capacity	0.01	0.01	0.03	0.02
Queue Length 95th (ft)	1	0	2	1
Control Delay (s)	12.8	12.1	4.0	0.6
Lane LOS	B	B	A	A
Approach Delay (s)	12.8	12.1	4.0	0.6
Approach LOS	B	B		

Intersection Summary			
Average Delay		1.1	
Intersection Capacity Utilization		34.1%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc.

Synchro

AM 2019 + Cumulative
11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	35	6	106	295	54	5	9	2	18	99	51
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	2	38	7	115	321	59	5	10	2	20	108	55
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	379			45			735	655	41	633	629	350
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	379			45			735	655	41	633	629	350
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			93			98	97	100	95	71	92
cM capacity (veh/h)	1179			1564			226	356	1030	361	369	693

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	47	495	17	183
Volume Left	2	115	5	20
Volume Right	7	59	2	55
cSH	1179	1564	324	429
Volume to Capacity	0.00	0.07	0.05	0.43
Queue Length 95th (ft)	0	6	4	52
Control Delay (s)	0.4	2.3	16.7	19.5
Lane LOS	A	A	C	C
Approach Delay (s)	0.4	2.3	16.7	19.5
Approach LOS			C	C

Intersection Summary			
Average Delay		6.7	
Intersection Capacity Utilization		48.0%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019 + Cumulative
12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	49	1	0	0	5	7	0	2	0	18	2	22
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	53	1	0	0	5	8	0	2	0	20	2	24
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	13			1			142	121	1	118	117	9
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	13			1			142	121	1	118	117	9
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			100	100	100	98	100	98
cM capacity (veh/h)	1605			1622			787	744	1083	834	748	1072

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	54	13	2	46
Volume Left	53	0	0	20
Volume Right	0	8	0	24
cSH	1605	1622	744	938
Volume to Capacity	0.03	0.00	0.00	0.05
Queue Length 95th (ft)	3	0	0	4
Control Delay (s)	7.2	0.0	9.9	9.0
Lane LOS	A		A	A
Approach Delay (s)	7.2	0.0	9.9	9.0
Approach LOS			A	A

Intersection Summary			
Average Delay		7.2	
Intersection Capacity Utilization		25.2%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Cumulative
1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	38	0	58	56	281	0	0	192	37
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	41	0	63	61	305	0	0	209	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	688	656	229	656	676	305	249			305		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	688	656	229	656	676	305	249			305		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	89	100	91	95			100		
cM capacity (veh/h)	318	367	810	365	358	734	1317			1255		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	104	366	249
Volume Left	41	61	0
Volume Right	63	0	40
cSH	923	1317	1700
Volume to Capacity	0.11	0.05	0.15
Queue Length 95th (ft)	10	4	0
Control Delay (s)	12.6	1.7	0.0
Lane LOS	B	A	
Approach Delay (s)	12.6	1.7	0.0
Approach LOS	B		

Intersection Summary			
Average Delay			2.7
Intersection Capacity Utilization			43.6%
Analysis Period (min)			15
		ICU Level of Service	A

LOS Engineering, Inc.

Synchro

PM 2019 + Cumulative
2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	131	0	31	0	0	0	0	214	215	136	81	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	135	0	32	0	0	0	0	221	222	140	84	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	696	808	84	712	696	332	84			443		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	696	808	84	712	696	332	84			443		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	58	100	97	100	100	100	100			87		
cM capacity (veh/h)	322	275	976	303	319	710	1513			1117		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	167	443	224
Volume Left	135	0	140
Volume Right	32	222	0
cSH	398	1700	1117
Volume to Capacity	0.42	0.26	0.13
Queue Length 95th (ft)	51	0	11
Control Delay (s)	21.2	0.0	5.9
Lane LOS	C		A
Approach Delay (s)	21.2	0.0	5.9
Approach LOS	C		

Intersection Summary			
Average Delay			5.8
Intersection Capacity Utilization			51.3%
Analysis Period (min)			15
		ICU Level of Service	A

LOS Engineering, Inc.

Synchro

PM 2019 + Cumulative
3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	205	32	1	0	9	204	1	1	1	42	0	14
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	223	35	1	0	10	222	1	1	1	46	0	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	232			36			617	712	35	603	602	121
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	232			36			617	712	35	603	602	121
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	83			100			100	100	100	87	100	98
cM capacity (veh/h)	1336			1575			345	298	1037	357	345	931

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	259	232	3	61
Volume Left	223	0	1	46
Volume Right	1	222	1	15
cSH	1336	1575	416	422
Volume to Capacity	0.17	0.00	0.01	0.14
Queue Length 95th (ft)	15	0	1	13
Control Delay (s)	7.3	0.0	13.7	15.0
Lane LOS	A		B	B
Approach Delay (s)	7.3	0.0	13.7	15.0
Approach LOS			B	B

Intersection Summary			
Average Delay		5.1	
Intersection Capacity Utilization		42.7%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Cumulative
4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1	0	0	2	1	0	214	6	0	20	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	1	0	0	2	1	0	233	7	0	22	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	262	263	24	260	262	236	26			239		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	262	263	24	260	262	236	26			239		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	688	642	1053	692	643	803	1588			1328		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	3	239	26
Volume Left	0	0	0	0
Volume Right	0	1	7	4
cSH	642	689	1588	1328
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	10.6	10.3	0.0	0.0
Lane LOS	B	B		
Approach Delay (s)	10.6	10.3	0.0	0.0
Approach LOS	B	B		

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		21.6%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Cumulative
5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	0	4	5	1	37	0	183	5	4	8	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	5	0	4	5	1	40	0	199	5	4	9	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	260	222	9	223	219	202	9			204		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	260	222	9	223	219	202	9			204		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	99	100	95	100			100		
cM capacity (veh/h)	658	675	1073	728	677	839	1611			1367		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	10	47	204	13
Volume Left	5	5	0	4
Volume Right	4	40	5	0
cSH	794	820	1611	1367
Volume to Capacity	0.01	0.06	0.00	0.00
Queue Length 95th (ft)	1	5	0	0
Control Delay (s)	9.6	9.7	0.0	2.6
Lane LOS	A	A		A
Approach Delay (s)	9.6	9.7	0.0	2.6
Approach LOS	A	A		

Intersection Summary			
Average Delay		2.1	
Intersection Capacity Utilization		19.9%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc.

Synchro

PM 2019 + Cumulative
6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	42	169	8	0	40	4	50	148	109	2	13	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	46	184	9	0	43	4	54	161	118	2	14	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	48			192			339	327	188	524	329	46
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	48			192			339	327	188	524	329	46
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			91	72	86	99	98	99
cM capacity (veh/h)	1559			1381			586	574	854	306	572	1024

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	238	48	334	23
Volume Left	46	0	54	2
Volume Right	9	4	118	7
cSH	1559	1381	652	598
Volume to Capacity	0.03	0.00	0.51	0.04
Queue Length 95th (ft)	2	0	73	3
Control Delay (s)	1.6	0.0	16.2	11.3
Lane LOS	A		C	B
Approach Delay (s)	1.6	0.0	16.2	11.3
Approach LOS			C	B

Intersection Summary			
Average Delay		9.4	
Intersection Capacity Utilization		48.9%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc.

Synchro

PM 2019 + Cumulative
7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	13	0	0	7	72	0	0	0	15	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	14	0	0	8	78	0	0	0	16	0	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	86			14			71	109	14	70	70	47
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	86			14			71	109	14	70	70	47
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	100
cM capacity (veh/h)	1510			1604			918	779	1066	920	819	1023

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	18	86	0	17
Volume Left	4	0	0	16
Volume Right	0	78	0	1
cSH	1510	1604	1700	926
Volume to Capacity	0.00	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	1.8	0.0	0.0	9.0
Lane LOS	A		A	A
Approach Delay (s)	1.8	0.0	0.0	9.0
Approach LOS			A	A

Intersection Summary			
Average Delay		1.5	
Intersection Capacity Utilization		14.8%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Cumulative
8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	27	150	19	4	106	132	182	167	74	122	68	14
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
Hourly flow rate (vph)	28	158	20	4	112	139	192	176	78	129	72	15

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	207	255	446	215
Volume Left (vph)	28	4	192	129
Volume Right (vph)	20	139	78	15
Hadj (s)	0.00	-0.29	0.02	0.11
Departure Headway (s)	6.6	6.2	5.9	6.4
Degree Utilization, x	0.38	0.44	0.73	0.39
Capacity (veh/h)	477	514	588	496
Control Delay (s)	13.5	13.8	23.1	13.4
Approach Delay (s)	13.5	13.8	23.1	13.4
Approach LOS	B	B	C	B

Intersection Summary			
Delay		17.4	
HCM Level of Service		C	
Intersection Capacity Utilization		55.9%	ICU Level of Service B
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Cumulative

9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	14	2	1	6	4	7	430	8	20	46	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	15	2	1	7	4	8	467	9	22	50	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	11			17			62	38	16	278	37	9
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	11			17			62	38	16	278	37	9
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	45	99	94	94	100
cM capacity (veh/h)	1608			1600			888	851	1063	377	852	1073

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	22	12	484	73
Volume Left	4	1	8	22
Volume Right	2	4	9	1
cSH	1608	1600	855	621
Volume to Capacity	0.00	0.00	0.57	0.12
Queue Length 95th (ft)	0	0	91	10
Control Delay (s)	1.5	0.7	14.6	11.6
Lane LOS	A	A	B	B
Approach Delay (s)	1.5	0.7	14.6	11.6
Approach LOS			B	B

Intersection Summary			
Average Delay		13.4	
Intersection Capacity Utilization		33.7%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc.

Synchro

PM 2019 + Cumulative

10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	54	4	15	12	0	22	15	286	4	2	46	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	59	4	16	13	0	24	16	311	4	2	50	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	425	403	51	420	402	313	52			315		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	425	403	51	420	402	313	52			315		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	89	99	98	98	100	97	99			100		
cM capacity (veh/h)	517	529	1017	527	530	727	1554			1245		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	79	37	332	54
Volume Left	59	13	16	2
Volume Right	16	24	4	2
cSH	576	641	1554	1245
Volume to Capacity	0.14	0.06	0.01	0.00
Queue Length 95th (ft)	12	5	1	0
Control Delay (s)	12.2	11.0	0.5	0.3
Lane LOS	B	B	A	A
Approach Delay (s)	12.2	11.0	0.5	0.3
Approach LOS	B	B		

Intersection Summary			
Average Delay		3.1	
Intersection Capacity Utilization		35.6%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc.

Synchro

PM 2019 + Cumulative
11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	37	241	1	14	38	15	4	82	72	46	26	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	40	262	1	15	41	16	4	89	78	50	28	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	58			263			441	431	262	546	423	49
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	58			263			441	431	262	546	423	49
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			99	82	90	85	94	100
cM capacity (veh/h)	1547			1301			487	498	776	338	503	1019

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	303	73	172	83
Volume Left	40	15	4	50
Volume Right	1	16	78	4
cSH	1547	1301	595	397
Volume to Capacity	0.03	0.01	0.29	0.21
Queue Length 95th (ft)	2	1	30	19
Control Delay (s)	1.2	1.7	13.5	16.4
Lane LOS	A	A	B	C
Approach Delay (s)	1.2	1.7	13.5	16.4
Approach LOS			B	C

Intersection Summary			
Average Delay		6.6	
Intersection Capacity Utilization		40.7%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Cumulative
12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	64	19	1	0	4	4	0	1	0	13	0	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	70	21	1	0	4	4	0	1	0	14	0	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	9			22			178	169	21	167	167	7
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	9			22			178	169	21	167	167	7
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			100	100	100	98	100	99
cM capacity (veh/h)	1611			1594			751	693	1056	769	694	1076

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	91	9	1	25
Volume Left	70	0	0	14
Volume Right	1	4	0	11
cSH	1611	1594	693	878
Volume to Capacity	0.04	0.00	0.00	0.03
Queue Length 95th (ft)	3	0	0	2
Control Delay (s)	5.7	0.0	10.2	9.2
Lane LOS	A		B	A
Approach Delay (s)	5.7	0.0	10.2	9.2
Approach LOS			B	A

Intersection Summary			
Average Delay		6.0	
Intersection Capacity Utilization		25.9%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019 + Cumulative + Project
1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	299	0	143	35	49	0	0	208	121
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	325	0	155	38	53	0	0	226	132
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	499	421	292	421	487	53	358			53		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	499	421	292	421	487	53	358			53		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	39	100	85	97			100		
cM capacity (veh/h)	398	507	747	530	466	1014	1201			1552		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	480	91	358
Volume Left	325	38	0
Volume Right	155	0	132
cSH	731	1201	1700
Volume to Capacity	0.66	0.03	0.21
Queue Length 95th (ft)	124	2	0
Control Delay (s)	18.9	3.5	0.0
Lane LOS	C	A	
Approach Delay (s)	18.9	3.5	0.0
Approach LOS	C		

Intersection Summary			
Average Delay			10.1
Intersection Capacity Utilization			49.4%
Analysis Period (min)			15
		ICU Level of Service	A

LOS Engineering, Inc. Synchro

AM 2019 + Cumulative + Project
2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	0	14	0	0	0	0	51	11	53	461	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	24	0	15	0	0	0	0	55	12	58	501	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	678	684	501	685	678	61	501			67		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	678	684	501	685	678	61	501			67		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	100	97	100	100	100	100			96		
cM capacity (veh/h)	356	357	570	342	360	1004	1063			1534		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	39	67	559
Volume Left	24	0	58
Volume Right	15	12	0
cSH	582	1700	1534
Volume to Capacity	0.07	0.04	0.04
Queue Length 95th (ft)	5	0	3
Control Delay (s)	14.2	0.0	1.1
Lane LOS	B		A
Approach Delay (s)	14.2	0.0	1.1
Approach LOS	B		

Intersection Summary			
Average Delay			1.8
Intersection Capacity Utilization			43.9%
Analysis Period (min)			15
		ICU Level of Service	A

LOS Engineering, Inc. Synchro

AM 2019 + Cumulative + Project
3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	7	0	1	45	28	0	1	0	199	0	274
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	8	8	0	1	49	30	0	1	0	216	0	298
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	79			8			387	104	8	90	89	64
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	79			8			387	104	8	90	89	64
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	76	100	70
cM capacity (veh/h)	1519			1613			400	781	1075	890	796	1000

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	15	80	1	514
Volume Left	8	1	0	216
Volume Right	0	30	0	298
cSH	1519	1613	781	951
Volume to Capacity	0.01	0.00	0.00	0.54
Queue Length 95th (ft)	0	0	0	83
Control Delay (s)	3.7	0.1	9.6	13.2
Lane LOS	A	A	A	B
Approach Delay (s)	3.7	0.1	9.6	13.2
Approach LOS			A	B

Intersection Summary			
Average Delay		11.2	
Intersection Capacity Utilization		46.5%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019 + Cumulative + Project
4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	12	0	8	2	1	2	19	5	61	260	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	13	0	9	2	1	2	21	5	66	283	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	447	448	285	452	447	23	287			26		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	447	448	285	452	447	23	287			26		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	97	100	98	100	100	100			96		
cM capacity (veh/h)	502	484	754	491	484	1053	1275			1588		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	13	12	28	353
Volume Left	0	9	2	66
Volume Right	0	1	5	4
cSH	484	514	1275	1588
Volume to Capacity	0.03	0.02	0.00	0.04
Queue Length 95th (ft)	2	2	0	3
Control Delay (s)	12.6	12.2	0.6	1.7
Lane LOS	B	B	A	A
Approach Delay (s)	12.6	12.2	0.6	1.7
Approach LOS	B	B		

Intersection Summary			
Average Delay		2.3	
Intersection Capacity Utilization		37.9%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019 + Cumulative + Project
5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	3	0	1	2	4	4	22	15	38	216	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	3	0	1	2	4	4	24	16	41	235	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	364	366	235	360	358	32	235			40		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	364	366	235	360	358	32	235			40		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	100	100	100	100	100			97		
cM capacity (veh/h)	575	546	804	580	551	1042	1333			1569		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	3	8	45	276
Volume Left	0	1	4	41
Volume Right	0	4	16	0
cSH	546	762	1333	1569
Volume to Capacity	0.01	0.01	0.00	0.03
Queue Length 95th (ft)	0	1	0	2
Control Delay (s)	11.6	9.8	0.8	1.3
Lane LOS	B	A	A	A
Approach Delay (s)	11.6	9.8	0.8	1.3
Approach LOS	B	A		

Intersection Summary			
Average Delay		1.5	
Intersection Capacity Utilization		30.1%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019 + Cumulative + Project
6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	15	48	55	120	179	14	4	5	5	6	160	37
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	16	52	60	130	195	15	4	5	5	7	174	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	210			112			705	585	82	586	608	202
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	210			112			705	585	82	586	608	202
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			91			98	99	99	98	53	95
cM capacity (veh/h)	1361			1478			196	381	978	384	370	839

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	128	340	15	221
Volume Left	16	130	4	7
Volume Right	60	15	5	40
cSH	1361	1478	363	412
Volume to Capacity	0.01	0.09	0.04	0.54
Queue Length 95th (ft)	1	7	3	77
Control Delay (s)	1.1	3.4	15.4	23.3
Lane LOS	A	A	C	C
Approach Delay (s)	1.1	3.4	15.4	23.3
Approach LOS			C	C

Intersection Summary			
Average Delay		9.5	
Intersection Capacity Utilization		41.4%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019 + Cumulative + Project
7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	5	0	0	15	6	0	0	0	82	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	5	0	0	16	7	0	0	0	89	0	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	23			5			34	30	5	27	27	20
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	23			5			34	30	5	27	27	20
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	91	100	99
cM capacity (veh/h)	1592			1616			967	862	1078	982	865	1058

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	7	23	0	96
Volume Left	1	0	0	89
Volume Right	0	7	0	7
cSH	1592	1616	1700	987
Volume to Capacity	0.00	0.00	0.00	0.10
Queue Length 95th (ft)	0	0	0	8
Control Delay (s)	1.2	0.0	0.0	9.0
Lane LOS	A		A	A
Approach Delay (s)	1.2	0.0	0.0	9.0
Approach LOS			A	A

Intersection Summary			
Average Delay		7.0	
Intersection Capacity Utilization		14.9%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019 + Cumulative + Project
8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	7	101	171	96	85	100	13	73	12	115	172	18
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
Hourly flow rate (vph)	8	110	186	104	92	109	14	79	13	125	187	20

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	303	305	107	332
Volume Left (vph)	8	104	14	125
Volume Right (vph)	186	109	13	20
Hadj (s)	-0.33	-0.11	-0.01	0.07
Departure Headway (s)	5.5	5.7	6.4	5.9
Degree Utilization, x	0.47	0.49	0.19	0.55
Capacity (veh/h)	602	585	473	565
Control Delay (s)	13.2	14.0	10.8	15.9
Approach Delay (s)	13.2	14.0	10.8	15.9
Approach LOS	B	B	B	C

Intersection Summary			
Delay		14.0	
HCM Level of Service		B	
Intersection Capacity Utilization		65.3%	ICU Level of Service C
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019 + Cumulative + Project
9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	9	14	4	15	1	8	23	0	7	474	37
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	10	15	4	16	1	9	25	0	8	515	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	17			25			349	52	17	64	59	17
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	17			25			349	52	17	64	59	17
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			97	97	100	99	38	96
cM capacity (veh/h)	1600			1589			291	835	1061	905	827	1062

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	29	22	34	563
Volume Left	4	4	9	8
Volume Right	15	1	0	40
cSH	1600	1589	563	841
Volume to Capacity	0.00	0.00	0.06	0.67
Queue Length 95th (ft)	0	0	5	132
Control Delay (s)	1.1	1.5	11.8	17.5
Lane LOS	A	A	B	C
Approach Delay (s)	1.1	1.5	11.8	17.5
Approach LOS			B	C

Intersection Summary			
Average Delay		15.9	
Intersection Capacity Utilization		37.9%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019 + Cumulative + Project
10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	1	2	1	1	1	52	23	11	24	386	60
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	1	2	1	1	1	57	25	12	26	420	65
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	650	654	452	651	681	31	485			37		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	650	654	452	651	681	31	485			37		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	95			98		
cM capacity (veh/h)	361	360	607	360	347	1043	1078			1574		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	3	93	511
Volume Left	1	1	57	26
Volume Right	2	1	12	65
cSH	452	453	1078	1574
Volume to Capacity	0.01	0.01	0.05	0.02
Queue Length 95th (ft)	1	1	4	1
Control Delay (s)	13.0	13.0	5.3	0.5
Lane LOS	B	B	A	A
Approach Delay (s)	13.0	13.0	5.3	0.5
Approach LOS	B	B		

Intersection Summary			
Average Delay		1.4	
Intersection Capacity Utilization		35.9%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2019 + Cumulative + Project
11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	35	6	116	313	72	5	10	2	19	121	51
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	2	38	7	126	340	78	5	11	2	21	132	55
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	418			45			798	716	41	685	680	379
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	418			45			798	716	41	685	680	379
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			92			97	97	100	94	62	92
cM capacity (veh/h)	1141			1564			184	326	1030	330	342	668

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	47	545	18	208
Volume Left	2	126	5	21
Volume Right	7	78	2	55
cSH	1141	1564	284	392
Volume to Capacity	0.00	0.08	0.06	0.53
Queue Length 95th (ft)	0	7	5	75
Control Delay (s)	0.4	2.4	18.5	24.1
Lane LOS	A	A	C	C
Approach Delay (s)	0.4	2.4	18.5	24.1
Approach LOS			C	C

Intersection Summary			
Average Delay		8.1	
Intersection Capacity Utilization		51.9%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc.

Synchro

AM 2019 + Cumulative + Project
12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	1	0	0	5	7	0	2	0	18	2	54
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	54	1	0	0	5	8	0	2	0	20	2	59
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	13			1			179	123	1	120	119	9
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	13			1			179	123	1	120	119	9
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			100	100	100	98	100	95
cM capacity (veh/h)	1605			1622			720	742	1083	831	745	1072

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	55	13	2	80
Volume Left	54	0	0	20
Volume Right	0	8	0	59
cSH	1605	1622	742	991
Volume to Capacity	0.03	0.00	0.00	0.08
Queue Length 95th (ft)	3	0	0	7
Control Delay (s)	7.2	0.0	9.9	9.0
Lane LOS	A		A	A
Approach Delay (s)	7.2	0.0	9.9	9.0
Approach LOS			A	A

Intersection Summary			
Average Delay		7.5	
Intersection Capacity Utilization		27.2%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc.

Synchro

PM 2019 + Cumulative + Project
1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	40	0	58	66	301	0	0	193	37
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	43	0	63	72	327	0	0	210	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	732	701	230	701	721	327	250			327		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	732	701	230	701	721	327	250			327		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	87	100	91	95			100		
cM capacity (veh/h)	294	343	809	339	334	714	1316			1232		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	107	399	250
Volume Left	43	72	0
Volume Right	63	0	40
cSH	830	1316	1700
Volume to Capacity	0.13	0.05	0.15
Queue Length 95th (ft)	11	4	0
Control Delay (s)	13.2	1.9	0.0
Lane LOS	B	A	
Approach Delay (s)	13.2	1.9	0.0
Approach LOS	B		

Intersection Summary			
Average Delay			2.8
Intersection Capacity Utilization			45.2%
Analysis Period (min)			15
		ICU Level of Service	A

LOS Engineering, Inc. Synchro

PM 2019 + Cumulative + Project
2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	131	0	31	0	0	0	0	244	266	136	84	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	135	0	32	0	0	0	0	252	275	140	87	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	757	894	87	773	757	389	87			527		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	757	894	87	773	757	389	87			527		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	53	100	97	100	100	100	100			87		
cM capacity (veh/h)	291	243	972	274	291	659	1509			1040		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	167	527	227
Volume Left	135	0	140
Volume Right	32	275	0
cSH	359	1700	1040
Volume to Capacity	0.47	0.31	0.13
Queue Length 95th (ft)	59	0	12
Control Delay (s)	24.1	0.0	6.1
Lane LOS	C		A
Approach Delay (s)	24.1	0.0	6.1
Approach LOS	C		

Intersection Summary			
Average Delay			5.9
Intersection Capacity Utilization			55.9%
Analysis Period (min)			15
		ICU Level of Service	B

LOS Engineering, Inc. Synchro

PM 2019 + Cumulative + Project
3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	276	42	1	0	9	214	1	1	1	43	0	16
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	300	46	1	0	10	233	1	1	1	47	0	17
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	242			47			790	889	46	774	773	126
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	242			47			790	889	46	774	773	126
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	77			100			100	100	100	82	100	98
cM capacity (veh/h)	1324			1561			249	219	1023	259	255	924

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	347	242	3	64
Volume Left	300	0	1	47
Volume Right	1	233	1	17
cSH	1324	1561	314	322
Volume to Capacity	0.23	0.00	0.01	0.20
Queue Length 95th (ft)	22	0	1	18
Control Delay (s)	7.6	0.0	16.6	18.9
Lane LOS	A		C	C
Approach Delay (s)	7.6	0.0	16.6	18.9
Approach LOS			C	C

Intersection Summary			
Average Delay		6.0	
Intersection Capacity Utilization		48.0%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Cumulative + Project
4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1	0	0	10	62	0	234	6	1	21	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	1	0	0	11	67	0	254	7	1	23	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	358	288	25	285	287	258	27			261		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	358	288	25	285	287	258	27			261		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	98	91	100			100		
cM capacity (veh/h)	539	621	1051	666	622	781	1587			1304		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	78	261	28
Volume Left	0	0	0	1
Volume Right	0	67	7	4
cSH	621	754	1587	1304
Volume to Capacity	0.00	0.10	0.00	0.00
Queue Length 95th (ft)	0	9	0	0
Control Delay (s)	10.8	10.3	0.0	0.3
Lane LOS	B	B		A
Approach Delay (s)	10.8	10.3	0.0	0.3
Approach LOS	B	B		

Intersection Summary			
Average Delay		2.2	
Intersection Capacity Utilization		23.7%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Cumulative + Project
5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	0	4	15	3	37	0	203	5	4	9	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	5	0	4	16	3	40	0	221	5	4	10	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	284	245	10	246	242	223	10			226		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	284	245	10	246	242	223	10			226		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	98	100	95	100			100		
cM capacity (veh/h)	632	655	1072	703	658	816	1610			1342		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	10	60	226	14
Volume Left	5	16	0	4
Volume Right	4	40	5	0
cSH	773	772	1610	1342
Volume to Capacity	0.01	0.08	0.00	0.00
Queue Length 95th (ft)	1	6	0	0
Control Delay (s)	9.7	10.1	0.0	2.4
Lane LOS	A	B		A
Approach Delay (s)	9.7	10.1	0.0	2.4
Approach LOS	A	B		

Intersection Summary			
Average Delay		2.4	
Intersection Capacity Utilization		21.1%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Cumulative + Project
6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	42	169	8	0	42	18	52	160	109	2	13	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	46	184	9	0	46	20	57	174	118	2	14	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	65			192			355	345	188	540	339	55
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	65			192			355	345	188	540	339	55
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			90	69	86	99	97	99
cM capacity (veh/h)	1537			1381			568	561	854	290	565	1011

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	238	65	349	29
Volume Left	46	0	57	2
Volume Right	9	20	118	13
cSH	1537	1381	636	646
Volume to Capacity	0.03	0.00	0.55	0.05
Queue Length 95th (ft)	2	0	83	4
Control Delay (s)	1.6	0.0	17.3	10.8
Lane LOS	A		C	B
Approach Delay (s)	1.6	0.0	17.3	10.8
Approach LOS			C	B

Intersection Summary			
Average Delay		9.9	
Intersection Capacity Utilization		49.6%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Cumulative + Project
7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	13	0	0	7	86	0	0	0	15	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	14	0	0	8	93	0	0	0	16	0	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	101			14			78	124	14	77	77	54
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	101			14			78	124	14	77	77	54
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	100
cM capacity (veh/h)	1491			1604			908	764	1066	910	811	1013

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	18	101	0	17
Volume Left	4	0	0	16
Volume Right	0	93	0	1
cSH	1491	1604	1700	916
Volume to Capacity	0.00	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	1.8	0.0	0.0	9.0
Lane LOS	A		A	A
Approach Delay (s)	1.8	0.0	0.0	9.0
Approach LOS			A	A

Intersection Summary			
Average Delay		1.4	
Intersection Capacity Utilization		15.7%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Cumulative + Project
8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	33	154	20	5	106	132	192	191	94	122	69	14
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
Hourly flow rate (vph)	35	162	21	5	112	139	202	201	99	129	73	15

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	218	256	503	216
Volume Left (vph)	35	5	202	129
Volume Right (vph)	21	139	99	15
Hadj (s)	0.01	-0.29	0.00	0.11
Departure Headway (s)	6.9	6.5	6.0	6.7
Degree Utilization, x	0.42	0.46	0.84	0.40
Capacity (veh/h)	476	506	575	484
Control Delay (s)	14.6	14.9	32.7	14.2
Approach Delay (s)	14.6	14.9	32.7	14.2
Approach LOS	B	B	D	B

Intersection Summary			
Delay		22.2	
HCM Level of Service		C	
Intersection Capacity Utilization		61.5%	ICU Level of Service B
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Cumulative + Project
9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	34	14	2	1	6	4	7	454	8	20	47	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	37	15	2	1	7	4	8	493	9	22	51	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	11			17			130	103	16	357	102	9
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	11			17			130	103	16	357	102	9
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			99	36	99	92	93	100
cM capacity (veh/h)	1608			1600			783	768	1063	283	769	1073

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	54	12	510	76
Volume Left	37	1	8	22
Volume Right	2	4	9	3
cSH	1608	1600	772	521
Volume to Capacity	0.02	0.00	0.66	0.15
Queue Length 95th (ft)	2	0	126	13
Control Delay (s)	5.0	0.7	18.2	13.1
Lane LOS	A	A	C	B
Approach Delay (s)	5.0	0.7	18.2	13.1
Approach LOS			C	B

Intersection Summary				
Average Delay			16.2	
Intersection Capacity Utilization			41.1%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc.

Synchro

PM 2019 + Cumulative + Project
10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	60	4	39	12	0	22	16	304	4	2	47	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	65	4	42	13	0	24	17	330	4	2	51	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	448	426	52	468	425	333	53			335		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	448	426	52	468	425	333	53			335		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	87	99	96	97	100	97	99			100		
cM capacity (veh/h)	499	514	1015	476	514	709	1552			1225		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	112	37	352	55
Volume Left	65	13	17	2
Volume Right	42	24	4	2
cSH	618	605	1552	1225
Volume to Capacity	0.18	0.06	0.01	0.00
Queue Length 95th (ft)	16	5	1	0
Control Delay (s)	12.1	11.3	0.5	0.3
Lane LOS	B	B	A	A
Approach Delay (s)	12.1	11.3	0.5	0.3
Approach LOS	B	B		

Intersection Summary				
Average Delay			3.5	
Intersection Capacity Utilization			38.9%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc.

Synchro

PM 2019 + Cumulative + Project
11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	37	259	1	14	38	16	4	104	82	64	27	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	40	282	1	15	41	17	4	113	89	70	29	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	59			283			462	452	282	589	443	50
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	59			283			462	452	282	589	443	50
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			99	77	88	76	94	100
cM capacity (veh/h)	1545			1280			471	484	757	296	490	1018

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	323	74	207	103
Volume Left	40	15	4	70
Volume Right	1	17	89	4
cSH	1545	1280	573	345
Volume to Capacity	0.03	0.01	0.36	0.30
Queue Length 95th (ft)	2	1	41	31
Control Delay (s)	1.1	1.7	14.8	19.8
Lane LOS	A	A	B	C
Approach Delay (s)	1.1	1.7	14.8	19.8
Approach LOS			B	C

Intersection Summary			
Average Delay		7.9	
Intersection Capacity Utilization		44.5%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2019 + Cumulative + Project
12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	96	19	1	0	4	4	0	1	0	13	0	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	104	21	1	0	4	4	0	1	0	14	0	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	9			22			248	239	21	237	237	7
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	9			22			248	239	21	237	237	7
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			100			100	100	100	98	100	99
cM capacity (veh/h)	1611			1594			663	620	1056	681	621	1076

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	126	9	1	26
Volume Left	104	0	0	14
Volume Right	1	4	0	12
cSH	1611	1594	620	819
Volume to Capacity	0.06	0.00	0.00	0.03
Queue Length 95th (ft)	5	0	0	2
Control Delay (s)	6.2	0.0	10.8	9.5
Lane LOS	A		B	A
Approach Delay (s)	6.2	0.0	10.8	9.5
Approach LOS			B	A

Intersection Summary			
Average Delay		6.4	
Intersection Capacity Utilization		27.8%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

Appendix V

Year 2024 Intersection LOS Calculations

AM 2024

1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	127	0	164	5	41	0	0	131	87
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	138	0	178	5	45	0	0	142	95
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	334	245	190	245	292	45	237			45		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	334	245	190	245	292	45	237			45		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	80	100	83	100			100		
cM capacity (veh/h)	510	654	852	706	616	1025	1330			1564		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	316	50	237
Volume Left	138	5	0
Volume Right	178	0	95
cSH	1619	1330	1700
Volume to Capacity	0.20	0.00	0.14
Queue Length 95th (ft)	18	0	0
Control Delay (s)	10.2	0.9	0.0
Lane LOS	B	A	
Approach Delay (s)	10.2	0.9	0.0
Approach LOS	B		

Intersection Summary			
Average Delay			5.4
Intersection Capacity Utilization			25.9%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

AM 2024

2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	0	3	0	0	0	0	20	8	61	206	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	28	0	3	0	0	0	0	22	9	66	224	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	383	387	224	384	383	26	224			30		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	383	387	224	384	383	26	224			30		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	100	100	100	100	100			96		
cM capacity (veh/h)	557	525	816	553	527	1050	1345			1582		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	32	30	290
Volume Left	28	0	66
Volume Right	3	9	0
cSH	621	1700	1582
Volume to Capacity	0.05	0.02	0.04
Queue Length 95th (ft)	4	0	3
Control Delay (s)	11.6	0.0	2.0
Lane LOS	B		A
Approach Delay (s)	11.6	0.0	2.0
Approach LOS	B		

Intersection Summary			
Average Delay			2.6
Intersection Capacity Utilization			30.9%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

AM 2024

3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	8	0	1	41	12	0	1	0	23	0	169
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	5	9	0	1	45	13	0	1	0	25	0	184
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	58			9			257	79	9	73	73	51
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	58			9			257	79	9	73	73	51
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	97	100	82
cM capacity (veh/h)	1547			1611			569	808	1073	913	814	1017

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	14	59	1	209
Volume Left	5	1	0	25
Volume Right	0	13	0	184
cSH	1547	1611	808	1003
Volume to Capacity	0.00	0.00	0.00	0.21
Queue Length 95th (ft)	0	0	0	20
Control Delay (s)	2.8	0.1	9.5	9.5
Lane LOS	A	A	A	A
Approach Delay (s)	2.8	0.1	9.5	9.5
Approach LOS			A	A

Intersection Summary				
Average Delay		7.2		
Intersection Capacity Utilization	28.6%	ICU Level of Service	A	
Analysis Period (min)		15		

LOS Engineering, Inc. Synchro

AM 2024

4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	4	0	4	3	0	3	20	1	0	213	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	4	0	4	3	0	3	22	1	0	232	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	264	263	234	265	265	22	236			23		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	264	263	234	265	265	22	236			23		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	100	99	99	100	100			100		
cM capacity (veh/h)	685	641	805	683	639	1055	1331			1592		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	8	26	236
Volume Left	0	4	3	0
Volume Right	0	0	1	4
cSH	641	664	1331	1592
Volume to Capacity	0.01	0.01	0.00	0.00
Queue Length 95th (ft)	1	1	0	0
Control Delay (s)	10.7	10.5	1.0	0.0
Lane LOS	B	B	A	
Approach Delay (s)	10.7	10.5	1.0	0.0
Approach LOS	B	B		

Intersection Summary				
Average Delay		0.6		
Intersection Capacity Utilization	21.8%	ICU Level of Service	A	
Analysis Period (min)		15		

LOS Engineering, Inc. Synchro

AM 2024

5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	1	3	0	4	24	0	3	199	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	1	3	0	4	26	0	3	216	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	259	258	216	258	258	26	216			26		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	259	258	216	258	258	26	216			26		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	99	100	100			100		
cM capacity (veh/h)	688	643	824	693	643	1050	1353			1588		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	0	4	30	220
Volume Left	0	1	4	3
Volume Right	0	0	0	0
cSH	1700	655	1353	1588
Volume to Capacity	0.00	0.01	0.00	0.00
Queue Length 95th (ft)	0	1	0	0
Control Delay (s)	0.0	10.5	1.1	0.1
Lane LOS	A	B	A	A
Approach Delay (s)	0.0	10.5	1.1	0.1
Approach LOS	A	B		

Intersection Summary				
Average Delay			0.4	
Intersection Capacity Utilization			20.9%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc. Synchro

AM 2024

6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	46	23	120	175	16	4	5	5	3	125	42
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	50	25	130	190	17	4	5	5	3	136	46
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	208			75			645	540	62	539	543	199
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	208			75			645	540	62	539	543	199
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			91			98	99	99	99	67	95
cM capacity (veh/h)	1363			1524			253	409	1002	416	407	842

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	79	338	15	185
Volume Left	4	130	4	3
Volume Right	25	17	5	46
cSH	1363	1524	424	467
Volume to Capacity	0.00	0.09	0.04	0.40
Queue Length 95th (ft)	0	7	3	47
Control Delay (s)	0.4	3.4	13.8	17.7
Lane LOS	A	A	B	C
Approach Delay (s)	0.4	3.4	13.8	17.7
Approach LOS			B	C

Intersection Summary				
Average Delay			7.5	
Intersection Capacity Utilization			39.6%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc. Synchro

AM 2024

7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	5	0	0	18	7	0	0	0	3	0	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	5	0	0	20	8	0	0	0	3	0	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	27			5			39	35	5	31	31	23
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	27			5			39	35	5	31	31	23
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	99
cM capacity (veh/h)	1587			1616			959	857	1078	977	861	1053

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	7	27	0	11
Volume Left	1	0	0	3
Volume Right	0	8	0	8
cSH	1587	1616	1700	1029
Volume to Capacity	0.00	0.00	0.00	0.01
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	1.2	0.0	0.0	8.5
Lane LOS	A		A	A
Approach Delay (s)	1.2	0.0	0.0	8.5
Approach LOS			A	A

Intersection Summary			
Average Delay		2.3	
Intersection Capacity Utilization		13.3%	ICU Level of Service A
Analysis Period (min)		15	

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AM 2024

8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	8	68	15	12	65	87	9	81	9	72	76	14
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
Hourly flow rate (vph)	9	74	16	13	71	95	10	88	10	78	83	15

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	99	178	108	176
Volume Left (vph)	9	13	10	78
Volume Right (vph)	16	95	10	15
Hadj (s)	-0.05	-0.27	0.00	0.07
Departure Headway (s)	4.8	4.5	4.8	4.8
Degree Utilization, x	0.13	0.22	0.14	0.23
Capacity (veh/h)	694	751	700	706
Control Delay (s)	8.5	8.7	8.6	9.2
Approach Delay (s)	8.5	8.7	8.6	9.2
Approach LOS	A	A	A	A

Intersection Summary			
Delay		8.8	
HCM Level of Service		A	
Intersection Capacity Utilization		34.0%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024

9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	11	16	4	18	1	9	19	0	8	178	8
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	3	12	17	4	20	1	10	21	0	9	193	9
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	21			29			161	57	21	66	65	20
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	21			29			161	57	21	66	65	20
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	98	100	99	76	99
cM capacity (veh/h)	1595			1584			650	831	1057	906	822	1058

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	33	25	30	211
Volume Left	3	4	10	9
Volume Right	17	1	0	9
cSH	1595	1584	763	833
Volume to Capacity	0.00	0.00	0.04	0.25
Queue Length 95th (ft)	0	0	3	25
Control Delay (s)	0.7	1.3	9.9	10.8
Lane LOS	A	A	A	B
Approach Delay (s)	0.7	1.3	9.9	10.8
Approach LOS			A	B

Intersection Summary			
Average Delay		8.8	
Intersection Capacity Utilization		20.5%	ICU Level of Service A
Analysis Period (min)		15	

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AM 2024

10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	1	1	1	1	1	20	23	1	4	153	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	1	1	1	1	1	22	25	1	4	166	17
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	254	253	175	254	261	26	184			26		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	254	253	175	254	261	26	184			26		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	98			100		
cM capacity (veh/h)	687	638	868	687	632	1050	1391			1588		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	3	3	48	188
Volume Left	1	1	22	4
Volume Right	1	1	1	17
cSH	719	752	1391	1588
Volume to Capacity	0.00	0.00	0.02	0.00
Queue Length 95th (ft)	0	0	1	0
Control Delay (s)	10.0	9.8	3.5	0.2
Lane LOS	B	A	A	A
Approach Delay (s)	10.0	9.8	3.5	0.2
Approach LOS	B	A		

Intersection Summary			
Average Delay		1.1	
Intersection Capacity Utilization		23.4%	ICU Level of Service A
Analysis Period (min)		15	

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AM 2024

11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	41	7	84	328	27	5	11	1	9	102	58
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	3	45	8	91	357	29	5	12	1	10	111	63
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	386			52			727	623	48	616	612	371
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	386			52			727	623	48	616	612	371
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			94			98	97	100	97	71	91
cM capacity (veh/h)	1173			1554			228	377	1020	374	383	675

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	55	477	18	184
Volume Left	3	91	5	10
Volume Right	8	29	1	63
cSH	1173	1554	327	449
Volume to Capacity	0.00	0.06	0.06	0.41
Queue Length 95th (ft)	0	5	4	49
Control Delay (s)	0.5	1.9	16.7	18.5
Lane LOS	A	A	C	C
Approach Delay (s)	0.5	1.9	16.7	18.5
Approach LOS			C	C

Intersection Summary				
Average Delay			6.3	
Intersection Capacity Utilization			46.6%	ICU Level of Service
Analysis Period (min)			15	

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AM 2024

12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	1	0	0	5	8	0	3	0	20	3	24
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	8	1	0	0	5	9	0	3	0	22	3	26
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	14			1			54	30	1	28	26	10
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	14			1			54	30	1	28	26	10
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	98
cM capacity (veh/h)	1604			1622			915	858	1083	976	863	1072

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	9	14	3	51
Volume Left	8	0	0	22
Volume Right	0	9	0	26
cSH	1604	1622	858	1013
Volume to Capacity	0.00	0.00	0.00	0.05
Queue Length 95th (ft)	0	0	0	4
Control Delay (s)	6.4	0.0	9.2	8.7
Lane LOS	A		A	A
Approach Delay (s)	6.4	0.0	9.2	8.7
Approach LOS			A	A

Intersection Summary				
Average Delay			6.9	
Intersection Capacity Utilization			22.1%	ICU Level of Service
Analysis Period (min)			15	

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PM 2024

1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	38	0	66	30	178	0	0	194	41
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	41	0	72	33	193	0	0	211	45
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	528	492	233	492	514	193	255			193		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	528	492	233	492	514	193	255			193		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	91	100	92	98			100		
cM capacity (veh/h)	414	466	806	478	452	848	1310			1380		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	113	226	255
Volume Left	41	33	0
Volume Right	72	0	45
cSH	1308	1310	1700
Volume to Capacity	0.09	0.02	0.15
Queue Length 95th (ft)	7	2	0
Control Delay (s)	11.0	1.3	0.0
Lane LOS	B	A	
Approach Delay (s)	11.0	1.3	0.0
Approach LOS	B		

Intersection Summary			
Average Delay			2.6
Intersection Capacity Utilization			37.1%
Analysis Period (min)			15
		ICU Level of Service	A

LOS Engineering, Inc. Synchro

PM 2024

2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	99	0	0	0	0	0	0	126	89	156	61	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	108	0	0	0	0	0	0	137	97	170	66	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	591	639	66	591	591	185	66			234		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	591	639	66	591	591	185	66			234		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	72	100	100	100	100	100	100			87		
cM capacity (veh/h)	378	344	997	378	366	857	1535			1334		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	108	234	236
Volume Left	108	0	170
Volume Right	0	97	0
cSH	375	1700	1334
Volume to Capacity	0.29	0.14	0.13
Queue Length 95th (ft)	29	0	11
Control Delay (s)	18.4	0.0	6.1
Lane LOS	C		A
Approach Delay (s)	18.4	0.0	6.1
Approach LOS	C		

Intersection Summary			
Average Delay			5.9
Intersection Capacity Utilization			39.4%
Analysis Period (min)			15
		ICU Level of Service	A

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PM 2024

3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	172	37	1	0	11	14	1	1	1	18	0	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	187	40	1	0	12	15	1	1	1	20	0	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	27			41			451	442	41	436	435	20
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	27			41			451	442	41	436	435	20
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	88			100			100	100	100	96	100	98
cM capacity (veh/h)	1587			1568			465	450	1030	481	454	1058

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	228	27	3	36
Volume Left	187	0	1	20
Volume Right	1	15	1	16
cSH	1587	1568	561	640
Volume to Capacity	0.12	0.00	0.01	0.06
Queue Length 95th (ft)	10	0	0	4
Control Delay (s)	6.4	0.0	11.5	11.0
Lane LOS	A		B	B
Approach Delay (s)	6.4	0.0	11.5	11.0
Approach LOS			B	B

Intersection Summary			
Average Delay		6.4	
Intersection Capacity Utilization		28.2%	ICU Level of Service A
Analysis Period (min)		15	

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PM 2024

4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1	0	0	3	1	0	183	7	0	22	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	1	0	0	3	1	0	199	8	0	24	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	232	233	26	229	231	203	28			207		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	232	233	26	229	231	203	28			207		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	720	668	1050	725	669	838	1585			1365		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	4	207	28
Volume Left	0	0	0	0
Volume Right	0	1	8	4
cSH	668	704	1585	1365
Volume to Capacity	0.00	0.01	0.00	0.00
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	10.4	10.1	0.0	0.0
Lane LOS	B	B		
Approach Delay (s)	10.4	10.1	0.0	0.0
Approach LOS	B	B		

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		20.1%	ICU Level of Service A
Analysis Period (min)		15	

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PM 2024

5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	0	4	0	0	5	0	184	5	4	8	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	5	0	4	0	0	5	0	200	5	4	9	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	226	223	9	224	220	203	9			205		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	226	223	9	224	220	203	9			205		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	100	100	99	100			100		
cM capacity (veh/h)	723	674	1073	726	676	838	1611			1366		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	10	5	205	13
Volume Left	5	0	0	4
Volume Right	4	5	5	0
cSH	846	838	1611	1366
Volume to Capacity	0.01	0.01	0.00	0.00
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	9.3	9.3	0.0	2.6
Lane LOS	A	A		A
Approach Delay (s)	9.3	9.3	0.0	2.6
Approach LOS	A	A		

Intersection Summary				
Average Delay			0.7	
Intersection Capacity Utilization			21.7%	ICU Level of Service
Analysis Period (min)			15	

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PM 2024

6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	49	190	8	0	39	4	19	144	125	3	14	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	53	207	9	0	42	4	21	157	136	3	15	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	47			215			371	364	211	576	366	45
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	47			215			371	364	211	576	366	45
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			96	71	84	99	97	100
cM capacity (veh/h)	1561			1355			558	545	829	272	543	1025

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	268	47	313	20
Volume Left	53	0	21	3
Volume Right	9	4	136	1
cSH	1561	1355	641	476
Volume to Capacity	0.03	0.00	0.49	0.04
Queue Length 95th (ft)	3	0	67	3
Control Delay (s)	1.7	0.0	15.9	12.9
Lane LOS	A		C	B
Approach Delay (s)	1.7	0.0	15.9	12.9
Approach LOS			C	B

Intersection Summary				
Average Delay			8.8	
Intersection Capacity Utilization			44.6%	ICU Level of Service
Analysis Period (min)			15	

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PM 2024

7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	15	0	0	8	7	0	0	0	15	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	16	0	0	9	8	0	0	0	16	0	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	16			16			39	41	16	38	38	12
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	16			16			39	41	16	38	38	12
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	100
cM capacity (veh/h)	1601			1601			963	848	1063	966	852	1068

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	21	16	0	17
Volume Left	4	0	0	16
Volume Right	0	8	0	1
cSH	1601	1601	1700	971
Volume to Capacity	0.00	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	1.5	0.0	0.0	8.8
Lane LOS	A		A	A
Approach Delay (s)	1.5	0.0	0.0	8.8
Approach LOS			A	A

Intersection Summary			
Average Delay		3.4	
Intersection Capacity Utilization		14.3%	ICU Level of Service A
Analysis Period (min)		15	

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PM 2024

8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	31	137	15	3	77	112	20	98	11	118	75	16
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
Hourly flow rate (vph)	34	149	16	3	84	122	22	107	12	128	82	17

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	199	209	140	227
Volume Left (vph)	34	3	22	128
Volume Right (vph)	16	122	12	17
Hadj (s)	0.02	-0.31	0.01	0.10
Departure Headway (s)	5.2	4.9	5.4	5.3
Degree Utilization, x	0.29	0.28	0.21	0.33
Capacity (veh/h)	633	674	602	630
Control Delay (s)	10.4	9.9	9.8	10.9
Approach Delay (s)	10.4	9.9	9.8	10.9
Approach LOS	B	A	A	B

Intersection Summary			
Delay		10.3	
HCM Level of Service		B	
Intersection Capacity Utilization		49.0%	ICU Level of Service A
Analysis Period (min)		15	

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PM 2024

9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	16	3	1	7	4	8	137	9	23	41	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	17	3	1	8	4	9	149	10	25	45	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	12			21			63	42	19	124	41	10
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	12			21			63	42	19	124	41	10
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	82	99	97	95	100
cM capacity (veh/h)	1607			1595			891	847	1059	727	848	1072

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	25	13	167	71
Volume Left	4	1	9	25
Volume Right	3	4	10	1
cSH	1607	1595	859	803
Volume to Capacity	0.00	0.00	0.19	0.09
Queue Length 95th (ft)	0	0	18	7
Control Delay (s)	1.3	0.6	10.2	9.9
Lane LOS	A	A	B	A
Approach Delay (s)	1.3	0.6	10.2	9.9
Approach LOS			B	A

Intersection Summary			
Average Delay		8.9	
Intersection Capacity Utilization		21.7%	ICU Level of Service A
Analysis Period (min)		15	

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PM 2024

10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	16	4	5	3	0	3	18	138	4	1	43	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	17	4	5	3	0	3	20	150	4	1	47	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	243	242	47	248	240	152	47			154		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	243	242	47	248	240	152	47			154		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	99	99	100	100	100	99			100		
cM capacity (veh/h)	701	651	1023	691	652	894	1561			1426		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	27	7	174	48
Volume Left	17	3	20	1
Volume Right	5	3	4	0
cSH	738	780	1561	1426
Volume to Capacity	0.04	0.01	0.01	0.00
Queue Length 95th (ft)	3	1	1	0
Control Delay (s)	10.1	9.7	0.9	0.2
Lane LOS	B	A	A	A
Approach Delay (s)	10.1	9.7	0.9	0.2
Approach LOS	B	A		

Intersection Summary			
Average Delay		2.0	
Intersection Capacity Utilization		25.2%	ICU Level of Service A
Analysis Period (min)		15	

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PM 2024

11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	42	267	1	15	43	18	4	83	45	30	30	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	46	290	1	16	47	20	4	90	49	33	33	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	66			291			492	481	291	565	472	57
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	66			291			492	481	291	565	472	57
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			99	81	93	90	93	100
cM capacity (veh/h)	1535			1270			445	464	748	335	470	1010

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	337	83	143	70
Volume Left	46	16	4	33
Volume Right	1	20	49	4
cSH	1535	1270	532	407
Volume to Capacity	0.03	0.01	0.27	0.17
Queue Length 95th (ft)	2	1	27	15
Control Delay (s)	1.2	1.6	14.2	15.7
Lane LOS	A	A	B	C
Approach Delay (s)	1.2	1.6	14.2	15.7
Approach LOS			B	C

Intersection Summary			
Average Delay		5.8	
Intersection Capacity Utilization		40.7%	ICU Level of Service A
Analysis Period (min)		15	

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PM 2024

12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	24	22	1	0	4	4	0	1	0	15	0	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	26	24	1	0	4	4	0	1	0	16	0	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	9			25			95	85	24	84	84	7
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	9			25			95	85	24	84	84	7
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			100	100	100	98	100	99
cM capacity (veh/h)	1611			1589			867	792	1052	891	793	1076

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	51	9	1	28
Volume Left	26	0	0	16
Volume Right	1	4	0	12
cSH	1611	1589	792	961
Volume to Capacity	0.02	0.00	0.00	0.03
Queue Length 95th (ft)	1	0	0	2
Control Delay (s)	3.8	0.0	9.6	8.9
Lane LOS	A		A	A
Approach Delay (s)	3.8	0.0	9.6	8.9
Approach LOS			A	A

Intersection Summary			
Average Delay		5.1	
Intersection Capacity Utilization		24.1%	ICU Level of Service A
Analysis Period (min)		15	

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Appendix W

Year 2024 + Project Construction Intersection LOS Calculations

AM 2024 + Project
1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	178	0	164	5	42	0	0	151	87
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	193	0	178	5	46	0	0	164	95
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	357	268	211	268	315	46	259			46		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	357	268	211	268	315	46	259			46		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	72	100	83	100			100		
cM capacity (veh/h)	493	635	829	683	598	1024	1306			1562		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	372	51	259
Volume Left	193	5	0
Volume Right	178	0	95
cSH	1311	1306	1700
Volume to Capacity	0.28	0.00	0.15
Queue Length 95th (ft)	29	0	0
Control Delay (s)	10.9	0.9	0.0
Lane LOS	B	A	
Approach Delay (s)	10.9	0.9	0.0
Approach LOS	B		

Intersection Summary			
Average Delay			6.0
Intersection Capacity Utilization			29.8%
Analysis Period (min)			15

ICU Level of Service A

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AM 2024 + Project
2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	0	13	0	0	0	0	21	10	61	277	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	28	0	14	0	0	0	0	23	11	66	301	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	462	467	301	469	462	28	301			34		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	462	467	301	469	462	28	301			34		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	98	100	100	100	100			96		
cM capacity (veh/h)	494	472	739	479	476	1047	1260			1578		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	42	34	367
Volume Left	28	0	66
Volume Right	14	11	0
cSH	740	1700	1578
Volume to Capacity	0.06	0.02	0.04
Queue Length 95th (ft)	5	0	3
Control Delay (s)	11.8	0.0	1.6
Lane LOS	B		A
Approach Delay (s)	11.8	0.0	1.6
Approach LOS	B		

Intersection Summary			
Average Delay			2.5
Intersection Capacity Utilization			34.6%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

AM 2024 + Project
3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	8	0	1	51	13	0	1	0	33	0	240
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	8	9	0	1	55	14	0	1	0	36	0	261
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	70			9			349	96	9	89	89	62
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	70			9			349	96	9	89	89	62
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	96	100	74
cM capacity (veh/h)	1531			1611			446	790	1073	891	797	1002

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	16	71	1	297
Volume Left	8	1	0	36
Volume Right	0	14	0	261
cSH	1531	1611	790	987
Volume to Capacity	0.00	0.00	0.00	0.30
Queue Length 95th (ft)	0	0	0	32
Control Delay (s)	3.5	0.1	9.6	10.2
Lane LOS	A	A	A	B
Approach Delay (s)	3.5	0.1	9.6	10.2
Approach LOS			A	B

Intersection Summary			
Average Delay		8.1	
Intersection Capacity Utilization		35.2%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Project
4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	12	0	8	3	1	3	21	5	61	233	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	13	0	9	3	1	3	23	5	66	253	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	423	423	255	427	422	26	258			28		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	423	423	255	427	422	26	258			28		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	97	100	98	99	100	100			96		
cM capacity (veh/h)	520	499	783	510	500	1050	1307			1585		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	13	13	32	324
Volume Left	0	9	3	66
Volume Right	0	1	5	4
cSH	499	530	1307	1585
Volume to Capacity	0.03	0.02	0.00	0.04
Queue Length 95th (ft)	2	2	0	3
Control Delay (s)	12.4	12.0	0.8	1.8
Lane LOS	B	B	A	A
Approach Delay (s)	12.4	12.0	0.8	1.8
Approach LOS	B	B		

Intersection Summary			
Average Delay		2.4	
Intersection Capacity Utilization		36.5%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Project
5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	2	0	1	3	4	4	25	10	7	219	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	2	0	1	3	4	4	27	11	8	238	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	301	300	238	296	295	33	238			38		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	301	300	238	296	295	33	238			38		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	99	100	100			100		
cM capacity (veh/h)	642	607	801	651	612	1041	1329			1572		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	2	9	42	246
Volume Left	0	1	4	8
Volume Right	0	4	11	0
cSH	607	778	1329	1572
Volume to Capacity	0.00	0.01	0.00	0.00
Queue Length 95th (ft)	0	1	0	0
Control Delay (s)	10.9	9.7	0.8	0.3
Lane LOS	B	A	A	A
Approach Delay (s)	10.9	9.7	0.8	0.3
Approach LOS	B	A		

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		23.0%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Project
6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	48	25	120	175	16	4	5	5	7	137	42
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	11	52	27	130	190	17	4	5	5	8	149	46
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	208			79			667	556	66	555	561	199
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	208			79			667	556	66	555	561	199
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			91			98	99	99	98	62	95
cM capacity (veh/h)	1363			1519			232	398	998	404	396	842

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	90	338	15	202
Volume Left	11	130	4	8
Volume Right	27	17	5	46
cSH	1363	1519	403	450
Volume to Capacity	0.01	0.09	0.04	0.45
Queue Length 95th (ft)	1	7	3	57
Control Delay (s)	1.0	3.4	14.3	19.4
Lane LOS	A	A	B	C
Approach Delay (s)	1.0	3.4	14.3	19.4
Approach LOS			B	C

Intersection Summary			
Average Delay		8.3	
Intersection Capacity Utilization		40.6%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Project
7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	5	0	0	18	7	0	0	0	17	0	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	5	0	0	20	8	0	0	0	18	0	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	27			5			39	35	5	31	31	23
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	27			5			39	35	5	31	31	23
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	99
cM capacity (veh/h)	1587			1616			959	857	1078	977	861	1053

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	7	27	0	26
Volume Left	1	0	0	18
Volume Right	0	8	0	8
cSH	1587	1616	1700	998
Volume to Capacity	0.00	0.00	0.00	0.03
Queue Length 95th (ft)	0	0	0	2
Control Delay (s)	1.2	0.0	0.0	8.7
Lane LOS	A		A	A
Approach Delay (s)	1.2	0.0	0.0	8.7
Approach LOS			A	A

Intersection Summary				
Average Delay			3.9	
Intersection Capacity Utilization			13.3%	ICU Level of Service			A
Analysis Period (min)			15	

LOS Engineering, Inc. Synchro

AM 2024 + Project
8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	8	68	25	32	69	87	10	82	10	72	100	20
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
Hourly flow rate (vph)	9	74	27	35	75	95	11	89	11	78	109	22

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	110	204	111	209
Volume Left (vph)	9	35	11	78
Volume Right (vph)	27	95	11	22
Hadj (s)	-0.10	-0.21	-0.01	0.05
Departure Headway (s)	4.9	4.6	5.0	4.9
Degree Utilization, x	0.15	0.26	0.15	0.28
Capacity (veh/h)	673	720	669	691
Control Delay (s)	8.7	9.3	8.8	9.8
Approach Delay (s)	8.7	9.3	8.8	9.8
Approach LOS	A	A	A	A

Intersection Summary				
Delay			9.3	
HCM Level of Service			A	
Intersection Capacity Utilization			41.2%	ICU Level of Service			A
Analysis Period (min)			15	

LOS Engineering, Inc. Synchro

AM 2024 + Project
9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	11	16	4	18	1	9	20	0	8	202	38
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	5	12	17	4	20	1	10	22	0	9	220	41
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	21			29			211	61	21	71	69	20
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	21			29			211	61	21	71	69	20
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	97	100	99	73	96
cM capacity (veh/h)	1595			1584			565	825	1057	897	816	1058

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	35	25	32	270
Volume Left	5	4	10	9
Volume Right	17	1	0	41
cSH	1595	1584	722	849
Volume to Capacity	0.00	0.00	0.04	0.32
Queue Length 95th (ft)	0	0	3	34
Control Delay (s)	1.2	1.3	10.2	11.2
Lane LOS	A	A	B	B
Approach Delay (s)	1.2	1.3	10.2	11.2
Approach LOS			B	B

Intersection Summary			
Average Delay		9.5	
Intersection Capacity Utilization		23.6%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Project
10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	1	2	1	1	1	44	24	1	4	171	22
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	1	2	1	1	1	48	26	1	4	186	24
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	330	329	198	332	341	27	210			27		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	330	329	198	332	341	27	210			27		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	96			100		
cM capacity (veh/h)	603	567	843	601	559	1049	1361			1587		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	3	75	214
Volume Left	1	1	48	4
Volume Right	2	1	1	24
cSH	691	681	1361	1587
Volume to Capacity	0.01	0.00	0.04	0.00
Queue Length 95th (ft)	0	0	3	0
Control Delay (s)	10.2	10.3	5.0	0.2
Lane LOS	B	B	A	A
Approach Delay (s)	10.2	10.3	5.0	0.2
Approach LOS	B	B		

Intersection Summary			
Average Delay		1.7	
Intersection Capacity Utilization		27.6%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Project
11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	41	7	94	346	45	5	12	1	10	124	58
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	3	45	8	102	376	49	5	13	1	11	135	63
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	425			52			790	684	48	667	664	401
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	425			52			790	684	48	667	664	401
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			93			97	96	100	97	62	90
cM capacity (veh/h)	1134			1554			186	346	1020	342	355	649

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	55	527	20	209
Volume Left	3	102	5	11
Volume Right	8	49	1	63
cSH	1134	1554	288	411
Volume to Capacity	0.00	0.07	0.07	0.51
Queue Length 95th (ft)	0	5	5	70
Control Delay (s)	0.5	2.0	18.4	22.5
Lane LOS	A	A	C	C
Approach Delay (s)	0.5	2.0	18.4	22.5
Approach LOS			C	C

Intersection Summary			
Average Delay		7.6	
Intersection Capacity Utilization		50.5%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Project
12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	1	0	0	5	8	0	3	0	20	3	56
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	9	1	0	0	5	9	0	3	0	22	3	61
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	14			1			91	33	1	30	28	10
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	14			1			91	33	1	30	28	10
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	98	100	94
cM capacity (veh/h)	1604			1622			837	855	1083	972	860	1072

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	10	14	3	86
Volume Left	9	0	0	22
Volume Right	0	9	0	61
cSH	1604	1622	855	1035
Volume to Capacity	0.01	0.00	0.00	0.08
Queue Length 95th (ft)	0	0	0	7
Control Delay (s)	6.5	0.0	9.2	8.8
Lane LOS	A		A	A
Approach Delay (s)	6.5	0.0	9.2	8.8
Approach LOS			A	A

Intersection Summary			
Average Delay		7.5	
Intersection Capacity Utilization		24.9%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2024 + Project
1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	40	0	66	40	198	0	0	195	41
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	43	0	72	43	215	0	0	212	45
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	572	536	234	536	559	215	257			215		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	572	536	234	536	559	215	257			215		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	90	100	91	97			100		
cM capacity (veh/h)	383	436	805	444	423	825	1308			1355		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	115	259	257
Volume Left	43	43	0
Volume Right	72	0	45
cSH	1175	1308	1700
Volume to Capacity	0.10	0.03	0.15
Queue Length 95th (ft)	8	3	0
Control Delay (s)	11.4	1.6	0.0
Lane LOS	B	A	
Approach Delay (s)	11.4	1.6	0.0
Approach LOS	B		

Intersection Summary			
Average Delay			2.7
Intersection Capacity Utilization			38.7%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

PM 2024 + Project
2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	99	0	0	0	0	0	0	156	140	156	64	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	108	0	0	0	0	0	0	170	152	170	70	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	654	730	70	654	654	246	70			322		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	654	730	70	654	654	246	70			322		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	68	100	100	100	100	100	100			86		
cM capacity (veh/h)	340	301	993	340	333	793	1531			1238		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	108	322	239
Volume Left	108	0	170
Volume Right	0	152	0
cSH	338	1700	1238
Volume to Capacity	0.32	0.19	0.14
Queue Length 95th (ft)	34	0	12
Control Delay (s)	20.6	0.0	6.3
Lane LOS	C		A
Approach Delay (s)	20.6	0.0	6.3
Approach LOS	C		

Intersection Summary			
Average Delay			5.6
Intersection Capacity Utilization			44.3%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

PM 2024 + Project

3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	243	47	1	0	11	24	1	1	1	19	0	17
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	264	51	1	0	12	26	1	1	1	21	0	18
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	38			52			623	618	52	607	605	25
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	38			52			623	618	52	607	605	25
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	83			100			100	100	100	94	100	98
cM capacity (veh/h)	1572			1554			341	337	1016	355	343	1051

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	316	38	3	39
Volume Left	264	0	1	21
Volume Right	1	26	1	18
cSH	1572	1554	436	516
Volume to Capacity	0.17	0.00	0.01	0.08
Queue Length 95th (ft)	15	0	1	6
Control Delay (s)	6.7	0.0	13.3	12.5
Lane LOS	A		B	B
Approach Delay (s)	6.7	0.0	13.3	12.5
Approach LOS			B	B

Intersection Summary			
Average Delay		6.7	
Intersection Capacity Utilization		32.7%	ICU Level of Service
Analysis Period (min)		15	

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4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1	0	0	11	62	0	203	7	1	23	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	1	0	0	12	67	0	221	8	1	25	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	327	258	27	254	256	224	29			228		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	327	258	27	254	256	224	29			228		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	98	92	100			100		
cM capacity (veh/h)	566	646	1048	698	647	815	1584			1340		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	79	228	30
Volume Left	0	0	0	1
Volume Right	0	67	8	4
cSH	646	784	1584	1340
Volume to Capacity	0.00	0.10	0.00	0.00
Queue Length 95th (ft)	0	8	0	0
Control Delay (s)	10.6	10.1	0.0	0.3
Lane LOS	B	B		A
Approach Delay (s)	10.6	10.1	0.0	0.3
Approach LOS	B	B		

Intersection Summary			
Average Delay		2.4	
Intersection Capacity Utilization		22.2%	ICU Level of Service
Analysis Period (min)		15	

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PM 2024 + Project
5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	0	4	10	2	5	0	204	5	4	9	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	5	0	4	11	2	5	0	222	5	4	10	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	249	246	10	247	243	224	10			227		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	249	246	10	247	243	224	10			227		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	98	100	99	100			100		
cM capacity (veh/h)	696	654	1072	702	657	815	1610			1341		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	10	18	227	14
Volume Left	5	11	0	4
Volume Right	4	5	5	0
cSH	824	726	1610	1341
Volume to Capacity	0.01	0.03	0.00	0.00
Queue Length 95th (ft)	1	2	0	0
Control Delay (s)	9.4	10.1	0.0	2.4
Lane LOS	A	B		A
Approach Delay (s)	9.4	10.1	0.0	2.4
Approach LOS	A	B		

Intersection Summary			
Average Delay		1.2	
Intersection Capacity Utilization		21.0%	ICU Level of Service
Analysis Period (min)		15	

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PM 2024 + Project
6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	49	190	8	0	41	18	21	156	125	3	14	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	53	207	9	0	45	20	23	170	136	3	15	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	64			215			387	382	211	592	376	54
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	64			215			387	382	211	592	376	54
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			96	68	84	99	97	99
cM capacity (veh/h)	1538			1355			540	532	829	256	536	1013

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	268	64	328	26
Volume Left	53	0	23	3
Volume Right	9	20	136	8
cSH	1538	1355	626	537
Volume to Capacity	0.03	0.00	0.52	0.05
Queue Length 95th (ft)	3	0	76	4
Control Delay (s)	1.7	0.0	16.9	12.1
Lane LOS	A		C	B
Approach Delay (s)	1.7	0.0	16.9	12.1
Approach LOS			C	B

Intersection Summary			
Average Delay		9.2	
Intersection Capacity Utilization		46.4%	ICU Level of Service
Analysis Period (min)		15	

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PM 2024 + Project
7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	15	0	0	8	21	0	0	0	15	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	16	0	0	9	23	0	0	0	16	0	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	32			16			46	57	16	45	45	20
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	32			16			46	57	16	45	45	20
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	100
cM capacity (veh/h)	1581			1601			952	832	1063	955	844	1058

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	21	32	0	17
Volume Left	4	0	0	16
Volume Right	0	23	0	1
cSH	1581	1601	1700	961
Volume to Capacity	0.00	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	1.5	0.0	0.0	8.8
Lane LOS	A		A	A
Approach Delay (s)	1.5	0.0	0.0	8.8
Approach LOS			A	A

Intersection Summary			
Average Delay		2.7	
Intersection Capacity Utilization		14.3%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2024 + Project
8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	37	141	16	4	77	112	30	122	31	118	76	16
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
Hourly flow rate (vph)	40	153	17	4	84	122	33	133	34	128	83	17

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	211	210	199	228
Volume Left (vph)	40	4	33	128
Volume Right (vph)	17	122	34	17
Hadj (s)	0.02	-0.31	-0.03	0.10
Departure Headway (s)	5.5	5.1	5.4	5.5
Degree Utilization, x	0.32	0.30	0.30	0.35
Capacity (veh/h)	604	636	602	605
Control Delay (s)	11.0	10.3	10.7	11.4
Approach Delay (s)	11.0	10.3	10.7	11.4
Approach LOS	B	B	B	B

Intersection Summary			
Delay		10.9	
HCM Level of Service		B	
Intersection Capacity Utilization		56.4%	ICU Level of Service B
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2024 + Project

9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	34	16	3	1	7	4	8	161	9	23	42	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	37	17	3	1	8	4	9	175	10	25	46	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	12			21			131	107	19	202	107	10
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	12			21			131	107	19	202	107	10
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			99	77	99	96	94	100
cM capacity (veh/h)	1607			1595			786	764	1059	606	765	1072

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	58	13	193	74
Volume Left	37	1	9	25
Volume Right	3	4	10	3
cSH	1607	1595	776	711
Volume to Capacity	0.02	0.00	0.25	0.10
Queue Length 95th (ft)	2	0	25	9
Control Delay (s)	4.7	0.6	11.2	10.6
Lane LOS	A	A	B	B
Approach Delay (s)	4.7	0.6	11.2	10.6
Approach LOS			B	B

Intersection Summary			
Average Delay		9.6	
Intersection Capacity Utilization		28.9%	ICU Level of Service A
Analysis Period (min)		15	

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PM 2024 + Project

10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	4	29	3	0	3	19	156	4	1	44	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	24	4	32	3	0	3	21	170	4	1	48	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	266	265	48	297	263	172	48			174		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	266	265	48	297	263	172	48			174		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	99	97	99	100	100	99			100		
cM capacity (veh/h)	676	631	1021	625	633	872	1559			1403		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	60	7	195	49
Volume Left	24	3	21	1
Volume Right	32	3	4	0
cSH	818	728	1559	1403
Volume to Capacity	0.07	0.01	0.01	0.00
Queue Length 95th (ft)	6	1	1	0
Control Delay (s)	9.7	10.0	0.9	0.2
Lane LOS	A	A	A	A
Approach Delay (s)	9.7	10.0	0.9	0.2
Approach LOS	A	A		

Intersection Summary			
Average Delay		2.7	
Intersection Capacity Utilization		26.6%	ICU Level of Service A
Analysis Period (min)		15	

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Synchro

PM 2024 + Project
11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	42	285	1	15	43	19	4	105	55	48	31	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	46	310	1	16	47	21	4	114	60	52	34	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	67			311			512	502	310	608	492	57
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	67			311			512	502	310	608	492	57
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			99	75	92	82	93	100
cM capacity (veh/h)	1534			1250			429	452	730	292	457	1009

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	357	84	178	90
Volume Left	46	16	4	52
Volume Right	1	21	60	4
cSH	1534	1250	517	352
Volume to Capacity	0.03	0.01	0.34	0.26
Queue Length 95th (ft)	2	1	38	25
Control Delay (s)	1.2	1.6	15.6	18.7
Lane LOS	A	A	C	C
Approach Delay (s)	1.2	1.6	15.6	18.7
Approach LOS			C	C

Intersection Summary				
Average Delay			7.1	
Intersection Capacity Utilization			44.5%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc.

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PM 2024 + Project
12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	56	22	1	0	4	4	0	1	0	15	0	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	61	24	1	0	4	4	0	1	0	16	0	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	9			25			166	155	24	153	153	7
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	9			25			166	155	24	153	153	7
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			100	100	100	98	100	99
cM capacity (veh/h)	1611			1589			766	709	1052	789	711	1076

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	86	9	1	29
Volume Left	61	0	0	16
Volume Right	1	4	0	13
cSH	1611	1589	709	895
Volume to Capacity	0.04	0.00	0.00	0.03
Queue Length 95th (ft)	3	0	0	3
Control Delay (s)	5.3	0.0	10.1	9.2
Lane LOS	A		B	A
Approach Delay (s)	5.3	0.0	10.1	9.2
Approach LOS			B	A

Intersection Summary				
Average Delay			5.9	
Intersection Capacity Utilization			25.9%	ICU Level of Service
Analysis Period (min)			15	

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Appendix X

Solar Farm Average Operations Traffic Generation Rates

Solar Farm Average Operations Phase Traffic Generation Rates

After construction completion, the solar projects will change to an operations phase with fewer employees and thus the project will generation less traffic. Some of the other solar projects did not have traffic identifed for the operations phase; therefore, an average traffic generation operations rate was calculated based on the number of megawatts (MW). The following tables listes the traffic generation assocaited with each cumulative project and the associated MW.

	Operations			Operations AM				Operations PM			
Project	**Mega Watts**	**ADT**	**ADT / MW**	**IN**	**IN/MW**	**OUT**	**OUT/MW**	**IN**	**IN/MW**	**OUT**	**OUT/MW**
Centinela	275	21	0.08	4	0.01	3	0.01	3	0.01	4	0.01
Imperial Solar South	200	15	0.08	2	0.01	2	0.01	2	0.01	2	0.01
Imperial Solar West	250	15	0.06	2	0.01	2	0.01	2	0.01	2	0.01
Mt Signal	200	20	0.10	7	0.04	1	0.01	7	0.04	1	0.01
Average Operation Rates/MW			**0.08**		**0.02**		**0.01**		**0.02**		**0.01**

The above operation rates were used to calcualted the traffic associated with the following cumualtive projects during their operations phase.

Proposed Cumulative Projects	MW	**ADT**	**IN**	**OUT**	**IN**	**OUT**
Calexico I-B	100	8	2	1	2	1
Calexico II-A	100	8	2	1	2	1
Calexico II-B	100	8	2	1	2	1
Iris Solar Farm	200	16	3	2	3	2
Silverleaf	160	12	3	1	3	2

Appendix Y

Year 2024 + Project Construction + Cumulative Intersection LOS Calculations

AM 2024 + Cumulative (Solar Operations Traffic)
1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	129	0	164	5	53	0	0	152	87
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	140	0	178	5	58	0	0	165	95
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	370	281	212	281	328	58	260			58		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	370	281	212	281	328	58	260			58		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	79	100	82	100			100		
cM capacity (veh/h)	481	625	828	669	588	1009	1305			1547		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	318	63	260
Volume Left	140	5	0
Volume Right	178	0	95
cSH	1520	1305	1700
Volume to Capacity	0.21	0.00	0.15
Queue Length 95th (ft)	20	0	0
Control Delay (s)	10.4	0.7	0.0
Lane LOS	B	A	
Approach Delay (s)	10.4	0.7	0.0
Approach LOS	B		

Intersection Summary			
Average Delay			5.2
Intersection Capacity Utilization			27.1%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic)
2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	0	5	0	0	0	0	32	10	61	229	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	28	0	5	0	0	0	0	35	11	66	249	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	422	427	249	424	422	40	249			46		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	422	427	249	424	422	40	249			46		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	99	100	100	100	100			96		
cM capacity (veh/h)	525	498	790	519	501	1031	1317			1562		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	34	46	315
Volume Left	28	0	66
Volume Right	5	11	0
cSH	626	1700	1562
Volume to Capacity	0.05	0.03	0.04
Queue Length 95th (ft)	4	0	3
Control Delay (s)	11.8	0.0	1.8
Lane LOS	B		A
Approach Delay (s)	11.8	0.0	1.8
Approach LOS	B		

Intersection Summary			
Average Delay			2.5
Intersection Capacity Utilization			32.1%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic)

3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	8	0	1	41	26	0	1	0	47	0	170
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	5	9	0	1	45	28	0	1	0	51	0	185
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	73			9			265	95	9	81	80	59
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	73			9			265	95	9	81	80	59
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	94	100	82
cM capacity (veh/h)	1527			1611			560	792	1073	903	806	1007

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	14	74	1	236
Volume Left	5	1	0	51
Volume Right	0	28	0	185
cSH	1527	1611	792	983
Volume to Capacity	0.00	0.00	0.00	0.24
Queue Length 95th (ft)	0	0	0	23
Control Delay (s)	2.8	0.1	9.6	9.8
Lane LOS	A	A	A	A
Approach Delay (s)	2.8	0.1	9.6	9.8
Approach LOS			A	A

Intersection Summary			
Average Delay		7.3	
Intersection Capacity Utilization		30.2%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic)

4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	4	0	4	3	0	3	20	1	0	214	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	4	0	4	3	0	3	22	1	0	233	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	265	264	235	266	266	22	237			23		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	265	264	235	266	266	22	237			23		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	100	99	99	100	100			100		
cM capacity (veh/h)	684	640	804	682	638	1055	1330			1592		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	8	26	237
Volume Left	0	4	3	0
Volume Right	0	0	1	4
cSH	640	663	1330	1592
Volume to Capacity	0.01	0.01	0.00	0.00
Queue Length 95th (ft)	1	1	0	0
Control Delay (s)	10.7	10.5	1.0	0.0
Lane LOS	B	B	A	
Approach Delay (s)	10.7	10.5	1.0	0.0
Approach LOS	B	B		

Intersection Summary			
Average Delay		0.6	
Intersection Capacity Utilization		21.9%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic)
5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	1	3	0	4	24	0	3	200	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	1	3	0	4	26	0	3	217	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	260	259	217	259	259	26	217			26		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	260	259	217	259	259	26	217			26		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	99	100	100			100		
cM capacity (veh/h)	687	642	822	692	642	1050	1352			1588		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	0	4	30	221
Volume Left	0	1	4	3
Volume Right	0	0	0	0
cSH	1700	654	1352	1588
Volume to Capacity	0.00	0.01	0.00	0.00
Queue Length 95th (ft)	0	1	0	0
Control Delay (s)	0.0	10.5	1.1	0.1
Lane LOS	A	B	A	A
Approach Delay (s)	0.0	10.5	1.1	0.1
Approach LOS	A	B		

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization		21.0%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic)
6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	46	23	120	176	16	4	5	5	3	126	42
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	50	25	130	191	17	4	5	5	3	137	46
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	209			75			646	541	62	540	545	200
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	209			75			646	541	62	540	545	200
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			91			98	99	99	99	66	95
cM capacity (veh/h)	1362			1524			251	409	1002	415	406	841

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	79	339	15	186
Volume Left	4	130	4	3
Volume Right	25	17	5	46
cSH	1362	1524	423	466
Volume to Capacity	0.00	0.09	0.04	0.40
Queue Length 95th (ft)	0	7	3	47
Control Delay (s)	0.4	3.4	13.8	17.8
Lane LOS	A	A	B	C
Approach Delay (s)	0.4	3.4	13.8	17.8
Approach LOS			B	C

Intersection Summary			
Average Delay		7.6	
Intersection Capacity Utilization		39.7%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic)
7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	5	0	0	18	7	0	0	0	3	1	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	5	0	0	20	8	0	0	0	3	1	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	27			5			39	35	5	31	31	23
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	27			5			39	35	5	31	31	23
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	99
cM capacity (veh/h)	1587			1616			957	857	1078	977	861	1053

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	7	27	0	12
Volume Left	1	0	0	3
Volume Right	0	8	0	8
cSH	1587	1616	1700	1011
Volume to Capacity	0.00	0.00	0.00	0.01
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	1.2	0.0	0.0	8.6
Lane LOS	A		A	A
Approach Delay (s)	1.2	0.0	0.0	8.6
Approach LOS			A	A

Intersection Summary			
Average Delay		2.4	
Intersection Capacity Utilization		13.3%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic)
8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	8	110	18	13	89	111	11	81	9	124	78	14
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
Hourly flow rate (vph)	9	120	20	14	97	121	12	88	10	135	85	15

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	148	232	110	235
Volume Left (vph)	9	14	12	135
Volume Right (vph)	20	121	10	15
Hadj (s)	-0.03	-0.27	0.00	0.11
Departure Headway (s)	5.1	4.8	5.2	5.1
Degree Utilization, x	0.21	0.31	0.16	0.33
Capacity (veh/h)	644	699	625	652
Control Delay (s)	9.4	9.9	9.2	10.7
Approach Delay (s)	9.4	9.9	9.2	10.7
Approach LOS	A	A	A	B

Intersection Summary			
Delay		9.9	
HCM Level of Service		A	
Intersection Capacity Utilization		40.9%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic)
9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	11	16	4	18	1	9	21	0	8	184	8
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	3	12	17	4	20	1	10	23	0	9	200	9
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	21			29			165	57	21	67	65	20
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	21			29			165	57	21	67	65	20
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	97	100	99	76	99
cM capacity (veh/h)	1595			1584			642	831	1057	903	822	1058

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	33	25	33	217
Volume Left	3	4	10	9
Volume Right	17	1	0	9
cSH	1595	1584	763	832
Volume to Capacity	0.00	0.00	0.04	0.26
Queue Length 95th (ft)	0	0	3	26
Control Delay (s)	0.7	1.3	9.9	10.8
Lane LOS	A	A	A	B
Approach Delay (s)	0.7	1.3	9.9	10.8
Approach LOS			A	B

Intersection Summary				
Average Delay			8.9	
Intersection Capacity Utilization			20.9%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc.

Synchro

AM 2024 + Cumulative (Solar Operations Traffic)
10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	1	1	1	1	1	20	25	1	4	158	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	1	1	1	1	1	22	27	1	4	172	17
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	262	261	180	262	269	28	189			28		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	262	261	180	262	269	28	189			28		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	98			100		
cM capacity (veh/h)	680	632	862	679	625	1048	1385			1585		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	3	3	50	193
Volume Left	1	1	22	4
Volume Right	1	1	1	17
cSH	712	745	1385	1585
Volume to Capacity	0.00	0.00	0.02	0.00
Queue Length 95th (ft)	0	0	1	0
Control Delay (s)	10.1	9.9	3.4	0.2
Lane LOS	B	A	A	A
Approach Delay (s)	10.1	9.9	3.4	0.2
Approach LOS	B	A		

Intersection Summary				
Average Delay			1.1	
Intersection Capacity Utilization			23.6%	ICU Level of Service
Analysis Period (min)			15	

LOS Engineering, Inc.

Synchro

AM 2024 + Cumulative (Solar Operations Traffic)
11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	41	7	84	329	28	5	11	1	9	104	58
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	3	45	8	91	358	30	5	12	1	10	113	63
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	388			52			730	626	48	617	614	373
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	388			52			730	626	48	617	614	373
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			94			98	97	100	97	70	91
cM capacity (veh/h)	1170			1554			226	376	1020	373	382	673

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	55	479	18	186
Volume Left	3	91	5	10
Volume Right	8	30	1	63
cSH	1170	1554	325	447
Volume to Capacity	0.00	0.06	0.06	0.42
Queue Length 95th (ft)	0	5	5	50
Control Delay (s)	0.5	1.9	16.8	18.7
Lane LOS	A	A	C	C
Approach Delay (s)	0.5	1.9	16.8	18.7
Approach LOS			C	C

Intersection Summary			
Average Delay		6.4	
Intersection Capacity Utilization		46.8%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic)
12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	1	0	0	5	8	0	3	0	21	3	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	8	1	0	0	5	9	0	3	0	23	3	27
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	14			1			55	30	1	28	26	10
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	14			1			55	30	1	28	26	10
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	97
cM capacity (veh/h)	1604			1622			913	858	1083	976	863	1072

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	9	14	3	53
Volume Left	8	0	0	23
Volume Right	0	9	0	27
cSH	1604	1622	858	1014
Volume to Capacity	0.00	0.00	0.00	0.05
Queue Length 95th (ft)	0	0	0	4
Control Delay (s)	6.4	0.0	9.2	8.7
Lane LOS	A		A	A
Approach Delay (s)	6.4	0.0	9.2	8.7
Approach LOS			A	A

Intersection Summary			
Average Delay		6.9	
Intersection Capacity Utilization		22.2%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2024 + Cumulative (Solar Operations Traffic)
1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	40	0	66	32	204	0	0	216	41
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	43	0	72	35	222	0	0	235	45
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	584	548	257	548	571	222	279			222		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	584	548	257	548	571	222	279			222		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	90	100	91	97			100		
cM capacity (veh/h)	378	432	782	438	419	818	1283			1347		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	115	257	279
Volume Left	43	35	0
Volume Right	72	0	45
cSH	1160	1283	1700
Volume to Capacity	0.10	0.03	0.16
Queue Length 95th (ft)	8	2	0
Control Delay (s)	11.5	1.3	0.0
Lane LOS	B	A	
Approach Delay (s)	11.5	1.3	0.0
Approach LOS	B		

Intersection Summary			
Average Delay			2.5
Intersection Capacity Utilization			39.7%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

PM 2024 + Cumulative (Solar Operations Traffic)
2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	99	0	0	0	0	0	0	147	91	156	85	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	108	0	0	0	0	0	0	160	99	170	92	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	641	690	92	641	641	209	92			259		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	641	690	92	641	641	209	92			259		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	69	100	100	100	100	100	100			87		
cM capacity (veh/h)	349	320	965	349	342	831	1502			1306		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	108	259	262
Volume Left	108	0	170
Volume Right	0	99	0
cSH	347	1700	1306
Volume to Capacity	0.31	0.15	0.13
Queue Length 95th (ft)	32	0	11
Control Delay (s)	20.0	0.0	5.7
Lane LOS	C		A
Approach Delay (s)	20.0	0.0	5.7
Approach LOS	C		

Intersection Summary			
Average Delay			5.8
Intersection Capacity Utilization			41.9%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

PM 2024 + Cumulative (Solar Operations Traffic)
3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	172	37	1	0	11	44	1	1	1	41	0	16
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	187	40	1	0	12	48	1	1	1	45	0	17
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	60			41			468	474	41	452	451	36
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	60			41			468	474	41	452	451	36
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	88			100			100	100	100	90	100	98
cM capacity (veh/h)	1544			1568			451	430	1030	468	443	1037

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	228	60	3	62
Volume Left	187	0	1	45
Volume Right	1	48	1	17
cSH	1544	1568	544	553
Volume to Capacity	0.12	0.00	0.01	0.11
Queue Length 95th (ft)	10	0	0	9
Control Delay (s)	6.4	0.0	11.7	12.3
Lane LOS	A		B	B
Approach Delay (s)	6.4	0.0	11.7	12.3
Approach LOS			B	B

Intersection Summary			
Average Delay		6.4	
Intersection Capacity Utilization		31.3%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2024 + Cumulative (Solar Operations Traffic)
4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1	0	0	3	1	0	183	7	0	22	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	1	0	0	3	1	0	199	8	0	24	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	232	233	26	229	231	203	28			207		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	232	233	26	229	231	203	28			207		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	720	668	1050	725	669	838	1585			1365		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	4	207	28
Volume Left	0	0	0	0
Volume Right	0	1	8	4
cSH	668	704	1585	1365
Volume to Capacity	0.00	0.01	0.00	0.00
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	10.4	10.1	0.0	0.0
Lane LOS	B	B		
Approach Delay (s)	10.4	10.1	0.0	0.0
Approach LOS	B	B		

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		20.1%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2024 + Cumulative (Solar Operations Traffic)
5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	0	4	0	0	5	0	184	5	4	8	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	5	0	4	0	0	5	0	200	5	4	9	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	226	223	9	224	220	203	9			205		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	226	223	9	224	220	203	9			205		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	100	100	99	100			100		
cM capacity (veh/h)	723	674	1073	726	676	838	1611			1366		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	10	5	205	13
Volume Left	5	0	0	4
Volume Right	4	5	5	0
cSH	846	838	1611	1366
Volume to Capacity	0.01	0.01	0.00	0.00
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	9.3	9.3	0.0	2.6
Lane LOS	A	A		A
Approach Delay (s)	9.3	9.3	0.0	2.6
Approach LOS	A	A		

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		21.7%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2024 + Cumulative (Solar Operations Traffic)
6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	49	191	8	0	39	4	19	144	125	3	14	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	53	208	9	0	42	4	21	157	136	3	15	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	47			216			372	365	212	577	367	45
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	47			216			372	365	212	577	367	45
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			96	71	84	99	97	100
cM capacity (veh/h)	1561			1353			557	544	828	271	542	1025

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	270	47	313	20
Volume Left	53	0	21	3
Volume Right	9	4	136	1
cSH	1561	1353	640	475
Volume to Capacity	0.03	0.00	0.49	0.04
Queue Length 95th (ft)	3	0	67	3
Control Delay (s)	1.7	0.0	15.9	12.9
Lane LOS	A		C	B
Approach Delay (s)	1.7	0.0	15.9	12.9
Approach LOS			C	B

Intersection Summary			
Average Delay		8.8	
Intersection Capacity Utilization		44.7%	ICU Level of Service
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2024 + Cumulative (Solar Operations Traffic)
7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	15	0	0	8	7	0	0	0	15	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	16	0	0	9	8	0	0	0	16	0	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	16			16			39	41	16	38	38	12
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	16			16			39	41	16	38	38	12
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	100
cM capacity (veh/h)	1601			1601			963	848	1063	966	852	1068

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	21	16	0	17
Volume Left	4	0	0	16
Volume Right	0	8	0	1
cSH	1601	1601	1700	971
Volume to Capacity	0.00	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	1.5	0.0	0.0	8.8
Lane LOS	A		A	A
Approach Delay (s)	1.5	0.0	0.0	8.8
Approach LOS			A	A

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	14.3%	ICU Level of Service	A
Analysis Period (min)	15		

LOS Engineering, Inc. Synchro

PM 2024 + Cumulative (Solar Operations Traffic)
8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	31	168	17	3	116	146	22	100	12	137	75	16
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
Hourly flow rate (vph)	34	183	18	3	126	159	24	109	13	149	82	17

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	235	288	146	248
Volume Left (vph)	34	3	24	149
Volume Right (vph)	18	159	13	17
Hadj (s)	0.02	-0.29	0.01	0.11
Departure Headway (s)	5.6	5.2	5.8	5.7
Degree Utilization, x	0.36	0.41	0.24	0.39
Capacity (veh/h)	596	644	542	579
Control Delay (s)	11.7	11.8	10.6	12.4
Approach Delay (s)	11.7	11.8	10.6	12.4
Approach LOS	B	B	B	B

Intersection Summary			
Delay	11.7		
HCM Level of Service	B		
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		

LOS Engineering, Inc. Synchro

PM 2024 + Cumulative (Solar Operations Traffic)
9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	16	3	1	7	4	8	142	9	23	43	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	17	3	1	8	4	9	154	10	25	47	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	12			21			64	42	19	127	41	10
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	12			21			64	42	19	127	41	10
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	82	99	97	94	100
cM capacity (veh/h)	1607			1595			888	847	1059	720	848	1072

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	25	13	173	73
Volume Left	4	1	9	25
Volume Right	3	4	10	1
cSH	1607	1595	859	801
Volume to Capacity	0.00	0.00	0.20	0.09
Queue Length 95th (ft)	0	0	19	7
Control Delay (s)	1.3	0.6	10.2	9.9
Lane LOS	A	A	B	A
Approach Delay (s)	1.3	0.6	10.2	9.9
Approach LOS			B	A

Intersection Summary			
Average Delay		8.9	
Intersection Capacity Utilization		22.0%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2024 + Cumulative (Solar Operations Traffic)
10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	16	4	5	3	0	3	18	142	4	1	45	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	17	4	5	3	0	3	20	154	4	1	49	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	250	249	49	254	247	157	49			159		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	250	249	49	254	247	157	49			159		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	99	99	100	100	100	99			100		
cM capacity (veh/h)	694	645	1020	685	647	889	1558			1421		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	27	7	178	50
Volume Left	17	3	20	1
Volume Right	5	3	4	0
cSH	732	774	1558	1421
Volume to Capacity	0.04	0.01	0.01	0.00
Queue Length 95th (ft)	3	1	1	0
Control Delay (s)	10.1	9.7	0.9	0.2
Lane LOS	B	A	A	A
Approach Delay (s)	10.1	9.7	0.9	0.2
Approach LOS	B	A		

Intersection Summary			
Average Delay		1.9	
Intersection Capacity Utilization		25.4%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2024 + Cumulative (Solar Operations Traffic)

11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	42	268	1	15	43	18	4	84	45	31	30	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	46	291	1	16	47	20	4	91	49	34	33	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	66			292			493	482	292	567	473	57
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	66			292			493	482	292	567	473	57
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			99	80	93	90	93	100
cM capacity (veh/h)	1535			1269			444	463	747	334	469	1010

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	338	83	145	71
Volume Left	46	16	4	34
Volume Right	1	20	49	4
cSH	1535	1269	531	404
Volume to Capacity	0.03	0.01	0.27	0.17
Queue Length 95th (ft)	2	1	27	16
Control Delay (s)	1.2	1.6	14.3	15.8
Lane LOS	A	A	B	C
Approach Delay (s)	1.2	1.6	14.3	15.8
Approach LOS			B	C

Intersection Summary			
Average Delay		5.9	
Intersection Capacity Utilization		40.9%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2024 + Cumulative (Solar Operations Traffic)

12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	25	22	1	0	4	4	0	1	0	15	0	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	27	24	1	0	4	4	0	1	0	16	0	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	9			25			97	88	24	86	86	7
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	9			25			97	88	24	86	86	7
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			100	100	100	98	100	99
cM capacity (veh/h)	1611			1589			864	789	1052	888	791	1076

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	52	9	1	28
Volume Left	27	0	0	16
Volume Right	1	4	0	12
cSH	1611	1589	789	959
Volume to Capacity	0.02	0.00	0.00	0.03
Queue Length 95th (ft)	1	0	0	2
Control Delay (s)	3.8	0.0	9.6	8.9
Lane LOS	A		A	A
Approach Delay (s)	3.8	0.0	9.6	8.9
Approach LOS			A	A

Intersection Summary			
Average Delay		5.1	
Intersection Capacity Utilization		24.1%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic) + Project
1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	180	0	164	5	54	0	0	172	87
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	196	0	178	5	59	0	0	187	95
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	393	304	234	304	351	59	282			59		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	393	304	234	304	351	59	282			59		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	70	100	82	100			100		
cM capacity (veh/h)	465	607	805	646	571	1007	1281			1545		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	374	64	282
Volume Left	196	5	0
Volume Right	178	0	95
cSH	1235	1281	1700
Volume to Capacity	0.30	0.00	0.17
Queue Length 95th (ft)	32	0	0
Control Delay (s)	11.2	0.7	0.0
Lane LOS	B	A	
Approach Delay (s)	11.2	0.7	0.0
Approach LOS	B		

Intersection Summary			
Average Delay			5.9
Intersection Capacity Utilization			31.0%
Analysis Period (min)			15
		ICU Level of Service	A

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic) + Project
2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	0	15	0	0	0	0	33	12	61	300	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	28	0	16	0	0	0	0	36	13	66	326	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	501	508	326	509	501	42	326			49		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	501	508	326	509	501	42	326			49		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	98	100	100	100	100			96		
cM capacity (veh/h)	465	448	715	449	452	1028	1234			1558		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	45	49	392
Volume Left	28	0	66
Volume Right	16	13	0
cSH	733	1700	1558
Volume to Capacity	0.06	0.03	0.04
Queue Length 95th (ft)	5	0	3
Control Delay (s)	12.1	0.0	1.6
Lane LOS	B		A
Approach Delay (s)	12.1	0.0	1.6
Approach LOS	B		

Intersection Summary			
Average Delay			2.4
Intersection Capacity Utilization			35.8%
Analysis Period (min)			15
		ICU Level of Service	A

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic) + Project
3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	8	0	1	51	27	0	1	0	57	0	241
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	8	9	0	1	55	29	0	1	0	62	0	262
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	85			9			358	111	9	97	96	70
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	85			9			358	111	9	97	96	70
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	93	100	74
cM capacity (veh/h)	1512			1611			438	775	1073	881	789	993

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	16	86	1	324
Volume Left	8	1	0	62
Volume Right	0	29	0	262
cSH	1512	1611	775	969
Volume to Capacity	0.01	0.00	0.00	0.33
Queue Length 95th (ft)	0	0	0	37
Control Delay (s)	3.5	0.1	9.7	10.6
Lane LOS	A	A	A	B
Approach Delay (s)	3.5	0.1	9.7	10.6
Approach LOS			A	B

Intersection Summary			
Average Delay		8.2	
Intersection Capacity Utilization		36.7%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic) + Project
4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	12	0	8	3	1	3	21	5	61	234	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	13	0	9	3	1	3	23	5	66	254	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	424	424	257	428	423	26	259			28		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	424	424	257	428	423	26	259			28		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	97	100	98	99	100	100			96		
cM capacity (veh/h)	519	499	782	509	499	1050	1306			1585		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	13	13	32	325
Volume Left	0	9	3	66
Volume Right	0	1	5	4
cSH	499	529	1306	1585
Volume to Capacity	0.03	0.02	0.00	0.04
Queue Length 95th (ft)	2	2	0	3
Control Delay (s)	12.4	12.0	0.8	1.8
Lane LOS	B	B	A	A
Approach Delay (s)	12.4	12.0	0.8	1.8
Approach LOS	B	B		

Intersection Summary			
Average Delay		2.4	
Intersection Capacity Utilization		36.6%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic) + Project
5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	2	0	1	3	4	4	25	10	7	220	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	2	0	1	3	4	4	27	11	8	239	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	302	301	239	297	296	33	239			38		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	302	301	239	297	296	33	239			38		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	99	100	100			100		
cM capacity (veh/h)	641	607	800	650	611	1041	1328			1572		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	2	9	42	247
Volume Left	0	1	4	8
Volume Right	0	4	11	0
cSH	607	777	1328	1572
Volume to Capacity	0.00	0.01	0.00	0.00
Queue Length 95th (ft)	0	1	0	0
Control Delay (s)	11.0	9.7	0.8	0.3
Lane LOS	B	A	A	A
Approach Delay (s)	11.0	9.7	0.8	0.3
Approach LOS	B	A		

Intersection Summary				
Average Delay			0.7	
Intersection Capacity Utilization			23.0%	ICU Level of Service			A
Analysis Period (min)			15	

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic) + Project
6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	48	25	120	176	16	4	5	5	7	138	42
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	11	52	27	130	191	17	4	5	5	8	150	46
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	209			79			669	557	66	557	562	200
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	209			79			669	557	66	557	562	200
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			91			98	99	99	98	62	95
cM capacity (veh/h)	1362			1519			231	398	998	403	395	841

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	90	339	15	203
Volume Left	11	130	4	8
Volume Right	27	17	5	46
cSH	1362	1519	401	449
Volume to Capacity	0.01	0.09	0.04	0.45
Queue Length 95th (ft)	1	7	3	58
Control Delay (s)	1.0	3.4	14.3	19.5
Lane LOS	A	A	B	C
Approach Delay (s)	1.0	3.4	14.3	19.5
Approach LOS			B	C

Intersection Summary				
Average Delay			8.4	
Intersection Capacity Utilization			40.7%	ICU Level of Service			A
Analysis Period (min)			15	

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic) + Project
7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	5	0	0	18	7	0	0	0	17	1	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	5	0	0	20	8	0	0	0	18	1	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	27			5			39	35	5	31	31	23
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	27			5			39	35	5	31	31	23
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	99
cM capacity (veh/h)	1587			1616			957	857	1078	977	861	1053

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	7	27	0	27
Volume Left	1	0	0	18
Volume Right	0	8	0	8
cSH	1587	1616	1700	992
Volume to Capacity	0.00	0.00	0.00	0.03
Queue Length 95th (ft)	0	0	0	2
Control Delay (s)	1.2	0.0	0.0	8.7
Lane LOS	A		A	A
Approach Delay (s)	1.2	0.0	0.0	8.7
Approach LOS			A	A

Intersection Summary			
Average Delay		4.0	
Intersection Capacity Utilization		13.3%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic) + Project
8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	8	110	28	33	93	111	12	82	10	124	102	20
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
Hourly flow rate (vph)	9	120	30	36	101	121	13	89	11	135	111	22

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	159	258	113	267
Volume Left (vph)	9	36	13	135
Volume Right (vph)	30	121	11	22
Hadj (s)	-0.07	-0.22	0.00	0.09
Departure Headway (s)	5.3	5.0	5.4	5.3
Degree Utilization, x	0.23	0.36	0.17	0.39
Capacity (veh/h)	622	671	587	638
Control Delay (s)	9.9	10.7	9.6	11.6
Approach Delay (s)	9.9	10.7	9.6	11.6
Approach LOS	A	B	A	B

Intersection Summary			
Delay		10.7	
HCM Level of Service		B	
Intersection Capacity Utilization		50.7%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic) + Project
9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	11	16	4	18	1	9	22	0	8	208	38
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	5	12	17	4	20	1	10	24	0	9	226	41
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	21			29			215	61	21	72	69	20
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	21			29			215	61	21	72	69	20
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	97	100	99	72	96
cM capacity (veh/h)	1595			1584			558	825	1057	894	816	1058

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	35	25	34	276
Volume Left	5	4	10	9
Volume Right	17	1	0	41
cSH	1595	1584	724	848
Volume to Capacity	0.00	0.00	0.05	0.33
Queue Length 95th (ft)	0	0	4	36
Control Delay (s)	1.2	1.3	10.2	11.3
Lane LOS	A	A	B	B
Approach Delay (s)	1.2	1.3	10.2	11.3
Approach LOS			B	B

Intersection Summary			
Average Delay		9.6	
Intersection Capacity Utilization		24.0%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic) + Project
10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	1	2	1	1	1	44	26	1	4	176	22
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	1	1	2	1	1	1	48	28	1	4	191	24
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	338	337	203	339	348	29	215			29		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	338	337	203	339	348	29	215			29		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	96			100		
cM capacity (veh/h)	596	562	837	595	554	1046	1355			1584		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	3	77	220
Volume Left	1	1	48	4
Volume Right	2	1	1	24
cSH	684	675	1355	1584
Volume to Capacity	0.01	0.00	0.04	0.00
Queue Length 95th (ft)	0	0	3	0
Control Delay (s)	10.3	10.4	4.9	0.2
Lane LOS	B	B	A	A
Approach Delay (s)	10.3	10.4	4.9	0.2
Approach LOS	B	B		

Intersection Summary			
Average Delay		1.6	
Intersection Capacity Utilization		28.0%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic) + Project

11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	41	7	94	347	46	5	12	1	10	126	58
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	3	45	8	102	377	50	5	13	1	11	137	63
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	427			52			793	686	48	669	665	402
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	427			52			793	686	48	669	665	402
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			93			97	96	100	97	61	90
cM capacity (veh/h)	1132			1554			184	345	1020	341	354	648

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	55	529	20	211
Volume Left	3	102	5	11
Volume Right	8	50	1	63
cSH	1132	1554	286	409
Volume to Capacity	0.00	0.07	0.07	0.52
Queue Length 95th (ft)	0	5	5	72
Control Delay (s)	0.5	2.0	18.5	22.8
Lane LOS	A	A	C	C
Approach Delay (s)	0.5	2.0	18.5	22.8
Approach LOS			C	C

Intersection Summary			
Average Delay		7.7	
Intersection Capacity Utilization		50.7%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

AM 2024 + Cumulative (Solar Operations Traffic) + Project

12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	1	0	0	5	8	0	3	0	21	3	57
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	9	1	0	0	5	9	0	3	0	23	3	62
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	14			1			92	33	1	30	28	10
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	14			1			92	33	1	30	28	10
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	98	100	94
cM capacity (veh/h)	1604			1622			835	855	1083	972	860	1072

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	10	14	3	88
Volume Left	9	0	0	23
Volume Right	0	9	0	62
cSH	1604	1622	855	1035
Volume to Capacity	0.01	0.00	0.00	0.09
Queue Length 95th (ft)	0	0	0	7
Control Delay (s)	6.5	0.0	9.2	8.8
Lane LOS	A		A	A
Approach Delay (s)	6.5	0.0	9.2	8.8
Approach LOS			A	A

Intersection Summary			
Average Delay		7.5	
Intersection Capacity Utilization		25.0%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2024 + Cumulative (Solar Operations Traffic) + Project
1: Forrester Road & I-8 WB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	42	0	66	42	224	0	0	217	41
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	0	46	0	72	46	243	0	0	236	45
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	629	593	258	593	615	243	280			243		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	629	593	258	593	615	243	280			243		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	89	100	91	96			100		
cM capacity (veh/h)	350	404	780	406	392	795	1282			1323		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	117	289	280
Volume Left	46	46	0
Volume Right	72	0	45
cSH	1044	1282	1700
Volume to Capacity	0.11	0.04	0.16
Queue Length 95th (ft)	9	3	0
Control Delay (s)	11.9	1.5	0.0
Lane LOS	B	A	
Approach Delay (s)	11.9	1.5	0.0
Approach LOS	B		

Intersection Summary			
Average Delay			2.7
Intersection Capacity Utilization			41.4%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

PM 2024 + Cumulative (Solar Operations Traffic) + Project
2: Forrester Road & I-8 EB Ramp

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	99	0	0	0	0	0	0	177	142	156	88	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	108	0	0	0	0	0	0	192	154	170	96	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	704	782	96	704	704	270	96			347		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	704	782	96	704	704	270	96			347		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	66	100	100	100	100	100	100			86		
cM capacity (veh/h)	314	280	961	314	311	769	1498			1212		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	108	347	265
Volume Left	108	0	170
Volume Right	0	154	0
cSH	312	1700	1212
Volume to Capacity	0.35	0.20	0.14
Queue Length 95th (ft)	37	0	12
Control Delay (s)	22.5	0.0	5.9
Lane LOS	C		A
Approach Delay (s)	22.5	0.0	5.9
Approach LOS	C		

Intersection Summary			
Average Delay			5.5
Intersection Capacity Utilization			46.7%
Analysis Period (min)			15

ICU Level of Service A

LOS Engineering, Inc. Synchro

PM 2024 + Cumulative (Solar Operations Traffic) + Project
3: Forrester Road & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	243	47	1	0	11	54	1	1	1	42	0	18
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	264	51	1	0	12	59	1	1	1	46	0	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	71			52			641	651	52	623	622	41
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	71			52			641	651	52	623	622	41
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	83			100			100	100	100	87	100	98
cM capacity (veh/h)	1530			1554			330	321	1016	344	333	1030

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	316	71	3	65
Volume Left	264	0	1	46
Volume Right	1	59	1	20
cSH	1530	1554	421	430
Volume to Capacity	0.17	0.00	0.01	0.15
Queue Length 95th (ft)	16	0	1	13
Control Delay (s)	6.8	0.0	13.6	14.9
Lane LOS	A		B	B
Approach Delay (s)	6.8	0.0	13.6	14.9
Approach LOS			B	B

Intersection Summary			
Average Delay		6.9	
Intersection Capacity Utilization		36.0%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2024 + Cumulative (Solar Operations Traffic) + Project
4: Brockman Rd & Lyons Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1	0	0	11	62	0	203	7	1	23	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	1	0	0	12	67	0	221	8	1	25	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	327	258	27	254	256	224	29			228		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	327	258	27	254	256	224	29			228		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	98	92	100			100		
cM capacity (veh/h)	566	646	1048	698	647	815	1584			1340		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	79	228	30
Volume Left	0	0	0	1
Volume Right	0	67	8	4
cSH	646	784	1584	1340
Volume to Capacity	0.00	0.10	0.00	0.00
Queue Length 95th (ft)	0	8	0	0
Control Delay (s)	10.6	10.1	0.0	0.3
Lane LOS	B	B		A
Approach Delay (s)	10.6	10.1	0.0	0.3
Approach LOS	B	B		

Intersection Summary			
Average Delay		2.4	
Intersection Capacity Utilization		22.2%	ICU Level of Service A
Analysis Period (min)		15	

LOS Engineering, Inc. Synchro

PM 2024 + Cumulative (Solar Operations Traffic) + Project
5: Brockman Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	0	4	10	2	5	0	204	5	4	9	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	5	0	4	11	2	5	0	222	5	4	10	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	249	246	10	247	243	224	10			227		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	249	246	10	247	243	224	10			227		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	98	100	99	100			100		
cM capacity (veh/h)	696	654	1072	702	657	815	1610			1341		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	10	18	227	14
Volume Left	5	11	0	4
Volume Right	4	5	5	0
cSH	824	726	1610	1341
Volume to Capacity	0.01	0.03	0.00	0.00
Queue Length 95th (ft)	1	2	0	0
Control Delay (s)	9.4	10.1	0.0	2.4
Lane LOS	A	B		A
Approach Delay (s)	9.4	10.1	0.0	2.4
Approach LOS	A	B		

Intersection Summary			
Average Delay		1.2	
Intersection Capacity Utilization		21.0%	ICU Level of Service
Analysis Period (min)		15	

A

LOS Engineering, Inc.

Synchro

PM 2024 + Cumulative (Solar Operations Traffic) + Project
6: Brockman Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	49	191	8	0	41	18	21	156	125	3	14	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	53	208	9	0	45	20	23	170	136	3	15	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	64			216			388	383	212	593	377	54
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	64			216			388	383	212	593	377	54
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			96	68	84	99	97	99
cM capacity (veh/h)	1538			1353			540	531	828	256	535	1013

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	270	64	328	26
Volume Left	53	0	23	3
Volume Right	9	20	136	8
cSH	1538	1353	625	536
Volume to Capacity	0.03	0.00	0.53	0.05
Queue Length 95th (ft)	3	0	77	4
Control Delay (s)	1.7	0.0	17.0	12.1
Lane LOS	A		C	B
Approach Delay (s)	1.7	0.0	17.0	12.1
Approach LOS			C	B

Intersection Summary			
Average Delay		9.2	
Intersection Capacity Utilization		46.5%	ICU Level of Service
Analysis Period (min)		15	

A

LOS Engineering, Inc.

Synchro

PM 2024 + Cumulative (Solar Operations Traffic) + Project
7: Brockman Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	15	0	0	8	21	0	0	0	15	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	4	16	0	0	9	23	0	0	0	16	0	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	32			16			46	57	16	45	45	20
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	32			16			46	57	16	45	45	20
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	100
cM capacity (veh/h)	1581			1601			952	832	1063	955	844	1058

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	21	32	0	17
Volume Left	4	0	0	16
Volume Right	0	23	0	1
cSH	1581	1601	1700	961
Volume to Capacity	0.00	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	1.5	0.0	0.0	8.8
Lane LOS	A		A	A
Approach Delay (s)	1.5	0.0	0.0	8.8
Approach LOS			A	A

Intersection Summary			
Average Delay		2.7	
Intersection Capacity Utilization		14.3%	ICU Level of Service A
Analysis Period (min)		15	

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PM 2024 + Cumulative (Solar Operations Traffic) + Project
8: La Brucherie Rd & McCabe Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	37	172	18	4	116	146	32	124	32	137	76	16
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
Hourly flow rate (vph)	40	187	20	4	126	159	35	135	35	149	83	17

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	247	289	204	249
Volume Left (vph)	40	4	35	149
Volume Right (vph)	20	159	35	17
Hadj (s)	0.02	-0.29	-0.03	0.11
Departure Headway (s)	5.8	5.4	5.9	6.0
Degree Utilization, x	0.40	0.44	0.34	0.41
Capacity (veh/h)	563	604	540	550
Control Delay (s)	12.6	12.6	11.9	13.1
Approach Delay (s)	12.6	12.6	11.9	13.1
Approach LOS	B	B	B	B

Intersection Summary			
Delay		12.6	
HCM Level of Service		B	
Intersection Capacity Utilization		63.6%	ICU Level of Service B
Analysis Period (min)		15	

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PM 2024 + Cumulative (Solar Operations Traffic) + Project
9: La Brucherie Rd & Wahl Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	34	16	3	1	7	4	8	166	9	23	44	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	37	17	3	1	8	4	9	180	10	25	48	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	12			21			132	107	19	205	107	10
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	12			21			132	107	19	205	107	10
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			99	76	99	96	94	100
cM capacity (veh/h)	1607			1595			783	764	1059	600	765	1072

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	58	13	199	76
Volume Left	37	1	9	25
Volume Right	3	4	10	3
cSH	1607	1595	776	709
Volume to Capacity	0.02	0.00	0.26	0.11
Queue Length 95th (ft)	2	0	25	9
Control Delay (s)	4.7	0.6	11.2	10.7
Lane LOS	A	A	B	B
Approach Delay (s)	4.7	0.6	11.2	10.7
Approach LOS			B	B

Intersection Summary				
Average Delay			9.6	
Intersection Capacity Utilization			29.1%	ICU Level of Service
Analysis Period (min)			15	

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PM 2024 + Cumulative (Solar Operations Traffic) + Project
10: Ferrell Rd/La Brucherie Rd & Kubler Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	4	29	3	0	3	19	160	4	1	46	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	24	4	32	3	0	3	21	174	4	1	50	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	273	272	50	303	270	176	50			178		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	273	272	50	303	270	176	50			178		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	99	97	99	100	100	99			100		
cM capacity (veh/h)	670	626	1018	619	628	867	1557			1398		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	60	7	199	51
Volume Left	24	3	21	1
Volume Right	32	3	4	0
cSH	812	722	1557	1398
Volume to Capacity	0.07	0.01	0.01	0.00
Queue Length 95th (ft)	6	1	1	0
Control Delay (s)	9.8	10.0	0.9	0.2
Lane LOS	A	B	A	A
Approach Delay (s)	9.8	10.0	0.9	0.2
Approach LOS	A	B		

Intersection Summary				
Average Delay			2.6	
Intersection Capacity Utilization			26.8%	ICU Level of Service
Analysis Period (min)			15	

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PM 2024 + Cumulative (Solar Operations Traffic) + Project
11: Ferrell Rd & SR-98

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	42	286	1	15	43	19	4	106	55	49	31	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	46	311	1	16	47	21	4	115	60	53	34	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	67			312			514	503	311	610	493	57
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	67			312			514	503	311	610	493	57
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			99	74	92	82	93	100
cM capacity (veh/h)	1534			1248			429	451	729	290	457	1009

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	358	84	179	91
Volume Left	46	16	4	53
Volume Right	1	21	60	4
cSH	1534	1248	516	349
Volume to Capacity	0.03	0.01	0.35	0.26
Queue Length 95th (ft)	2	1	39	26
Control Delay (s)	1.2	1.6	15.7	18.9
Lane LOS	A	A	C	C
Approach Delay (s)	1.2	1.6	15.7	18.9
Approach LOS			C	C

Intersection Summary			
Average Delay		7.2	
Intersection Capacity Utilization		44.7%	ICU Level of Service A
Analysis Period (min)		15	

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PM 2024 + Cumulative (Solar Operations Traffic) + Project
12: Ferrell Rd & Anza Rd

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	57	22	1	0	4	4	0	1	0	15	0	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	62	24	1	0	4	4	0	1	0	16	0	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	9			25			168	157	24	155	155	7
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	9			25			168	157	24	155	155	7
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			100	100	100	98	100	99
cM capacity (veh/h)	1611			1589			763	707	1052	786	708	1076

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	87	9	1	29
Volume Left	62	0	0	16
Volume Right	1	4	0	13
cSH	1611	1589	707	893
Volume to Capacity	0.04	0.00	0.00	0.03
Queue Length 95th (ft)	3	0	0	3
Control Delay (s)	5.3	0.0	10.1	9.2
Lane LOS	A		B	A
Approach Delay (s)	5.3	0.0	10.1	9.2
Approach LOS			B	A

Intersection Summary			
Average Delay		5.9	
Intersection Capacity Utilization		25.9%	ICU Level of Service A
Analysis Period (min)		15	

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