













Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕↗			↕↗	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00		0.91			0.91	1.00
Frbp, ped/bikes		1.00	0.97		1.00	0.98		1.00			1.00	0.96
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frt		1.00	0.85		1.00	0.85		1.00			1.00	0.85
Flt Protected		0.99	1.00		1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)		1540	1290		1565	1297		4249			4272	1283
Flt Permitted		0.86	1.00		1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)		1346	1290		1565	1297		4249			4272	1283
Volume (vph)	70	195	459	0	129	350	0	2038	64	0	2704	71
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	212	499	0	140	380	0	2215	70	0	2939	77
RTOR Reduction (vph)	0	0	1	0	0	7	0	3	0	0	0	19
Lane Group Flow (vph)	0	288	498	0	140	373	0	2282	0	0	2939	58
Confl. Peds. (#/hr)	12		17			12			8			21
Turn Type	Perm		Perm			Perm						Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4			8						6
Actuated Green, G (s)		32.0	32.0		32.0	32.0		77.0			77.0	77.0
Effective Green, g (s)		33.0	33.0		33.0	33.0		79.0			79.0	79.0
Actuated g/C Ratio		0.28	0.28		0.28	0.28		0.66			0.66	0.66
Clearance Time (s)		5.0	5.0		5.0	5.0		6.0			6.0	6.0
Lane Grp Cap (vph)		370	355		430	357		2797			2812	845
v/s Ratio Prot					0.09			0.54			c0.69	
v/s Ratio Perm		0.21	c0.39			0.29						0.05
v/c Ratio		0.78	1.40		0.33	1.04		0.82			1.05	0.07
Uniform Delay, d1		40.1	43.5		34.6	43.5		15.1			20.5	7.3
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2		14.9	196.9		2.0	59.6		2.8			30.3	0.2
Delay (s)		55.0	240.4		36.6	103.1		17.9			50.8	7.5
Level of Service		D	F		D	F		B			D	A
Approach Delay (s)		172.6			85.2			17.9			49.7	
Approach LOS		F			F			B			D	

Intersection Summary			
HCM Average Control Delay	56.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↖↖↖					↘	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		3.0	3.0		3.0					3.0	3.0	
Lane Util. Factor		0.91	1.00		0.91					0.95	0.95	
Fr <sub>t</sub>		1.00	0.85		1.00					1.00	0.99	
Fl <sub>t</sub> Protected		1.00	1.00		1.00					0.95	0.97	
Satd. Flow (prot)		4577	1425		4555					1513	1535	
Fl <sub>t</sub> Permitted		1.00	1.00		0.66					0.95	0.97	
Satd. Flow (perm)		4577	1425		3027					1513	1535	
Volume (vph)	0	1287	849	123	1141	0	0	0	0	727	189	33
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1430	943	137	1268	0	0	0	0	808	210	37
RTOR Reduction (vph)	0	0	521	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1430	422	0	1405	0	0	0	0	518	534	0
Turn Type			Perm	D.P+P						Split		
Protected Phases		4		3	3 4					6	6	
Permitted Phases			4	4								
Actuated Green, G (s)		18.0	18.0		59.0					26.0	26.0	
Effective Green, g (s)		20.0	20.0		63.0					28.0	28.0	
Actuated g/C Ratio		0.20	0.20		0.63					0.28	0.28	
Clearance Time (s)		5.0	5.0							5.0	5.0	
Lane Grp Cap (vph)		915	285		2564					424	430	
v/s Ratio Prot		c0.31			c0.24					0.34	c0.35	
v/s Ratio Perm			0.30		0.11							
v/c Ratio		1.56	1.48		0.55					1.22	1.24	
Uniform Delay, d1		40.0	40.0		10.5					36.0	36.0	
Progression Factor		1.00	1.00		1.31					1.00	1.00	
Incremental Delay, d2		258.6	234.6		0.1					119.3	127.3	
Delay (s)		298.6	274.6		13.7					155.3	163.3	
Level of Service		F	F		B					F	F	
Approach Delay (s)		289.1			13.7			0.0			159.4	
Approach LOS		F			B			A			F	

Intersection Summary			
HCM Average Control Delay	180.7	HCM Level of Service	F
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	124.7%	ICU Level of Service	H
Analysis Period (min)	15		

























c Critical Lane Group

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑			↑↑↑	↑	↑		
Sign Control	Free			Free	Stop			
Grade	0%			0%	0%			
Volume (veh/h)	1892	89	7	1050	4	26		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly flow rate (vph)	2057	97	8	1141	4	28		
Pedestrians					47			
Lane Width (ft)					10.0			
Walking Speed (ft/s)					4.0			
Percent Blockage					3			
Right turn flare (veh)								
Median type					None			
Median storage (veh)								
Upstream signal (ft)	188			222				
pX, platoon unblocked			0.54		0.59	0.54		
vC, conflicting volume			2200		2548	781		
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol			1505		1446	0		
tC, single (s)			4.1		6.8	6.9		
tC, 2 stage (s)								
tF (s)			2.2		3.5	3.3		
p0 queue free %			97		94	95		
cM capacity (veh/h)			228		67	561		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	823	823	508	236	457	457	4	28
Volume Left	0	0	0	8	0	0	4	0
Volume Right	0	0	97	0	0	0	0	28
cSH	1700	1700	1700	228	1700	1700	67	561
Volume to Capacity	0.48	0.48	0.30	0.03	0.27	0.27	0.06	0.05
Queue Length 95th (ft)	0	0	0	3	0	0	5	4
Control Delay (s)	0.0	0.0	0.0	1.5	0.0	0.0	62.3	11.8
Lane LOS				A			F	B
Approach Delay (s)	0.0			0.3			18.5	
Approach LOS							C	
Intersection Summary								
Average Delay			0.3					
Intersection Capacity Utilization			53.0%		ICU Level of Service		A	
Analysis Period (min)			15					

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑			↑	↑		↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor		0.91			0.91			1.00	1.00		1.00	
Frbp, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		1.00			1.00			1.00	0.85		0.89	
Flt Protected		1.00			1.00			0.98	1.00		1.00	
Satd. Flow (prot)		4258			4248			1526	1330		1385	
Flt Permitted		0.86			0.91			0.84	1.00		0.98	
Satd. Flow (perm)		3662			3868			1308	1330		1363	
Volume (vph)	47	1884	12	8	1043	19	45	44	17	6	6	59
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	2048	13	9	1134	21	49	48	18	7	7	64
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	11	0	48	0
Lane Group Flow (vph)	0	2111	0	0	1162	0	0	97	8	0	30	0
Confl. Peds. (#/hr)	39		47	47		39						
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)		66.0			66.0			24.0	24.0		24.0	
Effective Green, g (s)		67.0			67.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.67			0.67			0.25	0.25		0.25	
Clearance Time (s)		5.0			5.0			5.0	5.0		5.0	
Lane Grp Cap (vph)		2454			2592			327	333		341	
v/s Ratio Prot												
v/s Ratio Perm		c0.58			0.30			c0.07	0.01		0.02	
v/c Ratio		0.86			0.45			0.30	0.02		0.09	
Uniform Delay, d1		12.9			7.8			30.4	28.3		28.8	
Progression Factor		0.50			0.73			1.00	1.00		1.00	
Incremental Delay, d2		0.4			0.5			2.3	0.1		0.5	
Delay (s)		6.8			6.1			32.7	28.4		29.3	
Level of Service		A			A			C	C		C	
Approach Delay (s)		6.8			6.1			32.1			29.3	
Approach LOS		A			A			C			C	
<b>Intersection Summary</b>												
HCM Average Control Delay			7.9			HCM Level of Service			A			
HCM Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			86.9%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑			↑	↑		↑	↑
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	13	1721	190	34	980	3	15	15	159	0	13	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	1871	207	37	1065	3	16	16	173	0	14	21
Pedestrians								25			4	
Lane Width (ft)								10.0			10.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								2			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		214			244							
pX, platoon unblocked	0.92			0.69			0.72	0.72	0.69	0.72	0.72	0.92
vC, conflicting volume	1072			2102			2484	3174	752	1978	3275	361
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	909			1690			1801	2753	0	1102	2893	136
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
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			85			0	0	76	0	0	97
cM capacity (veh/h)	685			252			0	12	730	0	9	815
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2		
Volume Total	482	935	674	303	533	270	33	173	14	21		
Volume Left	14	0	0	37	0	0	16	0	0	0		
Volume Right	0	0	207	0	0	3	0	173	0	21		
cSH	685	1700	1700	252	1700	1700	0	730	9	815		
Volume to Capacity	0.02	0.55	0.40	0.15	0.31	0.16	Err	0.24	1.52	0.03		
Queue Length 95th (ft)	2	0	0	13	0	0	Err	23	66	2		
Control Delay (s)	0.6	0.0	0.0	6.0	0.0	0.0	Err	11.5	1034.1	9.5		
Lane LOS	A			A			F	B	F	A		
Approach Delay (s)	0.1			1.6			Err		425.7			
Approach LOS							F		F			

Intersection Summary												
Average Delay				Err								
Intersection Capacity Utilization				67.1%		ICU Level of Service				C		
Analysis Period (min)				15								













													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  			  				  	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12	
Total Lost time (s)		3.0			3.0			3.0			3.0		
Lane Util. Factor		0.91			0.91			0.95			0.95		
Frbp, ped/bikes		0.99			1.00			0.99			0.99		
Flpb, ped/bikes		1.00			1.00			1.00			1.00		
Frt		0.98			0.99			0.94			0.96		
Flt Protected		1.00			0.99			0.98			0.99		
Satd. Flow (prot)		4463			4482			2804			2775		
Flt Permitted		0.86			0.65			0.75			0.73		
Satd. Flow (perm)		3853			2932			2139			2042		
Volume (vph)	48	1592	195	162	759	49	165	134	201	38	97	51	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Adj. Flow (vph)	53	1769	217	180	843	54	183	149	223	42	108	57	
RTOR Reduction (vph)	0	15	0	0	6	0	0	74	0	0	39	0	
Lane Group Flow (vph)	0	2024	0	0	1071	0	0	481	0	0	168	0	
Confl. Peds. (#/hr)	47		30	30		47	8		3	3		8	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	2%	2%	2%	
Parking (#/hr)										10	10	10	
Turn Type	Perm			pm+pt			Perm			Perm			
Protected Phases		4		3	4 3			2			6		
Permitted Phases	4			4 3			2			6			
Actuated Green, G (s)		57.0			62.0			24.0			24.0		
Effective Green, g (s)		59.0			64.0			27.0			27.0		
Actuated g/C Ratio		0.59			0.64			0.27			0.27		
Clearance Time (s)		5.0						6.0			6.0		
Lane Grp Cap (vph)		2273			1954			578			551		
v/s Ratio Prot					c0.03								
v/s Ratio Perm		c0.53			0.32			c0.22			0.08		
v/c Ratio		0.89			1.18dl			0.83			0.30		
Uniform Delay, d1		17.7			10.0			34.4			29.0		
Progression Factor		0.31			1.00			0.82			1.00		
Incremental Delay, d2		3.7			1.1			12.4			1.4		
Delay (s)		9.2			11.1			40.6			30.5		
Level of Service		A			B			D			C		
Approach Delay (s)		9.2			11.1			40.6			30.5		
Approach LOS		A			B			D			C		

Intersection Summary

HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	105.1%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑	↗		↑↑↑	↗		↑↑↑	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor					1.00	1.00		0.91	1.00		0.91	1.00
Fr <sub>t</sub>					1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected					1.00	1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)					1739	1478		4746	1478		4746	1478
Flt Permitted					1.00	1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)					1739	1478		4746	1478		4746	1478
Volume (vph)	0	0	0	0	129	270	0	1749	259	0	3093	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	140	293	0	1901	282	0	3362	11
RTOR Reduction (vph)	0	0	0	0	0	28	0	0	71	0	0	2
Lane Group Flow (vph)	0	0	0	0	140	265	0	1901	211	0	3362	9
Turn Type						Perm			Perm			Perm
Protected Phases					8			2			6	
Permitted Phases						8			2			6
Actuated Green, G (s)					29.0	29.0		111.0	111.0		111.0	111.0
Effective Green, g (s)					30.0	30.0		112.0	112.0		112.0	112.0
Actuated g/C Ratio					0.20	0.20		0.75	0.75		0.75	0.75
Clearance Time (s)					5.0	5.0		5.0	5.0		5.0	5.0
Lane Grp Cap (vph)					348	296		3544	1104		3544	1104
v/s Ratio Prot					0.08			0.40			c0.71	
v/s Ratio Perm						c0.18			0.14			0.01
v/c Ratio					0.40	0.90		0.54	0.19		0.95	0.01
Uniform Delay, d <sub>1</sub>					52.2	58.5		8.0	5.6		16.5	4.8
Progression Factor					1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d <sub>2</sub>					3.4	31.3		0.6	0.4		7.2	0.0
Delay (s)					55.6	89.7		8.6	6.0		23.7	4.9
Level of Service					E	F		A	A		C	A
Approach Delay (s)		0.0			78.7			8.3			23.6	
Approach LOS		A			E			A			C	

Intersection Summary			
HCM Average Control Delay	22.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

<b>Movement</b>	<b>EBL</b>	<b>EBT</b>	<b>EBR</b>	<b>WBL</b>	<b>WBT</b>	<b>WBR</b>	<b>NBL</b>	<b>NBT</b>	<b>NBR</b>	<b>SBL</b>	<b>SBT</b>	<b>SBR</b>
Lane Configurations		↕↕			↕↕			↕			↕	↗
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	19	244	41	14	350	0	61	11	16	2	86	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	265	45	15	380	0	66	12	17	2	93	3
Pedestrians											3	
Lane Width (ft)											10.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											0	
Right turn flare (veh)												
Median type							None				None	
Median storage veh												
Upstream signal (ft)		240			690							
pX, platoon unblocked												
vC, conflicting volume	383			310			599	743	155	611	765	193
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	383			310			599	743	155	611	765	193
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
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			77	96	98	99	71	100
cM capacity (veh/h)	1169			1248			290	331	863	351	321	814
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>WB 1</b>	<b>WB 2</b>	<b>NB 1</b>	<b>SB 1</b>	<b>SB 2</b>					
Volume Total	153	177	205	190	96	96	3					
Volume Left	21	0	15	0	66	2	0					
Volume Right	0	45	0	0	17	0	3					
cSH	1169	1700	1248	1700	336	322	814					
Volume to Capacity	0.02	0.10	0.01	0.11	0.28	0.30	0.00					
Queue Length 95th (ft)	1	0	1	0	29	30	0					
Control Delay (s)	1.2	0.0	0.7	0.0	19.9	20.8	9.4					
Lane LOS	A		A		C	C	A					
Approach Delay (s)	0.6		0.4		19.9	20.5						
Approach LOS					C	C						
<b>Intersection Summary</b>												
Average Delay			4.6									
Intersection Capacity Utilization			43.1%		ICU Level of Service				A			
Analysis Period (min)			15									





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↘	↗
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	25	236	355	75	11	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	257	386	82	12	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		464	466			
pX, platoon unblocked						
vC, conflicting volume	467				609	234
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	467				609	234
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				97	99
cM capacity (veh/h)	1090				416	768

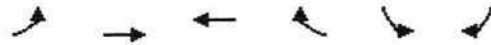
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	113	171	257	210	12	9
Volume Left	27	0	0	0	12	0
Volume Right	0	0	0	82	0	9
cSH	1090	1700	1700	1700	416	768
Volume to Capacity	0.02	0.10	0.15	0.12	0.03	0.01
Queue Length 95th (ft)	2	0	0	0	2	1
Control Delay (s)	2.2	0.0	0.0	0.0	13.9	9.7
Lane LOS	A				B	A
Approach Delay (s)	0.9		0.0		12.2	
Approach LOS					B	

Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			35.0%		ICU Level of Service	A
Analysis Period (min)			15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frbp, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Fr <sub>t</sub>		0.91			0.96			0.95			0.99	
Fl <sub>t</sub> Protected		0.99			0.98			0.99			0.99	
Satd. Flow (prot)		2676			2792			2798			2895	
Fl <sub>t</sub> Permitted		0.73			0.65			0.85			0.80	
Satd. Flow (perm)		1983			1864			2396			2336	
Volume (vph)	93	64	231	180	147	129	43	230	118	75	334	44
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	101	70	251	196	160	140	47	250	128	82	363	48
RTOR Reduction (vph)	0	123	0	0	42	0	0	48	0	0	8	0
Lane Group Flow (vph)	0	299	0	0	454	0	0	377	0	0	485	0
Confl. Peds. (#/hr)							5		9	9		5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		50.0			50.0			40.0			40.0	
Effective Green, g (s)		51.0			51.0			41.0			41.0	
Actuated g/C Ratio		0.51			0.51			0.41			0.41	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		1011			951			982			958	
v/s Ratio Prot												
v/s Ratio Perm		0.15			0.24			0.16			0.21	
v/c Ratio		0.30			0.48			0.38			0.51	
Uniform Delay, d1		14.1			15.9			20.7			22.0	
Progression Factor		1.00			1.00			1.00			0.75	
Incremental Delay, d2		0.7			1.7			1.1			1.4	
Delay (s)		14.9			17.6			21.8			18.0	
Level of Service		B			B			C			B	
Approach Delay (s)		14.9			17.6			21.8			18.0	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↔		↗	↖
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	129	118	154	80	270	268
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	140	128	167	87	293	291
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		680	250			
pX, platoon unblocked						
vC, conflicting volume	254				555	127
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	254				555	127
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				29	68
cM capacity (veh/h)	1308				412	899

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	183	86	112	143	293	291
Volume Left	140	0	0	0	293	0
Volume Right	0	0	0	87	0	291
cSH	1308	1700	1700	1700	412	899
Volume to Capacity	0.11	0.05	0.07	0.08	0.71	0.32
Queue Length 95th (ft)	9	0	0	0	136	35
Control Delay (s)	6.4	0.0	0.0	0.0	32.6	10.9
Lane LOS	A				D	B
Approach Delay (s)	4.4		0.0		21.8	
Approach LOS					C	

















Intersection Summary						
Average Delay			12.6			
Intersection Capacity Utilization			38.9%		ICU Level of Service	A
Analysis Period (min)			15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	136	0	330	190	0	67	125	3	70	65	30	135
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	148	0	359	207	0	73	136	3	76	71	33	147
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	633	598	106	919	634	41	179			79		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	633	598	106	919	634	41	179			79		
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 %	55	100	62	0	100	93	90			95		
cM capacity (veh/h)	326	358	948	140	341	1030	1396			1519		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	507	279	215	250
Volume Left	148	207	136	71
Volume Right	359	73	76	147
cSH	609	181	1396	1519
Volume to Capacity	0.83	1.55	0.10	0.05
Queue Length 95th (ft)	220	453	8	4
Control Delay (s)	33.5	318.6	5.3	2.4
Lane LOS	D	F	A	A
Approach Delay (s)	33.5	318.6	5.3	2.4
Approach LOS	D	F		

Intersection Summary			
Average Delay		86.1	
Intersection Capacity Utilization		62.2%	ICU Level of Service B
Analysis Period (min)		15	

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	136	0	330	190	0	67	125	3	70	65	30	135
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	148	0	359	207	0	73	136	3	76	71	33	147
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	507	279	215	250								
Volume Left (vph)	148	207	136	71								
Volume Right (vph)	359	73	76	147								
Hadj (s)	-0.33	0.03	-0.05	-0.26								
Departure Headway (s)	5.8	6.6	7.0	6.7								
Degree Utilization, x	0.82	0.51	0.42	0.46								
Capacity (veh/h)	589	488	459	484								
Control Delay (s)	29.9	16.4	14.8	15.3								
Approach Delay (s)	29.9	16.4	14.8	15.3								
Approach LOS	D	C	B	C								
Intersection Summary												
Delay			21.4									
HCM Level of Service			C									
Intersection Capacity Utilization			62.2%	ICU Level of Service	B							
Analysis Period (min)			15									



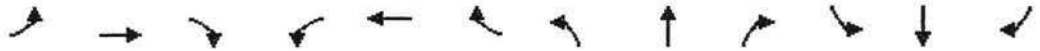
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	3	19	14	195	520	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	21	15	212	565	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	824	582	598			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	824	582	598			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	96	98			
cM capacity (veh/h)	337	513	979			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	24	227	598			
Volume Left	3	15	0			
Volume Right	21	0	33			
cSH	479	979	1700			
Volume to Capacity	0.05	0.02	0.35			
Queue Length 95th (ft)	4	1	0			
Control Delay (s)	12.9	0.7	0.0			
Lane LOS	B	A				
Approach Delay (s)	12.9	0.7	0.0			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			0.6			
Intersection Capacity Utilization			39.2%	ICU Level of Service	A	
Analysis Period (min)			15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑		↑	↑				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		3.0			3.0		3.0	3.0				
Lane Util. Factor		0.91			0.91		0.95	0.95				
Fr <sub>t</sub>		1.00			0.97		1.00	0.95				
Fl <sub>t</sub> Protected		1.00			1.00		0.95	0.99				
Satd. Flow (prot)		4572			4437		1513	1500				
Fl <sub>t</sub> Permitted		0.80			1.00		0.95	0.99				
Satd. Flow (perm)		3647			4437		1513	1500				
Volume (vph)	45	1969	0	0	826	211	438	184	123	0	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	50	2188	0	0	918	234	487	204	137	0	0	0
RTOR Reduction (vph)	0	0	0	0	45	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	2238	0	0	1107	0	416	411	0	0	0	0
Turn Type	D.P+P						Split					
Protected Phases	7	5			5		2	2				
Permitted Phases	5											
Actuated Green, G (s)		44.0			18.0		41.0	41.0				
Effective Green, g (s)		48.0			20.0		43.0	43.0				
Actuated g/C Ratio		0.48			0.20		0.43	0.43				
Clearance Time (s)					5.0		5.0	5.0				
Lane Grp Cap (vph)		2010			887		651	645				
v/s Ratio Prot		c0.31			c0.25		c0.27	0.27				
v/s Ratio Perm		0.22										
v/c Ratio		1.11			1.25		0.64	0.64				
Uniform Delay, d <sub>1</sub>		26.0			40.0		22.4	22.4				
Progression Factor		0.34			0.89		1.00	1.00				
Incremental Delay, d <sub>2</sub>		51.8			120.4		4.8	4.8				
Delay (s)		60.6			156.1		27.2	27.1				
Level of Service		E			F		C	C				
Approach Delay (s)		60.6			156.1			27.1			0.0	
Approach LOS		E			F			C			A	
<b>Intersection Summary</b>												
HCM Average Control Delay			80.1			HCM Level of Service			F			
HCM Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)		9.0				
Intersection Capacity Utilization			99.3%			ICU Level of Service		F				
Analysis Period (min)			15									
c Critical Lane Group												

**Appendix F**

**Total Future Intersection Capacity Analyses 2014**

















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕↗↘			↕↗↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00		0.91			0.91	1.00
Frbp, ped/bikes		1.00	0.95		1.00	0.97		1.00			1.00	0.97
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frt		1.00	0.85		1.00	0.85		1.00			1.00	0.85
Flt Protected		0.98	1.00		1.00	1.00		1.00			1.00	1.00
Satd. Flow (prot)		1522	1269		1565	1294		4266			4272	1288
Flt Permitted		0.41	1.00		1.00	1.00		1.00			1.00	1.00
Satd. Flow (perm)		640	1269		1565	1294		4266			4272	1288
Volume (vph)	92	97	70	0	296	310	0	1823	15	0	1917	77
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	105	76	0	322	337	0	1982	16	0	2084	84
RTOR Reduction (vph)	0	0	9	0	0	13	0	1	0	0	0	29
Lane Group Flow (vph)	0	205	67	0	322	324	0	1997	0	0	2084	55
Confl. Peds. (#/hr)	14		32	32		14	16		5	5		16
Turn Type	Perm		Perm			Perm						Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4			8						6
Actuated Green, G (s)		32.0	32.0		32.0	32.0		77.0			77.0	77.0
Effective Green, g (s)		33.0	33.0		33.0	33.0		79.0			79.0	79.0
Actuated g/C Ratio		0.28	0.28		0.28	0.28		0.66			0.66	0.66
Clearance Time (s)		5.0	5.0		5.0	5.0		6.0			6.0	6.0
Lane Grp Cap (vph)		176	349		430	356		2808			2812	848
v/s Ratio Prot					0.21			0.47			c0.49	
v/s Ratio Perm		c0.32	0.05			0.25						0.04
v/c Ratio		1.16	0.19		0.75	0.91		0.71			0.74	0.07
Uniform Delay, d1		43.5	33.3		39.7	42.1		13.2			13.7	7.3
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2		119.1	1.2		11.3	29.6		1.6			1.8	0.1
Delay (s)		162.6	34.5		51.1	71.6		14.7			15.5	7.5
Level of Service		F	C		D	E		B			B	A
Approach Delay (s)		128.0			61.6			14.7			15.2	
Approach LOS		F			E			B			B	

Intersection Summary			
HCM Average Control Delay	27.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑					↑	↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		3.0	3.0		3.0					3.0	3.0	
Lane Util. Factor		0.91	1.00		0.91					0.95	0.95	
Fr <sub>t</sub>		1.00	0.85		1.00					1.00	0.99	
Fl <sub>t</sub> Protected		1.00	1.00		1.00					0.95	0.96	
Satd. Flow (prot)		4577	1425		4568					1513	1514	
Fl <sub>t</sub> Permitted		1.00	1.00		0.78					0.95	0.96	
Satd. Flow (perm)		4577	1425		3564					1513	1514	
Volume (vph)	0	816	286	86	2136	0	0	0	0	893	67	41
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	907	318	96	2373	0	0	0	0	992	74	46
RTOR Reduction (vph)	0	0	254	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	907	64	0	2469	0	0	0	0	556	552	0
Turn Type			Perm D.P+P							Split		
Protected Phases		4		3	3	4				6	6	
Permitted Phases			4	4								
Actuated Green, G (s)		18.0	18.0		59.0					26.0	26.0	
Effective Green, g (s)		20.0	20.0		63.0					28.0	28.0	
Actuated g/C Ratio		0.20	0.20		0.63					0.28	0.28	
Clearance Time (s)		5.0	5.0							5.0	5.0	
Lane Grp Cap (vph)		915	285		2677					424	424	
v/s Ratio Prot		c0.20			c0.40					c0.37	0.36	
v/s Ratio Perm			0.04		0.18							
v/c Ratio		0.99	0.22		0.92					1.31	1.30	
Uniform Delay, d <sub>1</sub>		39.9	33.5		16.3					36.0	36.0	
Progression Factor		1.00	1.00		0.34					1.00	1.00	
Incremental Delay, d <sub>2</sub>		27.7	1.8		0.7					156.1	152.6	
Delay (s)		67.6	35.3		6.2					192.1	188.6	
Level of Service		E	D		A					F	F	
Approach Delay (s)		59.2			6.2			0.0			190.4	
Approach LOS		E			A			A			F	


















Intersection Summary			
HCM Average Control Delay	62.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	108.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↖	↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1462	232	39	888	13	114
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1589	252	42	965	14	124
Pedestrians					37	
Lane Width (ft)					10.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					3	
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)	188			222		
pX, platoon unblocked			0.64		0.68	0.64
vC, conflicting volume			1878		2159	693
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1247		1284	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			88		84	82
cM capacity (veh/h)			345		90	676

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	636	636	570	235	386	386	14	124
Volume Left	0	0	0	42	0	0	14	0
Volume Right	0	0	252	0	0	0	0	124
cSH	1700	1700	1700	345	1700	1700	90	676
Volume to Capacity	0.37	0.37	0.34	0.12	0.23	0.23	0.16	0.18
Queue Length 95th (ft)	0	0	0	10	0	0	13	17
Control Delay (s)	0.0	0.0	0.0	5.0	0.0	0.0	52.1	11.5
Lane LOS				A			F	B
Approach Delay (s)	0.0			1.2			15.7	
Approach LOS							C	

Intersection Summary								
Average Delay			1.1					
Intersection Capacity Utilization		61.4%		ICU Level of Service			B	
Analysis Period (min)			15					

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor		0.91			0.91			1.00	1.00		1.00	
Frbp, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		1.00			1.00			1.00	0.85		0.89	
Flt Protected		1.00			1.00			0.98	1.00		0.99	
Satd. Flow (prot)		4261			4258			1531	1330		1382	
Flt Permitted		0.91			0.85			0.89	1.00		0.95	
Satd. Flow (perm)		3873			3609			1390	1330		1329	
Volume (vph)	24	1563	12	25	915	7	15	18	31	14	0	56
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	1699	13	27	995	8	16	20	34	15	0	61
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	27	0	48	0
Lane Group Flow (vph)	0	1737	0	0	1029	0	0	36	7	0	28	0
Confl. Peds. (#/hr)	17		31	31		17						
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)		70.0			70.0			20.0	20.0		20.0	
Effective Green, g (s)		71.0			71.0			21.0	21.0		21.0	
Actuated g/C Ratio		0.71			0.71			0.21	0.21		0.21	
Clearance Time (s)		5.0			5.0			5.0	5.0		5.0	
Lane Grp Cap (vph)		2750			2562			292	279		279	
v/s Ratio Prot												
v/s Ratio Perm		c0.45			0.29			c0.03	0.01		0.02	
v/c Ratio		0.63			0.40			0.12	0.03		0.10	
Uniform Delay, d1		7.6			5.9			32.0	31.4		31.9	
Progression Factor		0.14			0.59			0.96	0.90		1.00	
Incremental Delay, d2		0.5			0.4			0.9	0.2		0.7	
Delay (s)		1.6			3.9			31.5	28.3		32.6	
Level of Service		A			A			C	C		C	
Approach Delay (s)		1.6			3.9			29.9			32.6	
Approach LOS		A			A			C			C	
<b>Intersection Summary</b>												
HCM Average Control Delay			3.9			HCM Level of Service			A			
HCM Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)		8.0				
Intersection Capacity Utilization			70.6%			ICU Level of Service		C				
Analysis Period (min)			15									
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑			↑	↑		↑	↑
Sign Control		Free			Free			Stop			Stop	↑
Grade		0%			0%			0%			0%	
Volume (veh/h)	105	1253	262	49	856	50	2	6	57	1	16	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)	114	1362	285	53	930	54	2	7	62	1	17	13
Pedestrians								55			83	
Lane Width (ft)								10.0			10.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								4			6	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		214			244							
pX, platoon unblocked	0.94			0.81			0.84	0.84	0.81	0.84	0.84	0.94
vC, conflicting volume	1068			1702			2226	2962	651	1895	3077	420
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	939			1401			1750	2622	108	1356	2759	249
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
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 %	82			86			0	49	91	97	0	98
cM capacity (veh/h)	641			378			0	13	723	35	10	664
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2		
Volume Total	455	681	625	286	465	287	9	62	18	13		
Volume Left	114	0	0	53	0	0	2	0	1	0		
Volume Right	0	0	285	0	0	54	0	62	0	13		
cSH	641	1700	1700	378	1700	1700	0	723	11	664		
Volume to Capacity	0.18	0.40	0.37	0.14	0.27	0.17	Err	0.09	1.71	0.02		
Queue Length 95th (ft)	16	0	0	12	0	0	Err	7	79	2		
Control Delay (s)	4.9	0.0	0.0	5.1	0.0	0.0	Err	10.4	1025.8	10.5		
Lane LOS	A			A			F	B	F	B		
Approach Delay (s)	1.3			1.4			Err		605.7			
Approach LOS							F		F			

Intersection Summary												
Average Delay				Err								
Intersection Capacity Utilization				70.8%		ICU Level of Service				C		
Analysis Period (min)				15								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.91			0.91			0.95			0.95	
Frbp, ped/bikes		1.00			0.99			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.99			0.96			0.96	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		4453			4417			2867			2780	
Flt Permitted		0.75			0.65			0.78			0.84	
Satd. Flow (perm)		3330			2898			2258			2355	
Volume (vph)	83	1016	149	261	795	91	85	138	69	38	112	49
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	92	1129	166	290	883	101	94	153	77	42	124	54
RTOR Reduction (vph)	0	18	0	0	10	0	0	30	0	0	31	0
Lane Group Flow (vph)	0	1369	0	0	1264	0	0	294	0	0	189	0
Confl. Peds. (#/hr)	75		13	13		75	8		23	23		8
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	2%	2%	2%
Parking (#/hr)										10	10	10
Turn Type	Perm			pm+pt			Perm			Perm		
Protected Phases		4		3	4 3			2			6	
Permitted Phases	4			4 3			2			6		
Actuated Green, G (s)		54.0			63.0			23.0			23.0	
Effective Green, g (s)		56.0			65.0			26.0			26.0	
Actuated g/C Ratio		0.56			0.65			0.26			0.26	
Clearance Time (s)		5.0						6.0			6.0	
Lane Grp Cap (vph)		1865			2020			587			612	
v/s Ratio Prot					c0.06							
v/s Ratio Perm		c0.41			0.35			c0.13			0.08	
v/c Ratio		0.73			1.03dl			0.50			0.31	
Uniform Delay, d1		16.4			10.3			31.5			29.8	
Progression Factor		0.40			1.00			0.90			1.00	
Incremental Delay, d2		2.1			1.5			2.9			1.3	
Delay (s)		8.7			11.8			31.3			31.1	
Level of Service		A			B			C			C	
Approach Delay (s)		8.7			11.8			31.3			31.1	
Approach LOS		A			B			C			C	

**Intersection Summary**

HCM Average Control Delay	13.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑	↗		↑↑↑	↗		↑↑↑	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor					1.00	1.00		0.91	1.00		0.91	1.00
Frt					1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected					1.00	1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)					1739	1478		4746	1478		4746	1478
Flt Permitted					1.00	1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)					1739	1478		4746	1478		4746	1478
Volume (vph)	0	0	0	0	82	160	0	3392	568	0	1926	9
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	89	174	0	3687	617	0	2093	10
RTOR Reduction (vph)	0	0	0	0	0	2	0	0	123	0	0	2
Lane Group Flow (vph)	0	0	0	0	89	172	0	3687	494	0	2093	8
Turn Type						Perm			Perm			Perm
Protected Phases					8			2			6	
Permitted Phases						8			2			6
Actuated Green, G (s)					15.0	15.0		95.0	95.0		95.0	95.0
Effective Green, g (s)					16.0	16.0		96.0	96.0		96.0	96.0
Actuated g/C Ratio					0.13	0.13		0.80	0.80		0.80	0.80
Clearance Time (s)					5.0	5.0		5.0	5.0		5.0	5.0
Lane Grp Cap (vph)					232	197		3797	1182		3797	1182
v/s Ratio Prot					0.05			c0.78			0.44	
v/s Ratio Perm						c0.12			0.33			0.01
v/c Ratio					0.38	0.87		0.97	0.42		0.55	0.01
Uniform Delay, d1					47.5	51.0		10.8	3.6		4.3	2.4
Progression Factor					1.00	1.00		1.00	1.00		0.40	0.31
Incremental Delay, d2					4.7	38.0		9.3	1.1		0.6	0.0
Delay (s)					52.2	89.0		20.0	4.7		2.3	0.7
Level of Service					D	F		C	A		A	A
Approach Delay (s)		0.0			76.6			17.8			2.3	
Approach LOS		A			E			B			A	

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	↗
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	126	417	19	7	161	93	53	10	14	98	40	44
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	137	453	21	8	175	101	58	11	15	107	43	48
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)		240			690							
pX, platoon unblocked												
vC, conflicting volume	276			474			910	1029	237	762	989	138
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	276			474			910	1029	237	762	989	138
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
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 %	89			99			66	95	98	58	80	95
cM capacity (veh/h)	1284			1084			169	206	764	253	218	885
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2					
Volume Total	364	247	95	189	84	150	48					
Volume Left	137	0	8	0	58	107	0					
Volume Right	0	21	0	101	15	0	48					
cSH	1284	1700	1084	1700	202	242	885					
Volume to Capacity	0.11	0.15	0.01	0.11	0.41	0.62	0.05					
Queue Length 95th (ft)	9	0	1	0	47	93	4					
Control Delay (s)	3.7	0.0	0.7	0.0	34.9	41.6	9.3					
Lane LOS	A		A		D	E	A					
Approach Delay (s)	2.2		0.2		34.9	33.8						
Approach LOS					D	D						

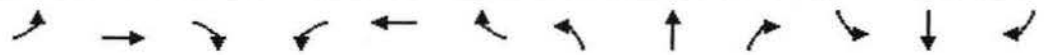
Intersection Summary												
Average Delay											9.4	
Intersection Capacity Utilization											47.5%	ICU Level of Service
Analysis Period (min)											15	A





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↗	↗
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	31	499	259	36	12	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	34	542	282	39	13	8
Pedestrians					2	
Lane Width (ft)					10.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		464	466			
pX, platoon unblocked						
vC, conflicting volume	323				642	162
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	323				642	162
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				97	99
cM capacity (veh/h)	1232				395	853
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	214	362	188	133	13	8
Volume Left	34	0	0	0	13	0
Volume Right	0	0	0	39	0	8
cSH	1232	1700	1700	1700	395	853
Volume to Capacity	0.03	0.21	0.11	0.08	0.03	0.01
Queue Length 95th (ft)	2	0	0	0	3	1
Control Delay (s)	1.5	0.0	0.0	0.0	14.4	9.3
Lane LOS	A				B	A
Approach Delay (s)	0.5		0.0		12.5	
Approach LOS					B	

Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			39.2%		ICU Level of Service	A
Analysis Period (min)			15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frb, ped/bikes		1.00			1.00			0.98			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			0.99	
Frt		0.90			0.96			0.96			0.97	
Flt Protected		0.99			0.98			0.99			0.99	
Satd. Flow (prot)		2657			2810			2756			2839	
Flt Permitted		0.84			0.71			0.70			0.77	
Satd. Flow (perm)		2246			2025			1951			2209	
Volume (vph)	70	70	268	78	106	67	98	182	109	104	328	91
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	76	291	85	115	73	107	198	118	113	357	99
RTOR Reduction (vph)	0	180	0	0	37	0	0	40	0	0	18	0
Lane Group Flow (vph)	0	263	0	0	236	0	0	383	0	0	551	0
Confl. Peds. (#/hr)							5		31	31		5
Turn Type	Perm		Perm			Perm		Perm				
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		37.0			37.0			53.0			53.0	
Effective Green, g (s)		38.0			38.0			54.0			54.0	
Actuated g/C Ratio		0.38			0.38			0.54			0.54	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		853			770			1054			1193	
v/s Ratio Prot												
v/s Ratio Perm		c0.12			0.12			0.20			c0.25	
v/c Ratio		0.31			0.31			0.36			0.46	
Uniform Delay, d1		21.8			21.8			13.2			14.1	
Progression Factor		1.00			1.00			1.00			0.70	
Incremental Delay, d2		0.9			1.0			1.0			1.0	
Delay (s)		22.7			22.8			14.1			10.9	
Level of Service		C			C			B			B	
Approach Delay (s)		22.7			22.8			14.1			10.9	
Approach LOS		C			C			B			B	













**Intersection Summary**

HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↙	↘
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	199	310	172	123	100	122
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	216	337	187	134	109	133
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		689	241			
pX, platoon unblocked						
vC, conflicting volume	321				855	160
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	321				855	160
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	83				56	85
cM capacity (veh/h)	1236				245	856
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	329	225	125	196	109	133
Volume Left	216	0	0	0	109	0
Volume Right	0	0	0	134	0	133
cSH	1236	1700	1700	1700	245	856
Volume to Capacity	0.17	0.13	0.07	0.12	0.44	0.15
Queue Length 95th (ft)	16	0	0	0	53	14
Control Delay (s)	6.2	0.0	0.0	0.0	30.9	10.0
Lane LOS	A				D	A
Approach Delay (s)	3.7		0.0		19.4	
Approach LOS					C	

Intersection Summary						
Average Delay			6.0			
Intersection Capacity Utilization			38.6%		ICU Level of Service	A
Analysis Period (min)			15			





















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	0	83	90	0	32	171	8	146	135	10	182
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	0	90	98	0	35	186	9	159	147	11	198
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	123	133	353	355								
Volume Left (vph)	33	98	186	147								
Volume Right (vph)	90	35	159	198								
Hadj (s)	-0.35	0.02	-0.13	-0.22								
Departure Headway (s)	5.6	5.9	5.0	5.0								
Degree Utilization, x	0.19	0.22	0.49	0.49								
Capacity (veh/h)	542	528	671	689								
Control Delay (s)	9.9	10.6	12.9	12.6								
Approach Delay (s)	9.9	10.6	12.9	12.6								
Approach LOS	A	B	B	B								
Intersection Summary												
Delay			12.1									
HCM Level of Service			B									
Intersection Capacity Utilization			47.1%	ICU Level of Service	A							
Analysis Period (min)			15									



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	8	47	4	317	173	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	51	4	345	188	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	547	193	199			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	547	193	199			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	94	100			
cM capacity (veh/h)	497	848	1373			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	60	349	199			
Volume Left	9	4	0			
Volume Right	51	0	11			
cSH	769	1373	1700			
Volume to Capacity	0.08	0.00	0.12			
Queue Length 95th (ft)	6	0	0			
Control Delay (s)	10.1	0.1	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.1	0.1	0.0			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			1.1			
Intersection Capacity Utilization			29.9%	ICU Level of Service	A	
Analysis Period (min)			15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑		↘	↕				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		3.0			3.0		3.0	3.0				
Lane Util. Factor		0.91			0.91		0.95	0.95				
Fr <sub>t</sub>		1.00			0.99		1.00	0.98				
Fl <sub>t</sub> Protected		1.00			1.00		0.95	0.97				
Satd. Flow (prot)		4568			4511		1513	1518				
Fl <sub>t</sub> Permitted		0.77			1.00		0.95	0.97				
Satd. Flow (perm)		3530			4511		1513	1518				
Volume (vph)	65	1644	0	0	777	82	1445	214	94	0	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	72	1827	0	0	863	91	1606	238	104	0	0	0
RTOR Reduction (vph)	0	0	0	0	13	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1899	0	0	941	0	970	974	0	0	0	0
Turn Type	D.P+P						Split					
Protected Phases	7	5			5		2	2				
Permitted Phases	5											
Actuated Green, G (s)		44.0			18.0		41.0	41.0				
Effective Green, g (s)		48.0			20.0		43.0	43.0				
Actuated g/C Ratio		0.48			0.20		0.43	0.43				
Clearance Time (s)					5.0		5.0	5.0				
Lane Grp Cap (vph)		1985			902		651	653				
v/s Ratio Prot		c0.27			c0.21		0.64	c0.64				
v/s Ratio Perm		0.19										
v/c Ratio		0.96			1.04		1.49	1.49				
Uniform Delay, d1		25.0			40.0		28.5	28.5				
Progression Factor		0.17			0.88		1.00	1.00				
Incremental Delay, d2		1.7			41.0		228.6	229.3				
Delay (s)		5.9			76.3		257.1	257.8				
Level of Service		A			E		F	F				
Approach Delay (s)		5.9			76.3			257.5			0.0	
Approach LOS		A			E			F			A	

Intersection Summary			
HCM Average Control Delay	121.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	119.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00		0.91		0.91	1.00	1.00
Frbp, ped/bikes		1.00	0.97		1.00	0.98		1.00		1.00	1.00	0.96
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00		1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85		1.00		1.00	1.00	0.85
Flt Protected		0.99	1.00		1.00	1.00		1.00		1.00	1.00	1.00
Satd. Flow (prot)		1540	1290		1565	1297		4250		4272	1283	1283
Flt Permitted		0.86	1.00		1.00	1.00		1.00		1.00	1.00	1.00
Satd. Flow (perm)		1346	1290		1565	1297		4250		4272	1283	1283
Volume (vph)	70	195	459	0	129	384	0	2146	64	0	2823	71
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	212	499	0	140	417	0	2333	70	0	3068	77
RTOR Reduction (vph)	0	0	1	0	0	6	0	3	0	0	0	18
Lane Group Flow (vph)	0	288	498	0	140	411	0	2400	0	0	3068	59
Confl. Peds. (#/hr)	12		17			12			8			21
Turn Type	Perm		Perm			Perm						Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4			8						6
Actuated Green, G (s)		32.0	32.0		32.0	32.0		77.0			77.0	77.0
Effective Green, g (s)		33.0	33.0		33.0	33.0		79.0			79.0	79.0
Actuated g/C Ratio		0.28	0.28		0.28	0.28		0.66			0.66	0.66
Clearance Time (s)		5.0	5.0		5.0	5.0		6.0			6.0	6.0
Lane Grp Cap (vph)		370	355		430	357		2798			2812	845
v/s Ratio Prot					0.09			0.56			c0.72	
v/s Ratio Perm		0.21	c0.39			0.32						0.05
v/c Ratio		0.78	1.40		0.33	1.15		0.86			1.09	0.07
Uniform Delay, d1		40.1	43.5		34.6	43.5		16.1			20.5	7.3
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2		14.9	197.8		2.0	95.6		3.7			47.6	0.2
Delay (s)		55.0	241.3		36.6	139.1		19.8			68.1	7.5
Level of Service		D	F		D	F		B			E	A
Approach Delay (s)		173.1			113.4			19.8			66.6	
Approach LOS		F			F			B			E	
<b>Intersection Summary</b>												
HCM Average Control Delay			66.2				HCM Level of Service				E	
HCM Volume to Capacity ratio			1.18									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			101.0%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑					↑	↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		3.0	3.0		3.0					3.0	3.0	
Lane Util. Factor		0.91	1.00		0.91					0.95	0.95	
Fr <sub>t</sub>		1.00	0.85		1.00					1.00	0.99	
Fl <sub>t</sub> Protected		1.00	1.00		1.00					0.95	0.97	
Satd. Flow (prot)		4577	1425		4555					1513	1533	
Fl <sub>t</sub> Permitted		1.00	1.00		0.66					0.95	0.97	
Satd. Flow (perm)		4577	1425		3024					1513	1533	
Volume (vph)	0	1351	849	123	1180	0	0	0	0	846	189	33
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1501	943	137	1311	0	0	0	0	940	210	37
RTOR Reduction (vph)	0	0	521	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	1501	422	0	1448	0	0	0	0	584	601	0
Turn Type			Perm D.P+P							Split		
Protected Phases		4		3	3 4					6	6	
Permitted Phases			4	4								
Actuated Green, G (s)		18.0	18.0		59.0					26.0	26.0	
Effective Green, g (s)		20.0	20.0		63.0					28.0	28.0	
Actuated g/C Ratio		0.20	0.20		0.63					0.28	0.28	
Clearance Time (s)		5.0	5.0							5.0	5.0	
Lane Grp Cap (vph)		915	285		2563					424	429	
v/s Ratio Prot		c0.33			c0.24					0.39	c0.39	
v/s Ratio Perm			0.30		0.11							
v/c Ratio		1.64	1.48		0.56					1.38	1.40	
Uniform Delay, d1		40.0	40.0		10.6					36.0	36.0	
Progression Factor		1.00	1.00		1.33					1.00	1.00	
Incremental Delay, d2		293.2	234.6		0.1					184.1	193.9	
Delay (s)		333.2	274.6		14.2					220.1	229.9	
Level of Service		F	F		B					F	F	
Approach Delay (s)		310.6			14.2			0.0			225.1	
Approach LOS		F			B			A			F	
<b>Intersection Summary</b>												
HCM Average Control Delay			206.1		HCM Level of Service					F		
HCM Volume to Capacity ratio			1.06									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)				9.0			
Intersection Capacity Utilization			129.2%		ICU Level of Service				H			
Analysis Period (min)			15									
c Critical Lane Group												





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↑	↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1892	272	32	1050	21	140
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2057	296	35	1141	23	152
Pedestrians					47	
Lane Width (ft)					10.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					3	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)	188			222		
pX, platoon unblocked			0.53		0.57	0.53
vC, conflicting volume			2399		2701	880
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1868		1881	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			79		16	73
cM capacity (veh/h)			164		27	557

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	823	823	707	263	457	457	23	152
Volume Left	0	0	0	35	0	0	23	0
Volume Right	0	0	296	0	0	0	0	152
cSH	1700	1700	1700	164	1700	1700	27	557
Volume to Capacity	0.48	0.48	0.42	0.21	0.27	0.27	0.84	0.27
Queue Length 95th (ft)	0	0	0	19	0	0	67	28
Control Delay (s)	0.0	0.0	0.0	11.3	0.0	0.0	328.7	13.9
Lane LOS				B			F	B
Approach Delay (s)	0.0			2.5			54.9	
Approach LOS							F	

Intersection Summary								
Average Delay			3.4					
Intersection Capacity Utilization			64.1%		ICU Level of Service			C
Analysis Period (min)			15					

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔↔			↔↔↔			↑	↗		↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor		0.91			0.91			1.00	1.00		1.00	
Frbp, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frnt		1.00			1.00			1.00	0.85		0.89	
Flt Protected		1.00			1.00			0.98	1.00		1.00	
Satd. Flow (prot)		4254			4248			1526	1330		1385	
Flt Permitted		0.79			0.91			0.85	1.00		0.98	
Satd. Flow (perm)		3388			3859			1326	1330		1357	
Volume (vph)	80	1965	12	8	1068	19	45	44	17	6	6	59
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	2136	13	9	1161	21	49	48	18	7	7	64
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	15	0	53	0
Lane Group Flow (vph)	0	2236	0	0	1189	0	0	97	3	0	25	0
Confl. Peds. (#/hr)	39		47	47		39						
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)		74.0			74.0			16.0	16.0		16.0	
Effective Green, g (s)		75.0			75.0			17.0	17.0		17.0	
Actuated g/C Ratio		0.75			0.75			0.17	0.17		0.17	
Clearance Time (s)		5.0			5.0			5.0	5.0		5.0	
Lane Grp Cap (vph)		2541			2894			225	226		231	
v/s Ratio Prot												
v/s Ratio Perm		c0.66			0.31			c0.07	0.00		0.02	
v/c Ratio		0.88			0.41			0.43	0.01		0.11	
Uniform Delay, d1		9.2			4.5			37.2	34.5		35.1	
Progression Factor		0.95			0.74			1.07	1.15		1.00	
Incremental Delay, d2		0.5			0.4			5.9	0.1		0.9	
Delay (s)		9.2			3.7			45.5	39.7		36.0	
Level of Service		A			A			D	D		D	
Approach Delay (s)		9.2			3.7			44.6			36.0	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	9.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕			↕↕↕			↕	↗		↕	↗
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	13	1802	190	34	1005	3	15	15	159	0	13	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	1959	207	37	1092	3	16	16	173	0	14	21
Pedestrians								25			4	
Lane Width (ft)								10.0			10.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								2			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)		214			244							
pX, platoon unblocked	0.92			0.73			0.77	0.77	0.73	0.77	0.77	0.92
vC, conflicting volume	1100			2190			2581	3289	781	2034	3390	370
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	927			1896			1974	2888	0	1269	3019	130
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
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			84			0	0	78	0	0	97
cM capacity (veh/h)	670			224			0	10	781	0	8	818
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2		
Volume Total	504	979	696	310	546	276	33	173	14	21		
Volume Left	14	0	0	37	0	0	16	0	0	0		
Volume Right	0	0	207	0	0	3	0	173	0	21		
cSH	670	1700	1700	224	1700	1700	0	781	8	818		
Volume to Capacity	0.02	0.58	0.41	0.16	0.32	0.16	Err	0.22	1.75	0.03		
Queue Length 95th (ft)	2	0	0	14	0	0	Err	21	68	2		
Control Delay (s)	0.6	0.0	0.0	7.1	0.0	0.0	Err	10.9	1239.3	9.5		
Lane LOS	A			A			F	B	F	A		
Approach Delay (s)	0.1			1.9			Err		509.1			
Approach LOS							F		F			
Intersection Summary												
Average Delay			Err									
Intersection Capacity Utilization			68.8%		ICU Level of Service				C			
Analysis Period (min)			15									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑			↑↑			↑↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.91			0.91			0.95			0.95	
Frbp, ped/bikes		0.99			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frft		0.98			0.99			0.94			0.96	
Flt Protected		1.00			0.99			0.98			0.99	
Satd. Flow (prot)		4468			4482			2820			2775	
Flt Permitted		0.86			0.66			0.76			0.71	
Satd. Flow (perm)		3847			2971			2170			1991	
Volume (vph)	48	1673	195	184	784	49	165	168	201	38	97	51
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	53	1859	217	204	871	54	183	187	223	42	108	57
RTOR Reduction (vph)	0	14	0	0	5	0	0	73	0	0	39	0
Lane Group Flow (vph)	0	2115	0	0	1124	0	0	520	0	0	168	0
Confl. Peds. (#/hr)	47		30	30		47	8		3	3		8
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	2%	2%	2%
Parking (#/hr)										10	10	10
Turn Type	Perm			pm+pt			Perm			Perm		
Protected Phases		4		3	4 3			2				6
Permitted Phases	4			4 3			2			6		
Actuated Green, G (s)		57.0			62.0			24.0				24.0
Effective Green, g (s)		59.0			64.0			27.0				27.0
Actuated g/C Ratio		0.59			0.64			0.27				0.27
Clearance Time (s)		5.0						6.0				6.0
Lane Grp Cap (vph)		2270			1977			586				538
v/s Ratio Prot					c0.03							
v/s Ratio Perm		c0.55			0.34			c0.24				0.08
v/c Ratio		0.93			1.34dl			0.89				0.31
Uniform Delay, d1		18.7			10.2			35.0				29.1
Progression Factor		0.42			1.00			0.82				1.00
Incremental Delay, d2		5.4			1.2			16.1				1.5
Delay (s)		13.2			11.4			45.0				30.6
Level of Service		B			B			D				C
Approach Delay (s)		13.2			11.4			45.0				30.6
Approach LOS		B			B			D				C

Intersection Summary

HCM Average Control Delay	18.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	108.9%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑	↗		↑↑↑	↗		↑↑↑	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor					1.00	1.00		0.91	1.00		0.91	1.00
Frt					1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected					1.00	1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)					1739	1478		4746	1478		4746	1478
Flt Permitted					1.00	1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)					1739	1478		4746	1478		4746	1478
Volume (vph)	0	0	0	0	162	302	0	1798	313	0	3093	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	176	328	0	1954	340	0	3362	11
RTOR Reduction (vph)	0	0	0	0	0	21	0	0	97	0	0	2
Lane Group Flow (vph)	0	0	0	0	176	307	0	1954	243	0	3362	9
Turn Type						Perm			Perm			Perm
Protected Phases					8			2			6	
Permitted Phases						8			2			6
Actuated Green, G (s)					34.0	34.0		106.0	106.0		106.0	106.0
Effective Green, g (s)					35.0	35.0		107.0	107.0		107.0	107.0
Actuated g/C Ratio					0.23	0.23		0.71	0.71		0.71	0.71
Clearance Time (s)					5.0	5.0		5.0	5.0		5.0	5.0
Lane Grp Cap (vph)					406	345		3385	1054		3385	1054
v/s Ratio Prot					0.10			0.41			c0.71	
v/s Ratio Perm						c0.21			0.16			0.01
v/c Ratio					0.43	0.89		0.58	0.23		0.99	0.01
Uniform Delay, d1					49.0	55.6		10.5	7.4		21.1	6.2
Progression Factor					1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2					3.3	27.3		0.7	0.5		14.0	0.0
Delay (s)					52.4	83.0		11.2	7.9		35.1	6.2
Level of Service					D	F		B	A		D	A
Approach Delay (s)		0.0			72.3			10.7			35.0	
Approach LOS		A			E			B			D	

Intersection Summary			
HCM Average Control Delay	29.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	73	244	41	14	350	64	61	11	16	280	86	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	79	265	45	15	380	70	66	12	17	304	93	74
Pedestrians											3	
Lane Width (ft)											10.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		240			690							
pX, platoon unblocked												
vC, conflicting volume	453			310			788	930	155	763	917	228
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	453			310			788	930	155	763	917	228
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
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 %	93			99			61	95	98	0	62	90
cM capacity (veh/h)	1102			1248			169	243	863	258	247	773

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	212	177	205	260	96	398	74
Volume Left	79	0	15	0	66	304	0
Volume Right	0	45	0	70	17	0	74
cSH	1102	1700	1248	1700	207	256	773
Volume to Capacity	0.07	0.10	0.01	0.15	0.46	1.56	0.10
Queue Length 95th (ft)	6	0	1	0	55	600	8
Control Delay (s)	3.6	0.0	0.7	0.0	36.5	304.1	10.1
Lane LOS	A		A		E	F	B
Approach Delay (s)	2.0		0.3		36.5	258.0	
Approach LOS					E	F	

**Intersection Summary**

Average Delay	88.7
Intersection Capacity Utilization	61.3%
Analysis Period (min)	*15
ICU Level of Service	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↕	↕
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	25	514	419	75	11	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	559	455	82	12	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	537				830	268
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	537				830	268
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				96	99
cM capacity (veh/h)	1027				300	730
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	213	372	304	233	12	9
Volume Left	27	0	0	0	12	0
Volume Right	0	0	0	82	0	9
cSH	1027	1700	1700	1700	300	730
Volume to Capacity	0.03	0.22	0.18	0.14	0.04	0.01
Queue Length 95th (ft)	2	0	0	0	3	1
Control Delay (s)	1.3	0.0	0.0	0.0	17.5	10.0
Lane LOS	A				C	A
Approach Delay (s)	0.5		0.0		14.3	
Approach LOS					B	

Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			45.5%		ICU Level of Service	A
Analysis Period (min)			15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frbp, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Fr <sub>t</sub>		0.90			0.96			0.96			0.98	
Fl <sub>t</sub> Protected		0.99			0.98			0.99			0.99	
Satd. Flow (prot)		2647			2797			2799			2876	
Fl <sub>t</sub> Permitted		0.72			0.57			0.76			0.78	
Satd. Flow (perm)		1930			1612			2136			2261	
Volume (vph)	127	90	449	180	162	129	70	230	118	75	334	66
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	138	98	488	196	176	140	76	250	128	82	363	72
RTOR Reduction (vph)	0	140	0	0	39	0	0	42	0	0	13	0
Lane Group Flow (vph)	0	584	0	0	473	0	0	412	0	0	504	0
Confl. Peds. (#/hr)							5		9	9		5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		53.0			53.0			37.0			37.0	
Effective Green, g (s)		54.0			54.0			38.0			38.0	
Actuated g/C Ratio		0.54			0.54			0.38			0.38	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		1042			870			812			859	
v/s Ratio Prot												
v/s Ratio Perm		c0.30			0.29			0.19			c0.22	
v/c Ratio		0.56			0.54			0.51			0.59	
Uniform Delay, d1		15.2			15.0			23.8			24.7	
Progression Factor		1.00			1.00			1.00			0.76	
Incremental Delay, d2		2.2			2.4			2.3			2.1	
Delay (s)		17.3			17.4			26.1			20.9	
Level of Service		B			B			C			C	
Approach Delay (s)		17.3			17.4			26.1			20.9	
Approach LOS		B			B			C			C	













Intersection Summary			
HCM Average Control Delay	20.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↗	↖
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	129	396	218	80	270	268
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	140	430	237	87	293	291
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)		680	250			
pX, platoon unblocked						
vC, conflicting volume	324				776	162
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	324				776	162
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				1	66
cM capacity (veh/h)	1233				296	854
<b>Direction, Lane #</b>						
	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	284	287	158	166	293	291
Volume Left	140	0	0	0	293	0
Volume Right	0	0	0	87	0	291
cSH	1233	1700	1700	1700	296	854
Volume to Capacity	0.11	0.17	0.09	0.10	0.99	0.34
Queue Length 95th (ft)	10	0	0	0	258	38
Control Delay (s)	4.6	0.0	0.0	0.0	88.9	11.4
Lane LOS	A				F	B
Approach Delay (s)	2.3		0.0		50.3	
Approach LOS					F	

Intersection Summary						
Average Delay			20.8			
Intersection Capacity Utilization			48.2%		ICU Level of Service	A
Analysis Period (min)			15			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	136	0	330	190	0	67	125	3	70	65	30	135
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	148	0	359	207	0	73	136	3	76	71	33	147
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	507	279	215	250								
Volume Left (vph)	148	207	136	71								
Volume Right (vph)	359	73	76	147								
Hadj (s)	-0.33	0.03	-0.05	-0.26								
Departure Headway (s)	5.8	6.6	7.0	6.7								
Degree Utilization, x	0.82	0.51	0.42	0.46								
Capacity (veh/h)	589	488	459	484								
Control Delay (s)	29.9	16.4	14.8	15.3								
Approach Delay (s)	29.9	16.4	14.8	15.3								
Approach LOS	D	C	B	C								
Intersection Summary												
Delay			21.4									
HCM Level of Service			C									
Intersection Capacity Utilization			62.2%	ICU Level of Service	B							
Analysis Period (min)			15									



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			4	1	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	3	19	14	195	520	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	21	15	212	565	33
<b>Pedestrians</b>						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	824	582	598			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	824	582	598			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	96	98			
cM capacity (veh/h)	337	513	979			
<b>Direction, Lane #</b>						
	EB 1	NB 1	SB 1			
Volume Total	24	227	598			
Volume Left	3	15	0			
Volume Right	21	0	33			
cSH	479	979	1700			
Volume to Capacity	0.05	0.02	0.35			
Queue Length 95th (ft)	4	1	0			
Control Delay (s)	12.9	0.7	0.0			
Lane LOS	B	A				
Approach Delay (s)	12.9	0.7	0.0			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			0.6			
Intersection Capacity Utilization			39.2%	ICU Level of Service	A	
Analysis Period (min)			15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑		↑	↑				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		3.0			3.0		3.0	3.0				
Lane Util. Factor		0.91			0.91		0.95	0.95				
Fr't		1.00			0.97		1.00	0.96				
Flt Protected		1.00			1.00		0.95	1.00				
Satd. Flow (prot)		4572			4440		1513	1521				
Flt Permitted		0.80			1.00		0.95	1.00				
Satd. Flow (perm)		3647			4440		1513	1521				
Volume (vph)	45	2152	0	0	843	211	460	292	123	0	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	50	2391	0	0	937	234	511	324	137	0	0	0
RTOR Reduction (vph)	0	0	0	0	43	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	2441	0	0	1128	0	485	486	0	0	0	0
Turn Type	D.P+P						Split					
Protected Phases	7	5			5		2	2				
Permitted Phases	5											
Actuated Green, G (s)		44.0			18.0		41.0	41.0				
Effective Green, g (s)		48.0			20.0		43.0	43.0				
Actuated g/C Ratio		0.48			0.20		0.43	0.43				
Clearance Time (s)					5.0		5.0	5.0				
Lane Grp Cap (vph)		2010			888		651	654				
v/s Ratio Prot		c0.34			c0.25		c0.32	0.32				
v/s Ratio Perm		0.24										
v/c Ratio		1.21			1.27		0.75	0.74				
Uniform Delay, d1		26.0			40.0		23.9	23.9				
Progression Factor		0.32			0.97		1.00	1.00				
Incremental Delay, d2		96.9			129.9		7.6	7.5				
Delay (s)		105.4			168.5		31.5	31.4				
Level of Service		F			F		C	C				
Approach Delay (s)		105.4			168.5			31.4			0.0	
Approach LOS		F			F			C			A	
<b>Intersection Summary</b>												
HCM Average Control Delay		105.8			HCM Level of Service		F					
HCM Volume to Capacity ratio		1.01										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)		9.0					
Intersection Capacity Utilization		107.4%			ICU Level of Service		G					
Analysis Period (min)		15										
c Critical Lane Group												

**Monument Ballpark  
Loading Activity Analysis**

	Deliveries per day per use	Total number of deliveries per day	Total dock hours needed per day	Berths provided in dock for loading	Total available dock hours per day	Surplus dock hours per day
<b>North Dock</b>						
Office	4	4				
Retail (3 tenants)	3	9				
Restaurant (1 tenant)	6	6				
<b>Total number of deliveries for all North dock users</b>		<b>19</b>	<b>6.3</b>	<b>2</b>	<b>16</b>	<b><u>9.7</u></b>
<b>South Dock</b>						
Residential	3	3				
Hotel	6	6				
Retail (4 tenants)	3	12				
Restaurant (4 tenants)	6	24				
<b>Total number of deliveries for all South dock users</b>		<b>45</b>	<b>15.0</b>	<b>4</b>	<b>32</b>	<b><u>17.0</u></b>

**Notes:**

- 1) Analysis assumes that all deliveries require a loading berth (worst case). Some will use the service areas to offload.
- 2) One berth in each dock was assumed to be used for trash and therefore excluded from the analysis.
- 3) Analysis assumes that the delivery trips are separate trips and not shared (i.e., FedEx will deliver to all tenants at one time).
- 4) Most deliveries will be less than 20 minutes in length, however, 20 minutes per delivery was used for analysis purposes.
- 5) Each berth is assumed to be available for a minimum of 8 hours per day.
- 6) Deliveries per day are for a typical weekday. Weekend day activity will be less.
- 7) The South Dock provides one 55' berth for retail tenants that require a delivery vehicle larger than 30' (up to 3 times per week for some retail tenants)
- 8) Residential use will have approximately 6 moves per week on average. Based on unit size truck length will be 30' or less.
- 9) Dock management during peak delivery times is assumed to avoid congestion and maximize facility efficiency.
- 10) Deliveries per day based on information provided by The Cordish Company.