Technical Appendix 2
2015 Alternative 3 Levels of Service Analysis

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lanes	1	1	1>	0	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	21	1299	692	11	0	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.91	0.91
Hourly flow rate (vph)	24	1353	721	13	0	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			707			
pX, platoon unblocked	0.86				0.86	0.86
vC, conflicting volume	733				2128	727
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	689				2317	681
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	97				100	100
cM capacity (veh/h)	745				35	389

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	24	1353	733	0	1
Volume Left	24	0	0	0	0
Volume Right	0	0	13	0	1
cSH	745	1700	1700	1700	389
Volume to Capacity	0.03	0.80	0.43	0.00	0.00
Queue Length 95th (ft)	3	0	0	0	0
Control Delay (s)	10.0	0.0	0.0	0.0	14.3
Lane LOS	A			A	B
Approach Delay (s)	0.2		0.0	14.3	
Approach LOS				B	

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lanes	1>	0	0	<1	1>	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	964	16	3	443	29	6
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	994	18	3	457	33	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	290					
pX, platoon unblocked			0.44		0.44	0.44
vC, conflicting volume			1012		1466	1003
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1027		2053	1007
tC, single (s)			4.1		6.5	6.4
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.5
p0 queue free %			99		0	94
cM capacity (veh/h)			303		25	121

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	1012	460	40
Volume Left	0	3	33
Volume Right	18	0	7
cSH	1700	303	29
Volume to Capacity	0.60	0.01	1.35
Queue Length 95th (ft)	0	1	114
Control Delay (s)	0.0	0.4	491.4
Lane LOS		A	F
Approach Delay (s)	0.0	0.4	491.4
Approach LOS			F

Intersection Summary			
Average Delay	13.0		
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	0	<1>	0	0	<1>	0	0	<1>	0	0	<1>	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	1	1298	7	1	695	1	5	0	11	6	1	7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	1366	8	1	732	1	6	0	13	7	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)					1310							
pX, platoon unblocked												
vC, conflicting volume	733			1374			2116	2108	1370	2120	2111	732
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	733			1374			2116	2108	1370	2120	2111	732
tC, single (s)	5.1			5.1			7.3	6.5	6.3	7.1	6.5	6.5
tC, 2 stage (s)												
tF (s)	3.1			3.1			3.7	4.0	3.4	3.5	4.0	3.6
p0 queue free %	100			100			82	100	93	80	98	98
cM capacity (veh/h)	555			283			31	52	173	34	51	380

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1376	734	19	16
Volume Left	1	1	6	7
Volume Right	8	1	13	8
cSH	555	283	72	66
Volume to Capacity	0.00	0.00	0.26	0.25
Queue Length 95th (ft)	0	0	23	22
Control Delay (s)	0.1	0.2	71.9	76.9
Lane LOS	A	A	F	F
Approach Delay (s)	0.1	0.2	71.9	76.9
Approach LOS			F	F

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lanes	1	1	1>	0	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	3	1314	684	8	7	12
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	3	1369	712	9	8	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			1010			
pX, platoon unblocked	0.87				0.87	0.87
vC, conflicting volume	722				2093	717
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	681				2252	676
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				80	97
cM capacity (veh/h)	804				40	399

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	3	1369	722	8	14
Volume Left	3	0	0	8	0
Volume Right	0	0	9	0	14
cSH	804	1700	1700	40	399
Volume to Capacity	0.00	0.81	0.42	0.20	0.03
Queue Length 95th (ft)	0	0	0	16	3
Control Delay (s)	9.5	0.0	0.0	115.5	14.3
Lane LOS	A			F	B
Approach Delay (s)	0.0		0.0	51.6	
Approach LOS				F	

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lanes	0	<1	1>	0	1>	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	1278	687	1	14	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	11	1331	716	1	16	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			435			
pX, platoon unblocked	0.85				0.85	0.85
vC, conflicting volume	717				2070	716
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	666				2261	666
tC, single (s)	4.2				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.3
p0 queue free %	98				56	95
cM capacity (veh/h)	753				36	393

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1343	717	34
Volume Left	11	0	16
Volume Right	0	1	18
cSH	753	1700	71
Volume to Capacity	0.02	0.42	0.49
Queue Length 95th (ft)	1	0	50
Control Delay (s)	0.8	0.0	97.2
Lane LOS	A		F
Approach Delay (s)	0.8	0.0	97.2
Approach LOS			F

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	86.0%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	1	1>	0	1	1>	0	1	0	1	0	0	1
Sign Control		Free			Free			Stop			Yield	
Grade		0%			0%			0%			0%	
Volume (veh/h)	44	1237	1	0	660	11	0	0	1	0	0	33
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	50	1275	1	0	680	11	0	0	1	0	0	34
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					233							
pX, platoon unblocked	0.84						0.84	0.84		0.84	0.84	0.84
vC, conflicting volume	692			1276			2090	2067	1276	2062	2062	686
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	634			1276			2293	2266	1276	2260	2260	628
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	99	100	100	92
cM capacity (veh/h)	796			551			21	33	206	24	33	410

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	50	1276	0	692	0	1	34
Volume Left	50	0	0	0	0	0	0
Volume Right	0	1	0	11	0	1	34
cSH	796	1700	1700	1700	1700	206	410
Volume to Capacity	0.06	0.75	0.00	0.41	0.00	0.01	0.08
Queue Length 95th (ft)	5	0	0	0	0	0	7
Control Delay (s)	9.8	0.0	0.0	0.0	0.0	22.6	14.6
Lane LOS	A				A	C	B
Approach Delay (s)	0.4		0.0		22.6		14.6
Approach LOS					C		B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1>	0	1	1	1	0	<1>	0	0	<1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	12	12	12	12	12	12	12	12	12	12
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	1.00		1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.88			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			0.95	1.00
Satd. Flow (prot)	1711	1827		1805	1792	1524		1667			1703	1455
Flt Permitted	0.37	1.00		0.05	1.00	1.00		1.00			0.75	1.00
Satd. Flow (perm)	663	1827		101	1792	1524		1667			1345	1455
Volume (vph)	59	1177	2	5	583	69	0	1	9	132	0	88
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor (vph)	100%	100%	110%	110%	100%	100%	110%	110%	110%	100%	110%	100%
Adj. Flow (vph)	60	1201	2	6	595	70	0	1	10	135	0	90
RTOR Reduction (vph)	0	0	0	0	0	21	0	8	0	0	0	69
Lane Group Flow (vph)	60	1203	0	6	595	49	0	3	0	0	135	21
Heavy Vehicles (%)	2%	4%	0%	0%	6%	6%	0%	0%	0%	6%	0%	11%
Turn Type	Perm			Perm		Perm	Perm			pm+pt		Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)	75.2	75.2		75.2	75.2	75.2		24.8			24.8	24.8
Effective Green, g (s)	75.2	75.2		75.2	75.2	75.2		24.8			24.8	24.8
Actuated g/C Ratio	0.70	0.70		0.70	0.70	0.70		0.23			0.23	0.23
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	462	1272		70	1248	1061		383			309	334
v/s Ratio Prot		c0.66			0.33			0.00				
v/s Ratio Perm	0.09			0.06		0.03					c0.10	0.01
v/c Ratio	0.13	0.95		0.09	0.48	0.05		0.01			0.44	0.06
Uniform Delay, d1	5.5	14.6		5.3	7.5	5.1		32.1			35.6	32.5
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	0.1	14.1		0.5	0.3	0.0		0.0			1.0	0.4
Delay (s)	5.6	28.7		5.8	7.7	5.2		32.2			36.6	32.9
Level of Service	A	C		A	A	A		C			D	C
Approach Delay (s)		27.6			7.5			32.2			35.1	
Approach LOS		C			A			C			D	

Intersection Summary			
HCM Average Control Delay	22.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lanes	1	1	1>	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	34	1285	658	41	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	1397	715	45	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		521	146			
pX, platoon unblocked	0.79				0.43	0.79
vC, conflicting volume	760				2208	738
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	695				3053	667
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				100	100
cM capacity (veh/h)	710				6	362

Direction, Lane #	EB 1	EB 2	WB 1
Volume Total	37	1397	760
Volume Left	37	0	0
Volume Right	0	0	45
cSH	710	1700	1700
Volume to Capacity	0.05	0.82	0.45
Queue Length 95th (ft)	4	0	0
Control Delay (s)	10.3	0.0	0.0
Lane LOS	B		
Approach Delay (s)	0.3		0.0
Approach LOS			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1>	0	1	1>	0	1	1>	0	0	<1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	12	12	12	12	12	12
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		1.00	1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.85			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.95	1.00
Satd. Flow (prot)	1652	1842		1652	1773		1770	1583			1410	1583
Flt Permitted	0.27	1.00		0.10	1.00		0.75	1.00			0.75	1.00
Satd. Flow (perm)	465	1842		182	1773		1402	1583			1118	1583
Volume (vph)	308	968	9	10	443	19	6	0	6	7	0	244
Peak-hour factor, PHF	0.98	0.98	0.92	0.92	0.98	0.98	0.92	0.92	0.92	0.98	0.92	0.98
Growth Factor (vph)	100%	100%	100%	100%	100%	110%	100%	100%	100%	110%	110%	100%
Adj. Flow (vph)	314	988	10	11	452	21	7	0	7	8	0	249
RTOR Reduction (vph)	0	0	0	0	2	0	0	5	0	0	0	213
Lane Group Flow (vph)	314	998	0	11	471	0	7	2	0	0	8	36
Heavy Vehicles (%)	2%	3%	2%	2%	6%	16%	2%	2%	2%	28%	2%	2%
Turn Type	pm+pt			Perm			custom			Perm		Over
Protected Phases	7	4			8						6	7
Permitted Phases	4			8			2	2		6		
Actuated Green, G (s)	60.1	60.1		41.6	41.6		31.9	31.9			31.9	14.5
Effective Green, g (s)	60.1	60.1		41.6	41.6		31.9	31.9			31.9	14.5
Actuated g/C Ratio	0.60	0.60		0.42	0.42		0.32	0.32			0.32	0.14
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	452	1107		76	738		447	505			357	230
v/s Ratio Prot	0.10	c0.54			0.27							0.02
v/s Ratio Perm	0.32			0.06			0.00	0.00			c0.01	
v/c Ratio	0.69	0.90		0.14	0.64		0.02	0.00			0.02	0.16
Uniform Delay, d1	13.3	17.4		18.1	23.2		23.3	23.2			23.4	37.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	4.6	10.1		0.9	1.8		0.1	0.0			0.1	0.3
Delay (s)	17.8	27.5		19.0	25.0		23.4	23.2			23.5	37.7
Level of Service	B	C		B	C		C	C			C	D
Approach Delay (s)		25.2			24.9			23.3			37.3	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	26.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lanes	1>	0	0	<1	1>	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1319	0	1	657	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.63	0.63
Hourly flow rate (vph)	1346	0	1	670	2	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	179			488		
pX, platoon unblocked			0.31		0.41	0.31
vC, conflicting volume			1346		2019	1346
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			2104		2779	2104
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		79	100
cM capacity (veh/h)			82		8	20

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	1346	672	2
Volume Left	0	1	2
Volume Right	0	0	0
cSH	1700	82	8
Volume to Capacity	0.79	0.01	0.21
Queue Length 95th (ft)	0	1	12
Control Delay (s)	0.0	1.2	518.5
Lane LOS		A	F
Approach Delay (s)	0.0	1.2	518.5
Approach LOS			F

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lanes	1>	0	1	1	1>	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1268	31	13	692	12	21
Peak Hour Factor	1.00	0.96	0.96	0.96	0.91	0.91
Hourly flow rate (vph)	1268	32	14	721	13	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				585		
pX, platoon unblocked					0.85	
vC, conflicting volume			1300		2032	1284
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1300		2209	1284
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		67	89
cM capacity (veh/h)			539		40	201

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	1300	14	721	36
Volume Left	0	14	0	13
Volume Right	32	0	0	23
cSH	1700	539	1700	82
Volume to Capacity	0.76	0.03	0.42	0.44
Queue Length 95th (ft)	0	2	0	45
Control Delay (s)	0.0	11.8	0.0	79.4
Lane LOS		B		F
Approach Delay (s)	0.0	0.2		79.4
Approach LOS				F

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lanes	1>	0	0	<1	1>	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1284	8	5	687	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1396	10	6	747	1	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				328		
pX, platoon unblocked					0.84	
vC, conflicting volume			1405		2159	1400
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1405		2374	1400
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		96	99
cM capacity (veh/h)			486		32	172

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	1405	753	4
Volume Left	0	6	1
Volume Right	10	0	2
cSH	1700	486	70
Volume to Capacity	0.83	0.01	0.05
Queue Length 95th (ft)	0	1	4
Control Delay (s)	0.0	0.4	59.5
Lane LOS		A	F
Approach Delay (s)	0.0	0.4	59.5
Approach LOS			F

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	60	1203	6	595	70	11	135	90
v/c Ratio	0.13	0.95	0.09	0.48	0.06	0.03	0.55	0.22
Control Delay	5.6	30.5	7.7	8.7	1.3	18.7	47.7	8.9
Queue Delay	0.0	3.0	0.0	0.7	0.0	0.0	0.2	0.0
Total Delay	5.6	33.6	7.7	9.4	1.3	18.7	48.0	8.9
Queue Length 50th (ft)	9	498	1	126	0	1	90	0
Queue Length 95th (ft)	27	#1064	6	230	12	15	151	41
Internal Link Dist (ft)		153		99		146	133	
Turn Bay Length (ft)	75		75		150			
Base Capacity (vph)	480	1313	72	1288	1115	391	263	424
Starvation Cap Reductn	0	0	0	355	0	0	0	0
Spillback Cap Reductn	0	57	0	0	0	15	9	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.96	0.08	0.64	0.06	0.03	0.53	0.21

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	314	998	11	473	7	7	8	249
v/c Ratio	0.62	0.90	0.05	0.64	0.02	0.01	0.02	0.56
Control Delay	14.5	28.2	13.2	26.0	32.0	0.0	32.1	10.4
Queue Delay	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.5	29.0	13.2	26.0	32.0	0.0	32.1	10.4
Queue Length 50th (ft)	90	503	4	231	3	0	4	0
Queue Length 95th (ft)	78	424	12	252	16	0	18	69
Internal Link Dist (ft)		66		210		111	50	
Turn Bay Length (ft)	75				75			
Base Capacity (vph)	565	1382	256	922	448	639	356	516
Starvation Cap Reductn	0	148	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.81	0.04	0.51	0.02	0.01	0.02	0.48

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lanes	1	1	1>	0	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	44	804	1473	49	30	28
Peak Hour Factor	0.96	0.96	0.96	0.96	0.68	0.68
Hourly flow rate (vph)	50	838	1534	56	49	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			765			
pX, platoon unblocked	0.25				0.25	0.25
vC, conflicting volume	1591				2501	1562
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3352				6977	3240
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	0				0	0
cM capacity (veh/h)	21				0	3

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	50	838	1591	49	45
Volume Left	50	0	0	49	0
Volume Right	0	0	56	0	45
cSH	21	1700	1700	0	3
Volume to Capacity	2.42	0.49	0.94	Err	14.00
Queue Length 95th (ft)	164	0	0	Err	Err
Control Delay (s)	1038.5	0.0	0.0	Err	Err
Lane LOS	F			F	F
Approach Delay (s)	59.0		0.0	Err	
Approach LOS				F	

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lanes	1>	0	0	<1	1>	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	549	25	4	1163	24	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	578	29	5	1224	28	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	234					
pX, platoon unblocked			0.92		0.92	0.92
vC, conflicting volume			607		1826	592
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			574		1895	558
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		60	100
cM capacity (veh/h)			931		69	492

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	607	1229	30
Volume Left	0	5	28
Volume Right	29	0	2
cSH	1700	931	74
Volume to Capacity	0.36	0.00	0.41
Queue Length 95th (ft)	0	0	40
Control Delay (s)	0.0	0.2	83.1
Lane LOS		A	F
Approach Delay (s)	0.0	0.2	83.1
Approach LOS			F

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	0	<1>	0	0	<1>	0	0	<1>	0	0	<1>	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	1	844	8	10	1479	3	14	0	5	1	0	2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	1	908	9	12	1590	4	17	0	6	1	0	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	1594			917			2533	2532	912	2536	2535	1592
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1594			917			2533	2532	912	2536	2535	1592
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			98			9	100	98	93	100	98
cM capacity (veh/h)	417			752			18	27	335	18	27	134

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	918	1606	22	4
Volume Left	1	12	17	1
Volume Right	9	4	6	2
cSH	417	752	24	43
Volume to Capacity	0.00	0.02	0.93	0.08
Queue Length 95th (ft)	0	1	70	6
Control Delay (s)	0.1	2.5	388.3	97.0
Lane LOS	A	A	F	F
Approach Delay (s)	0.1	2.5	388.3	97.0
Approach LOS			F	F

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lanes	1	1	1>	0	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	8	842	1487	15	9	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	915	1616	18	11	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			1105			
pX, platoon unblocked	0.27				0.27	0.27
vC, conflicting volume	1634				2560	1625
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3335				6741	3302
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	59				0	0
cM capacity (veh/h)	23				0	3

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	10	915	1634	11	6
Volume Left	10	0	0	11	0
Volume Right	0	0	18	0	6
cSH	23	1700	1700	0	3
Volume to Capacity	0.41	0.54	0.96	1593.23	1.87
Queue Length 95th (ft)	30	0	0	Err	42
Control Delay (s)	241.0	0.0	0.0	Err	2319.7
Lane LOS	F			F	F
Approach Delay (s)	2.5		0.0	7256.4	
Approach LOS				F	

Intersection Summary			
Average Delay	48.1		
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lanes	1	1	1>	0	1>	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	20	801	1502	3	4	34
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	24	890	1669	4	5	42
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			494			
pX, platoon unblocked	0.23				0.23	0.23
vC, conflicting volume	1673				2610	1671
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3895				7927	3887
tC, single (s)	4.1				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	0				0	0
cM capacity (veh/h)	11				0	1

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	24	890	1673	46
Volume Left	24	0	0	5
Volume Right	0	0	4	42
cSH	11	1700	1700	0
Volume to Capacity	2.19	0.52	0.98	Err
Queue Length 95th (ft)	99	0	0	Err
Control Delay (s)	1222.3	0.0	0.0	Err
Lane LOS	F			F
Approach Delay (s)	32.7		0.0	Err
Approach LOS				F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	1	1>	0	1	1>	0	0	<1>	0	0	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	71	733	0	2	1365	46	0	0	3	0	0	141
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	77	797	0	2	1484	50	0	0	4	0	0	153
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			None	
Median storage veh)								0				
Upstream signal (ft)					247							
pX, platoon unblocked	0.22						0.22	0.22		0.22	0.22	0.22
vC, conflicting volume	1534			797			2439	2489	797	2468	2464	1509
vC1, stage 1 conf vol							951	951				
vC2, stage 2 conf vol							1488	1538				
vCu, unblocked vol	3426			797			7542	7770	797	7672	7656	3313
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5				
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	0			100			0	0	99	0	0	0
cM capacity (veh/h)	17			825			0	0	387	0	0	3

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	77	797	2	1534	4	153
Volume Left	77	0	2	0	0	0
Volume Right	0	0	0	50	4	153
cSH	17	1700	825	1700	387	3
Volume to Capacity	4.54	0.47	0.00	0.90	0.01	61.30
Queue Length 95th (ft)	Err	0	0	0	1	Err
Control Delay (s)	2046.5	0.0	9.4	0.0	14.4	Err
Lane LOS	F		A		B	F
Approach Delay (s)	180.7		0.0		14.4	Err
Approach LOS					B	F

Intersection Summary			
Average Delay	658.6		
Intersection Capacity Utilization	96.7%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	0	1	1	1	0	<1>	0	0	<1	1
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	1.00		1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98			0.95	1.00
Satd. Flow (prot)	1770	1863		1805	1863	1615		1689			1805	1583
Flt Permitted	0.05	1.00		0.33	1.00	1.00		0.94			0.76	1.00
Satd. Flow (perm)	86	1863		624	1863	1615		1614			1436	1583
Volume (vph)	52	684	0	3	1288	152	1	0	2	136	0	124
Peak-hour factor, PHF	0.92	0.92	0.92	0.89	0.92	0.89	0.92	0.89	0.89	0.89	0.89	0.92
Growth Factor (vph)	100%	100%	110%	110%	100%	100%	110%	110%	110%	100%	110%	100%
Adj. Flow (vph)	57	743	0	4	1400	171	1	0	2	153	0	135
RTOR Reduction (vph)	0	0	0	0	0	26	0	2	0	0	0	85
Lane Group Flow (vph)	57	743	0	4	1400	145	0	1	0	0	153	50
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	2%	0%	0%	0%	0%	2%
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)	86.7	86.7		86.7	86.7	86.7		15.3			15.3	15.3
Effective Green, g (s)	86.7	86.7		86.7	86.7	86.7		15.3			15.3	15.3
Actuated g/C Ratio	0.79	0.79		0.79	0.79	0.79		0.14			0.14	0.14
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	68	1468		492	1468	1273		224			200	220
v/s Ratio Prot		0.40			c0.75							
v/s Ratio Perm	0.66			0.01		0.09		0.00			c0.11	0.03
v/c Ratio	0.84	0.51		0.01	0.95	0.11		0.01			0.77	0.23
Uniform Delay, d1	7.3	4.1		2.5	9.9	2.7		40.8			45.6	42.1
Progression Factor	1.00	1.00		0.34	0.19	0.05		1.00			1.00	1.00
Incremental Delay, d2	56.3	0.3		0.0	7.1	0.0		0.0			15.9	0.5
Delay (s)	63.6	4.4		0.9	9.0	0.1		40.8			61.5	42.6
Level of Service	E	A		A	A	A		D			E	D
Approach Delay (s)		8.6			8.0			40.8			52.7	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	13.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lanes	1	1	1>	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	37	787	1432	75	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	40	855	1557	90	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		499	143			
pX, platoon unblocked	0.37				0.44	0.37
vC, conflicting volume	1646				2537	1601
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2747				3981	2626
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	25				100	100
cM capacity (veh/h)	54				0	11

Direction, Lane #	EB 1	EB 2	WB 1
Volume Total	40	855	1646
Volume Left	40	0	0
Volume Right	0	0	90
cSH	54	1700	1700
Volume to Capacity	0.75	0.50	0.97
Queue Length 95th (ft)	78	0	0
Control Delay (s)	176.0	0.0	0.0
Lane LOS	F		
Approach Delay (s)	7.9		0.0
Approach LOS			

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1>	0	1	1>	0	0	<1>	0	0	<1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	12	12	12	12	12	12
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			1.00			1.00	1.00
Frt	1.00	0.99		1.00	1.00			0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.95	1.00
Satd. Flow (prot)	1685	1827		1652	1874			1697			1805	1599
Flt Permitted	0.05	1.00		0.43	1.00			0.83			0.66	1.00
Satd. Flow (perm)	97	1827		746	1874			1452			1257	1599
Volume (vph)	214	533	40	38	1120	21	37	0	35	7	0	350
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
Growth Factor (vph)	100%	100%	100%	100%	100%	110%	100%	110%	100%	110%	110%	100%
Adj. Flow (vph)	233	579	43	41	1217	25	40	0	38	8	0	380
RTOR Reduction (vph)	0	2	0	0	1	0	0	34	0	0	0	181
Lane Group Flow (vph)	233	620	0	41	1241	0	0	44	0	0	8	199
Heavy Vehicles (%)	0%	3%	2%	2%	1%	5%	2%	2%	2%	0%	2%	1%
Turn Type	pm+pt			Perm			Perm			Perm		Over
Protected Phases	7	4			8			2			6	7
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	93.3	93.3		69.5	69.5			8.7			8.7	19.8
Effective Green, g (s)	93.3	93.3		69.5	69.5			8.7			8.7	19.8
Actuated g/C Ratio	0.85	0.85		0.63	0.63			0.08			0.08	0.18
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	368	1550		471	1184			115			99	288
v/s Ratio Prot	0.11	0.34			c0.66							c0.12
v/s Ratio Perm	0.43			0.05				c0.03			0.01	
v/c Ratio	0.63	0.40		0.09	1.05			0.38			0.08	0.69
Uniform Delay, d1	35.0	1.9		7.9	20.2			48.1			46.9	42.2
Progression Factor	1.16	0.74		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	3.1	0.1		0.1	39.8			9.4			1.6	7.0
Delay (s)	43.6	1.6		8.0	60.0			57.5			48.5	49.2
Level of Service	D	A		A	E			E			D	D
Approach Delay (s)		13.0			58.4			57.5			49.2	
Approach LOS		B			E			E			D	

Intersection Summary			
HCM Average Control Delay	42.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lanes	1>	0	0	<1	1>	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	822	0	2	1430	12	2
Peak Hour Factor	0.98	0.98	0.98	0.98	0.57	0.57
Hourly flow rate (vph)	839	0	2	1459	23	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	156			486		
pX, platoon unblocked			0.85		0.45	0.85
vC, conflicting volume			839		2302	839
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			811		3392	811
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		0	99
cM capacity (veh/h)			704		4	327

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	839	1461	27
Volume Left	0	2	23
Volume Right	0	0	4
cSH	1700	704	4
Volume to Capacity	0.49	0.00	6.07
Queue Length 95th (ft)	0	0	Err
Control Delay (s)	0.0	0.2	Err
Lane LOS		A	F
Approach Delay (s)	0.0	0.2	Err
Approach LOS			F

Intersection Summary			
Average Delay	116.2		
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lanes	1>	0	1	1	1>	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	823	13	12	1526	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.68	0.68
Hourly flow rate (vph)	857	15	14	1590	2	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				643		
pX, platoon unblocked					0.25	
vC, conflicting volume			872		2482	865
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			872		7030	865
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		0	100
cM capacity (veh/h)			782		0	356

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	872	14	1590	2
Volume Left	0	14	0	2
Volume Right	15	0	0	0
cSH	1700	782	1700	0
Volume to Capacity	0.51	0.02	0.94	254.70
Queue Length 95th (ft)	0	1	0	Err
Control Delay (s)	0.0	9.7	0.0	Err
Lane LOS		A		F
Approach Delay (s)	0.0	0.1		Err
Approach LOS				F

Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lanes	1>	0	1	1	1>	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	801	4	8	1480	7	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	871	5	10	1609	8	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					0	
Upstream signal (ft)				406		
pX, platoon unblocked					0.23	
vC, conflicting volume			875		2501	873
vC1, stage 1 conf vol					873	
vC2, stage 2 conf vol					1628	
vCu, unblocked vol			875		7626	873
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		0	99
cM capacity (veh/h)			771		2	349

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	875	10	1609	12
Volume Left	0	10	0	8
Volume Right	5	0	0	4
cSH	1700	771	1700	3
Volume to Capacity	0.51	0.01	0.95	4.20
Queue Length 95th (ft)	0	1	0	Err
Control Delay (s)	0.0	9.7	0.0	Err
Lane LOS		A		F
Approach Delay (s)	0.0	0.1		Err
Approach LOS				F

Intersection Summary			
Average Delay	47.8		
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	57	743	4	1400	171	3	153	135
v/c Ratio	0.83	0.51	0.01	0.95	0.13	0.01	0.77	0.44
Control Delay	85.5	5.7	1.0	11.9	0.1	31.0	70.1	18.8
Queue Delay	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0
Total Delay	85.5	5.7	1.0	16.1	0.1	31.0	70.1	18.8
Queue Length 50th (ft)	21	163	0	178	1	1	103	22
Queue Length 95th (ft)	#71	230	m0	m134	m0	9	#189	80
Internal Link Dist (ft)		167		76		80	123	
Turn Bay Length (ft)	75		75		150			
Base Capacity (vph)	69	1469	483	1469	1300	252	222	328
Starvation Cap Reductn	0	0	0	48	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.51	0.01	0.99	0.13	0.01	0.69	0.41

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	233	622	41	1242	78	8	380
v/c Ratio	0.63	0.40	0.09	1.05	0.51	0.08	0.81
Control Delay	37.1	2.3	8.7	61.7	39.4	46.3	33.1
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	37.1	2.4	8.7	61.7	39.4	46.3	33.1
Queue Length 50th (ft)	98	51	11	~964	28	5	109
Queue Length 95th (ft)	m#213	103	25	#1227	74	21	#295
Internal Link Dist (ft)		63		154	100	69	
Turn Bay Length (ft)	75		75				
Base Capacity (vph)	369	1551	471	1184	262	205	469
Starvation Cap Reductn	0	251	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.48	0.09	1.05	0.30	0.04	0.81

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.