Technical Appendix 2
2015 Alternative 2 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)						
pX, platoon unblocked						
vC, conflicting volume	733				2128	727
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	733				2128	727
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)	836				54	427

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	836	1700	1700	1700	427
Volume to Capacity	0.03	0.80	0.43	0.00	0.00
Queue Length 95th (ft)	2	0	0	0	0
Control Delay (s)	9.4	0.0	0.0	0.0	13.5
Lane LOS	A			A	B
Approach Delay (s)	0.2		0.0	13.5	
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)						
pX, platoon unblocked						
vC, conflicting volume			1012		1466	1003
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1012		1466	1003
tC, single (s)			4.1		6.5	6.4
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.5
p0 queue free %			100		76	98
cM capacity (veh/h)			693		134	275

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	693	147
Volume to Capacity	0.60	0.00	0.27
Queue Length 95th (ft)	0	0	26
Control Delay (s)	0.0	0.1	38.2
Lane LOS		A	E
Approach Delay (s)	0.0	0.1	38.2
Approach LOS			E

Intersection Summary			
Average Delay	1.0		
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)												
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)						
pX, platoon unblocked						
vC, conflicting volume	722				2093	717
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	722				2093	717
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				86	97
cM capacity (veh/h)	890				58	433

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	890	1700	1700	58	433
Volume to Capacity	0.00	0.81	0.42	0.14	0.03
Queue Length 95th (ft)	0	0	0	11	2
Control Delay (s)	9.1	0.0	0.0	76.7	13.6
Lane LOS	A			F	B
Approach Delay (s)	0.0		0.0	36.8	
Approach LOS				E	

Intersection Summary			
Average Delay	0.4		
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)						
pX, platoon unblocked						
vC, conflicting volume	717				2070	716
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	717				2070	716
tC, single (s)	4.2				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.3
p0 queue free %	99				72	96
cM capacity (veh/h)	848				57	433

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1343	717	34
Volume Left	11	0	16
Volume Right	0	1	18
cSH	848	1700	106
Volume to Capacity	0.01	0.42	0.32
Queue Length 95th (ft)	1	0	32
Control Delay (s)	0.7	0.0	54.6
Lane LOS	A		F
Approach Delay (s)	0.7	0.0	54.6
Approach LOS			F

Intersection Summary			
Average Delay	1.3		
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	0	1>	0	0	0	0	0	0	1	1	0	1
Sign Control		Free			Free			Stop			Yield	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	1282	1	0	0	0	0	0	1	186	0	693
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)	0	1322	1	0	0	0	0	0	1	192	0	714
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	0			1323			2037	1322	1322	1323	1323	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			1323			2037	1322	1322	1323	1323	0
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	0	100	35
cM capacity (veh/h)	1617			529			15	158	193	134	158	1091

Direction, Lane #	EB 1	NB 1	SB 1	SB 2
Volume Total	1323	1	192	714
Volume Left	0	0	192	0
Volume Right	1	1	0	714
cSH	1700	193	134	1091
Volume to Capacity	0.78	0.01	1.43	0.65
Queue Length 95th (ft)	0	0	321	128
Control Delay (s)	0.0	23.8	293.9	14.3
Lane LOS		C	F	B
Approach Delay (s)	0.0	23.8	73.5	
Approach LOS		C	F	

Intersection Summary			
Average Delay	29.9		
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	1	1>	0	1	0	1	0	1>	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	157	1256	2	5	0	652	0	1	9	0	0	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	160	1282	2	6	0	665	0	1	10	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			1284			1614	1614	1283	1624	1616	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			1284			1614	1614	1283	1624	1616	0
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.0	3.4
p0 queue free %	90			99			100	99	95	100	100	100
cM capacity (veh/h)	1623			547			77	94	204	70	93	1059

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	160	1284	6	665	11
Volume Left	160	0	6	0	0
Volume Right	0	2	0	665	10
cSH	1623	1700	547	1700	182
Volume to Capacity	0.10	0.76	0.01	0.39	0.06
Queue Length 95th (ft)	8	0	1	0	5
Control Delay (s)	7.5	0.0	11.6	0.0	26.0
Lane LOS	A		B		D
Approach Delay (s)	0.8		0.1		26.0
Approach LOS					D

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR2	SWL2
Right Turn Channelized												
Volume (veh/h)	34	308	915	9	10	402	37	19	6	0	6	7
Peak Hour Factor	0.92	0.98	0.98	0.92	0.92	0.98	0.92	0.98	0.92	0.92	0.92	0.98
Hourly flow rate (vph)	37	314	934	10	11	410	44	21	7	0	7	8
Approach Volume (veh/h)			1295			487				13		
Crossing Volume (veh/h)			19			358				1293#		
High Capacity (veh/h)			1365			1045				489		
High v/c (veh/h)			0.95			0.47				0.03		
Low Capacity (veh/h)			1143			854				369		
Low v/c (veh/h)			1.13			0.57				0.04		

Intersection Summary

Maximum v/c High	0.95		
Maximum v/c Low	1.13		
Intersection Capacity Utilization	125.3%	ICU Level of Service	H

Crossing flow exceeds 1200, method is not applicable

Movement	SWL	SWR
Right Turn Channelized		
Volume (veh/h)	0	244
Peak Hour Factor	0.92	0.98
Hourly flow rate (vph)	0	249
Approach Volume (veh/h)	257	
Crossing Volume (veh/h)	509	
High Capacity (veh/h)	927	
High v/c (veh/h)	0.28	
Low Capacity (veh/h)	749	
Low v/c (veh/h)	0.34	

Intersection Summary

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)	1266	0	1	657	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.63	0.63
Hourly flow rate (vph)	1292	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)						
pX, platoon unblocked						
vC, conflicting volume			1292		1964	1292
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1292		1964	1292
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		97	100
cM capacity (veh/h)			537		69	199

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	1292	672	2
Volume Left	0	1	2
Volume Right	0	0	0
cSH	1700	537	69
Volume to Capacity	0.76	0.00	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.1	58.4
Lane LOS		A	F
Approach Delay (s)	0.0	0.1	58.4
Approach LOS			F

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lanes	1>	0	1	1	1	1
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)						
pX, platoon unblocked						
vC, conflicting volume			1300		2032	1284
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1300		2032	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		78	89
cM capacity (veh/h)			539		61	201

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total	1300	14	721	13	23
Volume Left	0	14	0	13	0
Volume Right	32	0	0	0	23
cSH	1700	539	1700	61	201
Volume to Capacity	0.76	0.03	0.42	0.22	0.11
Queue Length 95th (ft)	0	2	0	18	10
Control Delay (s)	0.0	11.8	0.0	79.2	25.2
Lane LOS		B		F	D
Approach Delay (s)	0.0	0.2		44.8	
Approach LOS				E	

Intersection Summary			
Average Delay	0.9		
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)						
pX, platoon unblocked						
vC, conflicting volume			1405		2159	1400
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1405		2159	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		98	99
cM capacity (veh/h)			486		52	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	97
Volume to Capacity	0.83	0.01	0.04
Queue Length 95th (ft)	0	1	3
Control Delay (s)	0.0	0.4	43.6
Lane LOS		A	E
Approach Delay (s)	0.0	0.4	43.6
Approach LOS			E

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lanes	1	1	0	0	0	1
Sign Control	Free		Stop			Stop
Grade	0%		0%			0%
Volume (veh/h)	827	10	0	0	0	52
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	899	12	0	0	0	57
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		1810	0	1798	1798
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		1810	0	1798	1798
tC, single (s)	4.1		6.5	6.2	7.1	*4.1
tC, 2 stage (s)						
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	45		100	100	100	53
cM capacity (veh/h)	1623		35	1085	35	120

Direction, Lane #	WB 1	WB 2	SB 1
Volume Total	899	12	57
Volume Left	899	0	0
Volume Right	0	12	0
cSH	1623	1700	120
Volume to Capacity	0.55	0.01	0.47
Queue Length 95th (ft)	90	0	53
Control Delay (s)	9.9	0.0	59.6
Lane LOS	A		F
Approach Delay (s)	9.8		59.6
Approach LOS			F

Intersection Summary			
Average Delay	12.7		
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

* User Entered Value

Intersection Sign configuration not allowed in HCM analysis.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lanes	0	0	0	1	1	0
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	0	98	810	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	107	880	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1761	0	1761	1761	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1761	0	1761	1761	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	100	100	100	0	46	
cM capacity (veh/h)	39	1085	38	39	1623	

Direction, Lane #	WB 1	NB 1
Volume Total	107	880
Volume Left	0	880
Volume Right	0	0
cSH	39	1623
Volume to Capacity	2.76	0.54
Queue Length 95th (ft)	296	86
Control Delay (s)	1015.9	9.8
Lane LOS	F	A
Approach Delay (s)	1015.9	9.8
Approach LOS	F	

Intersection Summary			
Average Delay	118.4		
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
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)	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)						
pX, platoon unblocked						
vC, conflicting volume	1591				2501	1562
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1591				2501	1562
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				0	67
cM capacity (veh/h)	412				28	139

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	412	1700	1700	28	139
Volume to Capacity	0.12	0.49	0.94	1.76	0.33
Queue Length 95th (ft)	10	0	0	144	33
Control Delay (s)	14.9	0.0	0.0	670.1	42.9
Lane LOS	B			F	E
Approach Delay (s)	0.8		0.0	367.3	
Approach LOS				F	

Intersection Summary			
Average Delay	13.7		
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)						
pX, platoon unblocked						
vC, conflicting volume			607		1826	592
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			607		1826	592
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		67	100
cM capacity (veh/h)			981		83	510

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	981	89
Volume to Capacity	0.36	0.00	0.34
Queue Length 95th (ft)	0	0	33
Control Delay (s)	0.0	0.2	65.0
Lane LOS		A	F
Approach Delay (s)	0.0	0.2	65.0
Approach LOS			F

Intersection Summary			
Average Delay	1.2		
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)						
pX, platoon unblocked						
vC, conflicting volume	1634				2560	1625
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1634				2560	1625
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				63	95
cM capacity (veh/h)	402				29	128

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	402	1700	1700	29	128
Volume to Capacity	0.02	0.54	0.96	0.37	0.05
Queue Length 95th (ft)	2	0	0	29	4
Control Delay (s)	14.2	0.0	0.0	191.4	34.6
Lane LOS	B			F	D
Approach Delay (s)	0.1		0.0	135.4	
Approach LOS				F	

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
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)	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)						
pX, platoon unblocked						
vC, conflicting volume	1673				2610	1671
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1673				2610	1671
tC, single (s)	4.1				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	93				81	64
cM capacity (veh/h)	376				26	116

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	914	1673	46
Volume Left	24	0	5
Volume Right	0	4	42
cSH	376	1700	85
Volume to Capacity	0.07	0.98	0.55
Queue Length 95th (ft)	5	0	61
Control Delay (s)	2.4	0.0	90.5
Lane LOS	A		F
Approach Delay (s)	2.4	0.0	90.5
Approach LOS			F

Intersection Summary			
Average Delay	2.4		
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	0	1>	0	0	0	0	0	0	1	1	0	1
Sign Control		Free			Free			Stop			Yield	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	804	0	0	0	0	0	0	3	135	0	1505
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	874	0	0	0	0	0	0	4	147	0	1636
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	0			874			874	874	874	878	874	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			874			874	874	874	878	874	0
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			0	100	99	45	100	0
cM capacity (veh/h)	1623			772			0	288	349	266	288	1085

Direction, Lane #	EB 1	NB 1	SB 1	SB 2
Volume Total	874	4	147	1636
Volume Left	0	0	147	0
Volume Right	0	4	0	1636
cSH	1700	349	266	1085
Volume to Capacity	0.51	0.01	0.55	1.51
Queue Length 95th (ft)	0	1	77	1921
Control Delay (s)	0.0	15.4	34.0	246.3
Lane LOS		C	D	F
Approach Delay (s)	0.0	15.4	228.8	
Approach LOS		C	F	

Intersection Summary			
Average Delay	153.3		
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	1	1	0	1	0	1	0	1>	0	0	0	0
Sign Control		Free			Free			Yield			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	123	824	0	3	0	1440	0	1	2	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.89	0.92	0.89	0.92	0.89	0.89	0.89	0.89	0.92
Hourly flow rate (vph)	134	896	0	4	0	1618	0	1	2	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			896			1170	1170	896	1174	1170	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			896			1170	1170	896	1174	1170	0
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 %	92			100			100	99	99	100	100	100
cM capacity (veh/h)	1623			766			158	178	342	157	178	1085

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	134	896	4	1618	4
Volume Left	134	0	4	0	0
Volume Right	0	0	0	1618	2
cSH	1623	1700	766	1700	261
Volume to Capacity	0.08	0.53	0.00	0.95	0.01
Queue Length 95th (ft)	7	0	0	0	1
Control Delay (s)	7.4	0.0	9.7	0.0	19.0
Lane LOS	A		A		C
Approach Delay (s)	1.0		0.0		19.0
Approach LOS					C

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	109.3%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR2	SWL
Right Turn Channelized								Yes				
Volume (veh/h)	37	214	536	30	38	1052	68	21	37	0	35	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	40	233	583	33	41	1143	81	25	40	0	38	8
Approach Volume (veh/h)			888			1266				78		
Crossing Volume (veh/h)			50			313				864		
High Capacity (veh/h)			1332			1083				696		
High v/c (veh/h)			0.67			1.17				0.11		
Low Capacity (veh/h)			1113			888				546		
Low v/c (veh/h)			0.80			1.43				0.14		

Intersection Summary

Maximum v/c High 1.17
Maximum v/c Low 1.43
Intersection Capacity Utilization 146.9% ICU Level of Service H
Crossing flow exceeds 1200, method is not applicable

Movement	SWL	SWR
Right Turn Channelized		
Volume (veh/h)	0	350
Peak Hour Factor	0.92	0.92
Hourly flow rate (vph)	0	380
Approach Volume (veh/h)	389	
Crossing Volume (veh/h)	1347#	
High Capacity (veh/h)	467	
High v/c (veh/h)	0.83	
Low Capacity (veh/h)	351	
Low v/c (veh/h)	1.11	

Intersection Summary

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)						
pX, platoon unblocked						
vC, conflicting volume			839		2302	839
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			839		2302	839
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		46	99
cM capacity (veh/h)			805		43	369

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	805	49
Volume to Capacity	0.49	0.00	0.55
Queue Length 95th (ft)	0	0	52
Control Delay (s)	0.0	0.2	145.7
Lane LOS		A	F
Approach Delay (s)	0.0	0.2	145.7
Approach LOS			F

Intersection Summary			
Average Delay	1.8		
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)						
pX, platoon unblocked						
vC, conflicting volume			872		2482	865
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			872		2482	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		95	100
cM capacity (veh/h)			782		32	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	32
Volume to Capacity	0.51	0.02	0.94	0.05
Queue Length 95th (ft)	0	1	0	4
Control Delay (s)	0.0	9.7	0.0	121.6
Lane LOS		A		F
Approach Delay (s)	0.0	0.1		121.6
Approach LOS				F

Intersection Summary			
Average Delay	0.1		
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	1497	7	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	871	5	10	1627	8	4
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			875		2519	873
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			875		2519	873
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		72	99
cM capacity (veh/h)			771		30	349

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	875	10	1627	12
Volume Left	0	10	0	8
Volume Right	5	0	0	4
cSH	1700	771	1700	42
Volume to Capacity	0.51	0.01	0.96	0.29
Queue Length 95th (ft)	0	1	0	24
Control Delay (s)	0.0	9.7	0.0	122.1
Lane LOS		A		F
Approach Delay (s)	0.0	0.1		122.1
Approach LOS				F

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lanes	0	0	1	1	0	1
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	0	1290	275	0	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	1402	299	0	216
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	1701				1402	1402
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1701				1402	1402
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				100	0
cM capacity (veh/h)	374				154	171

Direction, Lane #	WB 1	WB 2	SB 1
Volume Total	1402	299	216
Volume Left	0	0	0
Volume Right	0	299	216
cSH	1700	1700	171
Volume to Capacity	0.82	0.18	1.26
Queue Length 95th (ft)	0	0	306
Control Delay (s)	0.0	0.0	208.9
Lane LOS			F
Approach Delay (s)	0.0		208.9
Approach LOS			F

Intersection Summary			
Average Delay	23.6		
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lanes	1	1	0	0	0	1
Sign Control	Free		Stop			Yield
Grade	0%		0%			0%
Volume (veh/h)	1443	42	0	0	0	201
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1568	50	0	0	0	218
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	0		3187	0	3137	3137
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		3187	0	3137	3137
tC, single (s)	4.1		6.5	6.2	7.1	6.5
tC, 2 stage (s)						
tF (s)	2.2		4.0	3.3	3.5	4.0
p0 queue free %	3		100	100	100	0
cM capacity (veh/h)	1623		0	1085	1	0

Direction, Lane #	WB 1	WB 2	SB 1
Volume Total	1568	50	218
Volume Left	1568	0	0
Volume Right	0	50	0
cSH	1623	1700	0
Volume to Capacity	0.97	0.03	588.97
Queue Length 95th (ft)	527	0	Err
Control Delay (s)	31.6	0.0	Err
Lane LOS	D		F
Approach Delay (s)	30.6		Err
Approach LOS			F

Intersection Summary			
Average Delay	1216.1		
Intersection Capacity Utilization	97.2%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBR	WBL	WBT	NBL	NBR
Lanes	0	0	0	1	1	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	0	0	1564	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	1700	0
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			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
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	100
cM capacity (veh/h)			1623		1023	1085

Direction, Lane #	WB 1	NB 1
Volume Total	0	1700
Volume Left	0	1700
Volume Right	0	0
cSH	1700	1023
Volume to Capacity	0.00	1.66
Queue Length 95th (ft)	0	2289
Control Delay (s)	0.0	314.7
Lane LOS		F
Approach Delay (s)	0.0	314.7
Approach LOS		F

Intersection Summary			
Average Delay	314.7		
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		