APPENDIX B33

Segment C – Tigard Subarea 2035 No-Build Operations

GREAT PLACES SW Corridor

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	1960	90	120	1220	20	50	30	175	65	65	35
Future Volume (vph)	40	1960	90	120	1220	20	50	30	175	65	65	35
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	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3471	1572	1787	5024		1805	1900	1538	1770	1771	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3471	1572	1787	5024		1805	1900	1538	1770	1771	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	1960	90	120	1220	20	50	30	175	65	65	35
RTOR Reduction (vph)	0	0	35	0	1	0	0	0	157	0	15	0
Lane Group Flow (vph)	40	1960	55	120	1239	0	50	30	19	65	85	0
Confl. Peds. (#/hr)			4			4			12			
Heavy Vehicles (%)	2%	4%	0%	1%	3%	0%	0%	0%	2%	2%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	7.9	84.5	84.5	14.5	91.1		8.7	14.3	14.3	8.7	14.3	
Effective Green, g (s)	8.4	85.0	85.0	15.0	91.6		9.2	14.8	14.8	9.2	14.8	
Actuated g/C Ratio	0.06	0.61	0.61	0.11	0.65		0.07	0.11	0.11	0.07	0.11	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	5.1	5.1	2.5	5.1		3.0	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	106	2107	954	191	3287		118	200	162	116	187	
v/s Ratio Prot	0.02	c0.56		c0.07	0.25		0.03	0.02		c0.04	c0.05	
v/s Ratio Perm			0.03						0.01			
v/c Ratio	0.38	0.93	0.06	0.63	0.38		0.42	0.15	0.11	0.56	0.45	
Uniform Delay, d1	63.3	24.8	11.2	59.8	11.1		62.9	56.9	56.7	63.4	58.8	
Progression Factor	1.00	1.00	1.00	1.04	0.88		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.2	8.9	0.1	4.5	0.3		2.4	0.2	0.2	4.4	1.0	
Delay (s)	65.5	33.7	11.3	66.8	10.1		65.3	57.1	56.8	67.9	59.8	
Level of Service	E	C	B	E	B		E	E	E	E	E	
Approach Delay (s)		33.3			15.1			58.5			63.0	
Approach LOS		C			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	29.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	2195	1355	120	5	5
Future Vol, veh/h	5	2195	1355	120	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	80	-	-	150	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	2195	1355	120	5	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1475	0	-	0	2463	678
Stage 1	-	-	-	-	1355	-
Stage 2	-	-	-	-	1108	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	453	-	-	-	25	395
Stage 1	-	-	-	-	205	-
Stage 2	-	-	-	-	278	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	453	-	-	-	25	395
Mov Cap-2 Maneuver	-	-	-	-	118	-
Stage 1	-	-	-	-	203	-
Stage 2	-	-	-	-	278	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	25.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	453	-	-	-	182
HCM Lane V/C Ratio	0.011	-	-	-	0.055
HCM Control Delay (s)	13	-	-	-	25.9
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	2025	155	35	1370	45	80	85	25	100	105	25
Future Volume (vph)	20	2025	155	35	1370	45	80	85	25	100	105	25
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	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	3494		1736	3488		1787	1881	1589	1805	1810	
Flt Permitted	0.13	1.00		0.04	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	247	3494		79	3488		1787	1881	1589	1805	1810	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	2025	155	35	1370	45	80	85	25	100	105	25
RTOR Reduction (vph)	0	2	0	0	1	0	0	0	22	0	7	0
Lane Group Flow (vph)	20	2178	0	35	1414	0	80	85	3	100	123	0
Confl. Peds. (#/hr)			6			4			3			3
Heavy Vehicles (%)	0%	2%	1%	4%	3%	0%	1%	1%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6					8			
Actuated Green, G (s)	93.6	90.2		96.4	91.6		11.1	17.7	17.7	9.3	15.9	
Effective Green, g (s)	94.6	90.7		97.4	92.1		11.6	18.2	18.2	9.8	16.4	
Actuated g/C Ratio	0.68	0.65		0.70	0.66		0.08	0.13	0.13	0.07	0.12	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.3	5.1		2.3	5.1		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	210	2263		117	2294		148	244	206	126	212	
v/s Ratio Prot	0.00	c0.62		c0.01	0.41		0.04	0.05		c0.06	c0.07	
v/s Ratio Perm	0.06			0.19					0.00			
v/c Ratio	0.10	0.96		0.30	0.62		0.54	0.35	0.02	0.79	0.58	
Uniform Delay, d1	10.5	23.0		32.9	13.8		61.6	55.5	53.1	64.1	58.5	
Progression Factor	1.16	0.56		1.90	0.32		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	7.0		0.7	1.0		3.2	0.6	0.0	27.3	3.1	
Delay (s)	12.2	19.9		63.0	5.4		64.8	56.1	53.1	91.4	61.7	
Level of Service	B	B		E	A		E	E	D	F	E	
Approach Delay (s)		19.9			6.8			59.4			74.6	
Approach LOS		B			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBT	WBL	WBT	WBR	SBL	SBT	SBR	SWR	SWR2
Lane Configurations										
Traffic Volume (vph)	35	1245	185	535	35	95	150	70	845	15
Future Volume (vph)	35	1245	185	535	35	95	150	70	845	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1750
Total Lost time (s)	4.0	4.0	4.0	4.0			4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.95			1.00		*0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00			1.00		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00			1.00		1.00	
Frt	1.00	1.00	1.00	0.99			0.97		1.00	
Flt Protected	0.95	1.00	0.95	1.00			0.99		1.00	
Satd. Flow (prot)	1787	3504	1770	3511			1774		3505	
Flt Permitted	0.95	1.00	0.95	1.00			0.99		1.00	
Satd. Flow (perm)	1787	3504	1770	3511			1774		3505	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	35	1245	185	535	35	95	150	70	845	15
RTOR Reduction (vph)	0	0	0	0	0	0	7	0	87	0
Lane Group Flow (vph)	35	1245	185	570	0	0	308	0	773	0
Confl. Peds. (#/hr)			5							
Confl. Bikes (#/hr)										
Heavy Vehicles (%)	1%	2%	2%	2%	0%	0%	4%	2%	3%	2%
Bus Blockages (#/hr)	0	5	0	0	0	0	0	0	0	0
Turn Type	Prot	NA	Prot	NA		Perm	NA		Prot	
Protected Phases	3	3 6	5	1			4		2	
Permitted Phases						4				
Actuated Green, G (s)	9.0	82.0	18.0	28.1			24.0		57.3	
Effective Green, g (s)	10.0	79.2	20.0	30.4			25.0		58.6	
Actuated g/C Ratio	0.07	0.57	0.14	0.22			0.18		0.42	
Clearance Time (s)	5.0		6.0	6.3			5.0		5.3	
Vehicle Extension (s)	2.3		2.3	4.8			2.3		4.8	
Lane Grp Cap (vph)	127	1982	252	762			316		1467	
v/s Ratio Prot	0.02	c0.36	0.10	c0.16					0.22	
v/s Ratio Perm							0.17			
v/c Ratio	0.28	0.63	0.73	0.75			0.97		0.53	
Uniform Delay, d1	61.6	20.5	57.5	51.2			57.2		30.4	
Progression Factor	0.88	0.88	0.80	0.86			1.00		1.00	
Incremental Delay, d2	0.2	0.2	9.4	4.6			43.1		1.4	
Delay (s)	54.6	18.2	55.2	48.5			100.2		31.7	
Level of Service	D	B	E	D			F		C	
Approach Delay (s)		19.2		50.2			100.2			
Approach LOS		B		D			F			

Intersection Summary			
HCM 2000 Control Delay	37.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.1%	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												
Traffic Volume (vph)	0	780	90	0	0	0	0	0	0	25	310	0
Future Volume (vph)	0	780	90	0	0	0	0	0	0	25	310	0
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	
Lane Util. Factor		0.95								1.00	1.00	
Frt		0.98								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3484								1752	1845	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3484								1752	1845	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	780	90	0	0	0	0	0	0	25	310	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	870	0	0	0	0	0	0	0	25	310	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type		NA								Perm	NA	
Protected Phases		3 6									4 5	
Permitted Phases										4 5		
Actuated Green, G (s)		82.0								47.0	47.0	
Effective Green, g (s)		79.2								48.0	48.0	
Actuated g/C Ratio		0.57								0.34	0.34	
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)		1970								600	632	
v/s Ratio Prot		c0.25									c0.17	
v/s Ratio Perm										0.01		
v/c Ratio		0.44								0.04	0.49	
Uniform Delay, d1		17.6								30.7	36.3	
Progression Factor		0.98								0.08	0.06	
Incremental Delay, d2		0.0								0.0	0.2	
Delay (s)		17.3								2.5	2.3	
Level of Service		B								A	A	
Approach Delay (s)		17.3			0.0			0.0			2.4	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1100	240	20	620	135	0
Future Volume (vph)	1100	240	20	620	135	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3435		1752	3505	1787	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3435		1752	3505	1787	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1100	240	20	620	135	0
RTOR Reduction (vph)	11	0	0	0	0	0
Lane Group Flow (vph)	1329	0	20	620	135	0
Confl. Peds. (#/hr)		1				
Confl. Bikes (#/hr)		2				
Heavy Vehicles (%)	2%	1%	3%	3%	1%	1%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	4 8	
Permitted Phases						
Actuated Green, G (s)	64.5		6.6	75.6	54.1	
Effective Green, g (s)	65.8		7.1	76.9	55.4	
Actuated g/C Ratio	0.47		0.05	0.55	0.40	
Clearance Time (s)	5.3		4.5	5.3		
Vehicle Extension (s)	4.7		2.3	4.7		
Lane Grp Cap (vph)	1614		88	1925	707	
v/s Ratio Prot	c0.39		0.01	c0.18	c0.08	
v/s Ratio Perm						
v/c Ratio	0.82		0.23	0.32	0.19	
Uniform Delay, d1	32.1		63.8	17.3	27.7	
Progression Factor	0.89		1.00	1.00	0.10	
Incremental Delay, d2	3.9		0.8	0.4	0.4	
Delay (s)	32.4		64.6	17.7	3.2	
Level of Service	C		E	B	A	
Approach Delay (s)	32.4			19.2	3.2	
Approach LOS	C			B	A	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	500	20	0	0	0	0	75	30	5	255	0
Future Volume (vph)	60	500	20	0	0	0	0	75	30	5	255	0
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	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						0.96			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		3458						1818			1880	
Flt Permitted		0.99						1.00			0.72	
Satd. Flow (perm)		3458						1818			1362	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	500	20	0	0	0	0	75	30	5	255	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	578	0	0	0	0	0	94	0	0	260	0
Confl. Peds. (#/hr)			2			1			2			4
Heavy Vehicles (%)	5%	3%	4%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Turn Type	Split	NA						NA		Perm	NA	
Protected Phases	4	4						8			1 2 8	
Permitted Phases										1 2 8		
Actuated Green, G (s)		34.1						14.7			95.3	
Effective Green, g (s)		35.4						15.7			91.3	
Actuated g/C Ratio		0.25						0.11			0.65	
Clearance Time (s)		5.3						5.0				
Vehicle Extension (s)		6.4						2.3				
Lane Grp Cap (vph)		874						203			888	
v/s Ratio Prot		c0.17						c0.05				
v/s Ratio Perm											c0.19	
v/c Ratio		0.66						0.46			0.29	
Uniform Delay, d1		46.9						58.2			10.5	
Progression Factor		1.00						1.00			0.17	
Incremental Delay, d2		3.1						1.0			0.1	
Delay (s)		50.1						59.2			1.8	
Level of Service		D						E			A	
Approach Delay (s)		50.1			0.0			59.2			1.8	
Approach LOS		D			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	37.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	30.1
Intersection LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	280	110	55	370	335	185
Future Vol, veh/h	280	110	55	370	335	185
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	1	0	2	2	0	0
Mvmt Flow	280	110	55	370	335	185
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	16.4	29	41.2
HCM LOS	C	D	E

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	64%	0%	0%	13%
Vol Thru, %	0%	100%	0%	87%
Vol Right, %	36%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	520	280	110	425
LT Vol	335	0	0	55
Through Vol	0	280	0	370
RT Vol	185	0	110	0
Lane Flow Rate	520	280	110	425
Geometry Grp	2	7	7	5
Degree of Util (X)	0.896	0.557	0.196	0.777
Departure Headway (Hd)	6.202	7.166	6.429	6.583
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	588	504	557	548
Service Time	4.237	4.92	4.184	4.63
HCM Lane V/C Ratio	0.884	0.556	0.197	0.776
HCM Control Delay	41.2	18.6	10.8	29
HCM Lane LOS	E	C	B	D
HCM 95th-tile Q	10.7	3.4	0.7	7.1

Intersection	
Intersection Delay, s/veh	26.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	30	5	450	65	190	10	55	260	100	125	15
Future Vol, veh/h	10	30	5	450	65	190	10	55	260	100	125	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	17	3	0	1	1	1	0	1	1	0	1	7
Mvmt Flow	10	30	5	450	65	190	10	55	260	100	125	15
Number of Lanes	0	1	1	1	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	12.5	36	15.7	13.9
HCM LOS	B	E	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	15%	0%	25%	0%	100%	0%	0%	100%	0%
Vol Thru, %	85%	0%	75%	0%	0%	100%	0%	0%	89%
Vol Right, %	0%	100%	0%	100%	0%	0%	100%	0%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	260	40	5	450	65	190	100	140
LT Vol	10	0	10	0	450	0	0	100	0
Through Vol	55	0	30	0	0	65	0	0	125
RT Vol	0	260	0	5	0	0	190	0	15
Lane Flow Rate	65	260	40	5	450	65	190	100	140
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.14	0.506	0.1	0.011	0.918	0.123	0.323	0.233	0.304
Departure Headway (Hd)	7.774	7.003	8.97	7.872	7.343	6.835	6.124	8.379	7.811
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	461	515	399	454	495	525	587	429	461
Service Time	5.517	4.745	6.733	5.635	5.082	4.574	3.863	6.125	5.557
HCM Lane V/C Ratio	0.141	0.505	0.1	0.011	0.909	0.124	0.324	0.233	0.304
HCM Control Delay	11.8	16.7	12.7	10.7	49.9	10.5	11.8	13.7	14
HCM Lane LOS	B	C	B	B	E	B	B	B	B
HCM 95th-tile Q	0.5	2.8	0.3	0	10.7	0.4	1.4	0.9	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	105	55	155	245	115	35	125	125	250	140	150
Future Volume (vph)	110	105	55	155	245	115	35	125	125	250	140	150
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	4.5	4.0	4.0	4.8	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00		0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98		1.00	1.00	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1863	1576		3480	1599	1770	1863	1615	1787	1666	
Flt Permitted	0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1805	1863	1576		3480	1599	1770	1863	1615	1787	1666	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	110	105	55	155	245	115	35	125	125	250	140	150
RTOR Reduction (vph)	0	0	47	0	0	0	0	0	65	0	28	0
Lane Group Flow (vph)	110	105	8	0	400	115	35	125	60	250	262	0
Confl. Peds. (#/hr)			3			1			1			4
Heavy Vehicles (%)	0%	2%	0%	3%	1%	1%	2%	2%	0%	1%	8%	1%
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3	3 1	5	2	2 3	1	6	
Permitted Phases			4									
Actuated Green, G (s)	10.0	10.0	10.0		14.1	29.4	2.6	16.6	35.5	15.3	29.3	
Effective Green, g (s)	10.5	10.5	10.5		14.6	29.4	3.1	17.4	35.5	15.8	30.1	
Actuated g/C Ratio	0.14	0.14	0.14		0.20	0.40	0.04	0.23	0.48	0.21	0.41	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.8		4.5	4.8	
Vehicle Extension (s)	2.3	2.3	2.3		2.5		2.3	4.7		2.3	4.7	
Lane Grp Cap (vph)	255	263	222		683	632	73	436	771	380	674	
v/s Ratio Prot	c0.06	0.06			c0.11	0.07	0.02	0.07	0.04	c0.14	c0.16	
v/s Ratio Perm			0.00									
v/c Ratio	0.43	0.40	0.04		0.59	0.18	0.48	0.29	0.08	0.66	0.39	
Uniform Delay, d1	29.2	29.0	27.5		27.1	14.6	34.8	23.4	10.5	26.8	15.6	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.6	0.0		1.1	0.1	2.9	0.7	0.1	3.4	0.7	
Delay (s)	29.9	29.6	27.6		28.2	14.7	37.7	24.0	10.6	30.2	16.3	
Level of Service	C	C	C		C	B	D	C	B	C	B	
Approach Delay (s)		29.3			25.2			19.8			22.7	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	74.3	Sum of lost time (s)	17.8
Intersection Capacity Utilization	55.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	18.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	30	5	450	65	190	10	55	0	100	125	15
Future Vol, veh/h	10	30	5	450	65	190	10	55	0	100	125	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	17	3	0	1	1	1	0	1	1	0	1	7
Mvmt Flow	10	30	5	450	65	190	10	55	0	100	125	15
Number of Lanes	0	1	1	1	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	10.9	21.8	11.3	11.9
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	15%	0%	25%	0%	100%	0%	0%	100%	0%
Vol Thru, %	85%	100%	75%	0%	0%	100%	0%	0%	89%
Vol Right, %	0%	0%	0%	100%	0%	0%	100%	0%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	0	40	5	450	65	190	100	140
LT Vol	10	0	10	0	450	0	0	100	0
Through Vol	55	0	30	0	0	65	0	0	125
RT Vol	0	0	0	5	0	0	190	0	15
Lane Flow Rate	65	0	40	5	450	65	190	100	140
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.133	0	0.085	0.009	0.79	0.105	0.269	0.203	0.262
Departure Headway (Hd)	7.36	7.299	7.62	6.536	6.316	5.811	5.105	7.303	6.742
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	486	0	469	545	572	617	703	491	532
Service Time	5.123	5.063	5.387	4.302	4.052	3.547	2.84	5.054	4.493
HCM Lane V/C Ratio	0.134	0	0.085	0.009	0.787	0.105	0.27	0.204	0.263
HCM Control Delay	11.3	10.1	11.1	9.4	28.8	9.2	9.7	11.9	11.9
HCM Lane LOS	B	N	B	A	D	A	A	B	B
HCM 95th-tile Q	0.5	0	0.3	0	7.5	0.4	1.1	0.8	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	1875	60	205	965	135	35	205	275	150	245	160
Future Volume (vph)	210	1875	60	205	965	135	35	205	275	150	245	160
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	4.0	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	5011		1703	5004		1787	1863	1583	1787	1900	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	5011		1703	5004		1787	1863	1583	1787	1900	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	210	1875	60	205	965	135	35	205	275	150	245	160
RTOR Reduction (vph)	0	2	0	0	13	0	0	0	241	0	0	94
Lane Group Flow (vph)	210	1933	0	205	1087	0	35	205	34	150	245	66
Heavy Vehicles (%)	1%	3%	4%	6%	2%	0%	1%	2%	2%	1%	0%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Prot	Prot	NA	pt+ov
Protected Phases	5	2		1	6		3	8	8	7	4	4 5
Permitted Phases												
Actuated Green, G (s)	19.9	70.7		20.5	71.3		6.4	16.7	16.7	14.6	24.9	49.3
Effective Green, g (s)	20.4	71.2		21.0	71.8		6.4	17.2	17.2	14.6	25.4	49.3
Actuated g/C Ratio	0.15	0.51		0.15	0.51		0.05	0.12	0.12	0.10	0.18	0.35
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.5	4.5	4.0	4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	260	2548		255	2566		81	228	194	186	344	563
v/s Ratio Prot	0.12	c0.39		c0.12	0.22		0.02	c0.11	0.02	c0.08	0.13	0.04
v/s Ratio Perm												
v/c Ratio	0.81	0.76		0.80	0.42		0.43	0.90	0.17	0.81	0.71	0.12
Uniform Delay, d1	57.9	27.5		57.5	21.2		65.0	60.5	55.0	61.3	53.9	30.6
Progression Factor	1.09	0.56		0.94	1.04		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.1	1.6		14.7	0.5		2.1	33.1	0.3	21.2	6.1	0.1
Delay (s)	75.4	16.9		68.9	22.5		67.2	93.7	55.3	82.5	60.0	30.7
Level of Service	E	B		E	C		E	F	E	F	E	C
Approach Delay (s)		22.7			29.8			71.4			57.6	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	34.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	81.4%	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												
Traffic Volume (vph)	40	1960	90	120	1220	20	50	30	175	65	65	35
Future Volume (vph)	40	1960	90	120	1220	20	50	30	175	65	65	35
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	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3471	1572	1787	5024		1805	1900	1538	1770	1771	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3471	1572	1787	5024		1805	1900	1538	1770	1771	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	1960	90	120	1220	20	50	30	175	65	65	35
RTOR Reduction (vph)	0	0	35	0	1	0	0	0	157	0	15	0
Lane Group Flow (vph)	40	1960	55	120	1239	0	50	30	19	65	85	0
Confl. Peds. (#/hr)			4			4			12			
Heavy Vehicles (%)	2%	4%	0%	1%	3%	0%	0%	0%	2%	2%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	7.9	84.5	84.5	14.5	91.1		8.7	14.3	14.3	8.7	14.3	
Effective Green, g (s)	8.4	85.0	85.0	15.0	91.6		9.2	14.8	14.8	9.2	14.8	
Actuated g/C Ratio	0.06	0.61	0.61	0.11	0.65		0.07	0.11	0.11	0.07	0.11	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	5.1	5.1	2.5	5.1		3.0	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	106	2107	954	191	3287		118	200	162	116	187	
v/s Ratio Prot	0.02	c0.56		c0.07	0.25		0.03	0.02		c0.04	c0.05	
v/s Ratio Perm			0.03						0.01			
v/c Ratio	0.38	0.93	0.06	0.63	0.38		0.42	0.15	0.11	0.56	0.45	
Uniform Delay, d1	63.3	24.8	11.2	59.8	11.1		62.9	56.9	56.7	63.4	58.8	
Progression Factor	1.00	1.00	1.00	1.04	0.88		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.2	8.9	0.1	4.5	0.3		2.4	0.2	0.2	4.4	1.0	
Delay (s)	65.5	33.7	11.3	66.8	10.1		65.3	57.1	56.8	67.9	59.8	
Level of Service	E	C	B	E	B		E	E	E	E	E	
Approach Delay (s)		33.3			15.1			58.5			63.0	
Approach LOS		C			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	29.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	2195	1355	120	5	5
Future Vol, veh/h	5	2195	1355	120	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	80	-	-	150	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	2195	1355	120	5	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1475	0	-	0	2463	678
Stage 1	-	-	-	-	1355	-
Stage 2	-	-	-	-	1108	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	453	-	-	-	25	395
Stage 1	-	-	-	-	205	-
Stage 2	-	-	-	-	278	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	453	-	-	-	25	395
Mov Cap-2 Maneuver	-	-	-	-	118	-
Stage 1	-	-	-	-	203	-
Stage 2	-	-	-	-	278	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	25.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	453	-	-	-	182
HCM Lane V/C Ratio	0.011	-	-	-	0.055
HCM Control Delay (s)	13	-	-	-	25.9
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	2025	155	35	1370	45	80	85	25	100	105	25
Future Volume (vph)	20	2025	155	35	1370	45	80	85	25	100	105	25
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	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	3494		1736	3488		1787	1881	1589	1805	1810	
Flt Permitted	0.13	1.00		0.04	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	247	3494		79	3488		1787	1881	1589	1805	1810	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	2025	155	35	1370	45	80	85	25	100	105	25
RTOR Reduction (vph)	0	2	0	0	1	0	0	0	22	0	7	0
Lane Group Flow (vph)	20	2178	0	35	1414	0	80	85	3	100	123	0
Confl. Peds. (#/hr)			6			4			3			3
Heavy Vehicles (%)	0%	2%	1%	4%	3%	0%	1%	1%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6					8			
Actuated Green, G (s)	93.6	90.2		96.4	91.6		11.1	17.7	17.7	9.3	15.9	
Effective Green, g (s)	94.6	90.7		97.4	92.1		11.6	18.2	18.2	9.8	16.4	
Actuated g/C Ratio	0.68	0.65		0.70	0.66		0.08	0.13	0.13	0.07	0.12	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.3	5.1		2.3	5.1		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	210	2263		117	2294		148	244	206	126	212	
v/s Ratio Prot	0.00	c0.62		c0.01	0.41		0.04	0.05		c0.06	c0.07	
v/s Ratio Perm	0.06			0.19					0.00			
v/c Ratio	0.10	0.96		0.30	0.62		0.54	0.35	0.02	0.79	0.58	
Uniform Delay, d1	10.5	23.0		32.9	13.8		61.6	55.5	53.1	64.1	58.5	
Progression Factor	1.16	0.56		1.90	0.32		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	7.0		0.7	1.0		3.2	0.6	0.0	27.3	3.1	
Delay (s)	12.2	19.9		63.0	5.4		64.8	56.1	53.1	91.4	61.7	
Level of Service	B	B		E	A		E	E	D	F	E	
Approach Delay (s)		19.9			6.8			59.4			74.6	
Approach LOS		B			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBT	WBL	WBT	WBR	SBL	SBT	SBR	SWR	SWR2
Lane Configurations										
Traffic Volume (vph)	35	1245	185	535	35	95	150	70	845	15
Future Volume (vph)	35	1245	185	535	35	95	150	70	845	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1750
Total Lost time (s)	4.0	4.0	4.0	4.0			4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.95			1.00		*0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00			1.00		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00			1.00		1.00	
Frt	1.00	1.00	1.00	0.99			0.97		1.00	
Flt Protected	0.95	1.00	0.95	1.00			0.99		1.00	
Satd. Flow (prot)	1787	3504	1770	3511			1774		3505	
Flt Permitted	0.95	1.00	0.95	1.00			0.99		1.00	
Satd. Flow (perm)	1787	3504	1770	3511			1774		3505	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	35	1245	185	535	35	95	150	70	845	15
RTOR Reduction (vph)	0	0	0	0	0	0	7	0	87	0
Lane Group Flow (vph)	35	1245	185	570	0	0	308	0	773	0
Confl. Peds. (#/hr)			5							
Confl. Bikes (#/hr)										
Heavy Vehicles (%)	1%	2%	2%	2%	0%	0%	4%	2%	3%	2%
Bus Blockages (#/hr)	0	5	0	0	0	0	0	0	0	0
Turn Type	Prot	NA	Prot	NA		Perm	NA		Prot	
Protected Phases	3	3 6	5	1			4		2	
Permitted Phases						4				
Actuated Green, G (s)	9.0	82.0	18.0	28.1			24.0		57.3	
Effective Green, g (s)	10.0	79.2	20.0	30.4			25.0		58.6	
Actuated g/C Ratio	0.07	0.57	0.14	0.22			0.18		0.42	
Clearance Time (s)	5.0		6.0	6.3			5.0		5.3	
Vehicle Extension (s)	2.3		2.3	4.8			2.3		4.8	
Lane Grp Cap (vph)	127	1982	252	762			316		1467	
v/s Ratio Prot	0.02	c0.36	0.10	c0.16					0.22	
v/s Ratio Perm							0.17			
v/c Ratio	0.28	0.63	0.73	0.75			0.97		0.53	
Uniform Delay, d1	61.6	20.5	57.5	51.2			57.2		30.4	
Progression Factor	0.88	0.88	0.80	0.86			1.00		1.00	
Incremental Delay, d2	0.2	0.2	9.4	4.6			43.1		1.4	
Delay (s)	54.6	18.2	55.2	48.5			100.2		31.7	
Level of Service	D	B	E	D			F		C	
Approach Delay (s)		19.2		50.2			100.2			
Approach LOS		B		D			F			

Intersection Summary			
HCM 2000 Control Delay	37.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.1%	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												
Traffic Volume (vph)	0	780	90	0	0	0	0	0	0	25	310	0
Future Volume (vph)	0	780	90	0	0	0	0	0	0	25	310	0
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	
Lane Util. Factor		0.95								1.00	1.00	
Frt		0.98								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3484								1752	1845	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3484								1752	1845	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	780	90	0	0	0	0	0	0	25	310	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	870	0	0	0	0	0	0	0	25	310	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type		NA								Perm	NA	
Protected Phases		3 6									4 5	
Permitted Phases										4 5		
Actuated Green, G (s)		82.0								47.0	47.0	
Effective Green, g (s)		79.2								48.0	48.0	
Actuated g/C Ratio		0.57								0.34	0.34	
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)		1970								600	632	
v/s Ratio Prot		c0.25									c0.17	
v/s Ratio Perm										0.01		
v/c Ratio		0.44								0.04	0.49	
Uniform Delay, d1		17.6								30.7	36.3	
Progression Factor		0.98								0.08	0.06	
Incremental Delay, d2		0.0								0.0	0.2	
Delay (s)		17.3								2.5	2.3	
Level of Service		B								A	A	
Approach Delay (s)		17.3			0.0			0.0			2.4	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1100	240	20	620	135	0
Future Volume (vph)	1100	240	20	620	135	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3435		1752	3505	1787	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3435		1752	3505	1787	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1100	240	20	620	135	0
RTOR Reduction (vph)	11	0	0	0	0	0
Lane Group Flow (vph)	1329	0	20	620	135	0
Confl. Peds. (#/hr)		1				
Confl. Bikes (#/hr)		2				
Heavy Vehicles (%)	2%	1%	3%	3%	1%	1%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	4 8	
Permitted Phases						
Actuated Green, G (s)	64.5		6.6	75.6	54.1	
Effective Green, g (s)	65.8		7.1	76.9	55.4	
Actuated g/C Ratio	0.47		0.05	0.55	0.40	
Clearance Time (s)	5.3		4.5	5.3		
Vehicle Extension (s)	4.7		2.3	4.7		
Lane Grp Cap (vph)	1614		88	1925	707	
v/s Ratio Prot	c0.39		0.01	c0.18	c0.08	
v/s Ratio Perm						
v/c Ratio	0.82		0.23	0.32	0.19	
Uniform Delay, d1	32.1		63.8	17.3	27.7	
Progression Factor	0.89		1.00	1.00	0.10	
Incremental Delay, d2	3.9		0.8	0.4	0.4	
Delay (s)	32.4		64.6	17.7	3.2	
Level of Service	C		E	B	A	
Approach Delay (s)	32.4			19.2	3.2	
Approach LOS	C			B	A	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	500	20	0	0	0	0	75	30	5	255	0
Future Volume (vph)	60	500	20	0	0	0	0	75	30	5	255	0
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	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						0.96			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		3458						1818			1880	
Flt Permitted		0.99						1.00			0.72	
Satd. Flow (perm)		3458						1818			1362	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	500	20	0	0	0	0	75	30	5	255	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	578	0	0	0	0	0	94	0	0	260	0
Confl. Peds. (#/hr)			2			1			2			4
Heavy Vehicles (%)	5%	3%	4%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Turn Type	Split	NA						NA		Perm	NA	
Protected Phases	4	4						8			1 2 8	
Permitted Phases										1 2 8		
Actuated Green, G (s)		34.1						14.7			95.3	
Effective Green, g (s)		35.4						15.7			91.3	
Actuated g/C Ratio		0.25						0.11			0.65	
Clearance Time (s)		5.3						5.0				
Vehicle Extension (s)		6.4						2.3				
Lane Grp Cap (vph)		874						203			888	
v/s Ratio Prot		c0.17						c0.05				
v/s Ratio Perm											c0.19	
v/c Ratio		0.66						0.46			0.29	
Uniform Delay, d1		46.9						58.2			10.5	
Progression Factor		1.00						1.00			0.17	
Incremental Delay, d2		3.1						1.0			0.1	
Delay (s)		50.1						59.2			1.8	
Level of Service		D						E			A	
Approach Delay (s)		50.1			0.0			59.2			1.8	
Approach LOS		D			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	37.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	1680	15	135	865	160	15	165	300	165	90	150
Future Volume (vph)	195	1680	15	135	865	160	15	165	300	165	90	150
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	4.5	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	5079		1671	4974		1805	1810	1583	1787	1810	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	5079		1671	4974		1805	1810	1583	1787	1810	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	195	1680	15	135	865	160	15	165	300	165	90	150
RTOR Reduction (vph)	0	1	0	0	19	0	0	0	29	0	0	109
Lane Group Flow (vph)	195	1694	0	135	1006	0	15	165	271	165	90	41
Heavy Vehicles (%)	1%	2%	0%	8%	2%	1%	0%	5%	2%	1%	5%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	Prot
Protected Phases	5	2		1	6		3	8	8 1	7	4	4
Permitted Phases												
Actuated Green, G (s)	21.7	66.6		16.0	60.9		2.9	26.4	46.9	14.0	37.5	37.5
Effective Green, g (s)	21.7	67.1		16.0	61.4		2.9	26.9	46.9	14.0	38.0	38.0
Actuated g/C Ratio	0.15	0.48		0.11	0.44		0.02	0.19	0.33	0.10	0.27	0.27
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.5		4.0	4.5	4.5
Vehicle Extension (s)	2.3	5.2		2.3	5.2		2.3	2.3		2.3	2.3	2.3
Lane Grp Cap (vph)	276	2434		190	2181		37	347	530	178	491	434
v/s Ratio Prot	c0.11	c0.33		0.08	0.20		0.01	0.09	c0.17	c0.09	0.05	0.03
v/s Ratio Perm												
v/c Ratio	0.71	0.70		0.71	0.46		0.41	0.48	0.51	0.93	0.18	0.09
Uniform Delay, d1	56.1	28.5		59.8	27.7		67.7	50.3	37.4	62.5	39.1	38.1
Progression Factor	1.00	1.00		1.48	0.51		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.1	1.7		10.0	0.7		4.2	0.6	0.5	46.2	0.1	0.1
Delay (s)	63.2	30.2		98.3	14.9		71.9	50.9	37.9	108.7	39.2	38.2
Level of Service	E	C		F	B		E	D	D	F	D	D
Approach Delay (s)		33.6			24.6			43.4			67.1	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	35.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	765	0	0	425	0	0	0	0	0	0	0
Future Volume (vph)	0	765	0	0	425	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1681			1727							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1681			1727							
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	765	0	0	425	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	765	0	0	425	0	0	0	0	0	0	0
Heavy Vehicles (%)	2%	13%	2%	2%	10%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA			NA							
Protected Phases		6			2							
Permitted Phases												
Actuated Green, G (s)		851.0			851.0							
Effective Green, g (s)		851.0			851.0							
Actuated g/C Ratio		0.95			0.95							
Clearance Time (s)		4.0			4.0							
Lane Grp Cap (vph)		1589			1632							
v/s Ratio Prot		c0.45			0.25							
v/s Ratio Perm												
v/c Ratio		0.48			0.26							
Uniform Delay, d1		2.4			1.8							
Progression Factor		1.00			1.00							
Incremental Delay, d2		1.0			0.4							
Delay (s)		3.5			2.2							
Level of Service		A			A							
Approach Delay (s)		3.5			2.2			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	900.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	90	0	85	0	475	265	125	345	0
Future Volume (vph)	0	0	0	90	0	85	0	475	265	125	345	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.5		4.0	4.0	
Lane Util. Factor					1.00	1.00		1.00		1.00	1.00	
Frpb, ped/bikes					1.00	0.99		0.99		1.00	1.00	
Flpb, ped/bikes					1.00	1.00		1.00		1.00	1.00	
Frt					1.00	0.85		0.95		1.00	1.00	
Flt Protected					0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)					1787	1577		1716		1719	1845	
Flt Permitted					0.76	1.00		1.00		0.95	1.00	
Satd. Flow (perm)					1424	1577		1716		1719	1845	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	90	0	85	0	475	265	125	345	0
RTOR Reduction (vph)	0	0	0	0	0	75	0	14	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	90	10	0	726	0	125	345	0
Confl. Peds. (#/hr)									3	3		
Confl. Bikes (#/hr)						1			4			
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	7%	3%	5%	5%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	2
Turn Type				Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			4		5 8	2 8		1	6	
Permitted Phases	4			4		4						
Actuated Green, G (s)					11.0	11.0		61.7		10.5	56.9	
Effective Green, g (s)					11.5	11.5		61.7		11.0	57.4	
Actuated g/C Ratio					0.11	0.11		0.61		0.11	0.57	
Clearance Time (s)					4.5	4.5				4.5	4.5	
Vehicle Extension (s)					2.3	2.3				2.3	4.5	
Lane Grp Cap (vph)					161	179		1046		186	1046	
v/s Ratio Prot								c0.42		c0.07	0.19	
v/s Ratio Perm					c0.06	0.01						
v/c Ratio					0.56	0.05		0.69		0.67	0.33	
Uniform Delay, d1					42.4	40.0		13.4		43.4	11.7	
Progression Factor					1.00	1.00		0.46		1.00	1.00	
Incremental Delay, d2					3.0	0.1		1.1		7.9	0.8	
Delay (s)					45.4	40.1		7.3		51.3	12.5	
Level of Service					D	D		A		D	B	
Approach Delay (s)		0.0			42.8			7.3			22.8	
Approach LOS		A			D			A			C	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	101.2	Sum of lost time (s)	17.0
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	75	20	15	665	385	50
Future Volume (vph)	75	20	15	665	385	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.5	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	0.98	
Flt Protected	0.96		0.95	1.00	1.00	
Satd. Flow (prot)	1604		1687	1810	1834	
Flt Permitted	0.96		0.95	1.00	1.00	
Satd. Flow (perm)	1604		1687	1810	1834	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	75	20	15	665	385	50
RTOR Reduction (vph)	9	0	0	0	4	0
Lane Group Flow (vph)	86	0	15	665	431	0
Heavy Vehicles (%)	13%	2%	7%	5%	2%	2%
Turn Type	Prot		Prot	NA	NA	
Protected Phases	8		5	2	4 6	
Permitted Phases						
Actuated Green, G (s)	12.6		2.7	49.1	72.4	
Effective Green, g (s)	13.1		3.2	49.6	72.4	
Actuated g/C Ratio	0.13		0.03	0.49	0.72	
Clearance Time (s)	4.5		4.5	4.5		
Vehicle Extension (s)	2.3		3.0	4.5		
Lane Grp Cap (vph)	207		53	887	1312	
v/s Ratio Prot	c0.05		c0.01	c0.37	c0.24	
v/s Ratio Perm						
v/c Ratio	0.42		0.28	0.75	0.33	
Uniform Delay, d1	40.5		47.9	20.8	5.4	
Progression Factor	1.00		1.00	1.00	0.02	
Incremental Delay, d2	0.8		2.9	5.8	0.1	
Delay (s)	41.3		50.8	26.6	0.2	
Level of Service	D		D	C	A	
Approach Delay (s)	41.3			27.1	0.2	
Approach LOS	D			C	A	

Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	101.2	Sum of lost time (s)	17.0
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	0	40	0	0	0	105	660	0	0	385	20
Future Vol, veh/h	20	0	40	0	0	0	105	660	0	0	385	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	65	-	-	-	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	31	0	7	0	14	9	4	2	60	46	1	6
Mvmt Flow	20	0	40	0	0	0	105	660	0	0	385	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1265	1265	395	1285	1275	660	405	0	0	660	0	0
Stage 1	395	395	-	870	870	-	-	-	-	-	-	-
Stage 2	870	870	-	415	405	-	-	-	-	-	-	-
Critical Hdwy	7.41	6.5	6.27	7.1	6.64	6.29	4.14	-	-	4.56	-	-
Critical Hdwy Stg 1	6.41	5.5	-	6.1	5.64	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.41	5.5	-	6.1	5.64	-	-	-	-	-	-	-
Follow-up Hdwy	3.779	4	3.363	3.5	4.126	3.381	2.236	-	-	2.614	-	-
Pot Cap-1 Maneuver	127	171	643	143	158	451	1143	-	-	751	-	-
Stage 1	576	608	-	349	353	-	-	-	-	-	-	-
Stage 2	309	372	-	619	578	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	118	155	643	125	143	451	1143	-	-	751	-	-
Mov Cap-2 Maneuver	118	155	-	125	143	-	-	-	-	-	-	-
Stage 1	523	608	-	317	321	-	-	-	-	-	-	-
Stage 2	281	338	-	580	578	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.2	0	1.2	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1143	-	-	118	643	-	751	-	-
HCM Lane V/C Ratio	0.092	-	-	0.169	0.062	-	-	-	-
HCM Control Delay (s)	8.5	-	-	41.6	11	0	0	-	-
HCM Lane LOS	A	-	-	E	B	A	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.6	0.2	-	0	-	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	95	205	160	670	340	85
Future Volume (vph)	95	205	160	670	340	85
Ideal Flow (vphpl)	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	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1553	1770	1652	1712	1599
Flt Permitted	0.95	1.00	0.49	1.00	1.00	1.00
Satd. Flow (perm)	1805	1553	907	1652	1712	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	95	205	160	670	340	85
RTOR Reduction (vph)	0	163	0	0	0	31
Lane Group Flow (vph)	95	42	160	670	340	54
Heavy Vehicles (%)	0%	4%	2%	15%	11%	1%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Prot
Protected Phases	8	1	1	6	2	2
Permitted Phases		8	6			
Actuated Green, G (s)	8.2	13.1	55.4	55.4	45.5	45.5
Effective Green, g (s)	9.2	15.1	56.4	56.7	46.8	46.8
Actuated g/C Ratio	0.12	0.20	0.76	0.77	0.63	0.63
Clearance Time (s)	5.0	5.0	5.0	5.3	5.3	5.3
Vehicle Extension (s)	2.3	2.3	2.3	6.0	6.0	6.0
Lane Grp Cap (vph)	224	401	761	1267	1084	1012
v/s Ratio Prot	c0.05	0.01	0.02	c0.41	0.20	0.03
v/s Ratio Perm		0.02	0.14			
v/c Ratio	0.42	0.10	0.21	0.53	0.31	0.05
Uniform Delay, d1	29.9	23.9	2.6	3.4	6.2	5.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.1	0.1	1.6	0.8	0.1
Delay (s)	30.7	24.0	2.7	5.0	7.0	5.2
Level of Service	C	C	A	A	A	A
Approach Delay (s)	26.1			4.5	6.6	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	73.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	30.1
Intersection LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	280	110	55	370	335	185
Future Vol, veh/h	280	110	55	370	335	185
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	1	0	2	2	0	0
Mvmt Flow	280	110	55	370	335	185
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	16.4	29	41.2
HCM LOS	C	D	E

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	64%	0%	0%	13%
Vol Thru, %	0%	100%	0%	87%
Vol Right, %	36%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	520	280	110	425
LT Vol	335	0	0	55
Through Vol	0	280	0	370
RT Vol	185	0	110	0
Lane Flow Rate	520	280	110	425
Geometry Grp	2	7	7	5
Degree of Util (X)	0.896	0.557	0.196	0.777
Departure Headway (Hd)	6.202	7.166	6.429	6.583
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	588	504	557	548
Service Time	4.237	4.92	4.184	4.63
HCM Lane V/C Ratio	0.884	0.556	0.197	0.776
HCM Control Delay	41.2	18.6	10.8	29
HCM Lane LOS	E	C	B	D
HCM 95th-tile Q	10.7	3.4	0.7	7.1

Intersection	
Intersection Delay, s/veh	26.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	30	5	450	65	190	10	55	260	100	125	15
Future Vol, veh/h	10	30	5	450	65	190	10	55	260	100	125	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	17	3	0	1	1	1	0	1	1	0	1	7
Mvmt Flow	10	30	5	450	65	190	10	55	260	100	125	15
Number of Lanes	0	1	1	1	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	12.5	36	15.7	13.9
HCM LOS	B	E	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	15%	0%	25%	0%	100%	0%	0%	100%	0%
Vol Thru, %	85%	0%	75%	0%	0%	100%	0%	0%	89%
Vol Right, %	0%	100%	0%	100%	0%	0%	100%	0%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	260	40	5	450	65	190	100	140
LT Vol	10	0	10	0	450	0	0	100	0
Through Vol	55	0	30	0	0	65	0	0	125
RT Vol	0	260	0	5	0	0	190	0	15
Lane Flow Rate	65	260	40	5	450	65	190	100	140
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.14	0.506	0.1	0.011	0.918	0.123	0.323	0.233	0.304
Departure Headway (Hd)	7.774	7.003	8.97	7.872	7.343	6.835	6.124	8.379	7.811
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	461	515	399	454	495	525	587	429	461
Service Time	5.517	4.745	6.733	5.635	5.082	4.574	3.863	6.125	5.557
HCM Lane V/C Ratio	0.141	0.505	0.1	0.011	0.909	0.124	0.324	0.233	0.304
HCM Control Delay	11.8	16.7	12.7	10.7	49.9	10.5	11.8	13.7	14
HCM Lane LOS	B	C	B	B	E	B	B	B	B
HCM 95th-tile Q	0.5	2.8	0.3	0	10.7	0.4	1.4	0.9	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	105	55	155	245	115	35	125	125	250	140	150
Future Volume (vph)	110	105	55	155	245	115	35	125	125	250	140	150
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	4.5	4.0	4.0	4.8	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00		0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98		1.00	1.00	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1863	1576		3480	1599	1770	1863	1615	1787	1666	
Flt Permitted	0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1805	1863	1576		3480	1599	1770	1863	1615	1787	1666	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	110	105	55	155	245	115	35	125	125	250	140	150
RTOR Reduction (vph)	0	0	47	0	0	0	0	0	65	0	28	0
Lane Group Flow (vph)	110	105	8	0	400	115	35	125	60	250	262	0
Confl. Peds. (#/hr)			3			1			1			4
Heavy Vehicles (%)	0%	2%	0%	3%	1%	1%	2%	2%	0%	1%	8%	1%
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3	3 1	5	2	2 3	1	6	
Permitted Phases			4									
Actuated Green, G (s)	10.0	10.0	10.0		14.1	29.4	2.6	16.6	35.5	15.3	29.3	
Effective Green, g (s)	10.5	10.5	10.5		14.6	29.4	3.1	17.4	35.5	15.8	30.1	
Actuated g/C Ratio	0.14	0.14	0.14		0.20	0.40	0.04	0.23	0.48	0.21	0.41	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.8		4.5	4.8	
Vehicle Extension (s)	2.3	2.3	2.3		2.5		2.3	4.7		2.3	4.7	
Lane Grp Cap (vph)	255	263	222		683	632	73	436	771	380	674	
v/s Ratio Prot	c0.06	0.06			c0.11	0.07	0.02	0.07	0.04	c0.14	c0.16	
v/s Ratio Perm			0.00									
v/c Ratio	0.43	0.40	0.04		0.59	0.18	0.48	0.29	0.08	0.66	0.39	
Uniform Delay, d1	29.2	29.0	27.5		27.1	14.6	34.8	23.4	10.5	26.8	15.6	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.6	0.0		1.1	0.1	2.9	0.7	0.1	3.4	0.7	
Delay (s)	29.9	29.6	27.6		28.2	14.7	37.7	24.0	10.6	30.2	16.3	
Level of Service	C	C	C		C	B	D	C	B	C	B	
Approach Delay (s)		29.3			25.2			19.8			22.7	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	74.3	Sum of lost time (s)	17.8
Intersection Capacity Utilization	55.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	14.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	80	20	265	95	375	15	95	0	140	85	15
Future Vol, veh/h	15	80	20	265	95	375	15	95	0	140	85	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	17	3	0	1	1	1	0	1	1	0	1	7
Mvmt Flow	15	80	20	265	95	375	15	95	0	140	85	15
Number of Lanes	0	1	1	1	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	12.3	15.2	12.8	13
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	14%	0%	16%	0%	100%	0%	0%	100%	0%
Vol Thru, %	86%	100%	84%	0%	0%	100%	0%	0%	85%
Vol Right, %	0%	0%	0%	100%	0%	0%	100%	0%	15%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	110	0	95	20	265	95	375	140	100
LT Vol	15	0	15	0	265	0	0	140	0
Through Vol	95	0	80	0	0	95	0	0	85
RT Vol	0	0	0	20	0	0	375	0	15
Lane Flow Rate	110	0	95	20	265	95	375	140	100
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.237	0	0.21	0.038	0.498	0.165	0.579	0.303	0.2
Departure Headway (Hd)	7.74	7.688	7.948	6.907	6.771	6.264	5.555	7.801	7.206
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	465	0	453	520	527	567	641	463	501
Service Time	5.456	5.404	5.67	4.628	4.566	4.059	3.349	5.501	4.906
HCM Lane V/C Ratio	0.237	0	0.21	0.038	0.503	0.168	0.585	0.302	0.2
HCM Control Delay	12.8	10.4	12.8	9.9	16.2	10.3	15.8	13.9	11.7
HCM Lane LOS	B	N	B	A	C	B	C	B	B
HCM 95th-tile Q	0.9	0	0.8	0.1	2.7	0.6	3.7	1.3	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	1140	35	340	1595	155	140	360	215	175	350	235
Future Volume (vph)	225	1140	35	340	1595	155	140	360	215	175	350	235
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	4.0	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	5012		1703	5026		1787	1863	1583	1787	1900	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	5012		1703	5026		1787	1863	1583	1787	1900	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	225	1140	35	340	1595	155	140	360	215	175	350	235
RTOR Reduction (vph)	0	2	0	0	8	0	0	0	164	0	0	52
Lane Group Flow (vph)	225	1173	0	340	1742	0	140	360	51	175	350	183
Heavy Vehicles (%)	1%	3%	4%	6%	2%	0%	1%	2%	2%	1%	0%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Prot	Prot	NA	pt+ov
Protected Phases	5	2		1	6		3	8	8	7	4	4 5
Permitted Phases												
Actuated Green, G (s)	13.5	57.5		25.5	69.5		10.0	22.1	22.1	17.4	29.5	47.5
Effective Green, g (s)	14.0	58.0		26.0	70.0		10.0	22.6	22.6	17.4	30.0	47.5
Actuated g/C Ratio	0.10	0.41		0.19	0.50		0.07	0.16	0.16	0.12	0.21	0.34
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.5	4.5	4.0	4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	178	2076		316	2513		127	300	255	222	407	542
v/s Ratio Prot	c0.13	0.23		c0.20	c0.35		c0.08	c0.19	0.03	c0.10	0.18	0.11
v/s Ratio Perm												
v/c Ratio	1.26	0.56		1.08	0.69		1.10	1.20	0.20	0.79	0.86	0.34
Uniform Delay, d1	63.0	31.4		57.0	26.8		65.0	58.7	50.9	59.5	53.0	34.5
Progression Factor	1.07	0.65		0.92	1.23		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	152.3	1.0		62.9	1.1		110.0	117.6	0.2	16.0	16.1	0.2
Delay (s)	219.4	21.2		115.1	34.1		175.0	176.3	51.1	75.5	69.0	34.7
Level of Service	F	C		F	C		F	F	D	E	E	C
Approach Delay (s)		53.1			47.3			138.4			59.9	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	64.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	88.7%	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												
Traffic Volume (vph)	215	1535	85	120	1790	25	210	165	255	125	115	130
Future Volume (vph)	215	1535	85	120	1790	25	210	165	255	125	115	130
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	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3471	1572	1787	5025		1805	1900	1538	1770	1723	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3471	1572	1787	5025		1805	1900	1538	1770	1723	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	215	1535	85	120	1790	25	210	165	255	125	115	130
RTOR Reduction (vph)	0	0	42	0	1	0	0	0	138	0	30	0
Lane Group Flow (vph)	215	1535	43	120	1814	0	210	165	117	125	215	0
Confl. Peds. (#/hr)			4			4			12			
Heavy Vehicles (%)	2%	4%	0%	1%	3%	0%	0%	0%	2%	2%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	11.9	70.1	70.1	11.9	70.1		19.1	26.7	26.7	13.3	20.9	
Effective Green, g (s)	12.4	70.6	70.6	12.4	70.6		19.6	27.2	27.2	13.8	21.4	
Actuated g/C Ratio	0.09	0.50	0.50	0.09	0.50		0.14	0.19	0.19	0.10	0.15	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	5.1	5.1	2.5	5.1		3.0	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	156	1750	792	158	2534		252	369	298	174	263	
v/s Ratio Prot	c0.12	c0.44		0.07	0.36		c0.12	0.09		0.07	c0.12	
v/s Ratio Perm			0.03						0.08			
v/c Ratio	1.38	0.88	0.05	0.76	0.72		0.83	0.45	0.39	0.72	0.82	
Uniform Delay, d1	63.8	30.8	17.7	62.3	26.9		58.6	49.8	49.2	61.2	57.4	
Progression Factor	1.00	1.00	1.00	1.08	0.92		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	205.1	6.6	0.1	9.2	0.8		20.4	0.5	0.5	11.9	16.9	
Delay (s)	268.9	37.4	17.8	76.4	25.7		79.0	50.3	49.7	73.1	74.2	
Level of Service	F	D	B	E	C		E	D	D	E	E	
Approach Delay (s)		63.6			28.8			59.6			73.9	
Approach LOS		E			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	49.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	1870	1895	235	75	40
Future Vol, veh/h	45	1870	1895	235	75	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	80	-	-	150	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	1870	1895	235	75	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2130	0	-	0	2920	948
Stage 1	-	-	-	-	1895	-
Stage 2	-	-	-	-	1025	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	252	-	-	-	~ 12	262
Stage 1	-	-	-	-	104	-
Stage 2	-	-	-	-	307	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	252	-	-	-	~ 10	262
Mov Cap-2 Maneuver	-	-	-	-	~ 64	-
Stage 1	-	-	-	-	85	-
Stage 2	-	-	-	-	307	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	291.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	252	-	-	-	87
HCM Lane V/C Ratio	0.179	-	-	-	1.322
HCM Control Delay (s)	22.4	-	-	-	291.6
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.6	-	-	-	8.5

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	1825	80	40	1880	50	220	225	85	60	45	30
Future Volume (vph)	40	1825	80	40	1880	50	220	225	85	60	45	30
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	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	3512		1736	3491		1787	1881	1589	1805	1753	
Flt Permitted	0.05	1.00		0.05	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	90	3512		87	3491		1787	1881	1589	1805	1753	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	1825	80	40	1880	50	220	225	85	60	45	30
RTOR Reduction (vph)	0	2	0	0	1	0	0	0	66	0	20	0
Lane Group Flow (vph)	40	1903	0	40	1929	0	220	225	19	60	55	0
Confl. Peds. (#/hr)			6			4			3			3
Heavy Vehicles (%)	0%	2%	1%	4%	3%	0%	1%	1%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6					8			
Actuated Green, G (s)	88.5	83.5		88.7	83.6		19.6	26.1	26.1	7.3	13.8	
Effective Green, g (s)	89.5	84.0		89.7	84.1		20.1	26.6	26.6	7.8	14.3	
Actuated g/C Ratio	0.64	0.60		0.64	0.60		0.14	0.19	0.19	0.06	0.10	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.3	5.1		2.3	5.1		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	124	2107		121	2097		256	357	301	100	179	
v/s Ratio Prot	0.01	0.54		c0.01	c0.55		c0.12	c0.12		0.03	0.03	
v/s Ratio Perm	0.19			0.20					0.01			
v/c Ratio	0.32	0.90		0.33	0.92		0.86	0.63	0.06	0.60	0.31	
Uniform Delay, d1	27.5	24.5		26.7	24.9		58.6	52.2	46.5	64.6	58.3	
Progression Factor	1.91	0.71		1.40	0.47		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	4.3		0.5	4.9		23.5	3.2	0.1	7.9	0.7	
Delay (s)	53.1	21.8		37.9	16.5		82.1	55.3	46.5	72.4	59.0	
Level of Service	D	C		D	B		F	E	D	E	E	
Approach Delay (s)		22.4			16.9			65.0			65.0	
Approach LOS		C			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBT	WBL	WBT	WBR	SBL	SBT	SBR	SWR	SWR2
Lane Configurations										
Traffic Volume (vph)	125	1030	110	745	100	40	85	60	1165	35
Future Volume (vph)	125	1030	110	745	100	40	85	60	1165	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1750
Total Lost time (s)	4.0	4.0	4.0	4.0			4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.95			1.00		*0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00			1.00		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00			1.00		1.00	
Frt	1.00	1.00	1.00	0.98			0.96		1.00	
Flt Protected	0.95	1.00	0.95	1.00			0.99		1.00	
Satd. Flow (prot)	1787	3504	1770	3484			1754		3505	
Flt Permitted	0.95	1.00	0.95	1.00			0.99		1.00	
Satd. Flow (perm)	1787	3504	1770	3484			1754		3505	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	125	1030	110	745	100	40	85	60	1165	35
RTOR Reduction (vph)	0	0	0	0	0	0	12	0	87	0
Lane Group Flow (vph)	125	1030	110	845	0	0	173	0	1113	0
Confl. Peds. (#/hr)			5							
Confl. Bikes (#/hr)										
Heavy Vehicles (%)	1%	2%	2%	2%	0%	0%	4%	2%	3%	3%
Bus Blockages (#/hr)	0	5	0	0	0	0	0	0	0	0
Turn Type	Prot	NA	Prot	NA		Perm	NA		Prot	
Protected Phases	3	3 6	5	1			4		2	
Permitted Phases						4				
Actuated Green, G (s)	9.0	94.4	13.3	35.9			16.3		57.2	
Effective Green, g (s)	10.0	91.6	15.3	38.2			17.3		58.5	
Actuated g/C Ratio	0.07	0.65	0.11	0.27			0.12		0.42	
Clearance Time (s)	5.0		6.0	6.3			5.0		5.3	
Vehicle Extension (s)	2.3		2.3	4.8			2.3		4.8	
Lane Grp Cap (vph)	127	2292	193	950			216		1464	
v/s Ratio Prot	c0.07	0.29	0.06	c0.24					c0.32	
v/s Ratio Perm							0.10			
v/c Ratio	0.98	0.45	0.57	0.89			0.80		0.76	
Uniform Delay, d1	64.9	11.9	59.2	48.9			59.7		34.8	
Progression Factor	0.84	1.06	0.78	0.94			1.00		1.00	
Incremental Delay, d2	52.3	0.0	2.6	10.3			17.6		3.8	
Delay (s)	107.0	12.6	48.9	56.4			77.3		38.5	
Level of Service	F	B	D	E			E		D	
Approach Delay (s)		22.9		55.5			77.3			
Approach LOS		C		E			E			

Intersection Summary			
HCM 2000 Control Delay	40.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	96.4%	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												
Traffic Volume (vph)	0	750	65	0	0	0	0	0	0	35	160	0
Future Volume (vph)	0	750	65	0	0	0	0	0	0	35	160	0
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	
Lane Util. Factor		0.95								1.00	1.00	
Frt		0.99								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3463								1752	1845	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3463								1752	1845	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	750	65	0	0	0	0	0	0	35	160	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	815	0	0	0	0	0	0	0	35	160	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type		NA								Perm	NA	
Protected Phases		3 6									4 5	
Permitted Phases										4 5		
Actuated Green, G (s)		94.4								34.6	34.6	
Effective Green, g (s)		91.6								35.6	35.6	
Actuated g/C Ratio		0.65								0.25	0.25	
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)		2265								445	469	
v/s Ratio Prot		c0.24									c0.09	
v/s Ratio Perm										0.02		
v/c Ratio		0.36								0.08	0.34	
Uniform Delay, d1		10.9								39.7	42.6	
Progression Factor		1.12								0.05	0.05	
Incremental Delay, d2		0.0								0.0	0.2	
Delay (s)		12.3								2.1	2.4	
Level of Service		B								A	A	
Approach Delay (s)		12.3			0.0			0.0			2.4	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	37.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	930	140	40	670	285	0
Future Volume (vph)	930	140	40	670	285	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.98		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3463		1752	3505	1787	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3463		1752	3505	1787	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	930	140	40	670	285	0
RTOR Reduction (vph)	8	0	0	0	0	0
Lane Group Flow (vph)	1062	0	40	670	285	0
Confl. Peds. (#/hr)		1				
Confl. Bikes (#/hr)		2				
Heavy Vehicles (%)	2%	1%	3%	3%	1%	1%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	4 8	
Permitted Phases						
Actuated Green, G (s)	55.6		8.0	68.1	61.6	
Effective Green, g (s)	56.9		8.5	69.4	62.9	
Actuated g/C Ratio	0.41		0.06	0.50	0.45	
Clearance Time (s)	5.3		4.5	5.3		
Vehicle Extension (s)	4.7		2.3	4.7		
Lane Grp Cap (vph)	1407		106	1737	802	
v/s Ratio Prot	c0.31		0.02	c0.19	c0.16	
v/s Ratio Perm						
v/c Ratio	0.75		0.38	0.39	0.36	
Uniform Delay, d1	35.6		63.2	22.0	25.3	
Progression Factor	0.86		1.00	1.00	0.09	
Incremental Delay, d2	3.5		1.3	0.6	0.6	
Delay (s)	34.1		64.5	22.7	3.0	
Level of Service	C		E	C	A	
Approach Delay (s)	34.1			25.0	3.0	
Approach LOS	C			C	A	

Intersection Summary			
HCM 2000 Control Delay	26.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	580	50	0	0	0	0	155	20	0	180	0
Future Volume (vph)	130	580	50	0	0	0	0	155	20	0	180	0
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	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						0.98			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		3422						1867			1881	
Flt Permitted		0.99						1.00			1.00	
Satd. Flow (perm)		3422						1867			1881	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	130	580	50	0	0	0	0	155	20	0	180	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	756	0	0	0	0	0	171	0	0	180	0
Confl. Peds. (#/hr)			2			1			2			4
Heavy Vehicles (%)	5%	3%	4%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Turn Type	Split	NA						NA			NA	
Protected Phases	4	4						8			1 2 8	
Permitted Phases										1 2 8		
Actuated Green, G (s)		40.1						16.2			89.3	
Effective Green, g (s)		41.4						17.2			85.3	
Actuated g/C Ratio		0.30						0.12			0.61	
Clearance Time (s)		5.3						5.0				
Vehicle Extension (s)		6.4						2.3				
Lane Grp Cap (vph)		1011						229			1146	
v/s Ratio Prot		c0.22						c0.09			c0.10	
v/s Ratio Perm												
v/c Ratio		0.75						0.75			0.16	
Uniform Delay, d1		44.6						59.3			11.8	
Progression Factor		1.00						1.00			0.10	
Incremental Delay, d2		4.3						11.6			0.0	
Delay (s)		48.9						70.9			1.2	
Level of Service		D						E			A	
Approach Delay (s)		48.9			0.0			70.9			1.2	
Approach LOS		D			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	44.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	40.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	985	25	240	1420	310	20	245	260	155	235	265
Future Volume (vph)	185	985	25	240	1420	310	20	245	260	155	235	265
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	4.5	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	5069		1671	4957		1805	1810	1583	1787	1810	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	5069		1671	4957		1805	1810	1583	1787	1810	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	185	985	25	240	1420	310	20	245	260	155	235	265
RTOR Reduction (vph)	0	2	0	0	22	0	0	0	40	0	0	196
Lane Group Flow (vph)	185	1008	0	240	1708	0	20	245	220	155	235	69
Heavy Vehicles (%)	1%	2%	0%	8%	2%	1%	0%	5%	2%	1%	5%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	Prot
Protected Phases	5	2		1	6		3	8	8 1	7	4	4
Permitted Phases												
Actuated Green, G (s)	19.1	58.0		25.0	63.9		4.3	25.2	54.7	14.8	35.7	35.7
Effective Green, g (s)	19.1	58.5		25.0	64.4		4.3	25.7	54.7	14.8	36.2	36.2
Actuated g/C Ratio	0.14	0.42		0.18	0.46		0.03	0.18	0.39	0.11	0.26	0.26
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.5		4.0	4.5	4.5
Vehicle Extension (s)	2.3	5.2		2.3	5.2		2.3	2.3		2.3	2.3	2.3
Lane Grp Cap (vph)	243	2118		298	2280		55	332	618	188	468	413
v/s Ratio Prot	0.10	0.20		c0.14	c0.34		0.01	c0.14	0.14	c0.09	0.13	0.04
v/s Ratio Perm												
v/c Ratio	0.76	0.48		0.81	0.75		0.36	0.74	0.36	0.82	0.50	0.17
Uniform Delay, d1	58.3	29.6		55.2	31.1		66.5	54.0	30.2	61.3	44.2	40.2
Progression Factor	1.00	1.00		1.42	0.59		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.3	0.8		10.4	1.7		2.4	7.6	0.2	23.8	0.5	0.1
Delay (s)	70.6	30.4		88.5	19.9		68.9	61.6	30.4	85.1	44.7	40.3
Level of Service	E	C		F	B		E	E	C	F	D	D
Approach Delay (s)		36.6			28.3			46.4			52.5	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	36.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	620	0	0	890	0	0	0	0	0	0	0
Future Volume (vph)	0	620	0	0	890	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1681			1727							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1681			1727							
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	620	0	0	890	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	620	0	0	890	0	0	0	0	0	0	0
Heavy Vehicles (%)	2%	13%	2%	2%	10%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA			NA							
Protected Phases		6			2							
Permitted Phases												
Actuated Green, G (s)		851.0			851.0							
Effective Green, g (s)		851.0			851.0							
Actuated g/C Ratio		0.95			0.95							
Clearance Time (s)		4.0			4.0							
Lane Grp Cap (vph)		1589			1632							
v/s Ratio Prot		0.37			c0.52							
v/s Ratio Perm												
v/c Ratio		0.39			0.55							
Uniform Delay, d1		2.1			2.8							
Progression Factor		1.00			1.00							
Incremental Delay, d2		0.7			1.3							
Delay (s)		2.8			4.1							
Level of Service		A			A							
Approach Delay (s)		2.8			4.1			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	900.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	5	255	165	280	35	430	100	105	600	20
Future Volume (vph)	5	5	5	255	165	280	35	430	100	105	600	20
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	4.5	4.5		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	0.99	1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.95			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1785			1826	1579	1687	1776		1719	1837	
Flt Permitted		0.90			0.81	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1637			1516	1579	1687	1776		1719	1837	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	5	5	5	255	165	280	35	430	100	105	600	20
RTOR Reduction (vph)	0	3	0	0	0	192	0	7	0	0	1	0
Lane Group Flow (vph)	0	12	0	0	420	88	35	523	0	105	619	0
Confl. Peds. (#/hr)									3	3		
Confl. Bikes (#/hr)						1			4			
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	7%	3%	5%	5%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	2
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			4		5 8	2 8		1	6	
Permitted Phases	4			4		4						
Actuated Green, G (s)		34.1			34.1	34.1	25.2	47.9		10.0	37.2	
Effective Green, g (s)		34.6			34.6	34.6	25.2	47.9		10.5	37.7	
Actuated g/C Ratio		0.31			0.31	0.31	0.23	0.44		0.10	0.34	
Clearance Time (s)		4.5			4.5	4.5				4.5	4.5	
Vehicle Extension (s)		2.3			2.3	2.3				2.3	4.5	
Lane Grp Cap (vph)		514			476	496	386	773		164	629	
v/s Ratio Prot							0.02	c0.29		c0.06	c0.34	
v/s Ratio Perm		0.01			c0.28	0.06						
v/c Ratio		0.02			0.88	0.18	0.09	0.68		0.64	0.98	
Uniform Delay, d1		26.0			35.8	27.4	33.4	24.8		47.9	35.8	
Progression Factor		1.00			1.00	1.00	1.81	0.56		1.00	1.00	
Incremental Delay, d2		0.0			17.1	0.1	0.0	0.7		6.9	32.1	
Delay (s)		26.0			52.8	27.5	60.5	14.7		54.8	67.9	
Level of Service		C			D	C	E	B		D	E	
Approach Delay (s)		26.0			42.7			17.6			66.0	
Approach LOS		C			D			B			E	

Intersection Summary			
HCM 2000 Control Delay	43.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	30	55	25	535	860	0
Future Volume (vph)	30	55	25	535	860	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.5	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.91		1.00	1.00	1.00	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1609		1687	1810	1863	
Flt Permitted	0.98		0.95	1.00	1.00	
Satd. Flow (perm)	1609		1687	1810	1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	55	25	535	860	0
RTOR Reduction (vph)	47	0	0	0	0	0
Lane Group Flow (vph)	38	0	25	535	860	0
Heavy Vehicles (%)	13%	2%	7%	5%	2%	2%
Turn Type	Prot		Prot	NA	NA	
Protected Phases	8		5	2	4 6	
Permitted Phases						
Actuated Green, G (s)	14.7		6.0	33.2	75.8	
Effective Green, g (s)	15.2		6.5	33.7	75.8	
Actuated g/C Ratio	0.14		0.06	0.31	0.69	
Clearance Time (s)	4.5		4.5	4.5		
Vehicle Extension (s)	2.3		3.0	4.5		
Lane Grp Cap (vph)	222		99	554	1283	
v/s Ratio Prot	c0.02		c0.01	c0.30	c0.46	
v/s Ratio Perm						
v/c Ratio	0.17		0.25	0.97	0.67	
Uniform Delay, d1	41.8		49.4	37.6	9.9	
Progression Factor	1.00		1.00	1.00	0.20	
Incremental Delay, d2	0.2		1.3	30.6	0.5	
Delay (s)	42.0		50.8	68.2	2.5	
Level of Service	D		D	E	A	
Approach Delay (s)	42.0			67.4	2.5	
Approach LOS	D			E	A	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	0	50	25	5	35	105	505	10	15	815	85
Future Vol, veh/h	20	0	50	25	5	35	105	505	10	15	815	85
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	65	-	-	-	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	31	0	7	0	14	9	4	2	60	46	1	6
Mvmt Flow	20	0	50	25	5	35	105	505	10	15	815	85

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1628	1613	858	1633	1650	510	900	0	0	515	0	0
Stage 1	888	888	-	720	720	-	-	-	-	-	-	-
Stage 2	740	725	-	913	930	-	-	-	-	-	-	-
Critical Hdwy	7.41	6.5	6.27	7.1	6.64	6.29	4.14	-	-	4.56	-	-
Critical Hdwy Stg 1	6.41	5.5	-	6.1	5.64	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.41	5.5	-	6.1	5.64	-	-	-	-	-	-	-
Follow-up Hdwy	3.779	4	3.363	3.5	4.126	3.381	2.236	-	-	2.614	-	-
Pot Cap-1 Maneuver	70	105	349	82	93	550	747	-	-	860	-	-
Stage 1	301	365	-	422	415	-	-	-	-	-	-	-
Stage 2	367	433	-	330	330	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	54	87	349	61	77	550	747	-	-	860	-	-
Mov Cap-2 Maneuver	54	87	-	61	77	-	-	-	-	-	-	-
Stage 1	259	352	-	362	356	-	-	-	-	-	-	-
Stage 2	291	372	-	273	318	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	42.6	64.9	1.8	0.2
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	747	-	-	54	349	121	860	-	-
HCM Lane V/C Ratio	0.141	-	-	0.37	0.143	0.537	0.017	-	-
HCM Control Delay (s)	10.6	-	-	106.6	17	64.9	9.3	0	-
HCM Lane LOS	B	-	-	F	C	F	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	1.3	0.5	2.6	0.1	-	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	70	325	255	550	805	85
Future Volume (vph)	70	325	255	550	805	85
Ideal Flow (vphpl)	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	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1553	1770	1652	1712	1599
Flt Permitted	0.95	1.00	0.26	1.00	1.00	1.00
Satd. Flow (perm)	1805	1553	485	1652	1712	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	70	325	255	550	805	85
RTOR Reduction (vph)	0	150	0	0	0	23
Lane Group Flow (vph)	70	175	255	550	805	62
Heavy Vehicles (%)	0%	4%	2%	15%	11%	1%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Prot
Protected Phases	8	1	1	6	2	2
Permitted Phases		8	6			
Actuated Green, G (s)	8.3	15.2	91.4	91.4	79.5	79.5
Effective Green, g (s)	9.3	17.2	92.4	92.7	80.8	80.8
Actuated g/C Ratio	0.08	0.16	0.84	0.84	0.73	0.73
Clearance Time (s)	5.0	5.0	5.0	5.3	5.3	5.3
Vehicle Extension (s)	2.3	2.3	2.3	6.0	6.0	6.0
Lane Grp Cap (vph)	152	299	499	1392	1257	1174
v/s Ratio Prot	0.04	c0.04	0.04	0.33	c0.47	0.04
v/s Ratio Perm		0.07	0.39			
v/c Ratio	0.46	0.58	0.51	0.40	0.64	0.05
Uniform Delay, d1	48.0	43.1	5.7	2.0	7.3	4.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	2.2	0.5	0.8	2.5	0.1
Delay (s)	49.2	45.3	6.3	2.9	9.8	4.1
Level of Service	D	D	A	A	A	A
Approach Delay (s)	46.0			4.0	9.3	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.5%	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												
Traffic Volume (vph)	150	355	265	220	385	120	325	380	60	140	165	80
Future Volume (vph)	150	355	265	220	385	120	325	380	60	140	165	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	5.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	3574	1615	1770	3481		1787	1881	1615	1805	3354	
Flt Permitted	0.43	1.00	1.00	0.36	1.00		0.47	1.00	1.00	0.40	1.00	
Satd. Flow (perm)	802	3574	1615	671	3481		882	1881	1615	766	3354	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	150	355	265	220	385	120	325	380	60	140	165	80
RTOR Reduction (vph)	0	0	151	0	35	0	0	0	42	0	59	0
Lane Group Flow (vph)	150	355	114	220	470	0	325	380	18	140	186	0
Heavy Vehicles (%)	1%	1%	0%	2%	0%	0%	1%	1%	0%	0%	3%	1%
Turn Type	pm+pt	NA	pt+ov	pm+pt	NA		pm+pt	NA	Prot	pm+pt	NA	
Protected Phases	5	2	2 3	1	6		3	8	8	7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	19.3	12.6	28.0	25.9	15.9		28.7	18.9	18.9	20.1	14.3	
Effective Green, g (s)	19.3	13.6	28.0	25.9	16.9		28.7	19.9	19.9	20.1	15.3	
Actuated g/C Ratio	0.30	0.21	0.43	0.40	0.26		0.44	0.30	0.30	0.31	0.23	
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0	5.0	4.0	5.0	
Vehicle Extension (s)	1.5	2.5		1.5	2.5		1.5	2.5	2.5	1.5	2.5	
Lane Grp Cap (vph)	338	744	692	434	900		531	573	492	328	785	
v/s Ratio Prot	0.05	0.10	0.07	c0.08	c0.14		c0.10	c0.20	0.01	0.04	0.06	
v/s Ratio Perm	0.09			0.12			0.17			0.09		
v/c Ratio	0.44	0.48	0.16	0.51	0.52		0.61	0.66	0.04	0.43	0.24	
Uniform Delay, d1	17.7	22.7	11.5	13.8	20.7		12.7	19.8	16.0	17.1	20.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.4	0.1	0.3	0.4		1.5	2.6	0.0	0.3	0.1	
Delay (s)	18.0	23.1	11.5	14.2	21.2		14.2	22.4	16.0	17.4	20.4	
Level of Service	B	C	B	B	C		B	C	B	B	C	
Approach Delay (s)		18.1			19.0			18.4			19.3	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	65.3	Sum of lost time (s)	17.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	15	750	75	55	595
Future Vol, veh/h	30	15	750	75	55	595
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	10	33	1	0	2	1
Mvmt Flow	30	15	750	75	55	595

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1493	788	0	0	825	0
Stage 1	788	-	-	-	-	-
Stage 2	705	-	-	-	-	-
Critical Hdwy	6.5	6.53	-	-	4.12	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.597	-	-	2.218	-
Pot Cap-1 Maneuver	130	346	-	-	805	-
Stage 1	434	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	121	346	-	-	805	-
Mov Cap-2 Maneuver	121	-	-	-	-	-
Stage 1	434	-	-	-	-	-
Stage 2	444	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	37.8	0	0.8
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	154	805	-
HCM Lane V/C Ratio	-	-	0.292	0.068	-
HCM Control Delay (s)	-	-	37.8	9.8	-
HCM Lane LOS	-	-	E	A	-
HCM 95th %tile Q(veh)	-	-	1.1	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	10	100	360	15	45	110	720	90	20	580	25
Future Volume (vph)	60	10	100	360	15	45	110	720	90	20	580	25
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	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.86		1.00	0.89		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1641		1787	1637		1752	1900	1615	1805	1853	
Flt Permitted	0.95	1.00		0.95	1.00		0.22	1.00	1.00	0.13	1.00	
Satd. Flow (perm)	1805	1641		1787	1637		397	1900	1615	243	1853	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	10	100	360	15	45	110	720	90	20	580	25
RTOR Reduction (vph)	0	89	0	0	30	0	0	0	50	0	2	0
Lane Group Flow (vph)	60	21	0	360	30	0	110	720	40	20	603	0
Heavy Vehicles (%)	0%	0%	0%	1%	0%	4%	3%	0%	0%	0%	2%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Prot	Perm	NA	
Protected Phases	7	4		3	8			2	2		6	
Permitted Phases							2			6		
Actuated Green, G (s)	3.9	8.0		19.2	23.3		30.8	30.8	30.8	30.8	30.8	
Effective Green, g (s)	3.9	8.0		19.2	23.3		31.3	31.3	31.3	31.3	31.3	
Actuated g/C Ratio	0.06	0.11		0.27	0.33		0.44	0.44	0.44	0.44	0.44	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	1.5	1.5		1.5	1.5		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	99	186		486	541		176	843	717	107	822	
v/s Ratio Prot	0.03	c0.01		c0.20	0.02			c0.38	0.02		0.33	
v/s Ratio Perm							0.28			0.08		
v/c Ratio	0.61	0.11		0.74	0.06		0.62	0.85	0.06	0.19	0.73	
Uniform Delay, d1	32.5	28.1		23.4	16.1		15.1	17.6	11.2	11.9	16.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.0	0.1		5.3	0.0		6.8	8.4	0.0	0.8	3.4	
Delay (s)	39.5	28.2		28.6	16.1		21.8	26.0	11.2	12.7	19.6	
Level of Service	D	C		C	B		C	C	B	B	B	
Approach Delay (s)		32.2			26.9			24.0			19.4	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	70.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	51.9
Intersection LOS	F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	440	300	60	350	385	180
Future Vol, veh/h	440	300	60	350	385	180
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	1	0	2	2	0	0
Mvmt Flow	440	300	60	350	385	180
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	37.3	35	83.2
HCM LOS	E	D	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	68%	0%	0%	15%
Vol Thru, %	0%	100%	0%	85%
Vol Right, %	32%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	565	440	300	410
LT Vol	385	0	0	60
Through Vol	0	440	0	350
RT Vol	180	0	300	0
Lane Flow Rate	565	440	300	410
Geometry Grp	2	7	7	5
Degree of Util (X)	1.065	0.913	0.561	0.81
Departure Headway (Hd)	6.785	7.695	6.955	7.431
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	542	475	522	492
Service Time	4.768	5.395	4.655	5.431
HCM Lane V/C Ratio	1.042	0.926	0.575	0.833
HCM Control Delay	83.2	50.4	18.2	35
HCM Lane LOS	F	F	C	D
HCM 95th-tile Q	16.9	10.4	3.4	7.7

Intersection	
Intersection Delay, s/veh	47.9
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	80	20	265	95	375	15	95	520	140	85	15
Future Vol, veh/h	15	80	20	265	95	375	15	95	520	140	85	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	17	3	0	1	1	1	0	1	1	0	1	7
Mvmt Flow	15	80	20	265	95	375	15	95	520	140	85	15
Number of Lanes	0	1	1	1	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	16.5	27.8	88.7	17.4
HCM LOS	C	D	F	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	14%	0%	16%	0%	100%	0%	0%	100%	0%
Vol Thru, %	86%	0%	84%	0%	0%	100%	0%	0%	85%
Vol Right, %	0%	100%	0%	100%	0%	0%	100%	0%	15%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	110	520	95	20	265	95	375	140	100
LT Vol	15	0	15	0	265	0	0	140	0
Through Vol	95	0	80	0	0	95	0	0	85
RT Vol	0	520	0	20	0	0	375	0	15
Lane Flow Rate	110	520	95	20	265	95	375	140	100
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.26	1.117	0.269	0.051	0.639	0.215	0.775	0.376	0.255
Departure Headway (Hd)	8.502	7.735	10.67	9.601	9.031	8.516	7.794	10.108	9.5
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	425	473	339	375	403	424	469	358	380
Service Time	6.207	5.439	8.37	7.301	6.731	6.216	5.494	7.808	7.2
HCM Lane V/C Ratio	0.259	1.099	0.28	0.053	0.658	0.224	0.8	0.391	0.263
HCM Control Delay	14.2	104.5	17.3	12.8	26.4	13.5	32.5	18.8	15.4
HCM Lane LOS	B	F	C	B	D	B	D	C	C
HCM 95th-tile Q	1	17.8	1.1	0.2	4.3	0.8	6.8	1.7	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	270	50	80	385	105	65	265	170	165	100	195
Future Volume (vph)	260	270	50	80	385	105	65	265	170	165	100	195
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	4.5	4.0	4.0	4.8	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00		0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98		1.00	1.00	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1863	1576		3532	1599	1770	1863	1615	1787	1639	
Flt Permitted	0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1805	1863	1576		3532	1599	1770	1863	1615	1787	1639	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	260	270	50	80	385	105	65	265	170	165	100	195
RTOR Reduction (vph)	0	0	40	0	0	0	0	0	84	0	63	0
Lane Group Flow (vph)	260	270	10	0	465	105	65	265	86	165	232	0
Confl. Peds. (#/hr)			3			1			1			4
Heavy Vehicles (%)	0%	2%	0%	3%	1%	1%	2%	2%	0%	1%	8%	1%
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3	3 1	5	2	2 3	1	6	
Permitted Phases			4									
Actuated Green, G (s)	15.1	15.1	15.1		15.9	26.4	6.1	19.6	40.3	10.5	24.0	
Effective Green, g (s)	15.6	15.6	15.6		16.4	26.4	6.6	20.4	40.3	11.0	24.8	
Actuated g/C Ratio	0.20	0.20	0.20		0.21	0.33	0.08	0.26	0.51	0.14	0.31	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.8		4.5	4.8	
Vehicle Extension (s)	2.3	2.3	2.3		2.5		2.3	4.7		2.3	4.7	
Lane Grp Cap (vph)	354	366	309		729	531	147	478	819	247	511	
v/s Ratio Prot	0.14	c0.14			c0.13	0.07	0.04	c0.14	0.05	c0.09	0.14	
v/s Ratio Perm			0.01									
v/c Ratio	0.73	0.74	0.03		0.64	0.20	0.44	0.55	0.11	0.67	0.45	
Uniform Delay, d1	30.0	30.0	25.8		28.8	18.9	34.6	25.6	10.2	32.5	21.9	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.0	6.9	0.0		1.6	0.1	1.2	2.2	0.1	5.7	1.2	
Delay (s)	37.0	36.9	25.8		30.4	19.1	35.9	27.7	10.3	38.2	23.1	
Level of Service	D	D	C		C	B	D	C	B	D	C	
Approach Delay (s)		36.0			28.3			22.9			28.5	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	79.4	Sum of lost time (s)	17.8
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX B34

Segment C – Bonita Subarea 2035 No-Build Operations

GREAT PLACES SW Corridor

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↱			↑↑	
Traffic Vol, veh/h	0	0	0	0	390	0
Future Vol, veh/h	0	0	0	0	390	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	390	0

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	195	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	814	-	0
Stage 1	0	-	-	0
Stage 2	0	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	-	814	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	SBT
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	0	-
HCM Lane LOS	A	-
HCM 95th %tile Q(veh)	-	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	640	570	0
Future Volume (vph)	0	0	0	640	570	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				10.5	10.5	
Lane Util. Factor				1.00	1.00	
Frt				1.00	1.00	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				1863	1863	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				1863	1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	640	570	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	640	570	0
Turn Type				NA	NA	
Protected Phases				8	8	
Permitted Phases						
Actuated Green, G (s)				3000.0	3000.0	
Effective Green, g (s)				3000.0	3000.0	
Actuated g/C Ratio				1.00	1.00	
Clearance Time (s)				10.5	10.5	
Vehicle Extension (s)				2.5	2.5	
Lane Grp Cap (vph)				1863	1863	
v/s Ratio Prot				c0.34	0.31	
v/s Ratio Perm						
v/c Ratio				0.34	0.31	
Uniform Delay, d1				0.0	0.0	
Progression Factor				1.00	1.00	
Incremental Delay, d2				0.5	0.4	
Delay (s)				0.5	0.4	
Level of Service				A	A	
Approach Delay (s)	0.0			0.5	0.4	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	0.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	3000.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	542.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	460	0	0	0
Future Volume (vph)	0	0	460	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			2.5			
Lane Util. Factor			0.95			
Frt			1.00			
Flt Protected			1.00			
Satd. Flow (prot)			3539			
Flt Permitted			1.00			
Satd. Flow (perm)			3539			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	460	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	460	0	0	0
Turn Type		Perm	NA			
Protected Phases			2			
Permitted Phases		8				
Actuated Green, G (s)			3.0			
Effective Green, g (s)			3.0			
Actuated g/C Ratio			0.33			
Clearance Time (s)			2.5			
Lane Grp Cap (vph)			1179			
v/s Ratio Prot			c0.13			
v/s Ratio Perm						
v/c Ratio			0.39			
Uniform Delay, d1			2.3			
Progression Factor			1.00			
Incremental Delay, d2			1.0			
Delay (s)			3.3			
Level of Service			A			
Approach Delay (s)	0.0		3.3		0.0	
Approach LOS	A		A		A	

Intersection Summary			
HCM 2000 Control Delay	3.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	9.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	16.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	850	1185	0	0	0
Future Volume (vph)	0	850	1185	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		10.5	10.5			
Lane Util. Factor		0.95	0.95			
Frt		1.00	1.00			
Flt Protected		1.00	1.00			
Satd. Flow (prot)		3539	3539			
Flt Permitted		1.00	1.00			
Satd. Flow (perm)		3539	3539			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	850	1185	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	850	1185	0	0	0
Turn Type		NA	NA			
Protected Phases		8	8			
Permitted Phases						
Actuated Green, G (s)		3000.0	3000.0			
Effective Green, g (s)		3000.0	3000.0			
Actuated g/C Ratio		1.00	1.00			
Clearance Time (s)		10.5	10.5			
Vehicle Extension (s)		2.5	2.5			
Lane Grp Cap (vph)		3539	3539			
v/s Ratio Prot		0.24	c0.33			
v/s Ratio Perm						
v/c Ratio		0.24	0.33			
Uniform Delay, d1		0.0	0.0			
Progression Factor		1.00	1.00			
Incremental Delay, d2		0.2	0.3			
Delay (s)		0.2	0.3			
Level of Service		A	A			
Approach Delay (s)		0.2	0.3		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay	0.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	3000.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	708.8%	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												
Traffic Volume (vph)	365	295	0	0	350	95	465	0	330	0	0	0
Future Volume (vph)	365	295	0	0	350	95	465	0	330	0	0	0
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	0.95	0.95			1.00		1.00	1.00				
Frt	1.00	1.00			0.97		1.00	0.85				
Flt Protected	0.95	0.99			1.00		0.95	1.00				
Satd. Flow (prot)	1681	1789			1831		1752	1599				
Flt Permitted	0.95	0.99			1.00		0.95	1.00				
Satd. Flow (perm)	1681	1789			1831		1752	1599				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	365	295	0	0	350	95	465	0	330	0	0	0
RTOR Reduction (vph)	0	0	0	0	12	0	0	226	0	0	0	0
Lane Group Flow (vph)	321	339	0	0	433	0	465	104	0	0	0	0
Heavy Vehicles (%)	2%	0%	0%	0%	1%	0%	3%	0%	1%	0%	0%	0%
Turn Type	Split	NA			NA		Perm	NA				
Protected Phases	6	6			2			4				
Permitted Phases							4					
Actuated Green, G (s)	16.1	16.1			21.2		22.7	22.7				
Effective Green, g (s)	17.1	17.1			22.2		23.7	23.7				
Actuated g/C Ratio	0.23	0.23			0.30		0.32	0.32				
Clearance Time (s)	5.0	5.0			5.0		5.0	5.0				
Vehicle Extension (s)	4.2	4.2			4.2		2.3	2.3				
Lane Grp Cap (vph)	383	407			541		553	505				
v/s Ratio Prot	c0.19	0.19			c0.24			0.07				
v/s Ratio Perm							c0.27					
v/c Ratio	0.84	0.83			0.80		0.84	0.21				
Uniform Delay, d1	27.6	27.6			24.4		23.9	18.8				
Progression Factor	1.06	1.07			1.00		1.00	1.00				
Incremental Delay, d2	13.7	12.6			11.8		10.8	0.1				
Delay (s)	43.1	42.0			36.2		34.7	18.9				
Level of Service	D	D			D		C	B				
Approach Delay (s)		42.5			36.2			28.1			0.0	
Approach LOS		D			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	35.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.3%	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												
Traffic Volume (vph)	0	590	305	85	730	0	0	0	0	70	0	1065
Future Volume (vph)	0	590	305	85	730	0	0	0	0	70	0	1065
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		0.95		1.00	1.00						1.00	0.88
Frt		0.95		1.00	1.00						1.00	0.85
Flt Protected		1.00		0.95	1.00						0.95	1.00
Satd. Flow (prot)		3358		1805	1863						1805	2814
Flt Permitted		1.00		0.95	1.00						0.95	1.00
Satd. Flow (perm)		3358		1805	1863						1805	2814
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	590	305	85	730	0	0	0	0	70	0	1065
RTOR Reduction (vph)	0	69	0	0	0	0	0	0	0	0	0	276
Lane Group Flow (vph)	0	826	0	85	730	0	0	0	0	0	70	789
Heavy Vehicles (%)	0%	2%	2%	0%	2%	0%	0%	0%	0%	0%	0%	1%
Turn Type		NA		Prot	NA					Perm	NA	Perm
Protected Phases		6		5	2						8	
Permitted Phases										8		8
Actuated Green, G (s)		30.8		7.2	43.5						20.5	20.5
Effective Green, g (s)		32.3		8.7	45.0						22.0	22.0
Actuated g/C Ratio		0.43		0.12	0.60						0.29	0.29
Clearance Time (s)		5.5		5.5	5.5						5.5	5.5
Vehicle Extension (s)		4.2		2.3	4.2						2.3	2.3
Lane Grp Cap (vph)		1446		209	1117						529	825
v/s Ratio Prot		0.25		0.05	c0.39							
v/s Ratio Perm											0.04	c0.28
v/c Ratio		0.57		0.41	0.65						0.13	0.96
Uniform Delay, d1		16.1		30.8	9.9						19.5	26.0
Progression Factor		1.00		1.05	1.00						1.00	1.00
Incremental Delay, d2		1.6		0.5	1.8						0.1	21.0
Delay (s)		17.8		32.7	11.7						19.5	47.1
Level of Service		B		C	B						B	D
Approach Delay (s)		17.8			13.9			0.0			45.4	
Approach LOS		B			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	895	0	0	1795	0	0
Future Vol, veh/h	895	0	0	1795	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	895	0	0	1795	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	895	0	1793	448
Stage 1	-	-	-	-	895	-
Stage 2	-	-	-	-	898	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	754	-	72	558
Stage 1	-	-	-	-	359	-
Stage 2	-	-	-	-	358	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	754	-	72	558
Mov Cap-2 Maneuver	-	-	-	-	72	-
Stage 1	-	-	-	-	359	-
Stage 2	-	-	-	-	358	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	754	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	735	15	20	1125	650	10	5	20	140	10	50
Future Volume (vph)	100	735	15	20	1125	650	10	5	20	140	10	50
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	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.88		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	1770	3496		1805	3539	1583	1805	1672		1698	1715	1615
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	1770	3496		1805	3539	1583	1805	1672		1698	1715	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	100	735	15	20	1125	650	10	5	20	140	10	50
RTOR Reduction (vph)	0	1	0	0	0	280	0	19	0	0	0	45
Lane Group Flow (vph)	100	749	0	20	1125	370	10	6	0	74	76	5
Heavy Vehicles (%)	2%	3%	0%	0%	2%	2%	0%	0%	0%	1%	0%	0%
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						7
Actuated Green, G (s)	6.4	48.2		2.0	43.8	43.8	2.9	2.9		7.6	7.6	7.6
Effective Green, g (s)	6.4	49.2		2.0	44.8	44.8	3.4	3.4		8.1	8.1	8.1
Actuated g/C Ratio	0.08	0.63		0.03	0.57	0.57	0.04	0.04		0.10	0.10	0.10
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	1.5	4.0		1.5	4.0	4.0	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	143	2185		45	2014	901	77	72		174	176	166
v/s Ratio Prot	c0.06	0.21		0.01	c0.32		c0.01	0.00		0.04	c0.04	
v/s Ratio Perm						0.23						0.00
v/c Ratio	0.70	0.34		0.44	0.56	0.41	0.13	0.08		0.43	0.43	0.03
Uniform Delay, d1	35.2	7.0		37.8	10.7	9.5	36.2	36.2		33.1	33.1	31.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	11.4	0.1		2.5	0.4	0.4	0.3	0.2		0.6	0.6	0.0
Delay (s)	46.6	7.2		40.3	11.1	9.9	36.5	36.3		33.7	33.8	31.8
Level of Service	D	A		D	B	A	D	D		C	C	C
Approach Delay (s)		11.8			11.0			36.4			33.3	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	78.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	10	5	985	45	155	5	475	660	180	385	5
Future Volume (vph)	10	10	5	985	45	155	5	475	660	180	385	5
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	3.5	4.0	4.0	
Lane Util. Factor		0.95		0.97	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.97		1.00	0.88		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3372		3502	1558		1805	1881	1599	1671	1842	
Flt Permitted		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		3372		3502	1558		1805	1881	1599	1671	1842	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	10	5	985	45	155	5	475	660	180	385	5
RTOR Reduction (vph)	0	5	0	0	102	0	0	0	130	0	1	0
Lane Group Flow (vph)	0	20	0	985	98	0	5	475	530	180	389	0
Heavy Vehicles (%)	0%	0%	9%	0%	0%	10%	0%	1%	1%	8%	3%	0%
Turn Type	Split	NA		Split	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4		8	8		5	2 3	8	1	6 3	
Permitted Phases									2 3			
Actuated Green, G (s)		1.2		30.9	30.9		0.8	30.8	61.7	12.0	42.0	
Effective Green, g (s)		1.7		31.4	31.4		0.8	31.8	59.7	12.0	43.0	
Actuated g/C Ratio		0.02		0.34	0.34		0.01	0.35	0.65	0.13	0.47	
Clearance Time (s)		4.5		4.5	4.5		4.0		4.5	4.0		
Vehicle Extension (s)		1.5		3.0	3.0		1.0		3.0	1.5		
Lane Grp Cap (vph)		62		1196	532		15	650	1038	218	861	
v/s Ratio Prot		c0.01		c0.28	0.06		0.00	c0.25	0.18	c0.11	0.21	
v/s Ratio Perm									0.15			
v/c Ratio		0.32		0.82	0.18		0.33	0.73	0.51	0.83	0.45	
Uniform Delay, d1		44.5		27.7	21.3		45.3	26.3	8.4	38.9	16.5	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.1		4.7	0.2		4.7	4.4	0.4	20.9	0.4	
Delay (s)		45.6		32.4	21.4		50.0	30.7	8.9	59.8	17.0	
Level of Service		D		C	C		D	C	A	E	B	
Approach Delay (s)		45.6			30.6			18.1			30.5	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	91.9	Sum of lost time (s)	19.5
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	750	0
Future Volume (vph)	0	0	0	0	750	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)					2.5	
Lane Util. Factor					0.95	
Frt					1.00	
Flt Protected					1.00	
Satd. Flow (prot)					3539	
Flt Permitted					1.00	
Satd. Flow (perm)					3539	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	750	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	750	0
Turn Type		Perm			NA	
Protected Phases					2	
Permitted Phases		8				
Actuated Green, G (s)					2.5	
Effective Green, g (s)					2.5	
Actuated g/C Ratio					0.29	
Clearance Time (s)					2.5	
Lane Grp Cap (vph)					1040	
v/s Ratio Prot					c0.21	
v/s Ratio Perm						
v/c Ratio					0.72	
Uniform Delay, d1					2.7	
Progression Factor					1.00	
Incremental Delay, d2					4.3	
Delay (s)					7.0	
Level of Service					A	
Approach Delay (s)	0.0			0.0	7.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	8.5	Sum of lost time (s)	5.0
Intersection Capacity Utilization	24.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	905	1120	0	0	0
Future Vol, veh/h	0	905	1120	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	905	1120	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1120	0	-	0	1573	560
Stage 1	-	-	-	-	1120	-
Stage 2	-	-	-	-	453	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	619	-	-	-	101	472
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	607	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	619	-	-	-	101	472
Mov Cap-2 Maneuver	-	-	-	-	101	-
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	607	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	619	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	770	700	0
Future Vol, veh/h	0	0	0	770	700	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	770	700	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1470	700	-	0	-	0
Stage 1	700	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	140	439	0	-	-	0
Stage 1	493	-	0	-	-	0
Stage 2	457	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	140	439	-	-	-	-
Mov Cap-2 Maneuver	140	-	-	-	-	-
Stage 1	493	-	-	-	-	-
Stage 2	457	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑			
Traffic Vol, veh/h	0	0	780	0	0	0
Future Vol, veh/h	0	0	780	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	780	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	390	0	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	609	-	0
Stage 1	0	-	-	0
Stage 2	0	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	-	609	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	WBLn1
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1125	1120	0	0	0
Future Vol, veh/h	0	1125	1120	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1125	1120	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	1683	560
Stage 1	-	-	-	-	1120	-
Stage 2	-	-	-	-	563	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	0	-	-	0	85	472
Stage 1	0	-	-	0	274	-
Stage 2	0	-	-	0	534	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	85	472
Mov Cap-2 Maneuver	-	-	-	-	85	-
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	534	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	620	385	0	0	365	160	290	0	260	0	0	0
Future Volume (vph)	620	385	0	0	365	160	290	0	260	0	0	0
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	0.95	0.95			1.00		1.00	1.00				
Frt	1.00	1.00			0.96		1.00	0.85				
Flt Protected	0.95	0.99			1.00		0.95	1.00				
Satd. Flow (prot)	1681	1775			1809		1752	1599				
Flt Permitted	0.95	0.99			1.00		0.95	1.00				
Satd. Flow (perm)	1681	1775			1809		1752	1599				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	620	385	0	0	365	160	290	0	260	0	0	0
RTOR Reduction (vph)	0	0	0	0	20	0	0	203	0	0	0	0
Lane Group Flow (vph)	496	509	0	0	505	0	290	57	0	0	0	0
Heavy Vehicles (%)	2%	0%	0%	0%	1%	0%	3%	0%	1%	0%	0%	0%
Turn Type	Split	NA			NA		Perm	NA				
Protected Phases	6	6			2			4				
Permitted Phases							4					
Actuated Green, G (s)	23.4	23.4			21.1		15.5	15.5				
Effective Green, g (s)	24.4	24.4			22.1		16.5	16.5				
Actuated g/C Ratio	0.33	0.33			0.29		0.22	0.22				
Clearance Time (s)	5.0	5.0			5.0		5.0	5.0				
Vehicle Extension (s)	4.2	4.2			4.2		2.3	2.3				
Lane Grp Cap (vph)	546	577			533		385	351				
v/s Ratio Prot	c0.30	0.29			c0.28			0.04				
v/s Ratio Perm							c0.17					
v/c Ratio	0.91	0.88			0.95		0.75	0.16				
Uniform Delay, d1	24.2	23.9			25.9		27.3	23.7				
Progression Factor	1.15	1.15			1.00		1.00	1.00				
Incremental Delay, d2	14.8	11.4			28.0		7.5	0.1				
Delay (s)	42.6	38.9			53.9		34.9	23.8				
Level of Service	D	D			D		C	C				
Approach Delay (s)		40.8			53.9			29.6			0.0	
Approach LOS		D			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.0%	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												
Traffic Volume (vph)	0	820	570	125	530	0	0	0	0	185	55	650
Future Volume (vph)	0	820	570	125	530	0	0	0	0	185	55	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		4%			0%			0%			0%	
Total Lost time (s)		4.0		4.0	4.0						4.0	4.0
Lane Util. Factor		0.95		1.00	1.00						1.00	0.88
Frt		0.94		1.00	1.00						1.00	0.85
Flt Protected		1.00		0.95	1.00						0.96	1.00
Satd. Flow (prot)		3255		1805	1863						1829	2814
Flt Permitted		1.00		0.09	1.00						0.96	1.00
Satd. Flow (perm)		3255		178	1863						1829	2814
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	820	570	125	530	0	0	0	0	185	55	650
RTOR Reduction (vph)	0	123	0	0	0	0	0	0	0	0	0	473
Lane Group Flow (vph)	0	1267	0	125	530	0	0	0	0	0	240	177
Heavy Vehicles (%)	0%	2%	2%	0%	2%	0%	0%	0%	0%	0%	0%	1%
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		6		5	2						8	
Permitted Phases				2						8		8
Actuated Green, G (s)		37.3		48.6	48.6						15.4	15.4
Effective Green, g (s)		38.8		50.1	50.1						16.9	16.9
Actuated g/C Ratio		0.52		0.67	0.67						0.23	0.23
Clearance Time (s)		5.5		5.5	5.5						5.5	5.5
Vehicle Extension (s)		4.2		2.3	4.2						2.3	2.3
Lane Grp Cap (vph)		1683		277	1244						412	634
v/s Ratio Prot		c0.39		0.04	c0.28							
v/s Ratio Perm				0.26							0.13	0.06
v/c Ratio		0.75		0.45	0.43						0.58	0.28
Uniform Delay, d1		14.3		10.3	5.8						25.9	24.0
Progression Factor		1.00		2.02	1.52						1.00	1.00
Incremental Delay, d2		3.2		0.4	0.6						1.6	0.1
Delay (s)		17.5		21.1	9.4						27.5	24.2
Level of Service		B		C	A						C	C
Approach Delay (s)		17.5			11.6			0.0			25.1	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1390	0	0	1180	0	0
Future Vol, veh/h	1390	0	0	1180	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1390	0	0	1180	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1390	0	1980	695
Stage 1	-	-	-	-	1390	-
Stage 2	-	-	-	-	590	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	488	-	54	385
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	517	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	488	-	54	385
Mov Cap-2 Maneuver	-	-	-	-	54	-
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	517	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	488	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	1035	10	10	890	280	20	10	15	340	5	210
Future Volume (vph)	80	1035	10	10	890	280	20	10	15	340	5	210
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	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	1770	3501		1805	3539	1583	1805	1729		1698	1705	1615
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	1770	3501		1805	3539	1583	1805	1729		1698	1705	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	80	1035	10	10	890	280	20	10	15	340	5	210
RTOR Reduction (vph)	0	0	0	0	0	151	0	14	0	0	0	171
Lane Group Flow (vph)	80	1045	0	10	890	129	20	11	0	173	172	39
Heavy Vehicles (%)	2%	3%	0%	0%	2%	2%	0%	0%	0%	1%	0%	0%
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						7
Actuated Green, G (s)	5.9	37.3		0.8	32.2	32.2	2.9	2.9		12.8	12.8	12.8
Effective Green, g (s)	5.9	38.3		0.8	33.2	33.2	3.4	3.4		13.3	13.3	13.3
Actuated g/C Ratio	0.08	0.53		0.01	0.46	0.46	0.05	0.05		0.19	0.19	0.19
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	1.5	4.0		1.5	4.0	4.0	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	145	1867		20	1636	731	85	81		314	315	299
v/s Ratio Prot	c0.05	c0.30		0.01	0.25		c0.01	0.01		c0.10	0.10	
v/s Ratio Perm						0.08						0.02
v/c Ratio	0.55	0.56		0.50	0.54	0.18	0.24	0.13		0.55	0.55	0.13
Uniform Delay, d1	31.7	11.1		35.3	13.9	11.3	32.9	32.8		26.5	26.5	24.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.6	0.5		7.0	0.5	0.2	0.5	0.3		1.2	1.0	0.1
Delay (s)	34.2	11.6		42.3	14.3	11.5	33.5	33.1		27.7	27.6	24.5
Level of Service	C	B		D	B	B	C	C		C	C	C
Approach Delay (s)		13.2			13.9			33.2			26.4	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	71.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	45	20	980	20	120	15	630	860	220	470	10
Future Volume (vph)	20	45	20	980	20	120	15	630	860	220	470	10
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	5.0	4.0	4.0	5.0	
Lane Util. Factor		0.95		0.97	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.96		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3371		3502	1525		1805	1881	1599	1671	1840	
Flt Permitted		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		3371		3502	1525		1805	1881	1599	1671	1840	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	45	20	980	20	120	15	630	860	220	470	10
RTOR Reduction (vph)	0	19	0	0	85	0	0	0	70	0	1	0
Lane Group Flow (vph)	0	66	0	980	55	0	15	630	790	220	479	0
Heavy Vehicles (%)	0%	0%	9%	0%	0%	10%	0%	1%	1%	8%	3%	0%
Turn Type	Split	NA		Split	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4		8	8		5	2 3	8	1	6 3	
Permitted Phases									2 3			
Actuated Green, G (s)		3.8		29.9	29.9		1.9	40.5	70.4	13.1	51.7	
Effective Green, g (s)		4.3		30.4	30.4		1.9	40.5	66.9	13.1	51.7	
Actuated g/C Ratio		0.04		0.29	0.29		0.02	0.39	0.64	0.13	0.50	
Clearance Time (s)		4.5		4.5	4.5		4.0		4.5	4.0		
Vehicle Extension (s)		1.5		3.0	3.0		1.0		3.0	1.5		
Lane Grp Cap (vph)		138		1020	444		32	730	1025	209	912	
v/s Ratio Prot		c0.02		c0.28	0.04		0.01	c0.33	0.22	c0.13	0.26	
v/s Ratio Perm									0.27			
v/c Ratio		0.48		0.96	0.12		0.47	0.86	0.77	1.05	0.53	
Uniform Delay, d1		48.9		36.4	27.2		50.7	29.3	13.3	45.6	17.9	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.9		19.3	0.1		3.9	10.6	3.6	76.8	0.6	
Delay (s)		49.8		55.7	27.3		54.6	39.9	16.9	122.4	18.6	
Level of Service		D		E	C		D	D	B	F	B	
Approach Delay (s)		49.8			52.1			26.9			51.2	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	40.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	104.3	Sum of lost time (s)	21.5
Intersection Capacity Utilization	90.8%	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												
Traffic Volume (vph)	5	890	10	430	1020	20	95	5	580	35	10	5
Future Volume (vph)	5	890	10	430	1020	20	95	5	580	35	10	5
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	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.97	
Satd. Flow (prot)	1805	3569		1752	3530			1814	1583		1811	
Flt Permitted	0.28	1.00		0.17	1.00			0.70	1.00		0.78	
Satd. Flow (perm)	523	3569		309	3530			1330	1583		1465	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	5	890	10	430	1020	20	95	5	580	35	10	5
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	382	0	4	0
Lane Group Flow (vph)	5	899	0	430	1039	0	0	100	198	0	46	0
Heavy Vehicles (%)	0%	1%	0%	3%	2%	0%	0%	0%	2%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	29.0	28.3		49.2	44.5			13.2	13.2		13.2	
Effective Green, g (s)	29.0	29.3		49.2	45.5			13.7	13.7		13.7	
Actuated g/C Ratio	0.40	0.41		0.68	0.63			0.19	0.19		0.19	
Clearance Time (s)	4.0	5.0		4.0	5.0			4.5	4.5		4.5	
Vehicle Extension (s)	1.5	4.0		1.5	4.0			2.0	2.0		2.0	
Lane Grp Cap (vph)	223	1454		550	2233			253	301		279	
v/s Ratio Prot	0.00	0.25		c0.18	0.29							
v/s Ratio Perm	0.01			c0.35				0.08	c0.13		0.03	
v/c Ratio	0.02	0.62		0.78	0.47			0.40	0.66		0.16	
Uniform Delay, d1	12.8	16.9		13.2	6.9			25.5	26.9		24.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.9		6.6	0.2			0.4	3.9		0.1	
Delay (s)	12.8	17.8		19.8	7.1			25.8	30.8		24.4	
Level of Service	B	B		B	A			C	C		C	
Approach Delay (s)		17.8			10.8			30.1			24.4	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	71.9	Sum of lost time (s)	12.0
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												
Traffic Volume (vph)	285	585	25	40	545	535	10	400	50	270	300	300
Future Volume (vph)	285	585	25	40	545	535	10	400	50	270	300	300
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	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	1853		1805	1863	1583	1805	1836		3433	1863	1615
Flt Permitted	0.10	1.00		0.23	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	186	1853		443	1863	1583	1805	1836		3433	1863	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	285	585	25	40	545	535	10	400	50	270	300	300
RTOR Reduction (vph)	0	1	0	0	0	68	0	3	0	0	0	187
Lane Group Flow (vph)	285	609	0	40	545	467	10	447	0	270	300	113
Heavy Vehicles (%)	3%	2%	0%	0%	2%	2%	0%	2%	0%	2%	2%	0%
Turn Type	pm+pt	NA		pm+pt	NA	pt+ov	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6	6 7	3	8		7	4	
Permitted Phases	2			6								4
Actuated Green, G (s)	69.1	59.3		50.2	45.4	64.7	2.3	38.7		14.3	50.7	50.7
Effective Green, g (s)	70.1	60.3		52.2	46.4	65.7	3.3	39.7		15.3	51.7	51.7
Actuated g/C Ratio	0.51	0.44		0.38	0.34	0.48	0.02	0.29		0.11	0.38	0.38
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0		2.0	3.0	3.0
Lane Grp Cap (vph)	320	814		226	630	758	43	531		383	702	609
v/s Ratio Prot	c0.13	0.33		0.01	0.29	c0.30	0.01	c0.24		c0.08	0.16	
v/s Ratio Perm	c0.33			0.06								0.07
v/c Ratio	0.89	0.75		0.18	0.87	0.62	0.23	0.84		0.70	0.43	0.19
Uniform Delay, d1	38.0	32.1		28.6	42.4	26.4	65.7	45.8		58.7	31.7	28.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	24.5	3.8		0.1	11.9	1.5	1.0	11.1		4.8	0.4	0.1
Delay (s)	62.5	35.8		28.8	54.3	27.9	66.7	56.9		63.5	32.1	28.7
Level of Service	E	D		C	D	C	E	E		E	C	C
Approach Delay (s)		44.3			40.8			57.1			40.7	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	44.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	137.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.6%	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												
Traffic Volume (vph)	400	275	65	20	140	55	45	95	45	195	245	555
Future Volume (vph)	400	275	65	20	140	55	45	95	45	195	245	555
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	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	1846		1805	1881	1615	1805	1808		1770	1881	1599
Flt Permitted	0.49	1.00		0.56	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	908	1846		1057	1881	1615	1805	1808		1770	1881	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	400	275	65	20	140	55	45	95	45	195	245	555
RTOR Reduction (vph)	0	7	0	0	0	44	0	17	0	0	0	240
Lane Group Flow (vph)	400	333	0	20	140	11	45	123	0	195	245	315
Heavy Vehicles (%)	3%	0%	0%	0%	1%	0%	0%	0%	0%	2%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA	Prot	Prot	NA		Prot	NA	pt+ov
Protected Phases	3	8		7	4	4	1	6		5	2	2 3
Permitted Phases	8			4								
Actuated Green, G (s)	34.1	28.8		14.7	13.9	13.9	4.1	12.0		12.2	20.1	40.3
Effective Green, g (s)	34.6	29.3		15.7	14.4	14.4	4.6	12.5		12.7	20.6	40.8
Actuated g/C Ratio	0.48	0.41		0.22	0.20	0.20	0.06	0.17		0.18	0.29	0.57
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.3	2.0	2.0	2.3	2.0		2.3	2.0	
Lane Grp Cap (vph)	627	753		244	377	323	115	314		313	539	908
v/s Ratio Prot	c0.14	0.18		0.00	0.07	0.01	0.02	0.07		c0.11	c0.13	c0.20
v/s Ratio Perm	c0.16			0.02								
v/c Ratio	0.64	0.44		0.08	0.37	0.03	0.39	0.39		0.62	0.45	0.35
Uniform Delay, d1	12.7	15.4		22.2	24.8	23.1	32.3	26.3		27.3	21.0	8.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.6	0.2		0.1	0.2	0.0	1.3	0.3		3.1	0.2	0.1
Delay (s)	14.3	15.5		22.2	25.0	23.1	33.5	26.6		30.4	21.2	8.4
Level of Service	B	B		C	C	C	C	C		C	C	A
Approach Delay (s)		14.9			24.3			28.3			15.9	
Approach LOS		B			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	71.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	515	160	240	495	5	55	10	215	10	10	15
Future Volume (vph)	5	515	160	240	495	5	55	10	215	10	10	15
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			1.00	1.00		1.00	
Frt	1.00	0.96		1.00	1.00			1.00	0.85		0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.99	
Satd. Flow (prot)	1805	1805		1805	1879			1778	1599		1765	
Flt Permitted	0.48	1.00		0.18	1.00			0.73	1.00		0.90	
Satd. Flow (perm)	912	1805		342	1879			1361	1599		1614	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	5	515	160	240	495	5	55	10	215	10	10	15
RTOR Reduction (vph)	0	11	0	0	0	0	0	0	187	0	13	0
Lane Group Flow (vph)	5	664	0	240	500	0	0	65	28	0	22	0
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	3%	0%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	24.6	23.9		35.3	30.6			6.6	6.6		6.6	
Effective Green, g (s)	24.6	23.9		35.3	30.6			6.6	6.6		6.6	
Actuated g/C Ratio	0.49	0.48		0.71	0.61			0.13	0.13		0.13	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Vehicle Extension (s)	2.5	2.5		2.5	2.5			2.5	2.5		2.5	
Lane Grp Cap (vph)	462	864		458	1152			180	211		213	
v/s Ratio Prot	0.00	c0.37		c0.08	0.27							
v/s Ratio Perm	0.01			0.29				c0.05	0.02		0.01	
v/c Ratio	0.01	0.77		0.52	0.43			0.36	0.13		0.10	
Uniform Delay, d1	6.4	10.7		6.0	5.1			19.7	19.1		19.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	4.0		0.8	0.2			0.9	0.2		0.2	
Delay (s)	6.4	14.7		6.8	5.3			20.6	19.3		19.2	
Level of Service	A	B		A	A			C	B		B	
Approach Delay (s)		14.6			5.8			19.6			19.2	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	49.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.1%	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												
Traffic Volume (vph)	130	470	215	45	480	40	405	505	70	140	400	420
Future Volume (vph)	130	470	215	45	480	40	405	505	70	140	400	420
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	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1787	1863	1553	1752	1841		1787	1811		1770	1845	1599
Flt Permitted	0.10	1.00	1.00	0.20	1.00		0.13	1.00		0.33	1.00	1.00
Satd. Flow (perm)	179	1863	1553	367	1841		251	1811		621	1845	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	130	470	215	45	480	40	405	505	70	140	400	420
RTOR Reduction (vph)	0	0	80	0	2	0	0	2	0	0	0	183
Lane Group Flow (vph)	130	470	135	45	518	0	405	573	0	140	400	237
Heavy Vehicles (%)	1%	2%	4%	3%	1%	14%	1%	3%	3%	2%	3%	1%
Turn Type	pm+pt	NA	Prot	pm+pt	NA		pm+pt	NA		pm+pt	NA	Prot
Protected Phases	7	4	4	3	8		5	2		1	6	6
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	53.8	44.2	44.2	43.6	38.0		74.5	58.9		46.7	35.1	35.1
Effective Green, g (s)	53.8	45.2	45.2	43.6	39.0		74.5	59.9		46.7	36.1	36.1
Actuated g/C Ratio	0.39	0.33	0.33	0.32	0.28		0.54	0.43		0.34	0.26	0.26
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0		2.0	3.0	3.0
Lane Grp Cap (vph)	206	608	507	171	519		528	784		306	481	417
v/s Ratio Prot	c0.05	0.25	0.09	0.01	c0.28		c0.20	0.32		0.04	c0.22	0.15
v/s Ratio Perm	0.19			0.07			0.22			0.12		
v/c Ratio	0.63	0.77	0.27	0.26	1.00		0.77	0.73		0.46	0.83	0.57
Uniform Delay, d1	33.4	41.9	34.3	35.2	49.6		32.8	32.5		33.3	48.2	44.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.6	6.1	0.3	0.3	38.6		5.9	3.5		0.4	11.7	1.8
Delay (s)	38.0	48.0	34.6	35.5	88.3		38.8	36.0		33.7	59.9	46.1
Level of Service	D	D	C	D	F		D	D		C	E	D
Approach Delay (s)		42.9			84.1			37.2			50.0	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM 2000 Control Delay	50.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	138.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX B35

Segment C – Bridgeport Subarea 2035 No-Build Operations

GREAT PLACES SW Corridor

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	870	0	0	0
Future Volume (vph)	0	0	870	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			2.0			
Lane Util. Factor			0.95			
Frt			1.00			
Flt Protected			1.00			
Satd. Flow (prot)			3539			
Flt Permitted			1.00			
Satd. Flow (perm)			3539			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	870	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	870	0	0	0
Turn Type		Prot	NA			
Protected Phases		4	2			
Permitted Phases		4				
Actuated Green, G (s)			2.5			
Effective Green, g (s)			2.5			
Actuated g/C Ratio			0.28			
Clearance Time (s)			2.0			
Vehicle Extension (s)			0.2			
Lane Grp Cap (vph)			983			
v/s Ratio Prot			c0.25			
v/s Ratio Perm						
v/c Ratio			0.89			
Uniform Delay, d1			3.1			
Progression Factor			1.00			
Incremental Delay, d2			11.5			
Delay (s)			14.6			
Level of Service			B			
Approach Delay (s)	0.0		14.6		0.0	
Approach LOS	A		B		A	

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	9.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↱			↑	↱
Traffic Vol, veh/h	0	0	0	0	850	0
Future Vol, veh/h	0	0	0	0	850	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	850	0

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	850	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	360	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	360	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	1067	257	54	1067	18	410	14	21	20	7	38
Future Volume (vph)	146	1067	257	54	1067	18	410	14	21	20	7	38
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.96	1.00
Satd. Flow (prot)	1703	3406	1524	1736	4973		1649	1640			1681	1482
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.96	1.00
Satd. Flow (perm)	1703	3406	1524	1736	4973		1649	1640			1681	1482
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	146	1067	257	54	1067	18	410	14	21	20	7	38
RTOR Reduction (vph)	0	0	82	0	1	0	0	2	0	0	0	29
Lane Group Flow (vph)	146	1067	175	54	1084	0	221	222	0	0	27	9
Confl. Peds. (#/hr)	2		5	5		2	2		2	2		2
Confl. Bikes (#/hr)			3									
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	4%	4%	4%	9%	9%	9%
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2	2 8	1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	13.8	47.3	65.7	6.8	40.8		18.4	18.4			9.0	22.8
Effective Green, g (s)	13.8	48.3	67.7	6.8	41.3		18.9	18.9			9.5	23.8
Actuated g/C Ratio	0.14	0.49	0.68	0.07	0.42		0.19	0.19			0.10	0.24
Clearance Time (s)	4.0	5.0		4.0	4.5		4.5	4.5			4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3			2.3	
Lane Grp Cap (vph)	236	1653	1036	118	2064		313	311			160	354
v/s Ratio Prot	c0.09	c0.31	0.11	0.03	0.22		0.13	c0.14			c0.02	0.01
v/s Ratio Perm												
v/c Ratio	0.62	0.65	0.17	0.46	0.53		0.71	0.71			0.17	0.03
Uniform Delay, d1	40.4	19.2	5.7	44.6	21.8		37.7	37.8			41.4	29.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.8	1.0	0.1	1.6	0.3		6.3	6.7			0.3	0.0
Delay (s)	44.2	20.2	5.9	46.2	22.1		44.0	44.5			41.7	29.0
Level of Service	D	C	A	D	C		D	D			D	C
Approach Delay (s)		20.1			23.3			44.2			34.3	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	25.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	99.5	Sum of lost time (s)	16.5
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	365	895	0	0	1015	500	395	5	575	0	0	0
Future Volume (vph)	365	895	0	0	1015	500	395	5	575	0	0	0
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	0.97	0.95			0.86	1.00	0.95	0.95	0.88			
Frpb, ped/bikes	1.00	1.00			1.00	0.99	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3335	3438			6108	1488	1633	1639	2707			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3335	3438			6108	1488	1633	1639	2707			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	365	895	0	0	1015	500	395	5	575	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	191	0	0	0
Lane Group Flow (vph)	365	895	0	0	1015	500	201	199	384	0	0	0
Confl. Peds. (#/hr)	7		8	8		7			3			
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	5%	5%	5%	7%	7%	7%	5%	5%	5%	0%	0%	0%
Turn Type	Prot	NA			NA	Free	Split	NA	custom			
Protected Phases	5	2			6		8	8	8			
Permitted Phases						Free			8			
Actuated Green, G (s)	12.1	47.2			30.6	72.0	14.8	14.8	14.8			
Effective Green, g (s)	12.6	48.2			31.6	72.0	15.8	15.8	15.8			
Actuated g/C Ratio	0.17	0.67			0.44	1.00	0.22	0.22	0.22			
Clearance Time (s)	4.5	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	2.3	4.2			4.2		2.3	2.3	2.3			
Lane Grp Cap (vph)	583	2301			2680	1488	358	359	594			
v/s Ratio Prot	c0.11	c0.26			0.17		0.12	0.12	c0.14			
v/s Ratio Perm						0.34						
v/c Ratio	0.63	0.39			0.38	0.34	0.56	0.55	0.65			
Uniform Delay, d1	27.5	5.3			13.6	0.0	25.0	25.0	25.6			
Progression Factor	0.49	0.51			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	1.6	0.5			0.4	0.6	1.5	1.3	2.0			
Delay (s)	15.0	3.2			14.0	0.6	26.5	26.3	27.6			
Level of Service	B	A			B	A	C	C	C			
Approach Delay (s)		6.6			9.6			27.1			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	945	425	420	990	0	0	0	0	315	5	515
Future Volume (vph)	0	945	425	420	990	0	0	0	0	315	5	515
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		*0.74	1.00	0.97	0.95					0.95	0.95	0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		5356	1538	3367	3471					1649	1655	2733
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		5356	1538	3367	3471					1649	1655	2733
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	945	425	420	990	0	0	0	0	315	5	515
RTOR Reduction (vph)	0	0	227	0	0	0	0	0	0	0	0	167
Lane Group Flow (vph)	0	945	198	420	990	0	0	0	0	161	159	348
Confl. Peds. (#/hr)	5		7	7		5						
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	0%	0%	0%	4%	4%	4%
Turn Type		NA	Prot	Prot	NA					Split	NA	custom
Protected Phases		2	2	1	6					4	4	4
Permitted Phases												1
Actuated Green, G (s)		32.6	32.6	13.1	50.2					11.8	11.8	24.9
Effective Green, g (s)		33.6	33.6	13.6	51.2					12.8	12.8	26.9
Actuated g/C Ratio		0.47	0.47	0.19	0.71					0.18	0.18	0.37
Clearance Time (s)		5.0	5.0	4.5	5.0					5.0	5.0	5.0
Vehicle Extension (s)		4.2	4.2	2.3	4.2					2.3	2.3	2.3
Lane Grp Cap (vph)		2499	717	635	2468					293	294	1172
v/s Ratio Prot		0.18	0.13	c0.12	c0.29					c0.10	0.10	0.05
v/s Ratio Perm												0.07
v/c Ratio		0.38	0.28	0.66	0.40					0.55	0.54	0.30
Uniform Delay, d1		12.4	11.8	27.1	4.2					27.0	26.9	15.9
Progression Factor		1.00	1.00	0.42	0.93					1.00	1.00	1.00
Incremental Delay, d2		0.4	1.0	2.1	0.5					1.5	1.4	0.1
Delay (s)		12.9	12.7	13.4	4.4					28.4	28.3	16.0
Level of Service		B	B	B	A					C	C	B
Approach Delay (s)		12.8			7.1			0.0			20.7	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	230	35	575	375	555	5	225	610	530	200	80
Future Volume (vph)	55	230	35	575	375	555	5	225	610	530	200	80
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	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.95	1.00	1.00	1.00	0.88	*0.63	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	4874		3400	3505	1547	1684	1776	2656	2146	1709	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	4874		3400	3505	1547	1684	1776	2656	2146	1709	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	55	230	35	575	375	555	5	225	610	530	200	80
RTOR Reduction (vph)	0	15	0	0	0	387	0	0	136	0	8	0
Lane Group Flow (vph)	55	250	0	575	375	168	5	225	474	530	272	0
Confl. Peds. (#/hr)	1		10	10		1	3					3
Confl. Bikes (#/hr)			2						3			
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	7%	7%	7%	6%	6%	6%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases						6						
Actuated Green, G (s)	6.3	16.3		23.4	32.4	32.4	0.8	21.4	49.8	30.1	52.2	
Effective Green, g (s)	7.3	17.3		23.4	33.4	33.4	0.8	22.4	50.8	31.1	52.7	
Actuated g/C Ratio	0.07	0.16		0.21	0.30	0.30	0.01	0.20	0.46	0.28	0.48	
Clearance Time (s)	5.0	5.0		4.0	5.0	5.0	4.0	5.0		5.0	4.5	
Vehicle Extension (s)	5.1	5.1		2.3	4.2	4.2	2.3	2.3		3.0	2.3	
Lane Grp Cap (vph)	114	765		721	1062	468	12	361	1224	605	817	
v/s Ratio Prot	0.03	0.05		c0.17	0.11		0.00	c0.13	0.18	c0.25	0.16	
v/s Ratio Perm						c0.11						
v/c Ratio	0.48	0.33		0.80	0.35	0.36	0.42	0.62	0.39	0.88	0.33	
Uniform Delay, d1	49.6	41.3		41.2	30.0	30.0	54.5	40.1	19.5	37.7	17.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.8	0.5		5.9	0.3	0.7	13.1	2.7	0.1	13.4	0.1	
Delay (s)	56.4	41.8		47.0	30.3	30.7	67.5	42.7	19.6	51.1	18.0	
Level of Service	E	D		D	C	C	E	D	B	D	B	
Approach Delay (s)		44.3			36.8			26.1			39.7	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	35.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	110.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.6%	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												
Traffic Volume (vph)	5	1	5	10	0	1	15	785	35	7	795	19
Future Volume (vph)	5	1	5	10	0	1	15	785	35	7	795	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.8		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	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.88		1.00	0.85		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1621	1479		1650	1459		1736	3445		1703	3403	
Flt Permitted	0.93	1.00		0.93	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1587	1479		1616	1459		1736	3445		1703	3403	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	5	1	5	10	0	1	15	785	35	7	795	19
RTOR Reduction (vph)	0	5	0	0	1	0	0	1	0	0	1	0
Lane Group Flow (vph)	5	1	0	10	0	0	15	819	0	7	813	0
Confl. Peds. (#/hr)	3		3	3		3	6		3	2		6
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	11%	11%	11%	9%	9%	9%	4%	4%	4%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	1.2	1.2		1.5	1.5		1.3	65.4		1.1	65.0	
Effective Green, g (s)	4.3	1.5		4.3	4.3		4.0	66.8		3.7	66.5	
Actuated g/C Ratio	0.05	0.02		0.05	0.05		0.05	0.77		0.04	0.77	
Clearance Time (s)	7.1	7.1		6.8	6.8		6.7	5.4		6.6	5.5	
Vehicle Extension (s)	2.4	2.4		2.4	2.4		2.6	2.5		2.6	2.5	
Lane Grp Cap (vph)	78	25		80	72		80	2651		72	2607	
v/s Ratio Prot		0.00			0.00		c0.01	0.24		0.00	c0.24	
v/s Ratio Perm	0.00			c0.01								
v/c Ratio	0.06	0.04		0.12	0.00		0.19	0.31		0.10	0.31	
Uniform Delay, d1	39.3	41.9		39.5	39.2		39.8	3.0		39.9	3.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.5		0.5	0.0		0.9	0.3		0.5	0.3	
Delay (s)	39.6	42.4		39.9	39.2		40.7	3.3		40.4	3.4	
Level of Service	D	D		D	D		D	A		D	A	
Approach Delay (s)		41.1			39.8			4.0			3.7	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	86.8	Sum of lost time (s)	14.8
Intersection Capacity Utilization	38.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	15	825	7	50	760
Future Vol, veh/h	0	15	825	7	50	760
Conflicting Peds, #/hr	31	30	0	30	30	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	50	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	6	6	4	4
Mvmt Flow	0	15	825	7	50	760

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1370	476	0	0	862	0
Stage 1	859	-	-	-	-	-
Stage 2	511	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.18	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.24	-
Pot Cap-1 Maneuver	140	541	-	-	763	-
Stage 1	380	-	-	-	-	-
Stage 2	573	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	124	514	-	-	744	-
Mov Cap-2 Maneuver	124	-	-	-	-	-
Stage 1	371	-	-	-	-	-
Stage 2	521	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	514	744	-
HCM Lane V/C Ratio	-	-	0.029	0.067	-
HCM Control Delay (s)	-	-	12.2	10.2	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	200	17	88	294	78	20	6	88	32	3	5
Future Volume (vph)	1	200	17	88	294	78	20	6	88	32	3	5
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	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.98		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.97		1.00	0.86		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	1717	3392		1770	3410		1671	1485		1665	1682	1536
Flt Permitted	0.53	1.00		0.57	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	959	3392		1062	3410		1671	1485		1665	1682	1536
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	200	17	88	294	78	20	6	88	32	3	5
RTOR Reduction (vph)	0	4	0	0	9	0	0	81	0	0	0	5
Lane Group Flow (vph)	1	213	0	88	363	0	20	13	0	17	18	0
Confl. Peds. (#/hr)	2					2	6		2	2		6
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	8%	8%	8%	3%	3%	3%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6								4
Actuated Green, G (s)	48.0	47.1		68.7	60.4		5.2	5.2		3.5	3.5	3.5
Effective Green, g (s)	54.8	48.8		71.0	62.1		8.3	8.3		7.1	7.1	7.1
Actuated g/C Ratio	0.56	0.50		0.73	0.63		0.08	0.08		0.07	0.07	0.07
Clearance Time (s)	7.4	5.7		6.3	5.7		7.1	7.1		7.6	7.6	7.6
Vehicle Extension (s)	2.4	3.1		2.7	3.1		2.4	2.4		2.3	2.3	2.3
Lane Grp Cap (vph)	570	1692		898	2165		141	126		120	122	111
v/s Ratio Prot	0.00	0.06		c0.02	c0.11		c0.01	0.01		0.01	c0.01	
v/s Ratio Perm	0.00			0.05								0.00
v/c Ratio	0.00	0.13		0.10	0.17		0.14	0.11		0.14	0.15	0.00
Uniform Delay, d1	9.5	13.1		4.0	7.3		41.5	41.3		42.5	42.5	42.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.2		0.2	0.2		0.3	0.2		0.3	0.3	0.0
Delay (s)	9.5	13.3		4.2	7.5		41.8	41.6		42.8	42.8	42.1
Level of Service	A	B		A	A		D	D		D	D	D
Approach Delay (s)		13.2			6.8			41.6			42.7	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	97.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	110	485	30	135	640
Future Vol, veh/h	30	110	485	30	135	640
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	110	485	30	135	640

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1410	258	0	0	515	0
Stage 1	500	-	-	-	-	-
Stage 2	910	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	140	742	-	-	1049	-
Stage 1	575	-	-	-	-	-
Stage 2	391	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	122	742	-	-	1049	-
Mov Cap-2 Maneuver	122	-	-	-	-	-
Stage 1	575	-	-	-	-	-
Stage 2	341	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.6	0	1.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	355	1049	-
HCM Lane V/C Ratio	-	-	0.394	0.129	-
HCM Control Delay (s)	-	-	21.6	8.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.8	0.4	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	1226	1668	0	0	2
Future Vol, veh/h	9	1226	1668	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	180	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	1226	1668	0	0	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1668	0	-	0	2299	834
Stage 1	-	-	-	-	1668	-
Stage 2	-	-	-	-	631	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	381	-	-	-	33	311
Stage 1	-	-	-	-	139	-
Stage 2	-	-	-	-	492	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	381	-	-	-	32	311
Mov Cap-2 Maneuver	-	-	-	-	107	-
Stage 1	-	-	-	-	136	-
Stage 2	-	-	-	-	492	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	16.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	381	-	-	-	-	311
HCM Lane V/C Ratio	0.024	-	-	-	-	0.006
HCM Control Delay (s)	14.7	-	-	-	0	16.7
HCM Lane LOS	B	-	-	-	A	C
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑	↱		
Traffic Vol, veh/h	0	0	1195	0	0	0
Future Vol, veh/h	0	0	1195	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1195	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	1195	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	227	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	227	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Intersection Delay, s/veh	18.4
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	1365	0
Future Vol, veh/h	0	0	0	0	1365	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	1365	0
Number of Lanes	0	1	0	0	2	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	2	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	0	18.4
HCM LOS	-	C

Lane	EBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	683	683
LT Vol	0	0	0
Through Vol	0	683	683
RT Vol	0	0	0
Lane Flow Rate	0	682	682
Geometry Grp	2	7	7
Degree of Util (X)	0	0.86	0.531
Departure Headway (Hd)	5.748	4.534	2.8
Convergence, Y/N	Yes	Yes	Yes
Cap	0	805	1297
Service Time	3.748	2.234	0.5
HCM Lane V/C Ratio	0	0.847	0.526
HCM Control Delay	8.7	28.1	8.6
HCM Lane LOS	N	D	A
HCM 95th-tile Q	0	10.5	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	1055	550	175	1445	50	515	30	50	130	50	340
Future Volume (vph)	240	1055	550	175	1445	50	515	30	50	130	50	340
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.97			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.97	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5052		1681	1664			1780	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.97	1.00
Satd. Flow (perm)	1770	3539	1583	1770	5052		1681	1664			1780	1568
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	240	1055	550	175	1445	50	515	30	50	130	50	340
RTOR Reduction (vph)	0	0	170	0	3	0	0	6	0	0	0	34
Lane Group Flow (vph)	240	1055	380	175	1492	0	299	290	0	0	180	306
Confl. Peds. (#/hr)	5		5	5		5	10					10
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2	2 8	1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	21.5	47.0	73.1	15.8	41.8		26.1	26.1			22.2	43.7
Effective Green, g (s)	21.5	48.0	75.1	15.8	42.3		26.6	26.6			22.7	44.7
Actuated g/C Ratio	0.17	0.37	0.58	0.12	0.33		0.21	0.21			0.18	0.35
Clearance Time (s)	4.0	5.0		4.0	4.5		4.5	4.5			4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3			2.3	
Lane Grp Cap (vph)	294	1315	920	216	1655		346	342			312	542
v/s Ratio Prot	c0.14	0.30	0.24	0.10	c0.30		c0.18	0.17			c0.10	0.20
v/s Ratio Perm												
v/c Ratio	0.82	0.80	0.41	0.81	0.90		0.86	0.85			0.58	0.56
Uniform Delay, d1	51.9	36.3	14.9	55.2	41.4		49.5	49.3			48.8	34.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	15.4	3.9	0.5	19.4	7.4		19.2	17.1			1.9	1.0
Delay (s)	67.3	40.2	15.3	74.6	48.8		68.7	66.5			50.7	35.3
Level of Service	E	D	B	E	D		E	E			D	D
Approach Delay (s)		36.3			51.5			67.6			40.6	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	46.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	129.1	Sum of lost time (s)	16.5
Intersection Capacity Utilization	81.0%	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												
Traffic Volume (vph)	565	1240	0	0	1675	625	715	5	605	0	0	0
Future Volume (vph)	565	1240	0	0	1675	625	715	5	605	0	0	0
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	*0.56	0.95			0.86	1.00	0.95	0.95	0.88			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1982	3539			6408	1554	1681	1686	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1982	3539			6408	1554	1681	1686	2787			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	565	1240	0	0	1675	625	715	5	605	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	87	0	0	0
Lane Group Flow (vph)	565	1240	0	0	1675	625	357	363	518	0	0	0
Confl. Peds. (#/hr)	10		20	20		10						
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Turn Type	Prot	NA			NA	Free	Split	NA	custom			
Protected Phases	5	2			6		8	8	8			
Permitted Phases						Free			8			
Actuated Green, G (s)	21.1	44.3			18.7	72.0	17.7	17.7	17.7			
Effective Green, g (s)	21.6	45.3			19.7	72.0	18.7	18.7	18.7			
Actuated g/C Ratio	0.30	0.63			0.27	1.00	0.26	0.26	0.26			
Clearance Time (s)	4.5	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	2.3	4.2			4.2		2.3	2.3	2.3			
Lane Grp Cap (vph)	594	2226			1753	1554	436	437	723			
v/s Ratio Prot	c0.29	0.35			c0.26		0.21	c0.22	0.19			
v/s Ratio Perm						0.40						
v/c Ratio	0.95	0.56			0.96	0.40	0.82	0.83	0.72			
Uniform Delay, d1	24.7	7.6			25.7	0.0	25.1	25.2	24.2			
Progression Factor	0.19	0.42			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	21.2	0.8			13.3	0.8	11.0	12.3	3.0			
Delay (s)	26.0	4.0			39.0	0.8	36.1	37.4	27.3			
Level of Service	C	A			D	A	D	D	C			
Approach Delay (s)		10.9			28.6			32.4			0.0	
Approach LOS		B			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.4%	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												
Traffic Volume (vph)	0	1490	505	855	1535	0	0	0	0	315	5	345
Future Volume (vph)	0	1490	505	855	1535	0	0	0	0	315	5	345
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		0.86	1.00	0.97	0.95					0.95	0.95	0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	0.99
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		6408	1583	3433	3539					1681	1688	2760
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		6408	1583	3433	3539					1681	1688	2760
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1490	505	855	1535	0	0	0	0	315	5	345
RTOR Reduction (vph)	0	0	286	0	0	0	0	0	0	0	0	41
Lane Group Flow (vph)	0	1490	219	855	1535	0	0	0	0	161	159	304
Confl. Peds. (#/hr)	10		20	20		10						5
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type		NA	Prot	Prot	NA					Split	NA	custom
Protected Phases		2	2	1	6					4	4	4
Permitted Phases												1
Actuated Green, G (s)		25.3	25.3	20.7	50.5					11.5	11.5	32.2
Effective Green, g (s)		26.3	26.3	21.2	51.5					12.5	12.5	34.2
Actuated g/C Ratio		0.37	0.37	0.29	0.72					0.17	0.17	0.48
Clearance Time (s)		5.0	5.0	4.5	5.0					5.0	5.0	5.0
Vehicle Extension (s)		4.2	4.2	2.3	4.2					2.3	2.3	2.3
Lane Grp Cap (vph)		2340	578	1010	2531					291	293	1464
v/s Ratio Prot		0.23	0.14	c0.25	c0.43					c0.10	0.09	0.04
v/s Ratio Perm												0.07
v/c Ratio		0.64	0.38	0.85	0.61					0.55	0.54	0.21
Uniform Delay, d1		18.9	16.8	23.9	5.2					27.2	27.1	11.0
Progression Factor		1.00	1.00	0.18	0.04					1.00	1.00	1.00
Incremental Delay, d2		1.3	1.9	2.2	0.5					1.6	1.4	0.0
Delay (s)		20.2	18.7	6.4	0.7					28.8	28.6	11.0
Level of Service		C	B	A	A					C	C	B
Approach Delay (s)		19.9			2.7			0.0			19.5	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.4%	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												
Traffic Volume (vph)	125	585	45	660	430	790	35	240	815	595	305	225
Future Volume (vph)	125	585	45	660	430	790	35	240	815	595	305	225
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	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.95	1.00	1.00	1.00	0.88	*0.63	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	5073		3433	3539	1540	1770	1863	2787	2230	1724	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1787	5073		3433	3539	1540	1770	1863	2787	2230	1724	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	125	585	45	660	430	790	35	240	815	595	305	225
RTOR Reduction (vph)	0	7	0	0	0	453	0	0	59	0	20	0
Lane Group Flow (vph)	125	623	0	660	430	337	35	240	756	595	510	0
Confl. Peds. (#/hr)	5		10	10		5	15					15
Confl. Bikes (#/hr)						15			5			5
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases						6						
Actuated Green, G (s)	8.1	22.7		25.4	39.0	39.0	3.3	12.1	42.5	32.6	42.9	
Effective Green, g (s)	9.1	23.7		25.4	40.0	40.0	3.3	13.1	43.5	33.6	43.4	
Actuated g/C Ratio	0.08	0.21		0.23	0.36	0.36	0.03	0.12	0.39	0.30	0.39	
Clearance Time (s)	5.0	5.0		4.0	5.0	5.0	4.0	5.0		5.0	4.5	
Vehicle Extension (s)	5.1	5.1		2.3	4.2	4.2	2.3	2.3		3.0	2.3	
Lane Grp Cap (vph)	145	1075		779	1266	550	52	218	1084	670	669	
v/s Ratio Prot	0.07	0.12		c0.19	0.12		0.02	c0.13	c0.27	c0.27	0.30	
v/s Ratio Perm						c0.22						
v/c Ratio	0.86	0.58		0.85	0.34	0.61	0.67	1.10	0.70	0.89	0.76	
Uniform Delay, d1	50.7	39.6		41.3	26.2	29.5	53.7	49.4	28.6	37.3	29.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	40.3	1.2		8.3	0.2	2.4	25.6	90.6	1.7	13.6	4.8	
Delay (s)	91.0	40.8		49.6	26.5	31.9	79.3	139.9	30.4	50.9	34.5	
Level of Service	F	D		D	C	C	E	F	C	D	C	
Approach Delay (s)		49.1			36.9			56.1			43.2	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	44.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	111.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.9%	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												
Traffic Volume (vph)	50	5	75	60	10	20	145	950	60	10	990	60
Future Volume (vph)	50	5	75	60	10	20	145	950	60	10	990	60
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	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.90		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1769	1573		1742	1651		1770	3497		1770	3501	
Flt Permitted	0.74	1.00		0.70	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1373	1573		1293	1651		1770	3497		1770	3501	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	5	75	60	10	20	145	950	60	10	990	60
RTOR Reduction (vph)	0	65	0	0	17	0	0	2	0	0	3	0
Lane Group Flow (vph)	50	15	0	60	13	0	145	1008	0	10	1047	0
Confl. Peds. (#/hr)	10		15	15		10	5		10	10		5
Confl. Bikes (#/hr)									5			5
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	9.2	9.2		9.5	9.5		11.1	59.5		1.1	49.3	
Effective Green, g (s)	12.3	12.3		12.3	12.3		13.8	60.9		3.7	50.8	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.16	0.69		0.04	0.57	
Clearance Time (s)	7.1	7.1		6.8	6.8		6.7	5.4		6.6	5.5	
Vehicle Extension (s)	2.4	2.4		2.4	2.4		2.6	2.5		2.6	2.5	
Lane Grp Cap (vph)	189	217		178	228		274	2395		73	2000	
v/s Ratio Prot		0.01			0.01		c0.08	0.29		0.01	c0.30	
v/s Ratio Perm	0.04			c0.05								
v/c Ratio	0.26	0.07		0.34	0.06		0.53	0.42		0.14	0.52	
Uniform Delay, d1	34.3	33.3		34.6	33.3		34.6	6.2		41.1	11.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1		0.7	0.1		1.5	0.5		0.7	1.0	
Delay (s)	34.7	33.4		35.4	33.3		36.1	6.7		41.7	12.6	
Level of Service	C	C		D	C		D	A		D	B	
Approach Delay (s)		33.9			34.7			10.4			12.9	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	88.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	10	390	20	10	10	455	560	5	25	650	25
Future Volume (vph)	65	10	390	20	10	10	455	560	5	25	650	25
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	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.98		0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.98	1.00		0.99		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.97		1.00	1.00		1.00	0.99	
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1736	1541		1754		1751	1842		1766	1850	
Flt Permitted		0.73	1.00		0.80		0.26	1.00		0.44	1.00	
Satd. Flow (perm)		1315	1541		1444		475	1842		819	1850	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	65	10	390	20	10	10	455	560	5	25	650	25
RTOR Reduction (vph)	0	0	167	0	9	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	75	223	0	31	0	455	565	0	25	673	0
Confl. Peds. (#/hr)	5		5	5		5	10		5	5		10
Confl. Bikes (#/hr)			5						5			5
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	3%	3%	3%	2%	2%	2%
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		6.3	14.4		6.3		58.6	50.5		46.2	44.3	
Effective Green, g (s)		8.7	19.2		8.7		61.2	52.9		51.0	46.7	
Actuated g/C Ratio		0.11	0.25		0.11		0.79	0.68		0.65	0.60	
Clearance Time (s)		6.4	6.4		6.4		6.4	6.4		6.4	6.4	
Vehicle Extension (s)		1.0	1.0		1.0		1.0	5.0		1.0	5.0	
Lane Grp Cap (vph)		146	458		161		545	1250		588	1109	
v/s Ratio Prot			c0.07				c0.11	0.31		0.00	0.36	
v/s Ratio Perm		0.06	0.08		0.02		c0.54			0.03		
v/c Ratio		0.51	0.49		0.19		0.83	0.45		0.04	0.61	
Uniform Delay, d1		32.6	25.1		31.4		8.1	5.8		4.7	9.8	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3	0.3		0.2		10.2	1.2		0.0	2.5	
Delay (s)		33.9	25.4		31.6		18.3	7.0		4.7	12.3	
Level of Service		C	C		C		B	A		A	B	
Approach Delay (s)		26.8			31.6			12.0			12.0	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	70	1020	5	30	980
Future Vol, veh/h	0	70	1020	5	30	980
Conflicting Peds, #/hr	0	0	0	35	35	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	50	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	3	3	3
Mvmt Flow	0	70	1020	5	30	980

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	548	0	0	1060	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.16	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.23	-
Pot Cap-1 Maneuver	0	485	-	-	647	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	471	-	-	628	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	471	628	-
HCM Lane V/C Ratio	-	-	0.149	0.048	-
HCM Control Delay (s)	-	-	14	11	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Intersection	
Int Delay, s/veh	13.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	0	55	30	5	20	60	980	5	25	880	75
Future Vol, veh/h	25	0	55	30	5	20	60	980	5	25	880	75
Conflicting Peds, #/hr	10	0	0	0	0	10	5	0	5	5	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	120	-	-	130	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	23	23	23	2	2	2	2	2	2
Mvmt Flow	25	0	55	30	5	20	60	980	5	25	880	75

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2098	2083	483	1598	2118	998	960	0	0	990	0	0
Stage 1	973	973	-	1108	1108	-	-	-	-	-	-	-
Stage 2	1125	1110	-	490	1010	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.645	6.845	6.545	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.445	5.845	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.845	5.845	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.7185	4.2185	3.5185	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	34	53	530	66	41	261	715	-	-	696	-	-
Stage 1	271	329	-	224	252	-	-	-	-	-	-	-
Stage 2	248	284	-	486	282	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	25	46	528	54	36	258	712	-	-	693	-	-
Mov Cap-2 Maneuver	25	46	-	54	36	-	-	-	-	-	-	-
Stage 1	247	316	-	204	230	-	-	-	-	-	-	-
Stage 2	203	259	-	420	271	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	240.1	147.3	0.6	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	712	-	-	72	71	693	-	-
HCM Lane V/C Ratio	0.084	-	-	1.111	0.775	0.036	-	-
HCM Control Delay (s)	10.5	-	-	240.1	147.3	10.4	-	-
HCM Lane LOS	B	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	6	3.6	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	415	40	180	360	150	40	30	175	165	30	25
Future Volume (vph)	30	415	40	180	360	150	40	30	175	165	30	25
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	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.91
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.96		1.00	0.87		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.97	1.00
Satd. Flow (prot)	1765	3461		1749	3344		1787	1605		1681	1710	1448
Flt Permitted	0.46	1.00		0.40	1.00		0.95	1.00		0.95	0.97	1.00
Satd. Flow (perm)	862	3461		730	3344		1787	1605		1681	1710	1448
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	415	40	180	360	150	40	30	175	165	30	25
RTOR Reduction (vph)	0	5	0	0	24	0	0	156	0	0	0	21
Lane Group Flow (vph)	30	450	0	180	486	0	40	49	0	97	98	4
Confl. Peds. (#/hr)	5		25	25		5	45		5	5		45
Confl. Bikes (#/hr)						10						5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6								4
Actuated Green, G (s)	47.2	43.6		65.0	54.0		8.5	8.5		13.1	13.1	13.1
Effective Green, g (s)	54.0	45.3		67.3	55.7		11.6	11.6		16.7	16.7	16.7
Actuated g/C Ratio	0.50	0.42		0.63	0.52		0.11	0.11		0.16	0.16	0.16
Clearance Time (s)	7.4	5.7		6.3	5.7		7.1	7.1		7.6	7.6	7.6
Vehicle Extension (s)	2.4	3.1		2.7	3.1		2.4	2.4		2.3	2.3	2.3
Lane Grp Cap (vph)	494	1465		624	1740		193	174		262	266	225
v/s Ratio Prot	0.00	0.13		c0.05	0.15		0.02	c0.03		c0.06	0.06	
v/s Ratio Perm	0.03			c0.13								0.00
v/c Ratio	0.06	0.31		0.29	0.28		0.21	0.28		0.37	0.37	0.02
Uniform Delay, d1	13.4	20.5		8.7	14.4		43.5	43.9		40.4	40.4	38.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.5		1.2	0.4		0.4	0.6		0.5	0.5	0.0
Delay (s)	13.4	21.0		9.9	14.8		43.9	44.4		41.0	40.9	38.2
Level of Service	B	C		A	B		D	D		D	D	D
Approach Delay (s)		20.5			13.5			44.4			40.6	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	107.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	64.3%	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												
Traffic Volume (vph)	50	280	50	50	230	145	50	65	50	155	65	50
Future Volume (vph)	50	280	50	50	230	145	50	65	50	155	65	50
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	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85		1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3459		1770	1863	1583		1823	1583	1770	1741	
Flt Permitted	0.61	1.00		0.55	1.00	1.00		0.83	1.00	0.68	1.00	
Satd. Flow (perm)	1142	3459		1029	1863	1583		1541	1583	1272	1741	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	280	50	50	230	145	50	65	50	155	65	50
RTOR Reduction (vph)	0	14	0	0	0	58	0	0	41	0	34	0
Lane Group Flow (vph)	50	316	0	50	230	87	0	115	9	155	81	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		
Actuated Green, G (s)	46.4	42.9		46.4	42.9	42.9		12.7	12.7	12.7	12.7	
Effective Green, g (s)	46.4	42.9		46.4	42.9	42.9		12.7	12.7	12.7	12.7	
Actuated g/C Ratio	0.65	0.60		0.65	0.60	0.60		0.18	0.18	0.18	0.18	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.6	3.1		2.7	3.1	3.1		2.6	2.6	2.6	2.6	
Lane Grp Cap (vph)	776	2087		708	1124	955		275	282	227	310	
v/s Ratio Prot	0.00	0.09		c0.00	c0.12						0.05	
v/s Ratio Perm	0.04			0.04		0.06		0.07	0.01	c0.12		
v/c Ratio	0.06	0.15		0.07	0.20	0.09		0.42	0.03	0.68	0.26	
Uniform Delay, d1	4.4	6.2		4.4	6.4	5.9		25.9	24.1	27.3	25.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.2		0.0	0.4	0.2		0.8	0.0	7.7	0.4	
Delay (s)	4.4	6.3		4.5	6.8	6.1		26.7	24.2	35.0	25.5	
Level of Service	A	A		A	A	A		C	C	C	C	
Approach Delay (s)		6.1			6.3			25.9			30.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	71.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX B36

Segment C – Tigard Subarea 2045 No-Build Operations

GREAT PLACES SW Corridor

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	1535	95	140	1865	30	220	180	270	135	135	140
Future Volume (vph)	250	1535	95	140	1865	30	220	180	270	135	135	140
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	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3471	1572	1787	5024		1805	1900	1538	1770	1729	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3471	1572	1787	5024		1805	1900	1538	1770	1729	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	250	1535	95	140	1865	30	220	180	270	135	135	140
RTOR Reduction (vph)	0	0	49	0	1	0	0	0	132	0	27	0
Lane Group Flow (vph)	250	1535	46	140	1894	0	220	180	138	135	248	0
Confl. Peds. (#/hr)			4			4			12			
Heavy Vehicles (%)	2%	4%	0%	1%	3%	0%	0%	0%	2%	2%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	11.9	67.2	67.2	12.5	67.8		19.4	28.5	28.5	13.8	22.9	
Effective Green, g (s)	12.4	67.7	67.7	13.0	68.3		19.9	29.0	29.0	14.3	23.4	
Actuated g/C Ratio	0.09	0.48	0.48	0.09	0.49		0.14	0.21	0.21	0.10	0.17	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	5.1	5.1	2.5	5.1		3.0	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	156	1678	760	165	2450		256	393	318	180	288	
v/s Ratio Prot	c0.14	c0.44		0.08	0.38		c0.12	0.09		0.08	c0.14	
v/s Ratio Perm			0.03						0.09			
v/c Ratio	1.60	0.91	0.06	0.85	0.77		0.86	0.46	0.44	0.75	0.86	
Uniform Delay, d1	63.8	33.5	19.2	62.5	29.5		58.7	48.6	48.4	61.1	56.7	
Progression Factor	1.00	1.00	1.00	1.05	0.95		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	299.0	9.3	0.2	11.7	0.8		23.7	0.5	0.6	14.9	21.2	
Delay (s)	362.8	42.8	19.4	77.4	28.8		82.4	49.1	48.9	76.0	77.9	
Level of Service	F	D	B	E	C		F	D	D	E	E	
Approach Delay (s)		84.1			32.1			60.0			77.3	
Approach LOS		F			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	59.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	1920	2000	280	75	35
Future Vol, veh/h	20	1920	2000	280	75	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	80	-	-	150	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	1920	2000	280	75	35

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2280	0	-	0	3000	1000
Stage 1	-	-	-	-	2000	-
Stage 2	-	-	-	-	1000	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	219	-	-	-	~ 11	241
Stage 1	-	-	-	-	91	-
Stage 2	-	-	-	-	317	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	219	-	-	-	~ 10	241
Mov Cap-2 Maneuver	-	-	-	-	~ 63	-
Stage 1	-	-	-	-	83	-
Stage 2	-	-	-	-	317	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	$ 305.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	219	-	-	-	82
HCM Lane V/C Ratio	0.091	-	-	-	1.341
HCM Control Delay (s)	23.1	-	-	-	$ 305.7
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.3	-	-	-	8.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	1875	80	40	1885	50	360	240	145	65	45	35
Future Volume (vph)	40	1875	80	40	1885	50	360	240	145	65	45	35
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	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	3513		1736	3491		1787	1881	1589	1805	1743	
Flt Permitted	0.05	1.00		0.05	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	93	3513		89	3491		1787	1881	1589	1805	1743	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	1875	80	40	1885	50	360	240	145	65	45	35
RTOR Reduction (vph)	0	2	0	0	1	0	0	0	65	0	22	0
Lane Group Flow (vph)	40	1953	0	40	1934	0	360	240	80	65	58	0
Confl. Peds. (#/hr)			6			4			3			3
Heavy Vehicles (%)	0%	2%	1%	4%	3%	0%	1%	1%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6					8			
Actuated Green, G (s)	86.5	81.5		86.7	81.6		21.0	28.0	28.0	7.4	14.4	
Effective Green, g (s)	87.5	82.0		87.7	82.1		21.5	28.5	28.5	7.9	14.9	
Actuated g/C Ratio	0.62	0.59		0.63	0.59		0.15	0.20	0.20	0.06	0.11	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.3	5.1		2.3	5.1		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	125	2057		121	2047		274	382	323	101	185	
v/s Ratio Prot	0.01	c0.56		c0.01	0.55		c0.20	c0.13		0.04	0.03	
v/s Ratio Perm	0.19			0.19					0.05			
v/c Ratio	0.32	0.95		0.33	0.94		1.31	0.63	0.25	0.64	0.31	
Uniform Delay, d1	29.3	27.1		30.2	26.9		59.2	50.9	46.7	64.7	57.8	
Progression Factor	1.80	0.74		1.32	0.47		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	6.9		0.5	6.6		164.8	2.8	0.3	11.8	0.7	
Delay (s)	53.4	26.9		40.4	19.1		224.1	53.7	47.0	76.4	58.5	
Level of Service	D	C		D	B		F	D	D	E	E	
Approach Delay (s)		27.4			19.5			134.7			66.5	
Approach LOS		C			B			F			E	

Intersection Summary			
HCM 2000 Control Delay	41.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBT	WBL	WBT	WBR	SBL	SBT	SBR	SWR	SWR2
Lane Configurations										
Traffic Volume (vph)	125	1095	135	750	100	40	85	60	1165	35
Future Volume (vph)	125	1095	135	750	100	40	85	60	1165	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1750
Total Lost time (s)	4.0	4.0	4.0	4.0			4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.95			1.00		*0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00			1.00		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00			1.00		1.00	
Frt	1.00	1.00	1.00	0.98			0.96		1.00	
Flt Protected	0.95	1.00	0.95	1.00			0.99		1.00	
Satd. Flow (prot)	1787	3504	1770	3485			1754		3505	
Flt Permitted	0.95	1.00	0.95	1.00			0.99		1.00	
Satd. Flow (perm)	1787	3504	1770	3485			1754		3505	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	125	1095	135	750	100	40	85	60	1165	35
RTOR Reduction (vph)	0	0	0	0	0	0	12	0	87	0
Lane Group Flow (vph)	125	1095	135	850	0	0	173	0	1113	0
Confl. Peds. (#/hr)			5							
Confl. Bikes (#/hr)										
Heavy Vehicles (%)	1%	2%	2%	2%	0%	0%	4%	2%	3%	3%
Bus Blockages (#/hr)	0	5	0	0	0	0	0	0	0	0
Turn Type	Prot	NA	Prot	NA		Perm	NA		Prot	
Protected Phases	3	3 6	5	1			4		2	
Permitted Phases						4				
Actuated Green, G (s)	9.0	92.4	15.3	36.0			16.3		57.1	
Effective Green, g (s)	10.0	89.6	17.3	38.3			17.3		58.4	
Actuated g/C Ratio	0.07	0.64	0.12	0.27			0.12		0.42	
Clearance Time (s)	5.0		6.0	6.3			5.0		5.3	
Vehicle Extension (s)	2.3		2.3	4.8			2.3		4.8	
Lane Grp Cap (vph)	127	2242	218	953			216		1462	
v/s Ratio Prot	c0.07	0.31	0.08	c0.24					c0.32	
v/s Ratio Perm							0.10			
v/c Ratio	0.98	0.49	0.62	0.89			0.80		0.76	
Uniform Delay, d1	64.9	13.2	58.2	48.9			59.7		34.8	
Progression Factor	0.86	1.06	0.78	0.93			1.00		1.00	
Incremental Delay, d2	49.7	0.0	3.9	10.6			17.6		3.8	
Delay (s)	105.8	14.0	49.3	56.1			77.3		38.6	
Level of Service	F	B	D	E			E		D	
Approach Delay (s)		23.4		55.2			77.3			
Approach LOS		C		E			E			

Intersection Summary			
HCM 2000 Control Delay	40.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	96.5%	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												
Traffic Volume (vph)	0	800	65	0	0	0	0	0	0	40	180	0
Future Volume (vph)	0	800	65	0	0	0	0	0	0	40	180	0
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	
Lane Util. Factor		0.95								1.00	1.00	
Frt		0.99								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3465								1752	1845	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3465								1752	1845	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	800	65	0	0	0	0	0	0	40	180	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	865	0	0	0	0	0	0	0	40	180	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type		NA								Perm	NA	
Protected Phases		3 6									4 5	
Permitted Phases										4 5		
Actuated Green, G (s)		92.4								36.6	36.6	
Effective Green, g (s)		89.6								37.6	37.6	
Actuated g/C Ratio		0.64								0.27	0.27	
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)		2217								470	495	
v/s Ratio Prot		c0.25									c0.10	
v/s Ratio Perm										0.02		
v/c Ratio		0.39								0.09	0.36	
Uniform Delay, d1		12.1								38.3	41.5	
Progression Factor		1.12								0.05	0.05	
Incremental Delay, d2		0.0								0.0	0.2	
Delay (s)		13.5								2.0	2.3	
Level of Service		B								A	A	
Approach Delay (s)		13.5			0.0			0.0			2.3	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	970	165	45	690	295	0
Future Volume (vph)	970	165	45	690	295	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.98		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3454		1752	3505	1787	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3454		1752	3505	1787	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	970	165	45	690	295	0
RTOR Reduction (vph)	9	0	0	0	0	0
Lane Group Flow (vph)	1126	0	45	690	295	0
Confl. Peds. (#/hr)		1				
Confl. Bikes (#/hr)		2				
Heavy Vehicles (%)	2%	1%	3%	3%	1%	1%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	4 8	
Permitted Phases						
Actuated Green, G (s)	54.3		8.3	67.1	62.6	
Effective Green, g (s)	55.6		8.8	68.4	63.9	
Actuated g/C Ratio	0.40		0.06	0.49	0.46	
Clearance Time (s)	5.3		4.5	5.3		
Vehicle Extension (s)	4.7		2.3	4.7		
Lane Grp Cap (vph)	1371		110	1712	815	
v/s Ratio Prot	c0.33		0.03	c0.20	c0.17	
v/s Ratio Perm						
v/c Ratio	0.82		0.41	0.40	0.36	
Uniform Delay, d1	37.8		63.1	22.8	24.8	
Progression Factor	0.89		1.00	1.00	0.09	
Incremental Delay, d2	5.1		1.4	0.7	0.6	
Delay (s)	38.8		64.5	23.5	2.8	
Level of Service	D		E	C	A	
Approach Delay (s)	38.8			26.0	2.8	
Approach LOS	D			C	A	

Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	665	45	0	0	0	0	155	20	0	210	0
Future Volume (vph)	140	665	45	0	0	0	0	155	20	0	210	0
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	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						0.98			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		3431						1867			1881	
Flt Permitted		0.99						1.00			1.00	
Satd. Flow (perm)		3431						1867			1881	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	140	665	45	0	0	0	0	155	20	0	210	0
RTOR Reduction (vph)	0	3	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	847	0	0	0	0	0	171	0	0	210	0
Confl. Peds. (#/hr)			2			1			2			4
Heavy Vehicles (%)	5%	3%	4%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Turn Type	Split	NA						NA			NA	
Protected Phases	4	4						8			1 2 8	
Permitted Phases										1 2 8		
Actuated Green, G (s)		41.1						16.2			88.3	
Effective Green, g (s)		42.4						17.2			84.3	
Actuated g/C Ratio		0.30						0.12			0.60	
Clearance Time (s)		5.3						5.0				
Vehicle Extension (s)		6.4						2.3				
Lane Grp Cap (vph)		1039						229			1132	
v/s Ratio Prot		c0.25						c0.09			c0.11	
v/s Ratio Perm												
v/c Ratio		0.82						0.75			0.19	
Uniform Delay, d1		45.2						59.3			12.5	
Progression Factor		1.00						1.00			0.12	
Incremental Delay, d2		6.0						11.6			0.0	
Delay (s)		51.2						70.9			1.6	
Level of Service		D						E			A	
Approach Delay (s)		51.2			0.0			70.9			1.6	
Approach LOS		D			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	45.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	58.5
Intersection LOS	F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	470	300	60	370	405	170
Future Vol, veh/h	470	300	60	370	405	170
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	1	0	2	2	0	0
Mvmt Flow	470	300	60	370	405	170
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	44.9	40.1	90.6
HCM LOS	E	E	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	70%	0%	0%	14%
Vol Thru, %	0%	100%	0%	86%
Vol Right, %	30%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	575	470	300	430
LT Vol	405	0	0	60
Through Vol	0	470	0	370
RT Vol	170	0	300	0
Lane Flow Rate	575	470	300	430
Geometry Grp	2	7	7	5
Degree of Util (X)	1.087	0.967	0.557	0.85
Departure Headway (Hd)	6.808	7.805	7.064	7.514
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	535	470	513	486
Service Time	4.873	5.505	4.764	5.514
HCM Lane V/C Ratio	1.075	1	0.585	0.885
HCM Control Delay	90.6	61.8	18.3	40.1
HCM Lane LOS	F	F	C	E
HCM 95th-tile Q	17.7	12	3.4	8.7

Intersection	
Intersection Delay, s/veh	97.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	180	165	35	355	5	415	5	150	520	85	80	0
Future Vol, veh/h	180	165	35	355	5	415	5	150	520	85	80	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	17	3	0	1	1	1	0	1	1	0	1	7
Mvmt Flow	180	165	35	355	5	415	5	150	520	85	80	0
Number of Lanes	0	1	1	1	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	80.8	76	150.8	19.4
HCM LOS	F	F	F	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	3%	0%	52%	0%	100%	0%	0%	100%	0%
Vol Thru, %	97%	0%	48%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	520	345	35	355	5	415	85	80
LT Vol	5	0	180	0	355	0	0	85	0
Through Vol	150	0	165	0	0	5	0	0	80
RT Vol	0	520	0	35	0	0	415	0	0
Lane Flow Rate	155	520	345	35	355	5	415	85	80
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.422	1.326	1.007	0.091	0.972	0.013	0.999	0.275	0.248
Departure Headway (Hd)	10.011	9.286	11.398	10.135	10.682	10.159	9.426	12.563	12.052
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	363	395	321	356	341	354	390	288	300
Service Time	7.711	6.986	9.098	7.835	8.382	7.859	7.126	10.263	9.752
HCM Lane V/C Ratio	0.427	1.316	1.075	0.098	1.041	0.014	1.064	0.295	0.267
HCM Control Delay	19.8	189.8	87.6	13.8	75.7	13	77	20	18.7
HCM Lane LOS	C	F	F	B	F	B	F	C	C
HCM 95th-tile Q	2	23.9	11.1	0.3	10.5	0	11.9	1.1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	270	60	125	385	130	65	285	205	165	110	195
Future Volume (vph)	260	270	60	125	385	130	65	285	205	165	110	195
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	4.5	4.0	4.0	4.8	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00		0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98		1.00	1.00	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1863	1576		3514	1599	1770	1863	1615	1787	1643	
Flt Permitted	0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1805	1863	1576		3514	1599	1770	1863	1615	1787	1643	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	260	270	60	125	385	130	65	285	205	165	110	195
RTOR Reduction (vph)	0	0	48	0	0	0	0	0	99	0	57	0
Lane Group Flow (vph)	260	270	12	0	510	130	65	285	106	165	248	0
Confl. Peds. (#/hr)			3			1			1			4
Heavy Vehicles (%)	0%	2%	0%	3%	1%	1%	2%	2%	0%	1%	8%	1%
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3	3 1	5	2	2 3	1	6	
Permitted Phases			4									
Actuated Green, G (s)	15.4	15.4	15.4		17.0	27.5	6.1	20.7	42.5	10.5	25.1	
Effective Green, g (s)	15.9	15.9	15.9		17.5	27.5	6.6	21.5	42.5	11.0	25.9	
Actuated g/C Ratio	0.19	0.19	0.19		0.21	0.34	0.08	0.26	0.52	0.13	0.32	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.8		4.5	4.8	
Vehicle Extension (s)	2.3	2.3	2.3		2.5		2.3	4.7		2.3	4.7	
Lane Grp Cap (vph)	350	361	305		750	536	142	489	838	240	519	
v/s Ratio Prot	0.14	c0.14			c0.15	0.08	0.04	c0.15	0.07	c0.09	0.15	
v/s Ratio Perm			0.01									
v/c Ratio	0.74	0.75	0.04		0.68	0.24	0.46	0.58	0.13	0.69	0.48	
Uniform Delay, d1	31.1	31.1	26.8		29.6	19.7	35.9	26.3	10.1	33.8	22.5	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.6	7.6	0.0		2.3	0.2	1.4	2.5	0.1	6.9	1.3	
Delay (s)	38.7	38.7	26.8		32.0	19.8	37.3	28.8	10.3	40.7	23.8	
Level of Service	D	D	C		C	B	D	C	B	D	C	
Approach Delay (s)		37.5			29.5			23.0			29.8	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	81.9	Sum of lost time (s)	17.8
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX B37

Segment C – Bonita Subarea 2045 No-Build Operations

GREAT PLACES SW Corridor

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	770	0
Future Volume (vph)	0	0	0	0	770	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)					2.5	
Lane Util. Factor					0.95	
Frt					1.00	
Flt Protected					1.00	
Satd. Flow (prot)					3539	
Flt Permitted					1.00	
Satd. Flow (perm)					3539	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	770	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	770	0
Turn Type		Perm			NA	
Protected Phases					2	
Permitted Phases		8				
Actuated Green, G (s)					2.5	
Effective Green, g (s)					2.5	
Actuated g/C Ratio					0.29	
Clearance Time (s)					2.5	
Lane Grp Cap (vph)					1040	
v/s Ratio Prot					c0.22	
v/s Ratio Perm						
v/c Ratio					0.74	
Uniform Delay, d1					2.7	
Progression Factor					1.00	
Incremental Delay, d2					4.7	
Delay (s)					7.5	
Level of Service					A	
Approach Delay (s)	0.0			0.0	7.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	8.5	Sum of lost time (s)	5.0
Intersection Capacity Utilization	24.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑			
Traffic Vol, veh/h	0	0	825	0	0	0
Future Vol, veh/h	0	0	825	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	825	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	413	0	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	588	-	0
Stage 1	0	-	-	0
Stage 2	0	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	-	588	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	WBLn1
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	650	385	0	0	380	175	290	0	270	0	0	0
Future Volume (vph)	650	385	0	0	380	175	290	0	270	0	0	0
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	0.95	0.95			1.00		1.00	1.00				
Frt	1.00	1.00			0.96		1.00	0.85				
Flt Protected	0.95	0.99			1.00		0.95	1.00				
Satd. Flow (prot)	1681	1771			1807		1752	1599				
Flt Permitted	0.95	0.99			1.00		0.95	1.00				
Satd. Flow (perm)	1681	1771			1807		1752	1599				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	650	385	0	0	380	175	290	0	270	0	0	0
RTOR Reduction (vph)	0	0	0	0	21	0	0	211	0	0	0	0
Lane Group Flow (vph)	507	528	0	0	534	0	290	59	0	0	0	0
Heavy Vehicles (%)	2%	0%	0%	0%	1%	0%	3%	0%	1%	0%	0%	0%
Turn Type	Split	NA			NA		Perm	NA				
Protected Phases	6	6			2			4				
Permitted Phases							4					
Actuated Green, G (s)	23.5	23.5			21.0		15.5	15.5				
Effective Green, g (s)	24.5	24.5			22.0		16.5	16.5				
Actuated g/C Ratio	0.33	0.33			0.29		0.22	0.22				
Clearance Time (s)	5.0	5.0			5.0		5.0	5.0				
Vehicle Extension (s)	4.2	4.2			4.2		2.3	2.3				
Lane Grp Cap (vph)	549	578			530		385	351				
v/s Ratio Prot	c0.30	0.30			c0.30			0.04				
v/s Ratio Perm							c0.17					
v/c Ratio	0.92	0.91			1.01		0.75	0.17				
Uniform Delay, d1	24.3	24.2			26.5		27.3	23.7				
Progression Factor	1.13	1.13			1.00		1.00	1.00				
Incremental Delay, d2	16.4	14.4			40.9		7.5	0.1				
Delay (s)	44.0	41.9			67.4		34.9	23.8				
Level of Service	D	D			E		C	C				
Approach Delay (s)		42.9			67.4			29.6			0.0	
Approach LOS		D			E			C			A	

Intersection Summary			
HCM 2000 Control Delay	45.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.0%	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												
Traffic Volume (vph)	0	840	580	135	535	0	0	0	0	195	55	660
Future Volume (vph)	0	840	580	135	535	0	0	0	0	195	55	660
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		4%			0%			0%			0%	
Total Lost time (s)		4.0		4.0	4.0						4.0	4.0
Lane Util. Factor		0.95		1.00	1.00						1.00	0.88
Frt		0.94		1.00	1.00						1.00	0.85
Flt Protected		1.00		0.95	1.00						0.96	1.00
Satd. Flow (prot)		3256		1805	1863						1829	2814
Flt Permitted		1.00		0.09	1.00						0.96	1.00
Satd. Flow (perm)		3256		180	1863						1829	2814
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	840	580	135	535	0	0	0	0	195	55	660
RTOR Reduction (vph)	0	124	0	0	0	0	0	0	0	0	0	466
Lane Group Flow (vph)	0	1296	0	135	535	0	0	0	0	0	250	194
Heavy Vehicles (%)	0%	2%	2%	0%	2%	0%	0%	0%	0%	0%	0%	1%
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		6		5	2						8	
Permitted Phases				2						8		8
Actuated Green, G (s)		36.8		48.3	48.3						15.7	15.7
Effective Green, g (s)		38.3		49.8	49.8						17.2	17.2
Actuated g/C Ratio		0.51		0.66	0.66						0.23	0.23
Clearance Time (s)		5.5		5.5	5.5						5.5	5.5
Vehicle Extension (s)		4.2		2.3	4.2						2.3	2.3
Lane Grp Cap (vph)		1662		282	1237						419	645
v/s Ratio Prot		c0.40		0.05	c0.29							
v/s Ratio Perm				0.27							0.14	0.07
v/c Ratio		0.78		0.48	0.43						0.60	0.30
Uniform Delay, d1		14.9		10.9	5.9						25.8	23.9
Progression Factor		1.00		1.98	1.53						1.00	1.00
Incremental Delay, d2		3.7		0.4	0.5						1.8	0.2
Delay (s)		18.6		22.1	9.7						27.6	24.1
Level of Service		B		C	A						C	C
Approach Delay (s)		18.6			12.2			0.0			25.0	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1420	0	0	1195	0	0
Future Vol, veh/h	1420	0	0	1195	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1420	0	0	1195	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1420	0	2018	710
Stage 1	-	-	-	-	1420	-
Stage 2	-	-	-	-	598	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	475	-	51	376
Stage 1	-	-	-	-	189	-
Stage 2	-	-	-	-	512	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	475	-	51	376
Mov Cap-2 Maneuver	-	-	-	-	51	-
Stage 1	-	-	-	-	189	-
Stage 2	-	-	-	-	512	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	475	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

APPENDIX B38

Segment C – Bridgeport Subarea 2045 No-Build Operations

GREAT PLACES SW Corridor

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑	↱		
Traffic Vol, veh/h	0	0	1210	0	0	0
Future Vol, veh/h	0	0	1210	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1210	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	1210	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	223	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	223	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Intersection Delay, s/veh	21.4
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	1435	0
Future Vol, veh/h	0	0	0	0	1435	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	1435	0
Number of Lanes	0	1	0	0	2	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	2	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	0	21.4
HCM LOS	-	C

Lane	EBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	718	718
LT Vol	0	0	0
Through Vol	0	718	718
RT Vol	0	0	0
Lane Flow Rate	0	718	718
Geometry Grp	2	7	7
Degree of Util (X)	0	0.904	0.558
Departure Headway (Hd)	5.793	4.534	2.8
Convergence, Y/N	Yes	Yes	Yes
Cap	0	804	1299
Service Time	3.793	2.234	0.5
HCM Lane V/C Ratio	0	0.893	0.553
HCM Control Delay	8.8	33.7	9
HCM Lane LOS	N	D	A
HCM 95th-tile Q	0	12.3	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	245	1200	610	190	1470	50	535	30	55	135	50	345
Future Volume (vph)	245	1200	610	190	1470	50	535	30	55	135	50	345
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.97			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.96	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5053		1681	1662			1780	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.96	1.00
Satd. Flow (perm)	1770	3539	1583	1770	5053		1681	1662			1780	1568
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	245	1200	610	190	1470	50	535	30	55	135	50	345
RTOR Reduction (vph)	0	0	166	0	3	0	0	6	0	0	0	34
Lane Group Flow (vph)	245	1200	444	190	1517	0	310	304	0	0	185	311
Confl. Peds. (#/hr)	5		5	5		5	10					10
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2	2 8	1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	22.0	46.4	73.3	16.7	41.6		26.9	26.9			22.5	44.5
Effective Green, g (s)	22.0	47.4	75.3	16.7	42.1		27.4	27.4			23.0	45.5
Actuated g/C Ratio	0.17	0.36	0.58	0.13	0.32		0.21	0.21			0.18	0.35
Clearance Time (s)	4.0	5.0		4.0	4.5		4.5	4.5			4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3			2.3	
Lane Grp Cap (vph)	298	1285	913	226	1630		352	348			313	546
v/s Ratio Prot	c0.14	c0.34	0.28	0.11	0.30		c0.18	0.18			c0.10	0.20
v/s Ratio Perm												
v/c Ratio	0.82	0.93	0.49	0.84	0.93		0.88	0.87			0.59	0.57
Uniform Delay, d1	52.4	40.0	16.2	55.6	42.8		50.0	49.9			49.4	34.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	16.0	12.6	0.6	23.0	10.2		21.5	20.6			2.3	1.0
Delay (s)	68.4	52.6	16.8	78.6	53.0		71.4	70.5			51.7	35.5
Level of Service	E	D	B	E	D		E	E			D	D
Approach Delay (s)		43.9			55.8			71.0			41.2	
Approach LOS		D			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	51.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	130.5	Sum of lost time (s)	16.5
Intersection Capacity Utilization	82.3%	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												
Traffic Volume (vph)	565	1295	0	0	1715	635	840	10	760	0	0	0
Future Volume (vph)	565	1295	0	0	1715	635	840	10	760	0	0	0
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	*0.56	0.95			0.86	1.00	0.95	0.95	0.88			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1982	3539			6408	1554	1681	1687	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1982	3539			6408	1554	1681	1687	2787			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	565	1295	0	0	1715	635	840	10	760	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	75	0	0	0
Lane Group Flow (vph)	565	1295	0	0	1715	635	428	422	685	0	0	0
Confl. Peds. (#/hr)	10		20	20		10						
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Turn Type	Prot	NA			NA	Free	Split	NA	custom			
Protected Phases	5	2			6		8	8	8			
Permitted Phases						Free			8			
Actuated Green, G (s)	20.6	43.1			18.0	72.0	18.9	18.9	18.9			
Effective Green, g (s)	21.1	44.1			19.0	72.0	19.9	19.9	19.9			
Actuated g/C Ratio	0.29	0.61			0.26	1.00	0.28	0.28	0.28			
Clearance Time (s)	4.5	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	2.3	4.2			4.2		2.3	2.3	2.3			
Lane Grp Cap (vph)	580	2167			1691	1554	464	466	770			
v/s Ratio Prot	c0.29	0.37			c0.27		c0.25	0.25	0.25			
v/s Ratio Perm						0.41						
v/c Ratio	0.97	0.60			1.01	0.41	0.92	0.91	0.89			
Uniform Delay, d1	25.2	8.5			26.5	0.0	25.3	25.1	25.0			
Progression Factor	0.16	0.41			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	24.9	1.0			25.5	0.8	23.8	20.7	12.3			
Delay (s)	28.9	4.4			52.0	0.8	49.1	45.9	37.3			
Level of Service	C	A			D	A	D	D	D			
Approach Delay (s)		11.9			38.1			42.7			0.0	
Approach LOS		B			D			D			A	

Intersection Summary			
HCM 2000 Control Delay	31.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.4%	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												
Traffic Volume (vph)	0	1545	505	925	1630	0	0	0	0	315	5	345
Future Volume (vph)	0	1545	505	925	1630	0	0	0	0	315	5	345
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		0.86	1.00	0.97	0.95					0.95	0.95	0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	0.99
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		6408	1583	3433	3539					1681	1688	2760
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		6408	1583	3433	3539					1681	1688	2760
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1545	505	925	1630	0	0	0	0	315	5	345
RTOR Reduction (vph)	0	0	292	0	0	0	0	0	0	0	0	32
Lane Group Flow (vph)	0	1545	213	925	1630	0	0	0	0	161	159	313
Confl. Peds. (#/hr)	10		20	20		10						5
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type		NA	Prot	Prot	NA					Split	NA	custom
Protected Phases		2	2	1	6					4	4	4
Permitted Phases												1
Actuated Green, G (s)		24.0	24.0	22.0	50.5					11.5	11.5	33.5
Effective Green, g (s)		25.0	25.0	22.5	51.5					12.5	12.5	35.5
Actuated g/C Ratio		0.35	0.35	0.31	0.72					0.17	0.17	0.49
Clearance Time (s)		5.0	5.0	4.5	5.0					5.0	5.0	5.0
Vehicle Extension (s)		4.2	4.2	2.3	4.2					2.3	2.3	2.3
Lane Grp Cap (vph)		2225	549	1072	2531					291	293	1514
v/s Ratio Prot		0.24	0.13	c0.27	c0.46					c0.10	0.09	0.04
v/s Ratio Perm												0.08
v/c Ratio		0.69	0.39	0.86	0.64					0.55	0.54	0.21
Uniform Delay, d1		20.2	17.7	23.3	5.4					27.2	27.1	10.3
Progression Factor		1.00	1.00	0.19	0.03					1.00	1.00	1.00
Incremental Delay, d2		1.8	2.1	0.7	0.4					1.6	1.4	0.0
Delay (s)		22.0	19.8	5.2	0.6					28.8	28.6	10.3
Level of Service		C	B	A	A					C	C	B
Approach Delay (s)		21.5			2.2			0.0			19.2	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.4%	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												
Traffic Volume (vph)	125	585	50	670	445	860	40	320	815	650	395	255
Future Volume (vph)	125	585	50	670	445	860	40	320	815	650	395	255
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	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.95	1.00	1.00	1.00	0.88	*0.63	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	5067		3433	3539	1540	1770	1863	2787	2230	1734	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1787	5067		3433	3539	1540	1770	1863	2787	2230	1734	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	125	585	50	670	445	860	40	320	815	650	395	255
RTOR Reduction (vph)	0	9	0	0	0	452	0	0	60	0	17	0
Lane Group Flow (vph)	125	626	0	670	445	408	40	320	755	650	633	0
Confl. Peds. (#/hr)	5		10	10		5	15					15
Confl. Bikes (#/hr)						15			5			5
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases						6						
Actuated Green, G (s)	8.1	22.8		25.8	39.5	39.5	3.4	11.9	42.7	34.4	44.4	
Effective Green, g (s)	9.1	23.8		25.8	40.5	40.5	3.4	12.9	43.7	35.4	44.9	
Actuated g/C Ratio	0.08	0.21		0.23	0.36	0.36	0.03	0.11	0.38	0.31	0.39	
Clearance Time (s)	5.0	5.0		4.0	5.0	5.0	4.0	5.0		5.0	4.5	
Vehicle Extension (s)	5.1	5.1		2.3	4.2	4.2	2.3	2.3		3.0	2.3	
Lane Grp Cap (vph)	142	1058		777	1258	547	52	210	1069	693	683	
v/s Ratio Prot	0.07	0.12		c0.20	0.13		0.02	c0.17	c0.27	c0.29	0.37	
v/s Ratio Perm						c0.26						
v/c Ratio	0.88	0.59		0.86	0.35	0.75	0.77	1.52	0.71	0.94	0.93	
Uniform Delay, d1	51.9	40.7		42.3	27.1	32.2	54.9	50.5	29.7	38.2	32.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	44.8	1.4		9.6	0.3	6.0	46.4	258.5	1.9	20.2	18.5	
Delay (s)	96.6	42.0		51.9	27.3	38.1	101.2	309.0	31.6	58.4	51.4	
Level of Service	F	D		D	C	D	F	F	C	E	D	
Approach Delay (s)		51.0			40.4			109.5			54.9	
Approach LOS		D			D			F			D	

Intersection Summary			
HCM 2000 Control Delay	61.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	113.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.6%	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												
Traffic Volume (vph)	50	5	75	60	10	20	145	1100	60	10	1165	60
Future Volume (vph)	50	5	75	60	10	20	145	1100	60	10	1165	60
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	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.90		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1769	1573		1742	1651		1770	3502		1770	3507	
Flt Permitted	0.74	1.00		0.70	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1373	1573		1293	1651		1770	3502		1770	3507	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	5	75	60	10	20	145	1100	60	10	1165	60
RTOR Reduction (vph)	0	65	0	0	17	0	0	2	0	0	3	0
Lane Group Flow (vph)	50	15	0	60	13	0	145	1158	0	10	1222	0
Confl. Peds. (#/hr)	10		15	15		10	5		10	10		5
Confl. Bikes (#/hr)									5			5
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	9.2	9.2		9.5	9.5		11.1	59.5		1.1	49.3	
Effective Green, g (s)	12.3	12.3		12.3	12.3		13.8	60.9		3.7	50.8	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.16	0.69		0.04	0.57	
Clearance Time (s)	7.1	7.1		6.8	6.8		6.7	5.4		6.6	5.5	
Vehicle Extension (s)	2.4	2.4		2.4	2.4		2.6	2.5		2.6	2.5	
Lane Grp Cap (vph)	189	217		178	228		274	2399		73	2004	
v/s Ratio Prot		0.01			0.01		c0.08	0.33		0.01	c0.35	
v/s Ratio Perm	0.04			c0.05								
v/c Ratio	0.26	0.07		0.34	0.06		0.53	0.48		0.14	0.61	
Uniform Delay, d1	34.3	33.3		34.6	33.3		34.6	6.6		41.1	12.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1		0.7	0.1		1.5	0.7		0.7	1.4	
Delay (s)	34.7	33.4		35.4	33.3		36.1	7.3		41.7	13.9	
Level of Service	C	C		D	C		D	A		D	B	
Approach Delay (s)		33.9			34.7			10.5			14.2	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	88.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	70	1105	5	30	1085
Future Vol, veh/h	0	70	1105	5	30	1085
Conflicting Peds, #/hr	0	0	0	35	35	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	50	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	3	3	3
Mvmt Flow	0	70	1105	5	30	1085

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	590	0	0	1145	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.16	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.23	-
Pot Cap-1 Maneuver	0	456	-	-	600	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	443	-	-	583	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	443	583	-
HCM Lane V/C Ratio	-	-	0.158	0.051	-
HCM Control Delay (s)	-	-	14.6	11.5	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0.6	0.2	-

Intersection	
Int Delay, s/veh	21.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	0	55	30	5	20	60	1065	5	25	985	75
Future Vol, veh/h	25	0	55	30	5	20	60	1065	5	25	985	75
Conflicting Peds, #/hr	10	0	0	0	0	10	5	0	5	5	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	120	-	-	130	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	23	23	23	2	2	2	2	2	2
Mvmt Flow	25	0	55	30	5	20	60	1065	5	25	985	75

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2288	2273	535	1736	2308	1083	1065	0	0	1075	0	0
Stage 1	1078	1078	-	1193	1193	-	-	-	-	-	-	-
Stage 2	1210	1195	-	543	1115	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.645	6.845	6.545	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.445	5.845	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.845	5.845	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.7185	4.2185	3.5185	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	~ 24	40	491	52	31	232	652	-	-	646	-	-
Stage 1	234	294	-	199	228	-	-	-	-	-	-	-
Stage 2	222	259	-	450	250	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 17	35	489	41	27	229	649	-	-	643	-	-
Mov Cap-2 Maneuver	~ 17	35	-	41	27	-	-	-	-	-	-	-
Stage 1	212	281	-	180	206	-	-	-	-	-	-	-
Stage 2	178	234	-	384	239	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 460.8	242.1	0.6	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	649	-	-	51	55	643	-	-
HCM Lane V/C Ratio	0.092	-	-	1.569	1	0.039	-	-
HCM Control Delay (s)	11.1	-	-	$ 460.8	242.1	10.8	-	-
HCM Lane LOS	B	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	7.6	4.5	0.1	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	420	40	180	410	150	40	30	175	165	30	25
Future Volume (vph)	30	420	40	180	410	150	40	30	175	165	30	25
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	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.86
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.96		1.00	0.87		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.97	1.00
Satd. Flow (prot)	1765	3462		1750	3361		1787	1605		1681	1710	1357
Flt Permitted	0.44	1.00		0.39	1.00		0.95	1.00		0.95	0.97	1.00
Satd. Flow (perm)	821	3462		725	3361		1787	1605		1681	1710	1357
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	420	40	180	410	150	40	30	175	165	30	25
RTOR Reduction (vph)	0	5	0	0	20	0	0	156	0	0	0	21
Lane Group Flow (vph)	30	455	0	180	540	0	40	49	0	97	98	4
Confl. Peds. (#/hr)	5		25	25		5	45		5	5		45
Confl. Bikes (#/hr)						10						5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6								4
Actuated Green, G (s)	47.2	43.6		65.0	54.0		8.5	8.5		13.1	13.1	13.1
Effective Green, g (s)	54.0	45.3		67.3	55.7		11.6	11.6		16.7	16.7	16.7
Actuated g/C Ratio	0.50	0.42		0.63	0.52		0.11	0.11		0.16	0.16	0.16
Clearance Time (s)	7.4	5.7		6.3	5.7		7.1	7.1		7.6	7.6	7.6
Vehicle Extension (s)	2.4	3.1		2.7	3.1		2.4	2.4		2.3	2.3	2.3
Lane Grp Cap (vph)	476	1465		622	1749		193	174		262	266	211
v/s Ratio Prot	0.00	0.13		c0.05	c0.16		0.02	c0.03		c0.06	0.06	
v/s Ratio Perm	0.03			0.13								0.00
v/c Ratio	0.06	0.31		0.29	0.31		0.21	0.28		0.37	0.37	0.02
Uniform Delay, d1	13.4	20.5		8.7	14.7		43.5	43.9		40.4	40.4	38.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.6		1.2	0.5		0.4	0.6		0.5	0.5	0.0
Delay (s)	13.4	21.0		9.9	15.1		43.9	44.4		41.0	40.9	38.2
Level of Service	B	C		A	B		D	D		D	D	D
Approach Delay (s)		20.6			13.9			44.4			40.6	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	107.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX B39

Segment C – Tigard Subarea 2035 Build Operations

APPENDIX B

GREAT PLACES SW Corridor

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	1955	80	125	1240	25	45	25	190	65	60	35
Future Volume (vph)	40	1955	80	125	1240	25	45	25	190	65	60	35
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	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	3471	1544	1752	4924		1805	1624	1515	1641	1737	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	3471	1544	1752	4924		1805	1624	1515	1641	1737	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	1955	80	125	1240	25	45	25	190	65	60	35
RTOR Reduction (vph)	0	0	32	0	1	0	0	0	171	0	16	0
Lane Group Flow (vph)	40	1955	48	125	1264	0	45	25	19	65	79	0
Confl. Peds. (#/hr)			3						2			
Heavy Vehicles (%)	3%	4%	2%	3%	5%	6%	0%	17%	5%	10%	0%	9%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	7.9	83.5	83.5	15.7	91.3		8.4	13.7	13.7	9.1	14.4	
Effective Green, g (s)	8.4	84.0	84.0	16.2	91.8		8.9	14.2	14.2	9.6	14.9	
Actuated g/C Ratio	0.06	0.60	0.60	0.12	0.66		0.06	0.10	0.10	0.07	0.11	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	5.1	5.1	2.5	5.1		3.0	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	105	2082	926	202	3228		114	164	153	112	184	
v/s Ratio Prot	0.02	c0.56		c0.07	0.26		0.02	0.02		c0.04	c0.05	
v/s Ratio Perm			0.03						0.01			
v/c Ratio	0.38	0.94	0.05	0.62	0.39		0.39	0.15	0.13	0.58	0.43	
Uniform Delay, d1	63.3	25.7	11.6	59.0	11.2		63.0	57.4	57.3	63.2	58.6	
Progression Factor	1.00	1.00	1.00	1.17	0.56		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.3	9.8	0.1	3.7	0.3		2.2	0.3	0.2	5.7	0.9	
Delay (s)	65.6	35.5	11.7	72.5	6.5		65.2	57.7	57.5	68.9	59.5	
Level of Service	E	D	B	E	A		E	E	E	E	E	
Approach Delay (s)		35.1			12.4			58.8			63.3	
Approach LOS		D			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	29.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.2%	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												
Traffic Volume (vph)	20	1975	235	45	1365	50	105	95	40	100	155	35
Future Volume (vph)	20	1975	235	45	1365	50	105	95	40	100	155	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00		1.00	1.00	0.95	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1656	3471	1423	1752	3407		1698	1794	1420	1752	1780	
Flt Permitted	0.11	1.00	1.00	0.05	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (perm)	194	3471	1423	87	3407		1698	1794	1420	1752	1780	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	1975	235	45	1365	50	105	95	40	100	155	35
RTOR Reduction (vph)	0	0	36	0	1	0	0	0	35	0	6	0
Lane Group Flow (vph)	20	1975	199	45	1414	0	94	106	5	100	184	0
Confl. Peds. (#/hr)	20		20	20		20	30		30	30		30
Heavy Vehicles (%)	9%	4%	3%	3%	5%	7%	1%	0%	8%	3%	0%	15%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2		2	6					8			
Actuated Green, G (s)	85.5	83.1	83.1	87.1	83.9		15.9	15.9	15.9	19.8	19.8	
Effective Green, g (s)	86.5	83.6	83.1	88.1	84.4		16.4	16.4	16.4	20.3	20.3	
Actuated g/C Ratio	0.62	0.60	0.59	0.63	0.60		0.12	0.12	0.12	0.15	0.15	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.3	5.1	5.1	2.3	5.1		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	150	2072	844	98	2053		198	210	166	254	258	
v/s Ratio Prot	0.00	c0.57		c0.01	0.41		0.06	c0.06		0.06	c0.10	
v/s Ratio Perm	0.08		0.14	0.27					0.00			
v/c Ratio	0.13	0.95	0.24	0.46	0.69		0.47	0.50	0.03	0.39	0.71	
Uniform Delay, d1	14.9	26.4	13.4	30.7	18.9		57.8	58.0	54.7	54.3	57.1	
Progression Factor	1.51	0.97	1.48	1.68	0.63		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	6.6	0.3	1.6	1.5		1.3	1.4	0.1	0.7	8.4	
Delay (s)	22.6	32.2	20.2	53.0	13.3		59.1	59.4	54.8	55.0	65.5	
Level of Service	C	C	C	D	B		E	E	D	E	E	
Approach Delay (s)		30.9			14.6			58.5			61.9	
Approach LOS		C			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBT	WBL	WBT	WBR	SBL	SBT	SBR	SWR	SWR2
Lane Configurations										
Traffic Volume (vph)	0	1215	210	540	40	95	145	75	845	15
Future Volume (vph)	0	1215	210	540	40	95	145	75	845	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1750
Total Lost time (s)		4.0	4.0	4.0			4.0		4.0	
Lane Util. Factor		0.95	1.00	0.95			1.00		*0.95	
Frpb, ped/bikes		1.00	1.00	1.00			1.00		1.00	
Flpb, ped/bikes		1.00	1.00	1.00			0.99		1.00	
Frt		1.00	1.00	0.99			0.97		1.00	
Flt Protected		1.00	0.95	1.00			0.99		1.00	
Satd. Flow (prot)		3505	1719	3414			1739		3405	
Flt Permitted		1.00	0.95	1.00			0.99		1.00	
Satd. Flow (perm)		3505	1719	3414			1739		3405	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1215	210	540	40	95	145	75	845	15
RTOR Reduction (vph)	0	0	0	0	0	0	8	0	88	0
Lane Group Flow (vph)	0	1215	210	580	0	0	307	0	772	0
Confl. Peds. (#/hr)	10		10		10	15				10
Confl. Bikes (#/hr)										
Heavy Vehicles (%)	11%	3%	5%	4%	9%	2%	2%	8%	6%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Turn Type	Prot	NA	Prot	NA		Perm	NA		Prot	
Protected Phases	3	3 6	5	1			4		2	
Permitted Phases						4				
Actuated Green, G (s)		80.7	19.3	29.1			24.0		56.3	
Effective Green, g (s)		77.9	21.3	31.4			25.0		57.6	
Actuated g/C Ratio		0.56	0.15	0.22			0.18		0.41	
Clearance Time (s)			6.0	6.3			5.0		5.3	
Vehicle Extension (s)			2.3	4.8			2.3		4.8	
Lane Grp Cap (vph)		1950	261	765			310		1400	
v/s Ratio Prot		c0.35	0.12	c0.17					0.23	
v/s Ratio Perm							0.18			
v/c Ratio		0.62	0.80	0.76			0.99		0.55	
Uniform Delay, d1		21.1	57.3	50.8			57.4		31.4	
Progression Factor		0.43	0.78	0.83			1.00		1.00	
Incremental Delay, d2		0.2	15.2	4.8			47.7		1.6	
Delay (s)		9.4	59.6	47.2			105.1		32.9	
Level of Service		A	E	D			F		C	
Approach Delay (s)		9.4		50.5			105.1			
Approach LOS		A		D			F			

Intersection Summary			
HCM 2000 Control Delay	35.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.3%	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												
Traffic Volume (vph)	0	805	95	0	0	0	0	0	0	25	330	0
Future Volume (vph)	0	805	95	0	0	0	0	0	0	25	330	0
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	
Lane Util. Factor		0.95								1.00	1.00	
Frt		0.98								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3483								1752	1845	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3483								1752	1845	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	805	95	0	0	0	0	0	0	25	330	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	900	0	0	0	0	0	0	0	25	330	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type		NA								Perm	NA	
Protected Phases		3 6									4 5	
Permitted Phases										4 5		
Actuated Green, G (s)		80.7								48.3	48.3	
Effective Green, g (s)		77.9								49.3	49.3	
Actuated g/C Ratio		0.56								0.35	0.35	
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)		1938								616	649	
v/s Ratio Prot		c0.26									c0.18	
v/s Ratio Perm										0.01		
v/c Ratio		0.46								0.04	0.51	
Uniform Delay, d1		18.6								29.8	35.8	
Progression Factor		0.47								0.14	0.09	
Incremental Delay, d2		0.0								0.0	0.2	
Delay (s)		8.8								4.0	3.3	
Level of Service		A								A	A	
Approach Delay (s)		8.8			0.0			0.0			3.3	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1075	235	20	650	140	0
Future Volume (vph)	1075	235	20	650	140	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	0.99		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3382		1556	3505	1570	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3382		1556	3505	1570	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1075	235	20	650	140	0
RTOR Reduction (vph)	11	0	0	0	0	0
Lane Group Flow (vph)	1299	0	20	650	140	0
Confl. Peds. (#/hr)		7	7		7	
Confl. Bikes (#/hr)		2				
Heavy Vehicles (%)	3%	3%	16%	3%	15%	0%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	4 8	
Permitted Phases						
Actuated Green, G (s)	60.9		6.8	72.2	57.5	
Effective Green, g (s)	62.2		7.3	73.5	58.8	
Actuated g/C Ratio	0.44		0.05	0.52	0.42	
Clearance Time (s)	5.3		4.5	5.3		
Vehicle Extension (s)	4.7		2.3	4.7		
Lane Grp Cap (vph)	1502		81	1840	659	
v/s Ratio Prot	c0.38		0.01	c0.19	c0.09	
v/s Ratio Perm						
v/c Ratio	0.86		0.25	0.35	0.21	
Uniform Delay, d1	35.1		63.7	19.4	25.9	
Progression Factor	0.84		1.00	1.00	0.11	
Incremental Delay, d2	5.5		0.9	0.5	0.4	
Delay (s)	34.8		64.6	19.9	3.4	
Level of Service	C		E	B	A	
Approach Delay (s)	34.8			21.3	3.4	
Approach LOS	C			C	A	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	550	20	0	0	0	0	70	45	5	250	0
Future Volume (vph)	70	550	20	0	0	0	0	70	45	5	250	0
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	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		1.00						0.95			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		3380						1566			1820	
Flt Permitted		0.99						1.00			0.72	
Satd. Flow (perm)		3380						1566			1318	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	70	550	20	0	0	0	0	70	45	5	250	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	17	0	0	0	0
Lane Group Flow (vph)	0	639	0	0	0	0	0	98	0	0	255	0
Confl. Peds. (#/hr)	7		7						7	7		
Confl. Bikes (#/hr)			1						1			
Heavy Vehicles (%)	10%	5%	7%	0%	0%	0%	0%	17%	8%	20%	4%	0%
Turn Type	Split	NA						NA		Perm	NA	
Protected Phases	4	4						8			1 2 8	
Permitted Phases										1 2 8		
Actuated Green, G (s)		36.9						15.3			92.5	
Effective Green, g (s)		38.2						16.3			88.5	
Actuated g/C Ratio		0.27						0.12			0.63	
Clearance Time (s)		5.3						5.0				
Vehicle Extension (s)		6.4						2.3				
Lane Grp Cap (vph)		922						182			833	
v/s Ratio Prot		c0.19						c0.06				
v/s Ratio Perm											c0.19	
v/c Ratio		0.69						0.54			0.31	
Uniform Delay, d1		45.6						58.3			11.7	
Progression Factor		1.00						1.00			0.16	
Incremental Delay, d2		3.6						2.0			0.1	
Delay (s)		49.2						60.4			2.0	
Level of Service		D						E			A	
Approach Delay (s)		49.2			0.0			60.4			2.0	
Approach LOS		D			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	38.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	42.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	105	55	150	240	115	35	140	120	235	120	160
Future Volume (vph)	140	105	55	150	240	115	35	140	120	235	120	160
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	4.5	4.0	4.0	4.8	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00		0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98		1.00	1.00	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1810	1576		3444	1599	1805	1712	1615	1787	1700	
Flt Permitted	0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1810	1576		3444	1599	1805	1712	1615	1787	1700	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	140	105	55	150	240	115	35	140	120	235	120	160
RTOR Reduction (vph)	0	0	47	0	0	0	0	0	63	0	37	0
Lane Group Flow (vph)	140	105	8	0	390	115	35	140	57	235	243	0
Confl. Peds. (#/hr)			3			1			1			4
Heavy Vehicles (%)	2%	5%	0%	1%	4%	1%	0%	11%	0%	1%	3%	0%
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3	3 1	5	2	2 3	1	6	
Permitted Phases			4									
Actuated Green, G (s)	10.9	10.9	10.9		14.1	28.4	3.9	16.3	35.2	14.3	26.7	
Effective Green, g (s)	11.4	11.4	11.4		14.6	28.4	4.4	17.1	35.2	14.8	27.5	
Actuated g/C Ratio	0.15	0.15	0.15		0.20	0.38	0.06	0.23	0.48	0.20	0.37	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.8		4.5	4.8	
Vehicle Extension (s)	2.3	2.3	2.3		2.5		2.3	4.7		2.3	4.7	
Lane Grp Cap (vph)	273	279	243		680	614	107	396	769	357	632	
v/s Ratio Prot	c0.08	0.06			c0.11	0.07	0.02	0.08	0.04	c0.13	c0.14	
v/s Ratio Perm			0.01									
v/c Ratio	0.51	0.38	0.03		0.57	0.19	0.33	0.35	0.07	0.66	0.38	
Uniform Delay, d1	28.7	28.1	26.6		26.8	15.1	33.3	23.8	10.5	27.2	17.0	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	0.5	0.0		1.0	0.1	1.0	1.0	0.1	3.7	0.7	
Delay (s)	29.7	28.6	26.6		27.8	15.2	34.4	24.8	10.6	30.9	17.7	
Level of Service	C	C	C		C	B	C	C	B	C	B	
Approach Delay (s)		28.7			24.9			20.1			23.7	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	73.9	Sum of lost time (s)	17.8
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	17.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	30	5	445	65	190	15	75	0	75	115	15
Future Vol, veh/h	10	30	5	445	65	190	15	75	0	75	115	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	0	4	0	1	0	2	0	4	5	3	1	0
Mvmt Flow	10	30	5	445	65	190	15	75	0	75	115	15
Number of Lanes	0	1	1	1	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	10.5	21	11.6	11.6
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	17%	0%	25%	0%	100%	0%	0%	100%	0%
Vol Thru, %	83%	100%	75%	0%	0%	100%	0%	0%	88%
Vol Right, %	0%	0%	0%	100%	0%	0%	100%	0%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	0	40	5	445	65	190	75	130
LT Vol	15	0	10	0	445	0	0	75	0
Through Vol	75	0	30	0	0	65	0	0	115
RT Vol	0	0	0	5	0	0	190	0	15
Lane Flow Rate	90	0	40	5	445	65	190	75	130
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.181	0	0.081	0.009	0.777	0.104	0.269	0.154	0.245
Departure Headway (Hd)	7.246	7.23	7.287	6.516	6.287	5.765	5.093	7.402	6.783
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	494	0	490	547	574	621	705	484	528
Service Time	5.008	4.992	5.056	4.284	4.024	3.502	2.829	5.157	4.538
HCM Lane V/C Ratio	0.182	0	0.082	0.009	0.775	0.105	0.27	0.155	0.246
HCM Control Delay	11.6	10	10.7	9.3	27.6	9.2	9.7	11.5	11.7
HCM Lane LOS	B	N	B	A	D	A	A	B	B
HCM 95th-tile Q	0.7	0	0.3	0	7.2	0.3	1.1	0.5	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1960	225	65	1071	0	0	0	0	470	5	245
Future Volume (vph)	0	1960	225	65	1071	0	0	0	0	470	5	245
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		0.95	1.00	1.00	0.95					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	1770	3539					1681	1687	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	1770	3539					1681	1687	1583
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	2130	245	71	1164	0	0	0	0	511	5	266
RTOR Reduction (vph)	0	0	62	0	0	0	0	0	0	0	0	113
Lane Group Flow (vph)	0	2130	183	71	1164	0	0	0	0	255	261	153
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		89.5	89.5	12.0	106.0					24.5	24.5	24.5
Effective Green, g (s)		90.0	90.0	12.5	106.5					25.5	25.5	25.5
Actuated g/C Ratio		0.64	0.64	0.09	0.76					0.18	0.18	0.18
Clearance Time (s)		4.5	4.5	4.5	4.5					5.0	5.0	5.0
Vehicle Extension (s)		4.8	4.8	2.5	4.8					2.3	2.3	2.3
Lane Grp Cap (vph)		2275	1017	158	2692					306	307	288
v/s Ratio Prot		c0.60		0.04	c0.33					0.15	c0.15	
v/s Ratio Perm			0.12									0.10
v/c Ratio		0.94	0.18	0.45	0.43					0.83	0.85	0.53
Uniform Delay, d1		22.4	10.1	60.5	6.0					55.2	55.4	51.8
Progression Factor		1.95	2.99	1.00	1.00					1.00	1.00	1.00
Incremental Delay, d2		6.9	0.3	9.0	0.5					16.9	19.2	1.3
Delay (s)		50.7	30.5	69.5	6.5					72.1	74.6	53.1
Level of Service		D	C	E	A					E	E	D
Approach Delay (s)		48.6			10.1			0.0			66.5	
Approach LOS		D			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	41.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.0%	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												
Traffic Volume (vph)	220	1820	45	206	970	140	35	210	265	140	241	165
Future Volume (vph)	220	1820	45	206	970	140	35	210	265	140	241	165
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	4.0	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	5017		1703	5001		1787	1863	1583	1787	1900	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	5017		1703	5001		1787	1863	1583	1787	1900	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	220	1820	45	206	970	140	35	210	265	140	241	165
RTOR Reduction (vph)	0	2	0	0	13	0	0	0	232	0	0	93
Lane Group Flow (vph)	220	1863	0	206	1097	0	35	210	33	140	241	72
Heavy Vehicles (%)	1%	3%	4%	6%	2%	0%	1%	2%	2%	1%	0%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Prot	Prot	NA	pt+ov
Protected Phases	5	2		1	6		3	8	8	7	4	4 5
Permitted Phases												
Actuated Green, G (s)	20.4	70.6		20.6	70.8		6.4	17.1	17.1	14.2	24.9	49.8
Effective Green, g (s)	20.9	71.1		21.1	71.3		6.4	17.6	17.6	14.2	25.4	49.8
Actuated g/C Ratio	0.15	0.51		0.15	0.51		0.05	0.13	0.13	0.10	0.18	0.36
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.5	4.5	4.0	4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	266	2547		256	2546		81	234	199	181	344	568
v/s Ratio Prot	c0.12	c0.37		0.12	0.22		0.02	c0.11	0.02	c0.08	0.13	0.05
v/s Ratio Perm												
v/c Ratio	0.83	0.73		0.80	0.43		0.43	0.90	0.17	0.77	0.70	0.13
Uniform Delay, d1	57.8	27.0		57.5	21.6		65.0	60.3	54.7	61.3	53.7	30.4
Progression Factor	1.11	0.56		0.97	0.98		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.2	1.4		14.6	0.5		2.1	32.3	0.2	17.4	5.6	0.1
Delay (s)	78.4	16.6		70.1	21.7		67.2	92.6	54.9	78.7	59.3	30.5
Level of Service	E	B		E	C		E	F	D	E	E	C
Approach Delay (s)		23.1			29.3			71.2			55.6	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	34.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	79.7%	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												
Traffic Volume (vph)	40	1955	80	126	1240	25	45	25	190	65	60	35
Future Volume (vph)	40	1955	80	126	1240	25	45	25	190	65	60	35
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	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	3471	1544	1752	4924		1805	1624	1515	1641	1737	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	3471	1544	1752	4924		1805	1624	1515	1641	1737	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	1955	80	126	1240	25	45	25	190	65	60	35
RTOR Reduction (vph)	0	0	32	0	1	0	0	0	171	0	16	0
Lane Group Flow (vph)	40	1955	48	126	1264	0	45	25	19	65	79	0
Confl. Peds. (#/hr)			3						2			
Heavy Vehicles (%)	3%	4%	2%	3%	5%	6%	0%	17%	5%	10%	0%	9%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	7.9	83.4	83.4	15.8	91.3		8.4	13.7	13.7	9.1	14.4	
Effective Green, g (s)	8.4	83.9	83.9	16.3	91.8		8.9	14.2	14.2	9.6	14.9	
Actuated g/C Ratio	0.06	0.60	0.60	0.12	0.66		0.06	0.10	0.10	0.07	0.11	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	5.1	5.1	2.5	5.1		3.0	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	105	2080	925	203	3228		114	164	153	112	184	
v/s Ratio Prot	0.02	c0.56		c0.07	0.26		0.02	0.02		c0.04	c0.05	
v/s Ratio Perm			0.03						0.01			
v/c Ratio	0.38	0.94	0.05	0.62	0.39		0.39	0.15	0.13	0.58	0.43	
Uniform Delay, d1	63.3	25.7	11.6	58.9	11.2		63.0	57.4	57.3	63.2	58.6	
Progression Factor	1.00	1.00	1.00	1.17	0.56		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.3	9.9	0.1	3.9	0.3		2.2	0.3	0.2	5.7	0.9	
Delay (s)	65.6	35.6	11.7	72.7	6.5		65.2	57.7	57.5	68.9	59.5	
Level of Service	E	D	B	E	A		E	E	E	E	E	
Approach Delay (s)		35.3			12.5			58.8			63.3	
Approach LOS		D			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	2205	1386	120	25	5
Future Vol, veh/h	5	2205	1386	120	25	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	80	-	-	150	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	2205	1386	120	25	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1506	0	-	0	2499	693
Stage 1	-	-	-	-	1386	-
Stage 2	-	-	-	-	1113	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	441	-	-	-	~ 24	386
Stage 1	-	-	-	-	197	-
Stage 2	-	-	-	-	276	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	441	-	-	-	~ 24	386
Mov Cap-2 Maneuver	-	-	-	-	115	-
Stage 1	-	-	-	-	195	-
Stage 2	-	-	-	-	276	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	40.8
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	441	-	-	-	130
HCM Lane V/C Ratio	0.011	-	-	-	0.231
HCM Control Delay (s)	13.3	-	-	-	40.8
HCM Lane LOS	B	-	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	0.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	1975	235	45	1366	50	105	95	40	100	155	35
Future Volume (vph)	20	1975	235	45	1366	50	105	95	40	100	155	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00		1.00	1.00	0.95	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1656	3471	1423	1752	3407		1698	1794	1420	1752	1780	
Flt Permitted	0.11	1.00	1.00	0.05	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (perm)	193	3471	1423	87	3407		1698	1794	1420	1752	1780	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	1975	235	45	1366	50	105	95	40	100	155	35
RTOR Reduction (vph)	0	0	36	0	1	0	0	0	35	0	6	0
Lane Group Flow (vph)	20	1975	199	45	1415	0	94	106	5	100	184	0
Confl. Peds. (#/hr)	20		20	20		20	30		30	30		30
Heavy Vehicles (%)	9%	4%	3%	3%	5%	7%	1%	0%	8%	3%	0%	15%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2		2	6					8			
Actuated Green, G (s)	85.5	83.1	83.1	87.1	83.9		15.9	15.9	15.9	19.8	19.8	
Effective Green, g (s)	86.5	83.6	83.1	88.1	84.4		16.4	16.4	16.4	20.3	20.3	
Actuated g/C Ratio	0.62	0.60	0.59	0.63	0.60		0.12	0.12	0.12	0.15	0.15	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.3	5.1	5.1	2.3	5.1		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	149	2072	844	98	2053		198	210	166	254	258	
v/s Ratio Prot	0.00	c0.57		c0.01	0.42		0.06	c0.06		0.06	c0.10	
v/s Ratio Perm	0.08		0.14	0.27					0.00			
v/c Ratio	0.13	0.95	0.24	0.46	0.69		0.47	0.50	0.03	0.39	0.71	
Uniform Delay, d1	14.9	26.4	13.4	30.7	18.9		57.8	58.0	54.7	54.3	57.1	
Progression Factor	1.52	0.97	1.48	1.67	0.63		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	6.6	0.3	1.6	1.5		1.3	1.4	0.1	0.7	8.4	
Delay (s)	22.7	32.3	20.2	52.9	13.4		59.1	59.4	54.8	55.0	65.5	
Level of Service	C	C	C	D	B		E	E	D	E	E	
Approach Delay (s)		30.9			14.6			58.5			61.9	
Approach LOS		C			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	29.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	SBL	SBT	SBR	SWR	SWR2
Lane Configurations											
Traffic Volume (vph)	0	1215	30	210	541	40	95	145	75	845	15
Future Volume (vph)	0	1215	30	210	541	40	95	145	75	845	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1750
Total Lost time (s)		4.0		4.0	4.0			4.0		4.0	
Lane Util. Factor		0.95		1.00	0.95			1.00		*0.95	
Frpb, ped/bikes		1.00		1.00	1.00			1.00		1.00	
Flpb, ped/bikes		1.00		1.00	1.00			0.99		1.00	
Frt		1.00		1.00	0.99			0.97		1.00	
Flt Protected		1.00		0.95	1.00			0.99		1.00	
Satd. Flow (prot)		3493		1719	3414			1739		3405	
Flt Permitted		1.00		0.95	1.00			0.99		1.00	
Satd. Flow (perm)		3493		1719	3414			1739		3405	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1215	30	210	541	40	95	145	75	845	15
RTOR Reduction (vph)	0	1	0	0	0	0	0	8	0	88	0
Lane Group Flow (vph)	0	1244	0	210	581	0	0	307	0	772	0
Confl. Peds. (#/hr)	10			10		10	15				10
Confl. Bikes (#/hr)			4								
Heavy Vehicles (%)	11%	3%	0%	5%	4%	9%	2%	2%	8%	6%	8%
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Prot	
Protected Phases	3	3 6		5	1			4		2	
Permitted Phases							4				
Actuated Green, G (s)		80.7		19.3	29.1			24.0		56.3	
Effective Green, g (s)		77.9		21.3	31.4			25.0		57.6	
Actuated g/C Ratio		0.56		0.15	0.22			0.18		0.41	
Clearance Time (s)				6.0	6.3			5.0		5.3	
Vehicle Extension (s)				2.3	4.8			2.3		4.8	
Lane Grp Cap (vph)		1943		261	765			310		1400	
v/s Ratio Prot		c0.36		0.12	c0.17					0.23	
v/s Ratio Perm								0.18			
v/c Ratio		0.64		0.80	0.76			0.99		0.55	
Uniform Delay, d1		21.4		57.3	50.8			57.4		31.4	
Progression Factor		0.43		0.78	0.83			1.00		1.00	
Incremental Delay, d2		0.3		15.2	4.9			47.7		1.6	
Delay (s)		9.4		59.6	47.2			105.1		32.9	
Level of Service		A		E	D			F		C	
Approach Delay (s)		9.4			50.5			105.1			
Approach LOS		A			D			F			

Intersection Summary			
HCM 2000 Control Delay	35.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.3%	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												
Traffic Volume (vph)	0	780	90	0	0	0	0	0	0	25	360	0
Future Volume (vph)	0	780	90	0	0	0	0	0	0	25	360	0
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	
Lane Util. Factor		0.95								1.00	1.00	
Frt		0.98								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3484								1752	1845	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3484								1752	1845	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	780	90	0	0	0	0	0	0	25	360	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	870	0	0	0	0	0	0	0	25	360	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type		NA								Perm	NA	
Protected Phases		3 6									4 5	
Permitted Phases										4 5		
Actuated Green, G (s)		80.7								48.3	48.3	
Effective Green, g (s)		77.9								49.3	49.3	
Actuated g/C Ratio		0.56								0.35	0.35	
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)		1938								616	649	
v/s Ratio Prot		c0.25									c0.20	
v/s Ratio Perm										0.01		
v/c Ratio		0.45								0.04	0.55	
Uniform Delay, d1		18.4								29.8	36.5	
Progression Factor		0.47								0.24	0.18	
Incremental Delay, d2		0.0								0.0	0.4	
Delay (s)		8.7								7.1	6.9	
Level of Service		A								A	A	
Approach Delay (s)		8.7			0.0			0.0			6.9	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1075	235	20	651	140	0
Future Volume (vph)	1075	235	20	651	140	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	0.99		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3382		1556	3505	1570	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3382		1556	3505	1570	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1075	235	20	651	140	0
RTOR Reduction (vph)	11	0	0	0	0	0
Lane Group Flow (vph)	1299	0	20	651	140	0
Confl. Peds. (#/hr)		7	7		7	
Confl. Bikes (#/hr)		2				
Heavy Vehicles (%)	3%	3%	16%	3%	15%	0%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	4 8	
Permitted Phases						
Actuated Green, G (s)	60.9		6.8	72.2	57.5	
Effective Green, g (s)	62.2		7.3	73.5	58.8	
Actuated g/C Ratio	0.44		0.05	0.52	0.42	
Clearance Time (s)	5.3		4.5	5.3		
Vehicle Extension (s)	4.7		2.3	4.7		
Lane Grp Cap (vph)	1502		81	1840	659	
v/s Ratio Prot	c0.38		0.01	c0.19	c0.09	
v/s Ratio Perm						
v/c Ratio	0.86		0.25	0.35	0.21	
Uniform Delay, d1	35.1		63.7	19.4	25.9	
Progression Factor	0.83		1.00	1.00	0.11	
Incremental Delay, d2	5.4		0.9	0.5	0.4	
Delay (s)	34.7		64.6	19.9	3.4	
Level of Service	C		E	B	A	
Approach Delay (s)	34.7			21.3	3.4	
Approach LOS	C			C	A	

Intersection Summary			
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	550	20	0	0	0	0	70	45	5	250	0
Future Volume (vph)	70	550	20	0	0	0	0	70	45	5	250	0
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	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		1.00						0.95			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		3380						1566			1820	
Flt Permitted		0.99						1.00			0.72	
Satd. Flow (perm)		3380						1566			1318	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	70	550	20	0	0	0	0	70	45	5	250	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	17	0	0	0	0
Lane Group Flow (vph)	0	639	0	0	0	0	0	98	0	0	255	0
Confl. Peds. (#/hr)	7		7						7	7		
Confl. Bikes (#/hr)			1						1			
Heavy Vehicles (%)	10%	5%	7%	0%	0%	0%	0%	17%	8%	20%	4%	0%
Turn Type	Split	NA						NA		Perm	NA	
Protected Phases	4	4						8			1 2 8	
Permitted Phases										1 2 8		
Actuated Green, G (s)		36.9						15.3			92.5	
Effective Green, g (s)		38.2						16.3			88.5	
Actuated g/C Ratio		0.27						0.12			0.63	
Clearance Time (s)		5.3						5.0				
Vehicle Extension (s)		6.4						2.3				
Lane Grp Cap (vph)		922						182			833	
v/s Ratio Prot		c0.19						c0.06				
v/s Ratio Perm											c0.19	
v/c Ratio		0.69						0.54			0.31	
Uniform Delay, d1		45.6						58.3			11.7	
Progression Factor		1.00						1.00			0.17	
Incremental Delay, d2		3.6						2.0			0.1	
Delay (s)		49.2						60.4			2.0	
Level of Service		D						E			A	
Approach Delay (s)		49.2			0.0			60.4			2.0	
Approach LOS		D			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	38.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	42.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	55	185	25	170	265
Future Vol, veh/h	10	55	185	25	170	265
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	55	185	25	170	265

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	803	198	0	0	210	0
Stage 1	198	-	-	-	-	-
Stage 2	605	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	353	843	-	-	1361	-
Stage 1	835	-	-	-	-	-
Stage 2	545	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	309	843	-	-	1361	-
Mov Cap-2 Maneuver	398	-	-	-	-	-
Stage 1	835	-	-	-	-	-
Stage 2	477	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	3.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	398	843	1361	-
HCM Lane V/C Ratio	-	-	0.025	0.065	0.125	-
HCM Control Delay (s)	-	-	14.3	9.6	8	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	0.4	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	1620	15	125	870	175	15	162	295	170	88	145
Future Volume (vph)	180	1620	15	125	870	175	15	162	295	170	88	145
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	4.5	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	5079		1671	4966		1805	1810	1583	1787	1810	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	5079		1671	4966		1805	1810	1583	1787	1810	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	180	1620	15	125	870	175	15	162	295	170	88	145
RTOR Reduction (vph)	0	1	0	0	20	0	0	0	29	0	0	106
Lane Group Flow (vph)	180	1634	0	125	1025	0	15	162	266	170	88	39
Heavy Vehicles (%)	1%	2%	0%	8%	2%	1%	0%	5%	2%	1%	5%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	Prot
Protected Phases	5	2		1	6		3	8	8 1	7	4	4
Permitted Phases												
Actuated Green, G (s)	19.4	67.9		14.9	63.4		2.9	26.2	45.6	14.0	37.3	37.3
Effective Green, g (s)	19.4	68.4		14.9	63.9		2.9	26.7	45.6	14.0	37.8	37.8
Actuated g/C Ratio	0.14	0.49		0.11	0.46		0.02	0.19	0.33	0.10	0.27	0.27
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.5		4.0	4.5	4.5
Vehicle Extension (s)	2.3	5.2		2.3	5.2		2.3	2.3		2.3	2.3	2.3
Lane Grp Cap (vph)	247	2481		177	2266		37	345	515	178	488	431
v/s Ratio Prot	c0.10	c0.32		0.07	0.21		0.01	0.09	c0.17	c0.10	0.05	0.02
v/s Ratio Perm												
v/c Ratio	0.73	0.66		0.71	0.45		0.41	0.47	0.52	0.96	0.18	0.09
Uniform Delay, d1	57.8	27.0		60.4	26.1		67.7	50.4	38.3	62.7	39.2	38.2
Progression Factor	1.00	1.00		1.45	0.55		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.3	1.4		10.1	0.6		4.2	0.6	0.5	53.8	0.1	0.1
Delay (s)	67.1	28.4		97.6	14.9		71.9	50.9	38.8	116.5	39.3	38.3
Level of Service	E	C		F	B		E	D	D	F	D	D
Approach Delay (s)		32.2			23.7			44.0			71.5	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	35.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	365	49	5	170	18	2
Future Vol, veh/h	365	49	5	170	18	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	365	49	5	170	18	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	414	0	570	390
Stage 1	-	-	-	-	390	-
Stage 2	-	-	-	-	180	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1145	-	483	658
Stage 1	-	-	-	-	684	-
Stage 2	-	-	-	-	851	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1145	-	481	658
Mov Cap-2 Maneuver	-	-	-	-	481	-
Stage 1	-	-	-	-	684	-
Stage 2	-	-	-	-	847	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	494	-	-	1145	-
HCM Lane V/C Ratio	0.04	-	-	0.004	-
HCM Control Delay (s)	12.6	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	510	0	0	457
Future Vol, veh/h	0	0	510	0	0	457
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	510	0	0	457

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	967	510	0	0	-	-
Stage 1	510	-	-	-	-	-
Stage 2	457	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	282	563	-	-	0	-
Stage 1	603	-	-	-	0	-
Stage 2	638	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	282	563	-	-	-	-
Mov Cap-2 Maneuver	411	-	-	-	-	-
Stage 1	603	-	-	-	-	-
Stage 2	638	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	739	0	0	433	0	0	0	0	0	0	0
Future Volume (vph)	0	739	0	0	433	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1681			1727							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1681			1727							
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	739	0	0	433	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	739	0	0	433	0	0	0	0	0	0	0
Heavy Vehicles (%)	2%	13%	2%	2%	10%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA			NA							
Protected Phases		6			2							
Permitted Phases												
Actuated Green, G (s)		851.0			851.0							
Effective Green, g (s)		851.0			851.0							
Actuated g/C Ratio		0.95			0.95							
Clearance Time (s)		4.0			4.0							
Lane Grp Cap (vph)		1589			1632							
v/s Ratio Prot		c0.44			0.25							
v/s Ratio Perm												
v/c Ratio		0.47			0.27							
Uniform Delay, d1		2.4			1.8							
Progression Factor		1.00			1.00							
Incremental Delay, d2		1.0			0.4							
Delay (s)		3.4			2.2							
Level of Service		A			A							
Approach Delay (s)		3.4			2.2			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	2.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	900.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	42.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	1940	200	200	1070	50	300	25	75	60	25	50
Future Volume (vph)	60	1940	200	200	1070	50	300	25	75	60	25	50
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	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5051		3433	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	5051		3433	1863	1583	1770	1863	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	1940	200	200	1070	50	300	25	75	60	25	50
RTOR Reduction (vph)	0	0	55	0	3	0	0	0	67	0	0	47
Lane Group Flow (vph)	60	1940	145	200	1117	0	300	25	8	60	25	3
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8						6			2
Actuated Green, G (s)	7.6	74.9	74.9	17.2	84.5		13.7	14.3	14.3	6.8	7.4	7.4
Effective Green, g (s)	7.6	74.9	74.9	17.2	84.5		13.7	14.3	14.3	6.8	7.4	7.4
Actuated g/C Ratio	0.06	0.58	0.58	0.13	0.65		0.11	0.11	0.11	0.05	0.06	0.06
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	104	2051	917	235	3303		364	206	175	93	106	90
v/s Ratio Prot	0.03	c0.55		c0.11	0.22		c0.09	0.01		0.03	c0.01	
v/s Ratio Perm			0.09						0.01			0.00
v/c Ratio	0.58	0.95	0.16	0.85	0.34		0.82	0.12	0.05	0.65	0.24	0.03
Uniform Delay, d1	59.2	25.3	12.6	54.7	9.9		56.6	51.8	51.4	60.0	58.2	57.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.2	9.9	0.1	24.1	0.0		13.7	0.2	0.1	12.8	0.8	0.1
Delay (s)	65.5	35.1	12.6	78.9	10.0		70.3	52.0	51.4	72.8	59.0	57.6
Level of Service	E	D	B	E	A		E	D	D	E	E	E
Approach Delay (s)		33.9			20.4			65.6			64.6	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	33.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	129.2	Sum of lost time (s)	16.0
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	NBR	SWL	SWR
Lane Configurations										
Traffic Volume (vph)	0	414	0	0	188	0	0	0	0	0
Future Volume (vph)	0	414	0	0	188	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		10.5			10.5					
Lane Util. Factor		1.00			0.95					
Frt		1.00			1.00					
Flt Protected		1.00			1.00					
Satd. Flow (prot)		1863			3539					
Flt Permitted		1.00			1.00					
Satd. Flow (perm)		1863			3539					
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	414	0	0	188	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	414	0	0	188	0	0	0	0	0
Turn Type		NA			NA					
Protected Phases		4			4					
Permitted Phases										
Actuated Green, G (s)		134.5			134.5					
Effective Green, g (s)		134.5			134.5					
Actuated g/C Ratio		0.67			0.67					
Clearance Time (s)		10.5			10.5					
Lane Grp Cap (vph)		1252			2379					
v/s Ratio Prot		c0.22			0.05					
v/s Ratio Perm										
v/c Ratio		0.33			0.08					
Uniform Delay, d1		13.8			11.3					
Progression Factor		1.00			1.00					
Incremental Delay, d2		0.7			0.1					
Delay (s)		14.5			11.4					
Level of Service		B			B					
Approach Delay (s)		14.5			11.4		0.0		0.0	
Approach LOS		B			B		A		A	

Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	200.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	120.8%	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												
Traffic Volume (vph)	10	88	20	68	35	85	10	415	204	122	325	10
Future Volume (vph)	10	88	20	68	35	85	10	415	204	122	325	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.5	4.5		4.0	4.0		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.89		1.00	0.95		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1593	1808		1770	1665		1680	1736		1770	1853	
Flt Permitted	0.68	1.00		0.50	1.00		0.56	1.00		0.22	1.00	
Satd. Flow (perm)	1140	1808		925	1665		989	1736		419	1853	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	88	20	68	35	85	10	415	204	122	325	10
RTOR Reduction (vph)	0	10	0	0	68	0	0	14	0	0	1	0
Lane Group Flow (vph)	10	98	0	68	52	0	10	605	0	122	334	0
Confl. Peds. (#/hr)	5		5				5					5
Heavy Vehicles (%)	13%	2%	0%	2%	2%	2%	7%	5%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	12.7	11.7		22.0	16.5		41.9	41.0		51.0	45.6	
Effective Green, g (s)	13.7	11.7		22.0	16.5		42.9	41.5		51.0	45.6	
Actuated g/C Ratio	0.17	0.14		0.27	0.20		0.52	0.51		0.62	0.56	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.5	2.3		2.5	2.3		2.5	4.5		2.5	4.5	
Lane Grp Cap (vph)	198	257		307	335		529	878		351	1030	
v/s Ratio Prot	0.00	c0.05		c0.02	0.03		0.00	c0.35		c0.02	0.18	
v/s Ratio Perm	0.01			0.04			0.01			0.19		
v/c Ratio	0.05	0.38		0.22	0.16		0.02	0.69		0.35	0.32	
Uniform Delay, d1	28.6	31.9		23.0	27.0		9.4	15.4		9.7	9.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.5		0.3	0.1		0.0	4.4		0.4	0.8	
Delay (s)	28.7	32.4		23.2	27.1		9.4	19.8		10.1	10.7	
Level of Service	C	C		C	C		A	B		B	B	
Approach Delay (s)		32.1			25.7			19.6			10.5	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	0	40	0	0	0	105	634	0	0	393	15
Future Volume (vph)	20	0	40	0	0	0	105	634	0	0	393	15
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		1.00	1.00				1.00	1.00			1.00	
Frpb, ped/bikes		1.00	0.95				1.00	1.00			1.00	
Flpb, ped/bikes		0.97	1.00				1.00	1.00			1.00	
Frt		1.00	0.85				1.00	1.00			1.00	
Flt Protected		0.95	1.00				0.95	1.00			1.00	
Satd. Flow (prot)		1334	1432				1729	1863			1866	
Flt Permitted		0.82	1.00				0.37	1.00			1.00	
Satd. Flow (perm)		1146	1432				671	1863			1866	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	0	40	0	0	0	105	634	0	0	393	15
RTOR Reduction (vph)	0	0	35	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	20	5	0	0	0	105	634	0	0	406	0
Confl. Peds. (#/hr)	30		30	30		30	20		20	20		20
Confl. Bikes (#/hr)									3			
Heavy Vehicles (%)	31%	0%	7%	0%	14%	9%	4%	2%	60%	46%	1%	6%
Turn Type	Perm	NA	Perm				pm+pt	NA			NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4			2			6		
Actuated Green, G (s)		4.9	4.9				27.8	27.8			18.3	
Effective Green, g (s)		4.9	4.9				27.8	27.8			18.3	
Actuated g/C Ratio		0.12	0.12				0.68	0.68			0.45	
Clearance Time (s)		4.0	4.0				4.0	4.0			4.0	
Vehicle Extension (s)		2.5	2.5				2.5	2.5			2.5	
Lane Grp Cap (vph)		137	172				601	1272			839	
v/s Ratio Prot							0.02	c0.34			0.22	
v/s Ratio Perm		c0.02	0.00				0.10					
v/c Ratio		0.15	0.03				0.17	0.50			0.48	
Uniform Delay, d1		16.0	15.8				2.8	3.1			7.9	
Progression Factor		1.00	1.00				1.00	1.00			1.00	
Incremental Delay, d2		0.4	0.0				0.1	0.2			0.3	
Delay (s)		16.4	15.8				2.9	3.3			8.2	
Level of Service		B	B				A	A			A	
Approach Delay (s)		16.0			0.0			3.3			8.2	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	40.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	90	205	165	649	343	90
Future Volume (vph)	90	205	165	649	343	90
Ideal Flow (vphpl)	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	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1553	1770	1652	1712	1599
Flt Permitted	0.95	1.00	0.48	1.00	1.00	1.00
Satd. Flow (perm)	1805	1553	903	1652	1712	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	90	205	165	649	343	90
RTOR Reduction (vph)	0	163	0	0	0	33
Lane Group Flow (vph)	90	42	165	649	343	57
Heavy Vehicles (%)	0%	4%	2%	15%	11%	1%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Prot
Protected Phases	8	1	1	6	2	2
Permitted Phases		8	6			
Actuated Green, G (s)	8.1	13.1	55.4	55.4	45.4	45.4
Effective Green, g (s)	9.1	15.1	56.4	56.7	46.7	46.7
Actuated g/C Ratio	0.12	0.20	0.76	0.77	0.63	0.63
Clearance Time (s)	5.0	5.0	5.0	5.3	5.3	5.3
Vehicle Extension (s)	2.3	2.3	2.3	6.0	6.0	6.0
Lane Grp Cap (vph)	222	401	760	1269	1083	1011
v/s Ratio Prot	c0.05	0.01	0.02	c0.39	0.20	0.04
v/s Ratio Perm		0.02	0.15			
v/c Ratio	0.41	0.10	0.22	0.51	0.32	0.06
Uniform Delay, d1	29.9	23.9	2.6	3.3	6.2	5.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.1	0.1	1.5	0.8	0.1
Delay (s)	30.6	23.9	2.7	4.7	7.0	5.3
Level of Service	C	C	A	A	A	A
Approach Delay (s)	25.9			4.3	6.6	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	73.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	29.1
Intersection LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	270	100	50	365	335	185
Future Vol, veh/h	270	100	50	365	335	185
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	3	7	0	1	1	2
Mvmt Flow	270	100	50	365	335	185
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	16	26.6	40.3
HCM LOS	C	D	E

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	64%	0%	0%	12%
Vol Thru, %	0%	100%	0%	88%
Vol Right, %	36%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	520	270	100	415
LT Vol	335	0	0	50
Through Vol	0	270	0	365
RT Vol	185	0	100	0
Lane Flow Rate	520	270	100	415
Geometry Grp	2	7	7	5
Degree of Util (X)	0.892	0.536	0.181	0.749
Departure Headway (Hd)	6.178	7.148	6.5	6.499
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	593	502	550	556
Service Time	4.178	4.912	4.263	4.555
HCM Lane V/C Ratio	0.877	0.538	0.182	0.746
HCM Control Delay	40.3	17.9	10.7	26.6
HCM Lane LOS	E	C	B	D
HCM 95th-tile Q	10.6	3.1	0.7	6.5

Intersection	
Intersection Delay, s/veh	24.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	30	5	445	65	190	15	75	265	75	115	15
Future Vol, veh/h	10	30	5	445	65	190	15	75	265	75	115	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	0	4	0	1	0	2	0	4	5	3	1	0
Mvmt Flow	10	30	5	445	65	190	15	75	265	75	115	15
Number of Lanes	0	1	1	1	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	12.1	33.8	15.5	13.4
HCM LOS	B	D	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	17%	0%	25%	0%	100%	0%	0%	100%	0%
Vol Thru, %	83%	0%	75%	0%	0%	100%	0%	0%	88%
Vol Right, %	0%	100%	0%	100%	0%	0%	100%	0%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	265	40	5	445	65	190	75	130
LT Vol	15	0	10	0	445	0	0	75	0
Through Vol	75	0	30	0	0	65	0	0	115
RT Vol	0	265	0	5	0	0	190	0	15
Lane Flow Rate	90	265	40	5	445	65	190	75	130
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.191	0.509	0.095	0.011	0.901	0.123	0.323	0.176	0.283
Departure Headway (Hd)	7.639	6.914	8.591	7.81	7.291	6.8	6.123	8.462	7.836
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	470	522	417	457	498	530	591	425	459
Service Time	5.379	4.654	6.352	5.571	5.025	4.5	3.823	6.207	5.582
HCM Lane V/C Ratio	0.191	0.508	0.096	0.011	0.894	0.123	0.321	0.176	0.283
HCM Control Delay	12.2	16.6	12.3	10.7	46.6	10.5	11.7	13	13.7
HCM Lane LOS	B	C	B	B	E	B	B	B	B
HCM 95th-tile Q	0.7	2.9	0.3	0	10.2	0.4	1.4	0.6	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	105	55	150	240	115	35	140	120	235	120	160
Future Volume (vph)	140	105	55	150	240	115	35	140	120	235	120	160
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	4.5	4.0	4.0	4.8	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00		0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98		1.00	1.00	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1810	1576		3444	1599	1805	1712	1615	1787	1700	
Flt Permitted	0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1810	1576		3444	1599	1805	1712	1615	1787	1700	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	140	105	55	150	240	115	35	140	120	235	120	160
RTOR Reduction (vph)	0	0	47	0	0	0	0	0	63	0	37	0
Lane Group Flow (vph)	140	105	8	0	390	115	35	140	57	235	243	0
Confl. Peds. (#/hr)			3			1			1			4
Heavy Vehicles (%)	2%	5%	0%	1%	4%	1%	0%	11%	0%	1%	3%	0%
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3	3 1	5	2	2 3	1	6	
Permitted Phases			4									
Actuated Green, G (s)	10.9	10.9	10.9		14.1	28.4	3.9	16.3	35.2	14.3	26.7	
Effective Green, g (s)	11.4	11.4	11.4		14.6	28.4	4.4	17.1	35.2	14.8	27.5	
Actuated g/C Ratio	0.15	0.15	0.15		0.20	0.38	0.06	0.23	0.48	0.20	0.37	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.8		4.5	4.8	
Vehicle Extension (s)	2.3	2.3	2.3		2.5		2.3	4.7		2.3	4.7	
Lane Grp Cap (vph)	273	279	243		680	614	107	396	769	357	632	
v/s Ratio Prot	c0.08	0.06			c0.11	0.07	0.02	0.08	0.04	c0.13	c0.14	
v/s Ratio Perm			0.01									
v/c Ratio	0.51	0.38	0.03		0.57	0.19	0.33	0.35	0.07	0.66	0.38	
Uniform Delay, d1	28.7	28.1	26.6		26.8	15.1	33.3	23.8	10.5	27.2	17.0	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	0.5	0.0		1.0	0.1	1.0	1.0	0.1	3.7	0.7	
Delay (s)	29.7	28.6	26.6		27.8	15.2	34.4	24.8	10.6	30.9	17.7	
Level of Service	C	C	C		C	B	C	C	B	C	B	
Approach Delay (s)		28.7			24.9			20.1			23.7	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	73.9	Sum of lost time (s)	17.8
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	1185	35	340	1625	125	135	355	220	175	345	240
Future Volume (vph)	220	1185	35	340	1625	125	135	355	220	175	345	240
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	4.0	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	5013		1703	5038		1787	1863	1583	1787	1900	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	5013		1703	5038		1787	1863	1583	1787	1900	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	220	1185	35	340	1625	125	135	355	220	175	345	240
RTOR Reduction (vph)	0	2	0	0	6	0	0	0	170	0	0	52
Lane Group Flow (vph)	220	1218	0	340	1744	0	135	355	50	175	345	188
Heavy Vehicles (%)	1%	3%	4%	6%	2%	0%	1%	2%	2%	1%	0%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Prot	Prot	NA	pt+ov
Protected Phases	5	2		1	6		3	8	8	7	4	4 5
Permitted Phases												
Actuated Green, G (s)	13.5	57.5		25.5	69.5		10.0	22.1	22.1	17.4	29.5	47.5
Effective Green, g (s)	14.0	58.0		26.0	70.0		10.0	22.6	22.6	17.4	30.0	47.5
Actuated g/C Ratio	0.10	0.41		0.19	0.50		0.07	0.16	0.16	0.12	0.21	0.34
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.5	4.5	4.0	4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	178	2076		316	2519		127	300	255	222	407	542
v/s Ratio Prot	c0.12	0.24		c0.20	c0.35		c0.08	c0.19	0.03	c0.10	0.18	0.12
v/s Ratio Perm												
v/c Ratio	1.24	0.59		1.08	0.69		1.06	1.18	0.20	0.79	0.85	0.35
Uniform Delay, d1	63.0	31.7		57.0	26.8		65.0	58.7	50.8	59.5	52.8	34.6
Progression Factor	1.05	0.64		0.91	1.25		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	141.0	1.1		62.9	1.0		97.7	111.2	0.2	16.0	14.7	0.2
Delay (s)	207.5	21.4		114.5	34.6		162.7	169.9	51.0	75.5	67.5	34.9
Level of Service	F	C		F	C		F	F	D	E	E	C
Approach Delay (s)		49.8			47.6			131.7			59.0	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	61.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	88.1%	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												
Traffic Volume (vph)	215	1555	85	125	1885	25	195	160	250	120	105	120
Future Volume (vph)	215	1555	85	125	1885	25	195	160	250	120	105	120
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	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	1.00	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3471	1570	1787	5026		1805	1900	1538	1770	1702	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3471	1570	1787	5026		1805	1900	1538	1770	1702	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	215	1555	85	125	1885	25	195	160	250	120	105	120
RTOR Reduction (vph)	0	0	42	0	1	0	0	0	142	0	31	0
Lane Group Flow (vph)	215	1555	43	125	1909	0	195	160	108	120	194	0
Confl. Peds. (#/hr)	5		5	5		5	5		12	5		5
Heavy Vehicles (%)	2%	4%	0%	1%	3%	0%	0%	0%	2%	2%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	11.9	70.5	70.5	13.1	71.7		18.6	25.3	25.3	13.1	19.8	
Effective Green, g (s)	12.4	71.0	71.0	13.6	72.2		19.1	25.8	25.8	13.6	20.3	
Actuated g/C Ratio	0.09	0.51	0.51	0.10	0.52		0.14	0.18	0.18	0.10	0.15	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	5.1	5.1	2.5	5.1		3.0	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	156	1760	796	173	2591		246	350	283	171	246	
v/s Ratio Prot	c0.12	c0.45		0.07	0.38		c0.11	0.08		0.07	c0.11	
v/s Ratio Perm			0.03						0.07			
v/c Ratio	1.38	0.88	0.05	0.72	0.74		0.79	0.46	0.38	0.70	0.79	
Uniform Delay, d1	63.8	30.8	17.5	61.4	26.5		58.5	50.9	50.1	61.2	57.8	
Progression Factor	1.00	1.00	1.00	1.18	0.66		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	205.1	6.9	0.1	5.6	0.8		15.9	0.6	0.5	10.9	14.7	
Delay (s)	268.9	37.7	17.6	78.3	18.3		74.4	51.4	50.6	72.1	72.4	
Level of Service	F	D	B	E	B		E	D	D	E	E	
Approach Delay (s)		63.5			22.0			58.5			72.3	
Approach LOS		E			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	46.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	11

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	1880	1995	245	75	40
Future Vol, veh/h	45	1880	1995	245	75	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	80	-	-	150	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	1880	1995	245	75	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2240	0	-	0	3025	998
Stage 1	-	-	-	-	1995	-
Stage 2	-	-	-	-	1030	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	228	-	-	-	~ 10	242
Stage 1	-	-	-	-	91	-
Stage 2	-	-	-	-	305	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	228	-	-	-	~ 8	242
Mov Cap-2 Maneuver	-	-	-	-	~ 54	-
Stage 1	-	-	-	-	~ 73	-
Stage 2	-	-	-	-	305	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	$ 400.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	228	-	-	-	74
HCM Lane V/C Ratio	0.197	-	-	-	1.554
HCM Control Delay (s)	24.6	-	-	-	$ 400.9
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.7	-	-	-	9.6

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1815	95	40	1895	45	320	250	80	65	50	25
Future Volume (vph)	45	1815	95	40	1895	45	320	250	80	65	50	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00		1.00	1.00	0.94	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1805	3539	1452	1736	3488		1698	1774	1524	1805	1748	
Flt Permitted	0.05	1.00	1.00	0.05	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (perm)	94	3539	1452	90	3488		1698	1774	1524	1805	1748	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	45	1815	95	40	1895	45	320	250	80	65	50	25
RTOR Reduction (vph)	0	0	35	0	1	0	0	0	65	0	14	0
Lane Group Flow (vph)	45	1815	60	40	1939	0	278	292	15	65	61	0
Confl. Peds. (#/hr)	20		20	20		20	30		30	30		30
Heavy Vehicles (%)	0%	2%	1%	4%	3%	0%	1%	1%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2		2	6					8			
Actuated Green, G (s)	83.5	80.3	80.3	83.5	80.3		25.8	25.8	25.8	12.7	12.7	
Effective Green, g (s)	84.5	80.8	80.3	84.5	80.8		26.3	26.3	26.3	13.2	13.2	
Actuated g/C Ratio	0.60	0.58	0.57	0.60	0.58		0.19	0.19	0.19	0.09	0.09	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.3	5.1	5.1	2.3	5.1		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	101	2042	832	97	2013		318	333	286	170	164	
v/s Ratio Prot	c0.01	0.51		0.01	c0.56		0.16	c0.16		c0.04	0.03	
v/s Ratio Perm	0.25		0.04	0.23					0.01			
v/c Ratio	0.45	0.89	0.07	0.41	0.96		0.87	0.88	0.05	0.38	0.37	
Uniform Delay, d1	31.5	25.7	13.3	26.9	28.2		55.2	55.3	46.6	59.6	59.5	
Progression Factor	1.97	1.67	3.18	1.62	1.16		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.1	3.9	0.1	0.9	8.2		22.2	21.7	0.1	1.0	1.0	
Delay (s)	63.2	46.8	42.4	44.5	41.0		77.5	77.0	46.7	60.6	60.5	
Level of Service	E	D	D	D	D		E	E	D	E	E	
Approach Delay (s)		47.0			41.0			73.5			60.6	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	48.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBT	WBL	WBT	WBR	SBL	SBT	SBR	SWR	SWR2
Lane Configurations										
Traffic Volume (vph)	125	1020	175	755	95	45	80	60	1165	35
Future Volume (vph)	125	1020	175	755	95	45	80	60	1165	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1750
Total Lost time (s)	4.0	4.0	4.0	4.0			4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.95			1.00		*0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00			0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00			0.99		1.00	
Frt	1.00	1.00	1.00	0.98			0.96		1.00	
Flt Protected	0.95	1.00	0.95	1.00			0.99		1.00	
Satd. Flow (prot)	1787	3504	1770	3472			1723		3505	
Flt Permitted	0.95	1.00	0.95	1.00			0.99		1.00	
Satd. Flow (perm)	1787	3504	1770	3472			1723		3505	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	125	1020	175	755	95	45	80	60	1165	35
RTOR Reduction (vph)	0	0	0	0	0	0	12	0	84	0
Lane Group Flow (vph)	125	1020	175	850	0	0	173	0	1116	0
Confl. Peds. (#/hr)	10		10		10	15		15		10
Confl. Bikes (#/hr)										
Heavy Vehicles (%)	1%	2%	2%	2%	0%	0%	4%	2%	3%	3%
Bus Blockages (#/hr)	0	5	0	0	0	0	0	0	0	0
Turn Type	Prot	NA	Prot	NA		Perm	NA		Prot	
Protected Phases	3	3 6	5	1			4		2	
Permitted Phases						4				
Actuated Green, G (s)	9.0	89.8	17.6	32.7			16.6		60.1	
Effective Green, g (s)	10.0	87.0	19.6	35.0			17.6		61.4	
Actuated g/C Ratio	0.07	0.62	0.14	0.25			0.13		0.44	
Clearance Time (s)	5.0		6.0	6.3			5.0		5.3	
Vehicle Extension (s)	2.3		2.3	4.8			2.3		4.8	
Lane Grp Cap (vph)	127	2177	247	868			216		1537	
v/s Ratio Prot	c0.07	0.29	0.10	c0.24					c0.32	
v/s Ratio Perm							0.10			
v/c Ratio	0.98	0.47	0.71	0.98			0.80		0.73	
Uniform Delay, d1	64.9	14.2	57.5	52.1			59.5		32.4	
Progression Factor	0.97	0.47	0.84	0.98			1.00		1.00	
Incremental Delay, d2	53.3	0.0	7.4	24.4			17.7		3.0	
Delay (s)	116.6	6.7	55.5	75.7			77.1		35.4	
Level of Service	F	A	E	E			E		D	
Approach Delay (s)		18.7		72.2			77.1			
Approach LOS		B		E			E			

Intersection Summary			
HCM 2000 Control Delay	42.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	101.4%	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												
Traffic Volume (vph)	0	750	65	0	0	0	0	0	0	30	225	0
Future Volume (vph)	0	750	65	0	0	0	0	0	0	30	225	0
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	
Lane Util. Factor		0.95								1.00	1.00	
Frt		0.99								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3463								1752	1845	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3463								1752	1845	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	750	65	0	0	0	0	0	0	30	225	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	815	0	0	0	0	0	0	0	30	225	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type		NA								Perm	NA	
Protected Phases		3 6									4 5	
Permitted Phases										4 5		
Actuated Green, G (s)		89.8								39.2	39.2	
Effective Green, g (s)		87.0								40.2	40.2	
Actuated g/C Ratio		0.62								0.29	0.29	
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)		2152								503	529	
v/s Ratio Prot		c0.24									c0.12	
v/s Ratio Perm										0.02		
v/c Ratio		0.38								0.06	0.43	
Uniform Delay, d1		13.1								36.2	40.5	
Progression Factor		0.43								0.06	0.06	
Incremental Delay, d2		0.0								0.0	0.2	
Delay (s)		5.6								2.2	2.5	
Level of Service		A								A	A	
Approach Delay (s)		5.6			0.0			0.0			2.4	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	930	135	65	740	285	0
Future Volume (vph)	930	135	65	740	285	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	0.99		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.98		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3455		1752	3505	1787	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3455		1752	3505	1787	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	930	135	65	740	285	0
RTOR Reduction (vph)	7	0	0	0	0	0
Lane Group Flow (vph)	1058	0	65	740	285	0
Confl. Peds. (#/hr)		7	7		7	
Confl. Bikes (#/hr)		2				
Heavy Vehicles (%)	2%	1%	3%	3%	1%	1%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	4 8	
Permitted Phases						
Actuated Green, G (s)	53.0		9.8	67.3	62.4	
Effective Green, g (s)	54.3		10.3	68.6	63.7	
Actuated g/C Ratio	0.39		0.07	0.49	0.46	
Clearance Time (s)	5.3		4.5	5.3		
Vehicle Extension (s)	4.7		2.3	4.7		
Lane Grp Cap (vph)	1340		128	1717	813	
v/s Ratio Prot	c0.31		c0.04	0.21	c0.16	
v/s Ratio Perm						
v/c Ratio	0.79		0.51	0.43	0.35	
Uniform Delay, d1	37.8		62.4	23.1	24.7	
Progression Factor	1.04		1.00	1.00	0.11	
Incremental Delay, d2	4.3		1.8	0.8	0.6	
Delay (s)	43.7		64.3	23.9	3.3	
Level of Service	D		E	C	A	
Approach Delay (s)	43.7			27.1	3.3	
Approach LOS	D			C	A	

Intersection Summary			
HCM 2000 Control Delay	32.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	600	50	0	0	0	0	155	30	0	200	0
Future Volume (vph)	130	600	50	0	0	0	0	155	30	0	200	0
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	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						0.98			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		3421						1849			1881	
Flt Permitted		0.99						1.00			1.00	
Satd. Flow (perm)		3421						1849			1881	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	130	600	50	0	0	0	0	155	30	0	200	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	776	0	0	0	0	0	180	0	0	200	0
Confl. Peds. (#/hr)	7		7						7	7		
Confl. Bikes (#/hr)			1						1			
Heavy Vehicles (%)	5%	3%	4%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Turn Type	Split	NA						NA			NA	
Protected Phases	4	4						8			1 2 8	
Permitted Phases										1 2 8		
Actuated Green, G (s)		40.5						16.6			88.9	
Effective Green, g (s)		41.8						17.6			84.9	
Actuated g/C Ratio		0.30						0.13			0.61	
Clearance Time (s)		5.3						5.0				
Vehicle Extension (s)		6.4						2.3				
Lane Grp Cap (vph)		1021						232			1140	
v/s Ratio Prot		c0.23						c0.10			c0.11	
v/s Ratio Perm												
v/c Ratio		0.76						0.77			0.18	
Uniform Delay, d1		44.6						59.3			12.1	
Progression Factor		1.00						1.00			0.10	
Incremental Delay, d2		4.5						14.0			0.0	
Delay (s)		49.1						73.3			1.2	
Level of Service		D						E			A	
Approach Delay (s)		49.1			0.0			73.3			1.2	
Approach LOS		D			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	44.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	170	480	10	65	120
Future Vol, veh/h	25	170	480	10	65	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	1	0	0	2
Mvmt Flow	25	170	480	10	65	120

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	735	485	0	0	490	0
Stage 1	485	-	-	-	-	-
Stage 2	250	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	390	586	-	-	1084	-
Stage 1	623	-	-	-	-	-
Stage 2	796	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	367	586	-	-	1084	-
Mov Cap-2 Maneuver	460	-	-	-	-	-
Stage 1	586	-	-	-	-	-
Stage 2	796	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	460	586	1084	-
HCM Lane V/C Ratio	-	-	0.054	0.29	0.06	-
HCM Control Delay (s)	-	-	13.3	13.6	8.5	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	1.2	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	1015	25	245	1430	325	20	235	260	165	235	250
Future Volume (vph)	205	1015	25	245	1430	325	20	235	260	165	235	250
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	4.5	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	5069		1671	4953		1805	1810	1583	1787	1810	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	5069		1671	4953		1805	1810	1583	1787	1810	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	205	1015	25	245	1430	325	20	235	260	165	235	250
RTOR Reduction (vph)	0	2	0	0	24	0	0	0	35	0	0	186
Lane Group Flow (vph)	205	1038	0	245	1731	0	20	235	225	165	235	64
Heavy Vehicles (%)	1%	2%	0%	8%	2%	1%	0%	5%	2%	1%	5%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	Prot
Protected Phases	5	2		1	6		3	8	8 1	7	4	4
Permitted Phases												
Actuated Green, G (s)	21.5	57.4		25.7	61.6		4.3	24.7	54.9	15.2	35.6	35.6
Effective Green, g (s)	21.5	57.9		25.7	62.1		4.3	25.2	54.9	15.2	36.1	36.1
Actuated g/C Ratio	0.15	0.41		0.18	0.44		0.03	0.18	0.39	0.11	0.26	0.26
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.5		4.0	4.5	4.5
Vehicle Extension (s)	2.3	5.2		2.3	5.2		2.3	2.3		2.3	2.3	2.3
Lane Grp Cap (vph)	274	2096		306	2197		55	325	620	194	466	412
v/s Ratio Prot	0.11	0.20		c0.15	c0.35		0.01	c0.13	0.14	c0.09	0.13	0.04
v/s Ratio Perm												
v/c Ratio	0.75	0.50		0.80	0.79		0.36	0.72	0.36	0.85	0.50	0.16
Uniform Delay, d1	56.7	30.3		54.7	33.3		66.5	54.1	30.2	61.3	44.3	40.2
Progression Factor	1.00	1.00		1.43	0.59		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.8	0.8		10.0	2.1		2.4	7.0	0.2	27.7	0.5	0.1
Delay (s)	66.5	31.1		88.2	21.8		68.9	61.1	30.4	89.0	44.8	40.3
Level of Service	E	C		F	C		E	E	C	F	D	D
Approach Delay (s)		36.9			30.0			45.9			54.3	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	37.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	615	0	0	920	0	0	0	0	0	0	0
Future Volume (vph)	0	615	0	0	920	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1681			1727							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1681			1727							
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	615	0	0	920	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	615	0	0	920	0	0	0	0	0	0	0
Heavy Vehicles (%)	2%	13%	2%	2%	10%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA			NA							
Protected Phases		6			2							
Permitted Phases												
Actuated Green, G (s)		851.0			851.0							
Effective Green, g (s)		851.0			851.0							
Actuated g/C Ratio		0.95			0.95							
Clearance Time (s)		4.0			4.0							
Lane Grp Cap (vph)		1589			1632							
v/s Ratio Prot		0.37			c0.53							
v/s Ratio Perm												
v/c Ratio		0.39			0.56							
Uniform Delay, d1		2.1			2.9							
Progression Factor		1.00			1.00							
Incremental Delay, d2		0.7			1.4							
Delay (s)		2.8			4.3							
Level of Service		A			A							
Approach Delay (s)		2.8			4.3			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	900.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL	SWR
Lane Configurations										
Traffic Volume (vph)	0	255	0	0	750	0	0	0	0	0
Future Volume (vph)	0	255	0	0	750	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		10.5			10.5					
Lane Util. Factor		1.00			0.95					
Frt		1.00			1.00					
Flt Protected		1.00			1.00					
Satd. Flow (prot)		1863			3539					
Flt Permitted		1.00			1.00					
Satd. Flow (perm)		1863			3539					
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	255	0	0	750	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	255	0	0	750	0	0	0	0	0
Turn Type		NA			NA					
Protected Phases		4			4					
Permitted Phases										
Actuated Green, G (s)		134.5			134.5					
Effective Green, g (s)		134.5			134.5					
Actuated g/C Ratio		0.67			0.67					
Clearance Time (s)		10.5			10.5					
Lane Grp Cap (vph)		1252			2379					
v/s Ratio Prot		0.14			c0.21					
v/s Ratio Perm										
v/c Ratio		0.20			0.32					
Uniform Delay, d1		12.4			13.6					
Progression Factor		1.00			1.00					
Incremental Delay, d2		0.4			0.3					
Delay (s)		12.8			14.0					
Level of Service		B			B					
Approach Delay (s)		12.8			14.0		0.0		0.0	
Approach LOS		B			B		A		A	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	200.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	120.8%	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												
Traffic Volume (vph)	10	35	55	285	150	315	25	400	105	115	585	20
Future Volume (vph)	10	35	55	285	150	315	25	400	105	115	585	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.5	4.5		4.0	4.0		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.90		1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1596	1683		1770	1673		1686	1764		1770	1852	
Flt Permitted	0.31	1.00		0.51	1.00		0.27	1.00		0.27	1.00	
Satd. Flow (perm)	513	1683		959	1673		481	1764		496	1852	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	35	55	285	150	315	25	400	105	115	585	20
RTOR Reduction (vph)	0	47	0	0	82	0	0	8	0	0	1	0
Lane Group Flow (vph)	10	43	0	285	383	0	25	497	0	115	604	0
Confl. Peds. (#/hr)	5		5				5					5
Heavy Vehicles (%)	13%	2%	0%	2%	2%	2%	7%	5%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	13.6	12.6		27.2	21.7		38.0	35.8		45.0	39.3	
Effective Green, g (s)	14.6	12.6		27.2	21.7		39.0	36.3		45.0	39.3	
Actuated g/C Ratio	0.18	0.15		0.33	0.26		0.47	0.44		0.55	0.48	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.5	2.3		2.5	2.3		2.5	4.5		2.5	4.5	
Lane Grp Cap (vph)	110	257		416	441		267	778		359	885	
v/s Ratio Prot	0.00	0.03		c0.08	c0.23		0.00	0.28		c0.02	c0.33	
v/s Ratio Perm	0.01			0.14			0.04			0.15		
v/c Ratio	0.09	0.17		0.69	0.87		0.09	0.64		0.32	0.68	
Uniform Delay, d1	28.3	30.2		22.3	28.9		12.7	17.8		11.1	16.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.2		4.2	16.2		0.1	4.0		0.4	4.2	
Delay (s)	28.6	30.4		26.5	45.1		12.8	21.8		11.5	20.9	
Level of Service	C	C		C	D		B	C		B	C	
Approach Delay (s)		30.2			38.0			21.4			19.4	
Approach LOS		C			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	82.2	Sum of lost time (s)	17.5
Intersection Capacity Utilization	73.4%	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												
Traffic Volume (vph)	20	0	50	0	0	0	105	510	0	0	870	55
Future Volume (vph)	20	0	50	0	0	0	105	510	0	0	870	55
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		1.00	1.00				1.00	1.00			1.00	
Frpb, ped/bikes		1.00	0.93				1.00	1.00			1.00	
Flpb, ped/bikes		0.95	1.00				1.00	1.00			1.00	
Frt		1.00	0.85				1.00	1.00			0.99	
Flt Protected		0.95	1.00				0.95	1.00			1.00	
Satd. Flow (prot)		1309	1406				1736	1863			1855	
Flt Permitted		0.82	1.00				0.14	1.00			1.00	
Satd. Flow (perm)		1125	1406				257	1863			1855	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	0	50	0	0	0	105	510	0	0	870	55
RTOR Reduction (vph)	0	0	46	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	20	4	0	0	0	105	510	0	0	923	0
Confl. Peds. (#/hr)	30		30	30		30	20		20	20		20
Confl. Bikes (#/hr)									3			
Heavy Vehicles (%)	31%	0%	7%	0%	14%	9%	4%	2%	60%	46%	1%	6%
Turn Type	Perm	NA	Perm				pm+pt	NA			NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4			2			6		
Actuated Green, G (s)		4.9	4.9				50.0	50.0			39.6	
Effective Green, g (s)		4.9	4.9				50.0	50.0			39.6	
Actuated g/C Ratio		0.08	0.08				0.79	0.79			0.63	
Clearance Time (s)		4.0	4.0				4.0	4.0			4.0	
Vehicle Extension (s)		2.5	2.5				2.5	2.5			2.5	
Lane Grp Cap (vph)		87	109				354	1480			1167	
v/s Ratio Prot							0.03	c0.27			c0.50	
v/s Ratio Perm		c0.02	0.00				0.21					
v/c Ratio		0.23	0.04				0.30	0.34			0.79	
Uniform Delay, d1		27.2	26.8				7.3	1.8			8.6	
Progression Factor		1.00	1.00				1.00	1.00			1.00	
Incremental Delay, d2		1.0	0.1				0.3	0.1			3.6	
Delay (s)		28.2	26.9				7.6	1.9			12.2	
Level of Service		C	C				A	A			B	
Approach Delay (s)		27.3			0.0			2.9			12.2	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	62.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	97.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	70	320	250	545	805	115
Future Volume (vph)	70	320	250	545	805	115
Ideal Flow (vphpl)	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	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1553	1770	1652	1712	1599
Flt Permitted	0.95	1.00	0.26	1.00	1.00	1.00
Satd. Flow (perm)	1805	1553	487	1652	1712	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	70	320	250	545	805	115
RTOR Reduction (vph)	0	150	0	0	0	30
Lane Group Flow (vph)	70	170	250	545	805	85
Heavy Vehicles (%)	0%	4%	2%	15%	11%	1%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Prot
Protected Phases	8	1	1	6	2	2
Permitted Phases		8	6			
Actuated Green, G (s)	8.3	15.0	91.4	91.4	79.7	79.7
Effective Green, g (s)	9.3	17.0	92.4	92.7	81.0	81.0
Actuated g/C Ratio	0.08	0.15	0.84	0.84	0.74	0.74
Clearance Time (s)	5.0	5.0	5.0	5.3	5.3	5.3
Vehicle Extension (s)	2.3	2.3	2.3	6.0	6.0	6.0
Lane Grp Cap (vph)	152	296	498	1392	1260	1177
v/s Ratio Prot	0.04	c0.04	0.04	0.33	c0.47	0.05
v/s Ratio Perm		0.07	0.39			
v/c Ratio	0.46	0.57	0.50	0.39	0.64	0.07
Uniform Delay, d1	48.0	43.1	5.6	2.0	7.2	4.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	2.0	0.5	0.8	2.5	0.1
Delay (s)	49.2	45.1	6.1	2.9	9.7	4.2
Level of Service	D	D	A	A	A	A
Approach Delay (s)	45.9			3.9	9.0	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.2%	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												
Traffic Volume (vph)	145	350	260	250	120	410	325	370	60	140	135	80
Future Volume (vph)	145	350	260	250	120	410	325	370	60	140	135	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	5.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.88		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	3574	1615	1770	3191		1787	1881	1615	1805	3333	
Flt Permitted	0.42	1.00	1.00	0.35	1.00		0.48	1.00	1.00	0.42	1.00	
Satd. Flow (perm)	796	3574	1615	644	3191		906	1881	1615	796	3333	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	145	350	260	250	120	410	325	370	60	140	135	80
RTOR Reduction (vph)	0	0	150	0	301	0	0	0	42	0	62	0
Lane Group Flow (vph)	145	350	110	250	229	0	325	370	18	140	153	0
Heavy Vehicles (%)	1%	1%	0%	2%	0%	0%	1%	1%	0%	0%	3%	1%
Turn Type	pm+pt	NA	pt+ov	pm+pt	NA		pm+pt	NA	Prot	pm+pt	NA	
Protected Phases	5	2	2 3	1	6		3	8	8	7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	19.2	12.5	28.0	27.2	16.5		28.7	18.9	18.9	20.0	14.2	
Effective Green, g (s)	19.2	13.5	28.0	27.2	17.5		28.7	19.9	19.9	20.0	15.2	
Actuated g/C Ratio	0.29	0.20	0.42	0.41	0.27		0.44	0.30	0.30	0.30	0.23	
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0	5.0	4.0	5.0	
Vehicle Extension (s)	1.5	2.5		1.5	2.5		1.5	2.5	2.5	1.5	2.5	
Lane Grp Cap (vph)	332	732	686	448	847		534	568	487	330	768	
v/s Ratio Prot	0.04	0.10	0.07	c0.09	0.07		c0.10	c0.20	0.01	0.04	0.05	
v/s Ratio Perm	0.08			c0.14			0.17			0.09		
v/c Ratio	0.44	0.48	0.16	0.56	0.27		0.61	0.65	0.04	0.42	0.20	
Uniform Delay, d1	18.0	23.1	11.7	13.6	19.1		13.0	20.0	16.2	17.4	20.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.4	0.1	0.9	0.1		1.4	2.4	0.0	0.3	0.1	
Delay (s)	18.4	23.5	11.8	14.5	19.3		14.4	22.4	16.3	17.7	20.5	
Level of Service	B	C	B	B	B		B	C	B	B	C	
Approach Delay (s)		18.5			17.7			18.4			19.4	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	65.9	Sum of lost time (s)	17.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	15	740	75	50	585
Future Vol, veh/h	25	15	740	75	50	585
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	10	33	1	0	2	1
Mvmt Flow	25	15	740	75	50	585

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1463	778	0	0	815	0
Stage 1	778	-	-	-	-	-
Stage 2	685	-	-	-	-	-
Critical Hdwy	6.5	6.53	-	-	4.12	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.597	-	-	2.218	-
Pot Cap-1 Maneuver	136	351	-	-	812	-
Stage 1	439	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	128	351	-	-	812	-
Mov Cap-2 Maneuver	128	-	-	-	-	-
Stage 1	412	-	-	-	-	-
Stage 2	486	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	33	0	0.8
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	168	812	-
HCM Lane V/C Ratio	-	-	0.238	0.062	-
HCM Control Delay (s)	-	-	33	9.7	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0.2	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	815	0	0	610
Future Volume (vph)	0	0	815	0	0	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			10.5			10.5
Lane Util. Factor			1.00			1.00
Frt			1.00			1.00
Flt Protected			1.00			1.00
Satd. Flow (prot)			1863			1863
Flt Permitted			1.00			1.00
Satd. Flow (perm)			1863			1863
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	815	0	0	610
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	815	0	0	610
Turn Type			NA			NA
Protected Phases			2			2
Permitted Phases						
Actuated Green, G (s)			134.5			134.5
Effective Green, g (s)			134.5			134.5
Actuated g/C Ratio			0.67			0.67
Clearance Time (s)			10.5			10.5
Lane Grp Cap (vph)			1252			1252
v/s Ratio Prot			c0.44			0.33
v/s Ratio Perm						
v/c Ratio			0.65			0.49
Uniform Delay, d1			19.1			16.0
Progression Factor			1.00			1.00
Incremental Delay, d2			2.6			1.4
Delay (s)			21.7			17.3
Level of Service			C			B
Approach Delay (s)	0.0		21.7			17.3
Approach LOS	A		C			B

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	200.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	120.8%	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												
Traffic Volume (vph)	60	10	110	355	15	45	80	705	90	25	560	25
Future Volume (vph)	60	10	110	355	15	45	80	705	90	25	560	25
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	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.86		1.00	0.89		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1639		1787	1637		1752	1900	1615	1805	1852	
Flt Permitted	0.95	1.00		0.95	1.00		0.22	1.00	1.00	0.14	1.00	
Satd. Flow (perm)	1805	1639		1787	1637		403	1900	1615	259	1852	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	10	110	355	15	45	80	705	90	25	560	25
RTOR Reduction (vph)	0	97	0	0	30	0	0	0	51	0	2	0
Lane Group Flow (vph)	60	23	0	355	30	0	80	705	39	25	583	0
Heavy Vehicles (%)	0%	0%	0%	1%	0%	4%	3%	0%	0%	0%	2%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Prot	Perm	NA	
Protected Phases	7	4		3	8			2	2		6	
Permitted Phases							2			6		
Actuated Green, G (s)	3.9	7.9		19.4	23.4		28.9	28.9	28.9	28.9	28.9	
Effective Green, g (s)	3.9	7.9		19.4	23.4		29.4	29.4	29.4	29.4	29.4	
Actuated g/C Ratio	0.06	0.11		0.28	0.34		0.43	0.43	0.43	0.43	0.43	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	1.5	1.5		1.5	1.5		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	102	188		504	557		172	813	691	110	792	
v/s Ratio Prot	0.03	c0.01		c0.20	0.02			c0.37	0.02		0.31	
v/s Ratio Perm							0.20			0.10		
v/c Ratio	0.59	0.12		0.70	0.05		0.47	0.87	0.06	0.23	0.74	
Uniform Delay, d1	31.6	27.3		22.1	15.2		14.0	17.9	11.5	12.5	16.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.5	0.1		3.6	0.0		2.0	9.7	0.0	1.1	3.6	
Delay (s)	37.1	27.4		25.7	15.2		16.0	27.5	11.5	13.5	20.0	
Level of Service	D	C		C	B		B	C	B	B	C	
Approach Delay (s)		30.6			24.2			24.8			19.7	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	68.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	51
Intersection LOS	F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	450	290	60	355	385	180
Future Vol, veh/h	450	290	60	355	385	180
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	1	0	2	2	0	0
Mvmt Flow	450	290	60	355	385	180
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Righ	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	38.1	35.7	79
HCM LOS	E	E	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	68%	0%	0%	14%
Vol Thru, %	0%	100%	0%	86%
Vol Right, %	32%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	565	450	290	415
LT Vol	385	0	0	60
Through Vol	0	450	0	355
RT Vol	180	0	290	0
Lane Flow Rate	565	450	290	415
Geometry Grp	2	7	7	5
Degree of Util (X)	1.051	0.92	0.535	0.817
Departure Headway (Hd)	6.699	7.668	6.928	7.398
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	537	477	525	494
Service Time	4.779	5.368	4.628	5.398
HCM Lane V/C Ratio	1.052	0.943	0.552	0.84
HCM Control Delay	79	51.5	17.3	35.7
HCM Lane LOS	F	F	C	E
HCM 95th-tile Q	16.3	10.6	3.1	7.9

Intersection	
Intersection Delay, s/veh	48.7
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	80	20	310	90	340	15	105	520	140	85	15
Future Vol, veh/h	15	80	20	310	90	340	15	105	520	140	85	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	17	3	0	1	1	1	0	1	1	0	1	7
Mvmt Flow	15	80	20	310	90	340	15	105	520	140	85	15
Number of Lanes	0	1	1	1	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Righ	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	16.6	28.5	89.4	17.5
HCM LOS	C	D	F	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	12%	0%	16%	0%	100%	0%	0%	100%	0%
Vol Thru, %	88%	0%	84%	0%	0%	100%	0%	0%	85%
Vol Right, %	0%	100%	0%	100%	0%	0%	100%	0%	15%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	520	95	20	310	90	340	140	100
LT Vol	15	0	15	0	310	0	0	140	0
Through Vol	105	0	80	0	0	90	0	0	85
RT Vol	0	520	0	20	0	0	340	0	15
Lane Flow Rate	120	520	95	20	310	90	340	140	100
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.285	1.123	0.27	0.051	0.75	0.205	0.706	0.379	0.257
Departure Headway (Hd)	8.536	7.774	10.74	9.671	9.064	8.548	7.827	10.172	9.564
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	424	468	336	373	403	422	466	356	378
Service Time	6.24	5.479	8.44	7.371	6.764	6.248	5.527	7.872	7.264
HCM Lane V/C Ratio	0.283	1.111	0.283	0.054	0.769	0.213	0.73	0.393	0.265
HCM Control Delay	14.6	106.7	17.4	12.9	34.4	13.4	27.2	18.9	15.5
HCM Lane LOS	B	F	C	B	D	B	D	C	C
HCM 95th-tile Q	1.2	18	1.1	0.2	6.1	0.8	5.4	1.7	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	260	45	80	395	115	60	265	160	165	115	200
Future Volume (vph)	260	260	45	80	395	115	60	265	160	165	115	200
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	4.5	4.0	4.0	4.8	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00		0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98		1.00	1.00	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1863	1576		3533	1599	1770	1863	1615	1787	1644	
Flt Permitted	0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1805	1863	1576		3533	1599	1770	1863	1615	1787	1644	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	260	260	45	80	395	115	60	265	160	165	115	200
RTOR Reduction (vph)	0	0	36	0	0	0	0	0	78	0	56	0
Lane Group Flow (vph)	260	260	9	0	475	115	60	265	82	165	259	0
Confl. Peds. (#/hr)			3			1			1			4
Heavy Vehicles (%)	0%	2%	0%	3%	1%	1%	2%	2%	0%	1%	8%	1%
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3	3 1	5	2	2 3	1	6	
Permitted Phases			4									
Actuated Green, G (s)	15.0	15.0	15.0		16.1	26.6	5.9	19.6	40.5	10.5	24.2	
Effective Green, g (s)	15.5	15.5	15.5		16.6	26.6	6.4	20.4	40.5	11.0	25.0	
Actuated g/C Ratio	0.19	0.19	0.19		0.21	0.33	0.08	0.26	0.51	0.14	0.31	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.8		4.5	4.8	
Vehicle Extension (s)	2.3	2.3	2.3		2.5		2.3	4.7		2.3	4.7	
Lane Grp Cap (vph)	351	363	307		737	535	142	478	822	247	516	
v/s Ratio Prot	c0.14	0.14			c0.13	0.07	0.03	0.14	0.05	c0.09	c0.16	
v/s Ratio Perm			0.01									
v/c Ratio	0.74	0.72	0.03		0.64	0.21	0.42	0.55	0.10	0.67	0.50	
Uniform Delay, d1	30.1	29.9	25.9		28.8	19.0	34.8	25.6	10.1	32.5	22.2	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.5	5.9	0.0		1.7	0.1	1.2	2.2	0.1	5.7	1.4	
Delay (s)	37.6	35.8	25.9		30.5	19.1	36.0	27.8	10.2	38.2	23.6	
Level of Service	D	D	C		C	B	D	C	B	D	C	
Approach Delay (s)		35.9			28.3			23.0			28.6	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	79.5	Sum of lost time (s)	17.8
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
20: SW Hall Blvd & OR99W

03/18/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	1185	35	340	1625	125	135	355	220	175	345	240
Future Volume (vph)	220	1185	35	340	1625	125	135	355	220	175	345	240
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	4.0	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	5013		1703	5038		1787	1863	1583	1787	1900	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	5013		1703	5038		1787	1863	1583	1787	1900	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	220	1185	35	340	1625	125	135	355	220	175	345	240
RTOR Reduction (vph)	0	2	0	0	6	0	0	0	170	0	0	52
Lane Group Flow (vph)	220	1218	0	340	1744	0	135	355	50	175	345	188
Heavy Vehicles (%)	1%	3%	4%	6%	2%	0%	1%	2%	2%	1%	0%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Prot	Prot	NA	pt+ov
Protected Phases	5	2		1	6		3	8	8	7	4	4 5
Permitted Phases												
Actuated Green, G (s)	13.5	57.5		25.5	69.5		10.0	22.1	22.1	17.4	29.5	47.5
Effective Green, g (s)	14.0	58.0		26.0	70.0		10.0	22.6	22.6	17.4	30.0	47.5
Actuated g/C Ratio	0.10	0.41		0.19	0.50		0.07	0.16	0.16	0.12	0.21	0.34
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.5	4.5	4.0	4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	178	2076		316	2519		127	300	255	222	407	542
v/s Ratio Prot	c0.12	0.24		c0.20	c0.35		c0.08	c0.19	0.03	c0.10	0.18	0.12
v/s Ratio Perm												
v/c Ratio	1.24	0.59		1.08	0.69		1.06	1.18	0.20	0.79	0.85	0.35
Uniform Delay, d1	63.0	31.7		57.0	26.8		65.0	58.7	50.8	59.5	52.8	34.6
Progression Factor	1.05	0.64		0.91	1.25		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	141.0	1.1		62.9	1.0		97.7	111.2	0.2	16.0	14.7	0.2
Delay (s)	207.5	21.4		114.5	34.6		162.7	169.9	51.0	75.5	67.5	34.9
Level of Service	F	C		F	C		F	F	D	E	E	C
Approach Delay (s)		49.8			47.6			131.7			59.0	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	61.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	88.1%	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												
Traffic Volume (vph)	215	1555	85	125	1885	25	195	160	250	120	105	120
Future Volume (vph)	215	1555	85	125	1885	25	195	160	250	120	105	120
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	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	1.00	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3471	1570	1787	5026		1805	1900	1538	1770	1702	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3471	1570	1787	5026		1805	1900	1538	1770	1702	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	215	1555	85	125	1885	25	195	160	250	120	105	120
RTOR Reduction (vph)	0	0	42	0	1	0	0	0	142	0	31	0
Lane Group Flow (vph)	215	1555	43	125	1909	0	195	160	108	120	194	0
Confl. Peds. (#/hr)	5		5	5		5	5		12	5		5
Heavy Vehicles (%)	2%	4%	0%	1%	3%	0%	0%	0%	2%	2%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	11.9	70.5	70.5	13.1	71.7		18.6	25.3	25.3	13.1	19.8	
Effective Green, g (s)	12.4	71.0	71.0	13.6	72.2		19.1	25.8	25.8	13.6	20.3	
Actuated g/C Ratio	0.09	0.51	0.51	0.10	0.52		0.14	0.18	0.18	0.10	0.15	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	5.1	5.1	2.5	5.1		3.0	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	156	1760	796	173	2591		246	350	283	171	246	
v/s Ratio Prot	c0.12	c0.45		0.07	0.38		c0.11	0.08		0.07	c0.11	
v/s Ratio Perm			0.03						0.07			
v/c Ratio	1.38	0.88	0.05	0.72	0.74		0.79	0.46	0.38	0.70	0.79	
Uniform Delay, d1	63.8	30.8	17.5	61.4	26.5		58.5	50.9	50.1	61.2	57.8	
Progression Factor	1.00	1.00	1.00	1.05	1.01		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	205.1	6.9	0.1	6.4	0.9		15.9	0.6	0.5	10.9	14.7	
Delay (s)	268.9	37.7	17.6	70.8	27.5		74.4	51.4	50.6	72.1	72.4	
Level of Service	F	D	B	E	C		E	D	D	E	E	
Approach Delay (s)		63.5			30.2			58.5			72.3	
Approach LOS		E			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	49.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	10.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	1880	1995	245	75	40
Future Vol, veh/h	45	1880	1995	245	75	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	80	-	-	150	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	1880	1995	245	75	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2240	0	-	0	3025	998
Stage 1	-	-	-	-	1995	-
Stage 2	-	-	-	-	1030	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	228	-	-	-	~ 10	242
Stage 1	-	-	-	-	91	-
Stage 2	-	-	-	-	305	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	228	-	-	-	~ 8	242
Mov Cap-2 Maneuver	-	-	-	-	~ 56	-
Stage 1	-	-	-	-	~ 73	-
Stage 2	-	-	-	-	305	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	$ 381.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	228	-	-	-	76
HCM Lane V/C Ratio	0.197	-	-	-	1.513
HCM Control Delay (s)	24.6	-	-	-	$ 381.3
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.7	-	-	-	9.4

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1815	95	40	1895	45	320	250	80	65	50	25
Future Volume (vph)	45	1815	95	40	1895	45	320	250	80	65	50	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00		1.00	1.00	0.95	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	3539	1452	1736	3488		3467	1881	1533	1805	1749	
Flt Permitted	0.05	1.00	1.00	0.05	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	88	3539	1452	84	3488		3467	1881	1533	1805	1749	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	45	1815	95	40	1895	45	320	250	80	65	50	25
RTOR Reduction (vph)	0	0	32	0	1	0	0	0	66	0	14	0
Lane Group Flow (vph)	45	1815	63	40	1939	0	320	250	14	65	61	0
Confl. Peds. (#/hr)	20		20	20		20	30		30	30		30
Heavy Vehicles (%)	0%	2%	1%	4%	3%	0%	1%	1%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6					8			
Actuated Green, G (s)	89.4	86.1	86.1	89.2	86.0		12.9	24.7	24.7	8.0	19.8	
Effective Green, g (s)	90.4	86.6	86.1	90.2	86.5		13.4	25.2	25.2	8.5	20.3	
Actuated g/C Ratio	0.65	0.62	0.61	0.64	0.62		0.10	0.18	0.18	0.06	0.15	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.3	5.1	5.1	2.3	5.1		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	103	2189	892	97	2155		331	338	275	109	253	
v/s Ratio Prot	c0.01	0.51		0.01	c0.56		c0.09	c0.13		0.04	0.04	
v/s Ratio Perm	0.27		0.04	0.25					0.01			
v/c Ratio	0.44	0.83	0.07	0.41	0.90		0.97	0.74	0.05	0.60	0.24	
Uniform Delay, d1	26.8	20.9	10.9	22.6	23.0		63.1	54.3	47.5	64.1	53.0	
Progression Factor	1.93	0.70	1.39	1.64	0.53		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	2.3	0.1	0.9	3.6		40.2	7.8	0.1	7.1	0.4	
Delay (s)	52.8	17.0	15.2	38.1	15.8		103.2	62.1	47.6	71.2	53.4	
Level of Service	D	B	B	D	B		F	E	D	E	D	
Approach Delay (s)		17.7			16.2			80.6			61.7	
Approach LOS		B			B			F			E	

Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBT	WBL	WBT	WBR	SBL	SBT	SBR	SWR	SWR2
Lane Configurations										
Traffic Volume (vph)	125	1020	175	755	95	45	80	60	1165	35
Future Volume (vph)	125	1020	175	755	95	45	80	60	1165	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1750
Total Lost time (s)	4.0	4.0	4.0	4.0			4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.95			1.00		*0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00			0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00			0.99		1.00	
Frt	1.00	1.00	1.00	0.98			0.96		1.00	
Flt Protected	0.95	1.00	0.95	1.00			0.99		1.00	
Satd. Flow (prot)	1787	3504	1770	3472			1723		3505	
Flt Permitted	0.95	1.00	0.95	1.00			0.99		1.00	
Satd. Flow (perm)	1787	3504	1770	3472			1723		3505	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	125	1020	175	755	95	45	80	60	1165	35
RTOR Reduction (vph)	0	0	0	0	0	0	12	0	84	0
Lane Group Flow (vph)	125	1020	175	850	0	0	173	0	1116	0
Confl. Peds. (#/hr)	10		10		10	15		15		10
Confl. Bikes (#/hr)										
Heavy Vehicles (%)	1%	2%	2%	2%	0%	0%	4%	2%	3%	3%
Bus Blockages (#/hr)	0	5	0	0	0	0	0	0	0	0
Turn Type	Prot	NA	Prot	NA		Perm	NA		Prot	
Protected Phases	3	3 6	5	1			4		2	
Permitted Phases						4				
Actuated Green, G (s)	9.0	89.8	17.6	32.7			16.6		60.1	
Effective Green, g (s)	10.0	87.0	19.6	35.0			17.6		61.4	
Actuated g/C Ratio	0.07	0.62	0.14	0.25			0.13		0.44	
Clearance Time (s)	5.0		6.0	6.3			5.0		5.3	
Vehicle Extension (s)	2.3		2.3	4.8			2.3		4.8	
Lane Grp Cap (vph)	127	2177	247	868			216		1537	
v/s Ratio Prot	c0.07	0.29	0.10	c0.24					c0.32	
v/s Ratio Perm							0.10			
v/c Ratio	0.98	0.47	0.71	0.98			0.80		0.73	
Uniform Delay, d1	64.9	14.2	57.5	52.1			59.5		32.4	
Progression Factor	0.73	0.56	0.84	0.98			1.00		1.00	
Incremental Delay, d2	57.3	0.1	7.4	24.4			17.7		3.0	
Delay (s)	104.9	8.0	55.5	75.7			77.1		35.4	
Level of Service	F	A	E	E			E		D	
Approach Delay (s)		18.6		72.2			77.1			
Approach LOS		B		E			E			

Intersection Summary			
HCM 2000 Control Delay	42.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	101.4%	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												
Traffic Volume (vph)	0	750	65	0	0	0	0	0	0	30	225	0
Future Volume (vph)	0	750	65	0	0	0	0	0	0	30	225	0
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	
Lane Util. Factor		0.95								1.00	1.00	
Frt		0.99								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3463								1752	1845	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3463								1752	1845	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	750	65	0	0	0	0	0	0	30	225	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	815	0	0	0	0	0	0	0	30	225	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type		NA								Perm	NA	
Protected Phases		3 6									4 5	
Permitted Phases										4 5		
Actuated Green, G (s)		89.8								39.2	39.2	
Effective Green, g (s)		87.0								40.2	40.2	
Actuated g/C Ratio		0.62								0.29	0.29	
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)		2152								503	529	
v/s Ratio Prot		c0.24									c0.12	
v/s Ratio Perm										0.02		
v/c Ratio		0.38								0.06	0.43	
Uniform Delay, d1		13.1								36.2	40.5	
Progression Factor		0.60								0.06	0.06	
Incremental Delay, d2		0.0								0.0	0.2	
Delay (s)		7.9								2.2	2.5	
Level of Service		A								A	A	
Approach Delay (s)		7.9			0.0			0.0			2.4	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	930	135	65	740	285	0
Future Volume (vph)	930	135	65	740	285	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	0.99		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.98		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3455		1752	3505	1787	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3455		1752	3505	1787	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	930	135	65	740	285	0
RTOR Reduction (vph)	7	0	0	0	0	0
Lane Group Flow (vph)	1058	0	65	740	285	0
Confl. Peds. (#/hr)		7	7		7	
Confl. Bikes (#/hr)		2				
Heavy Vehicles (%)	2%	1%	3%	3%	1%	1%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	4 8	
Permitted Phases						
Actuated Green, G (s)	53.0		9.8	67.3	62.4	
Effective Green, g (s)	54.3		10.3	68.6	63.7	
Actuated g/C Ratio	0.39		0.07	0.49	0.46	
Clearance Time (s)	5.3		4.5	5.3		
Vehicle Extension (s)	4.7		2.3	4.7		
Lane Grp Cap (vph)	1340		128	1717	813	
v/s Ratio Prot	c0.31		c0.04	0.21	c0.16	
v/s Ratio Perm						
v/c Ratio	0.79		0.51	0.43	0.35	
Uniform Delay, d1	37.8		62.4	23.1	24.7	
Progression Factor	0.63		1.00	1.00	0.11	
Incremental Delay, d2	4.3		1.8	0.8	0.6	
Delay (s)	28.0		64.3	23.9	3.3	
Level of Service	C		E	C	A	
Approach Delay (s)	28.0			27.1	3.3	
Approach LOS	C			C	A	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	600	50	0	0	0	0	155	30	0	200	0
Future Volume (vph)	130	600	50	0	0	0	0	155	30	0	200	0
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	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						0.98			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		3421						1849			1881	
Flt Permitted		0.99						1.00			1.00	
Satd. Flow (perm)		3421						1849			1881	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	130	600	50	0	0	0	0	155	30	0	200	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	776	0	0	0	0	0	180	0	0	200	0
Confl. Peds. (#/hr)	7		7						7	7		
Confl. Bikes (#/hr)			1						1			
Heavy Vehicles (%)	5%	3%	4%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Turn Type	Split	NA						NA			NA	
Protected Phases	4	4						8			1 2 8	
Permitted Phases										1 2 8		
Actuated Green, G (s)		40.5						16.6			88.9	
Effective Green, g (s)		41.8						17.6			84.9	
Actuated g/C Ratio		0.30						0.13			0.61	
Clearance Time (s)		5.3						5.0				
Vehicle Extension (s)		6.4						2.3				
Lane Grp Cap (vph)		1021						232			1140	
v/s Ratio Prot		c0.23						c0.10			c0.11	
v/s Ratio Perm												
v/c Ratio		0.76						0.77			0.18	
Uniform Delay, d1		44.6						59.3			12.1	
Progression Factor		1.00						1.00			0.10	
Incremental Delay, d2		4.5						14.0			0.0	
Delay (s)		49.1						73.3			1.2	
Level of Service		D						E			A	
Approach Delay (s)		49.1			0.0			73.3			1.2	
Approach LOS		D			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	44.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	170	480	10	65	120
Future Vol, veh/h	25	170	480	10	65	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	1	0	0	2
Mvmt Flow	25	170	480	10	65	120

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	735	485	0	0	490	0
Stage 1	485	-	-	-	-	-
Stage 2	250	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	390	586	-	-	1084	-
Stage 1	623	-	-	-	-	-
Stage 2	796	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	367	586	-	-	1084	-
Mov Cap-2 Maneuver	475	-	-	-	-	-
Stage 1	623	-	-	-	-	-
Stage 2	748	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.5	0	3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	475	586	1084	-
HCM Lane V/C Ratio	-	-	0.053	0.29	0.06	-
HCM Control Delay (s)	-	-	13	13.6	8.5	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	1.2	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	1015	25	245	1430	325	20	235	260	165	235	250
Future Volume (vph)	205	1015	25	245	1430	325	20	235	260	165	235	250
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	4.5	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	5069		1671	4953		1805	1810	1583	1787	1810	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	5069		1671	4953		1805	1810	1583	1787	1810	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	205	1015	25	245	1430	325	20	235	260	165	235	250
RTOR Reduction (vph)	0	2	0	0	24	0	0	0	35	0	0	186
Lane Group Flow (vph)	205	1038	0	245	1731	0	20	235	225	165	235	64
Heavy Vehicles (%)	1%	2%	0%	8%	2%	1%	0%	5%	2%	1%	5%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	Prot
Protected Phases	5	2		1	6		3	8	8 1	7	4	4
Permitted Phases												
Actuated Green, G (s)	21.5	57.4		25.7	61.6		4.3	24.7	54.9	15.2	35.6	35.6
Effective Green, g (s)	21.5	57.9		25.7	62.1		4.3	25.2	54.9	15.2	36.1	36.1
Actuated g/C Ratio	0.15	0.41		0.18	0.44		0.03	0.18	0.39	0.11	0.26	0.26
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.5		4.0	4.5	4.5
Vehicle Extension (s)	2.3	5.2		2.3	5.2		2.3	2.3		2.3	2.3	2.3
Lane Grp Cap (vph)	274	2096		306	2197		55	325	620	194	466	412
v/s Ratio Prot	0.11	0.20		c0.15	c0.35		0.01	c0.13	0.14	c0.09	0.13	0.04
v/s Ratio Perm												
v/c Ratio	0.75	0.50		0.80	0.79		0.36	0.72	0.36	0.85	0.50	0.16
Uniform Delay, d1	56.7	30.3		54.7	33.3		66.5	54.1	30.2	61.3	44.3	40.2
Progression Factor	1.00	1.00		1.43	0.59		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.8	0.8		10.0	2.1		2.4	7.0	0.2	27.7	0.5	0.1
Delay (s)	66.5	31.1		88.2	21.8		68.9	61.1	30.4	89.0	44.8	40.3
Level of Service	E	C		F	C		E	E	C	F	D	D
Approach Delay (s)		36.9			30.0			45.9			54.3	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	37.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	615	0	0	920	0	0	0	0	0	0	0
Future Volume (vph)	0	615	0	0	920	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1681			1727							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1681			1727							
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	615	0	0	920	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	615	0	0	920	0	0	0	0	0	0	0
Heavy Vehicles (%)	2%	13%	2%	2%	10%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA			NA							
Protected Phases		6			2							
Permitted Phases												
Actuated Green, G (s)		851.0			851.0							
Effective Green, g (s)		851.0			851.0							
Actuated g/C Ratio		0.95			0.95							
Clearance Time (s)		4.0			4.0							
Lane Grp Cap (vph)		1589			1632							
v/s Ratio Prot		0.37			c0.53							
v/s Ratio Perm												
v/c Ratio		0.39			0.56							
Uniform Delay, d1		2.1			2.9							
Progression Factor		1.00			1.00							
Incremental Delay, d2		0.7			1.4							
Delay (s)		2.8			4.3							
Level of Service		A			A							
Approach Delay (s)		2.8			4.3			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	900.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL	SWR
Lane Configurations		↑			↑↑					
Traffic Volume (vph)	0	255	0	0	750	0	0	0	0	0
Future Volume (vph)	0	255	0	0	750	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		10.5			10.5					
Lane Util. Factor		1.00			0.95					
Frt		1.00			1.00					
Flt Protected		1.00			1.00					
Satd. Flow (prot)		1863			3539					
Flt Permitted		1.00			1.00					
Satd. Flow (perm)		1863			3539					
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	255	0	0	750	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	255	0	0	750	0	0	0	0	0
Turn Type		NA			NA					
Protected Phases		4			4					
Permitted Phases										
Actuated Green, G (s)		134.5			134.5					
Effective Green, g (s)		134.5			134.5					
Actuated g/C Ratio		0.67			0.67					
Clearance Time (s)		10.5			10.5					
Lane Grp Cap (vph)		1252			2379					
v/s Ratio Prot		0.14			c0.21					
v/s Ratio Perm										
v/c Ratio		0.20			0.32					
Uniform Delay, d1		12.4			13.6					
Progression Factor		1.00			1.00					
Incremental Delay, d2		0.4			0.3					
Delay (s)		12.8			14.0					
Level of Service		B			B					
Approach Delay (s)		12.8			14.0		0.0		0.0	
Approach LOS		B			B		A		A	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	200.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	120.8%	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												
Traffic Volume (vph)	10	35	55	285	150	315	25	400	105	115	585	20
Future Volume (vph)	10	35	55	285	150	315	25	400	105	115	585	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.5	4.5		4.0	4.0		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.90		1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1596	1683		1770	1673		1686	1764		1770	1852	
Flt Permitted	0.31	1.00		0.51	1.00		0.27	1.00		0.27	1.00	
Satd. Flow (perm)	513	1683		959	1673		481	1764		496	1852	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	35	55	285	150	315	25	400	105	115	585	20
RTOR Reduction (vph)	0	47	0	0	82	0	0	8	0	0	1	0
Lane Group Flow (vph)	10	43	0	285	383	0	25	497	0	115	604	0
Confl. Peds. (#/hr)	5		5				5					5
Heavy Vehicles (%)	13%	2%	0%	2%	2%	2%	7%	5%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	13.6	12.6		27.2	21.7		38.0	35.8		45.0	39.3	
Effective Green, g (s)	14.6	12.6		27.2	21.7		39.0	36.3		45.0	39.3	
Actuated g/C Ratio	0.18	0.15		0.33	0.26		0.47	0.44		0.55	0.48	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.5	2.3		2.5	2.3		2.5	4.5		2.5	4.5	
Lane Grp Cap (vph)	110	257		416	441		267	778		359	885	
v/s Ratio Prot	0.00	0.03		c0.08	c0.23		0.00	0.28		c0.02	c0.33	
v/s Ratio Perm	0.01			0.14			0.04			0.15		
v/c Ratio	0.09	0.17		0.69	0.87		0.09	0.64		0.32	0.68	
Uniform Delay, d1	28.3	30.2		22.3	28.9		12.7	17.8		11.1	16.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.2		4.2	16.2		0.1	4.0		0.4	4.2	
Delay (s)	28.6	30.4		26.5	45.1		12.8	21.8		11.5	20.9	
Level of Service	C	C		C	D		B	C		B	C	
Approach Delay (s)		30.2			38.0			21.4			19.4	
Approach LOS		C			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	82.2	Sum of lost time (s)	17.5
Intersection Capacity Utilization	73.4%	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												
Traffic Volume (vph)	20	0	50	0	0	0	105	510	0	0	870	55
Future Volume (vph)	20	0	50	0	0	0	105	510	0	0	870	55
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		1.00	1.00				1.00	1.00			1.00	
Frpb, ped/bikes		1.00	0.93				1.00	1.00			1.00	
Flpb, ped/bikes		0.95	1.00				1.00	1.00			1.00	
Frt		1.00	0.85				1.00	1.00			0.99	
Flt Protected		0.95	1.00				0.95	1.00			1.00	
Satd. Flow (prot)		1309	1406				1736	1863			1855	
Flt Permitted		0.82	1.00				0.14	1.00			1.00	
Satd. Flow (perm)		1125	1406				257	1863			1855	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	0	50	0	0	0	105	510	0	0	870	55
RTOR Reduction (vph)	0	0	46	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	20	4	0	0	0	105	510	0	0	923	0
Confl. Peds. (#/hr)	30		30	30		30	20		20	20		20
Confl. Bikes (#/hr)									3			
Heavy Vehicles (%)	31%	0%	7%	0%	14%	9%	4%	2%	60%	46%	1%	6%
Turn Type	Perm	NA	Perm				pm+pt	NA			NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4			2			6		
Actuated Green, G (s)		4.9	4.9				50.0	50.0			39.6	
Effective Green, g (s)		4.9	4.9				50.0	50.0			39.6	
Actuated g/C Ratio		0.08	0.08				0.79	0.79			0.63	
Clearance Time (s)		4.0	4.0				4.0	4.0			4.0	
Vehicle Extension (s)		2.5	2.5				2.5	2.5			2.5	
Lane Grp Cap (vph)		87	109				354	1480			1167	
v/s Ratio Prot							0.03	c0.27			c0.50	
v/s Ratio Perm		c0.02	0.00				0.21					
v/c Ratio		0.23	0.04				0.30	0.34			0.79	
Uniform Delay, d1		27.2	26.8				7.3	1.8			8.6	
Progression Factor		1.00	1.00				1.00	1.00			1.00	
Incremental Delay, d2		1.0	0.1				0.3	0.1			3.6	
Delay (s)		28.2	26.9				7.6	1.9			12.2	
Level of Service		C	C				A	A			B	
Approach Delay (s)		27.3			0.0			2.9			12.2	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	62.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	97.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	70	320	250	545	805	115
Future Volume (vph)	70	320	250	545	805	115
Ideal Flow (vphpl)	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	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1553	1770	1652	1712	1599
Flt Permitted	0.95	1.00	0.26	1.00	1.00	1.00
Satd. Flow (perm)	1805	1553	487	1652	1712	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	70	320	250	545	805	115
RTOR Reduction (vph)	0	150	0	0	0	30
Lane Group Flow (vph)	70	170	250	545	805	85
Heavy Vehicles (%)	0%	4%	2%	15%	11%	1%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Prot
Protected Phases	8	1	1	6	2	2
Permitted Phases		8	6			
Actuated Green, G (s)	8.3	15.0	91.4	91.4	79.7	79.7
Effective Green, g (s)	9.3	17.0	92.4	92.7	81.0	81.0
Actuated g/C Ratio	0.08	0.15	0.84	0.84	0.74	0.74
Clearance Time (s)	5.0	5.0	5.0	5.3	5.3	5.3
Vehicle Extension (s)	2.3	2.3	2.3	6.0	6.0	6.0
Lane Grp Cap (vph)	152	296	498	1392	1260	1177
v/s Ratio Prot	0.04	c0.04	0.04	0.33	c0.47	0.05
v/s Ratio Perm		0.07	0.39			
v/c Ratio	0.46	0.57	0.50	0.39	0.64	0.07
Uniform Delay, d1	48.0	43.1	5.6	2.0	7.2	4.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	2.0	0.5	0.8	2.5	0.1
Delay (s)	49.2	45.1	6.1	2.9	9.7	4.2
Level of Service	D	D	A	A	A	A
Approach Delay (s)	45.9			3.9	9.0	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.2%	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												
Traffic Volume (vph)	145	350	260	250	120	410	325	370	60	140	135	80
Future Volume (vph)	145	350	260	250	120	410	325	370	60	140	135	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	5.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.88		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	3574	1615	1770	3191		1787	1881	1615	1805	3333	
Flt Permitted	0.42	1.00	1.00	0.35	1.00		0.48	1.00	1.00	0.42	1.00	
Satd. Flow (perm)	796	3574	1615	644	3191		906	1881	1615	796	3333	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	145	350	260	250	120	410	325	370	60	140	135	80
RTOR Reduction (vph)	0	0	150	0	301	0	0	0	42	0	62	0
Lane Group Flow (vph)	145	350	110	250	229	0	325	370	18	140	153	0
Heavy Vehicles (%)	1%	1%	0%	2%	0%	0%	1%	1%	0%	0%	3%	1%
Turn Type	pm+pt	NA	pt+ov	pm+pt	NA		pm+pt	NA	Prot	pm+pt	NA	
Protected Phases	5	2	2 3	1	6		3	8	8	7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	19.2	12.5	28.0	27.2	16.5		28.7	18.9	18.9	20.0	14.2	
Effective Green, g (s)	19.2	13.5	28.0	27.2	17.5		28.7	19.9	19.9	20.0	15.2	
Actuated g/C Ratio	0.29	0.20	0.42	0.41	0.27		0.44	0.30	0.30	0.30	0.23	
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0	5.0	4.0	5.0	
Vehicle Extension (s)	1.5	2.5		1.5	2.5		1.5	2.5	2.5	1.5	2.5	
Lane Grp Cap (vph)	332	732	686	448	847		534	568	487	330	768	
v/s Ratio Prot	0.04	0.10	0.07	c0.09	0.07		c0.10	c0.20	0.01	0.04	0.05	
v/s Ratio Perm	0.08			c0.14			0.17			0.09		
v/c Ratio	0.44	0.48	0.16	0.56	0.27		0.61	0.65	0.04	0.42	0.20	
Uniform Delay, d1	18.0	23.1	11.7	13.6	19.1		13.0	20.0	16.2	17.4	20.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.4	0.1	0.9	0.1		1.4	2.4	0.0	0.3	0.1	
Delay (s)	18.4	23.5	11.8	14.5	19.3		14.4	22.4	16.3	17.7	20.5	
Level of Service	B	C	B	B	B		B	C	B	B	C	
Approach Delay (s)		18.5			17.7			18.4			19.4	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	65.9	Sum of lost time (s)	17.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	15	740	75	50	585
Future Vol, veh/h	25	15	740	75	50	585
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	10	33	1	0	2	1
Mvmt Flow	25	15	740	75	50	585

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1463	778	0	0	815	0
Stage 1	778	-	-	-	-	-
Stage 2	685	-	-	-	-	-
Critical Hdwy	6.5	6.53	-	-	4.12	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.597	-	-	2.218	-
Pot Cap-1 Maneuver	136	351	-	-	812	-
Stage 1	439	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	128	351	-	-	812	-
Mov Cap-2 Maneuver	128	-	-	-	-	-
Stage 1	439	-	-	-	-	-
Stage 2	456	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	33	0	0.8
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	168	812	-
HCM Lane V/C Ratio	-	-	0.238	0.062	-
HCM Control Delay (s)	-	-	33	9.7	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0.2	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	815	0	0	610
Future Volume (vph)	0	0	815	0	0	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			10.5			10.5
Lane Util. Factor			1.00			1.00
Frt			1.00			1.00
Flt Protected			1.00			1.00
Satd. Flow (prot)			1863			1863
Flt Permitted			1.00			1.00
Satd. Flow (perm)			1863			1863
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	815	0	0	610
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	815	0	0	610
Turn Type			NA			NA
Protected Phases			2			2
Permitted Phases						
Actuated Green, G (s)			134.5			134.5
Effective Green, g (s)			134.5			134.5
Actuated g/C Ratio			0.67			0.67
Clearance Time (s)			10.5			10.5
Lane Grp Cap (vph)			1252			1252
v/s Ratio Prot			c0.44			0.33
v/s Ratio Perm						
v/c Ratio			0.65			0.49
Uniform Delay, d1			19.1			16.0
Progression Factor			1.00			1.00
Incremental Delay, d2			2.6			1.4
Delay (s)			21.7			17.3
Level of Service			C			B
Approach Delay (s)	0.0		21.7			17.3
Approach LOS	A		C			B

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	200.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	120.8%	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												
Traffic Volume (vph)	60	10	110	355	15	45	80	705	90	25	560	25
Future Volume (vph)	60	10	110	355	15	45	80	705	90	25	560	25
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	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.86		1.00	0.89		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1639		1787	1637		1752	1900	1615	1805	1852	
Flt Permitted	0.95	1.00		0.95	1.00		0.22	1.00	1.00	0.14	1.00	
Satd. Flow (perm)	1805	1639		1787	1637		403	1900	1615	259	1852	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	10	110	355	15	45	80	705	90	25	560	25
RTOR Reduction (vph)	0	97	0	0	30	0	0	0	51	0	2	0
Lane Group Flow (vph)	60	23	0	355	30	0	80	705	39	25	583	0
Heavy Vehicles (%)	0%	0%	0%	1%	0%	4%	3%	0%	0%	0%	2%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Prot	Perm	NA	
Protected Phases	7	4		3	8			2	2		6	
Permitted Phases							2			6		
Actuated Green, G (s)	3.9	7.9		19.4	23.4		28.9	28.9	28.9	28.9	28.9	
Effective Green, g (s)	3.9	7.9		19.4	23.4		29.4	29.4	29.4	29.4	29.4	
Actuated g/C Ratio	0.06	0.11		0.28	0.34		0.43	0.43	0.43	0.43	0.43	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	1.5	1.5		1.5	1.5		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	102	188		504	557		172	813	691	110	792	
v/s Ratio Prot	0.03	c0.01		c0.20	0.02			c0.37	0.02		0.31	
v/s Ratio Perm							0.20			0.10		
v/c Ratio	0.59	0.12		0.70	0.05		0.47	0.87	0.06	0.23	0.74	
Uniform Delay, d1	31.6	27.3		22.1	15.2		14.0	17.9	11.5	12.5	16.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.5	0.1		3.6	0.0		2.0	9.7	0.0	1.1	3.6	
Delay (s)	37.1	27.4		25.7	15.2		16.0	27.5	11.5	13.5	20.0	
Level of Service	D	C		C	B		B	C	B	B	C	
Approach Delay (s)		30.6			24.2			24.8			19.7	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	68.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	51
Intersection LOS	F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	450	290	60	355	385	180
Future Vol, veh/h	450	290	60	355	385	180
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	1	0	2	2	0	0
Mvmt Flow	450	290	60	355	385	180
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	38.1	35.7	79
HCM LOS	E	E	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	68%	0%	0%	14%
Vol Thru, %	0%	100%	0%	86%
Vol Right, %	32%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	565	450	290	415
LT Vol	385	0	0	60
Through Vol	0	450	0	355
RT Vol	180	0	290	0
Lane Flow Rate	565	450	290	415
Geometry Grp	2	7	7	5
Degree of Util (X)	1.051	0.92	0.535	0.817
Departure Headway (Hd)	6.699	7.668	6.928	7.398
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	537	477	525	494
Service Time	4.779	5.368	4.628	5.398
HCM Lane V/C Ratio	1.052	0.943	0.552	0.84
HCM Control Delay	79	51.5	17.3	35.7
HCM Lane LOS	F	F	C	E
HCM 95th-tile Q	16.3	10.6	3.1	7.9

Intersection	
Intersection Delay, s/veh	48.7
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	80	20	310	90	340	15	105	520	140	85	15
Future Vol, veh/h	15	80	20	310	90	340	15	105	520	140	85	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	17	3	0	1	1	1	0	1	1	0	1	7
Mvmt Flow	15	80	20	310	90	340	15	105	520	140	85	15
Number of Lanes	0	1	1	1	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	16.6	28.5	89.4	17.5
HCM LOS	C	D	F	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	12%	0%	16%	0%	100%	0%	0%	100%	0%
Vol Thru, %	88%	0%	84%	0%	0%	100%	0%	0%	85%
Vol Right, %	0%	100%	0%	100%	0%	0%	100%	0%	15%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	520	95	20	310	90	340	140	100
LT Vol	15	0	15	0	310	0	0	140	0
Through Vol	105	0	80	0	0	90	0	0	85
RT Vol	0	520	0	20	0	0	340	0	15
Lane Flow Rate	120	520	95	20	310	90	340	140	100
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.285	1.123	0.27	0.051	0.75	0.205	0.706	0.379	0.257
Departure Headway (Hd)	8.536	7.774	10.74	9.671	9.064	8.548	7.827	10.172	9.564
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	424	468	336	373	403	422	466	356	378
Service Time	6.24	5.479	8.44	7.371	6.764	6.248	5.527	7.872	7.264
HCM Lane V/C Ratio	0.283	1.111	0.283	0.054	0.769	0.213	0.73	0.393	0.265
HCM Control Delay	14.6	106.7	17.4	12.9	34.4	13.4	27.2	18.9	15.5
HCM Lane LOS	B	F	C	B	D	B	D	C	C
HCM 95th-tile Q	1.2	18	1.1	0.2	6.1	0.8	5.4	1.7	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	260	45	80	395	115	60	265	160	165	115	200
Future Volume (vph)	260	260	45	80	395	115	60	265	160	165	115	200
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	4.5	4.0	4.0	4.8	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00		0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98		1.00	1.00	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1863	1576		3533	1599	1770	1863	1615	1787	1644	
Flt Permitted	0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1805	1863	1576		3533	1599	1770	1863	1615	1787	1644	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	260	260	45	80	395	115	60	265	160	165	115	200
RTOR Reduction (vph)	0	0	36	0	0	0	0	0	78	0	56	0
Lane Group Flow (vph)	260	260	9	0	475	115	60	265	82	165	259	0
Confl. Peds. (#/hr)			3			1			1			4
Heavy Vehicles (%)	0%	2%	0%	3%	1%	1%	2%	2%	0%	1%	8%	1%
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3	3 1	5	2	2 3	1	6	
Permitted Phases			4									
Actuated Green, G (s)	15.0	15.0	15.0		16.1	26.6	5.9	19.6	40.5	10.5	24.2	
Effective Green, g (s)	15.5	15.5	15.5		16.6	26.6	6.4	20.4	40.5	11.0	25.0	
Actuated g/C Ratio	0.19	0.19	0.19		0.21	0.33	0.08	0.26	0.51	0.14	0.31	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.8		4.5	4.8	
Vehicle Extension (s)	2.3	2.3	2.3		2.5		2.3	4.7		2.3	4.7	
Lane Grp Cap (vph)	351	363	307		737	535	142	478	822	247	516	
v/s Ratio Prot	c0.14	0.14			c0.13	0.07	0.03	0.14	0.05	c0.09	c0.16	
v/s Ratio Perm			0.01									
v/c Ratio	0.74	0.72	0.03		0.64	0.21	0.42	0.55	0.10	0.67	0.50	
Uniform Delay, d1	30.1	29.9	25.9		28.8	19.0	34.8	25.6	10.1	32.5	22.2	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.5	5.9	0.0		1.7	0.1	1.2	2.2	0.1	5.7	1.4	
Delay (s)	37.6	35.8	25.9		30.5	19.1	36.0	27.8	10.2	38.2	23.6	
Level of Service	D	D	C		C	B	D	C	B	D	C	
Approach Delay (s)		35.9			28.3			23.0			28.6	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	79.5	Sum of lost time (s)	17.8
Intersection Capacity Utilization	65.1%	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												
Traffic Volume (vph)	0	1335	245	65	1845	0	0	0	0	470	5	245
Future Volume (vph)	0	1335	245	65	1845	0	0	0	0	470	5	245
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		0.95	1.00	1.00	0.95					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	1770	3539					1681	1687	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	1770	3539					1681	1687	1583
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	1451	266	71	2005	0	0	0	0	511	5	266
RTOR Reduction (vph)	0	0	111	0	0	0	0	0	0	0	0	38
Lane Group Flow (vph)	0	1451	155	71	2005	0	0	0	0	255	261	228
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		68.7	68.7	30.3	103.5					27.0	27.0	27.0
Effective Green, g (s)		69.2	69.2	30.8	104.0					28.0	28.0	28.0
Actuated g/C Ratio		0.49	0.49	0.22	0.74					0.20	0.20	0.20
Clearance Time (s)		4.5	4.5	4.5	4.5					5.0	5.0	5.0
Vehicle Extension (s)		4.8	4.8	2.5	4.8					2.3	2.3	2.3
Lane Grp Cap (vph)		1749	782	389	2628					336	337	316
v/s Ratio Prot		c0.41		0.04	c0.57					0.15	c0.15	
v/s Ratio Perm			0.10									0.14
v/c Ratio		0.83	0.20	0.18	0.76					0.76	0.77	0.72
Uniform Delay, d1		30.3	19.9	44.4	10.7					52.8	53.0	52.4
Progression Factor		1.32	3.41	1.00	1.00					1.00	1.00	1.00
Incremental Delay, d2		4.1	0.5	1.0	2.2					8.8	10.0	7.2
Delay (s)		44.0	68.1	45.4	12.8					61.6	63.0	59.5
Level of Service		D	E	D	B					E	E	E
Approach Delay (s)		47.8			14.0			0.0			61.4	
Approach LOS		D			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	34.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.8%	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												
Traffic Volume (vph)	220	1185	35	340	1625	125	135	356	220	175	346	240
Future Volume (vph)	220	1185	35	340	1625	125	135	356	220	175	346	240
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	4.0	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	5013		1703	5038		1787	1863	1583	1787	1900	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	5013		1703	5038		1787	1863	1583	1787	1900	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	220	1185	35	340	1625	125	135	356	220	175	346	240
RTOR Reduction (vph)	0	2	0	0	6	0	0	0	169	0	0	52
Lane Group Flow (vph)	220	1218	0	340	1744	0	135	356	51	175	346	188
Heavy Vehicles (%)	1%	3%	4%	6%	2%	0%	1%	2%	2%	1%	0%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Prot	Prot	NA	pt+ov
Protected Phases	5	2		1	6		3	8	8	7	4	4 5
Permitted Phases												
Actuated Green, G (s)	13.5	57.5		25.5	69.5		10.0	22.1	22.1	17.4	29.5	47.5
Effective Green, g (s)	14.0	58.0		26.0	70.0		10.0	22.6	22.6	17.4	30.0	47.5
Actuated g/C Ratio	0.10	0.41		0.19	0.50		0.07	0.16	0.16	0.12	0.21	0.34
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.5	4.5	4.0	4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	178	2076		316	2519		127	300	255	222	407	542
v/s Ratio Prot	c0.12	0.24		c0.20	c0.35		c0.08	c0.19	0.03	c0.10	0.18	0.12
v/s Ratio Perm												
v/c Ratio	1.24	0.59		1.08	0.69		1.06	1.19	0.20	0.79	0.85	0.35
Uniform Delay, d1	63.0	31.7		57.0	26.8		65.0	58.7	50.9	59.5	52.8	34.6
Progression Factor	1.05	0.64		0.91	1.25		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	141.0	1.1		62.9	1.0		97.7	112.5	0.2	16.0	15.2	0.2
Delay (s)	207.3	21.4		114.5	34.6		162.7	171.2	51.1	75.5	68.0	34.9
Level of Service	F	C		F	C		F	F	D	E	E	C
Approach Delay (s)		49.8			47.6			132.4			59.3	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	62.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	88.1%	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												
Traffic Volume (vph)	205	1015	25	245	1430	325	20	240	260	165	238	250
Future Volume (vph)	205	1015	25	245	1430	325	20	240	260	165	238	250
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	4.5	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	5069		1671	4953		1805	1810	1583	1787	1810	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	5069		1671	4953		1805	1810	1583	1787	1810	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	205	1015	25	245	1430	325	20	240	260	165	238	250
RTOR Reduction (vph)	0	2	0	0	24	0	0	0	35	0	0	185
Lane Group Flow (vph)	205	1038	0	245	1731	0	20	240	225	165	238	65
Heavy Vehicles (%)	1%	2%	0%	8%	2%	1%	0%	5%	2%	1%	5%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	Prot
Protected Phases	5	2		1	6		3	8	8 1	7	4	4
Permitted Phases												
Actuated Green, G (s)	21.5	57.2		25.7	61.4		4.3	24.9	55.1	15.2	35.8	35.8
Effective Green, g (s)	21.5	57.7		25.7	61.9		4.3	25.4	55.1	15.2	36.3	36.3
Actuated g/C Ratio	0.15	0.41		0.18	0.44		0.03	0.18	0.39	0.11	0.26	0.26
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.5		4.0	4.5	4.5
Vehicle Extension (s)	2.3	5.2		2.3	5.2		2.3	2.3		2.3	2.3	2.3
Lane Grp Cap (vph)	274	2089		306	2189		55	328	623	194	469	414
v/s Ratio Prot	0.11	0.20		c0.15	c0.35		0.01	c0.13	0.14	c0.09	0.13	0.04
v/s Ratio Perm												
v/c Ratio	0.75	0.50		0.80	0.79		0.36	0.73	0.36	0.85	0.51	0.16
Uniform Delay, d1	56.7	30.4		54.7	33.5		66.5	54.1	30.0	61.3	44.2	40.0
Progression Factor	1.00	1.00		1.43	0.59		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.8	0.8		10.0	2.2		2.4	7.5	0.2	27.7	0.5	0.1
Delay (s)	66.5	31.3		88.1	22.1		68.9	61.5	30.2	89.0	44.7	40.1
Level of Service	E	C		F	C		E	E	C	F	D	D
Approach Delay (s)		37.1			30.1			46.2			54.2	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	37.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	254	22	2	749	45	6
Future Vol, veh/h	254	22	2	749	45	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	254	22	2	749	45	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	276	0	1018	265
Stage 1	-	-	-	-	265	-
Stage 2	-	-	-	-	753	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1287	-	263	774
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	465	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1287	-	262	774
Mov Cap-2 Maneuver	-	-	-	-	262	-
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	464	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	20.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	284	-	-	1287	-
HCM Lane V/C Ratio	0.18	-	-	0.002	-
HCM Control Delay (s)	20.4	-	-	7.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	711	15	0	721
Future Vol, veh/h	0	0	711	15	0	721
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	773	16	0	784

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1557	773	0	0	-	-
Stage 1	773	-	-	-	-	-
Stage 2	784	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	124	399	-	-	0	-
Stage 1	455	-	-	-	0	-
Stage 2	450	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	124	399	-	-	-	-
Mov Cap-2 Maneuver	263	-	-	-	-	-
Stage 1	455	-	-	-	-	-
Stage 2	450	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	623	0	0	939	0	0	0	0	0	0	0
Future Volume (vph)	0	623	0	0	939	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1681			1727							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1681			1727							
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	623	0	0	939	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	623	0	0	939	0	0	0	0	0	0	0
Heavy Vehicles (%)	2%	13%	2%	2%	10%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA			NA							
Protected Phases		6			2							
Permitted Phases												
Actuated Green, G (s)		851.0			851.0							
Effective Green, g (s)		851.0			851.0							
Actuated g/C Ratio		0.95			0.95							
Clearance Time (s)		4.0			4.0							
Lane Grp Cap (vph)		1589			1632							
v/s Ratio Prot		0.37			c0.54							
v/s Ratio Perm												
v/c Ratio		0.39			0.58							
Uniform Delay, d1		2.1			2.9							
Progression Factor		1.00			1.00							
Incremental Delay, d2		0.7			1.5							
Delay (s)		2.8			4.4							
Level of Service		A			A							
Approach Delay (s)		2.8			4.4			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	900.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL	SWR
Lane Configurations										
Traffic Volume (vph)	0	276	0	0	794	0	0	0	0	0
Future Volume (vph)	0	276	0	0	794	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		10.5			10.5					
Lane Util. Factor		1.00			0.95					
Frt		1.00			1.00					
Flt Protected		1.00			1.00					
Satd. Flow (prot)		1863			3539					
Flt Permitted		1.00			1.00					
Satd. Flow (perm)		1863			3539					
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	276	0	0	794	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	276	0	0	794	0	0	0	0	0
Turn Type		NA			NA					
Protected Phases		4			4					
Permitted Phases										
Actuated Green, G (s)		134.5			134.5					
Effective Green, g (s)		134.5			134.5					
Actuated g/C Ratio		0.67			0.67					
Clearance Time (s)		10.5			10.5					
Lane Grp Cap (vph)		1252			2379					
v/s Ratio Prot		0.15			c0.22					
v/s Ratio Perm										
v/c Ratio		0.22			0.33					
Uniform Delay, d1		12.6			13.8					
Progression Factor		1.00			1.00					
Incremental Delay, d2		0.4			0.4					
Delay (s)		13.0			14.2					
Level of Service		B			B					
Approach Delay (s)		13.0			14.2		0.0		0.0	
Approach LOS		B			B		A		A	

Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	200.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	120.8%	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												
Traffic Volume (vph)	10	47	55	304	174	316	25	400	113	116	585	20
Future Volume (vph)	10	47	55	304	174	316	25	400	113	116	585	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.5	4.5		4.0	4.0		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.90		1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1704		1770	1683		1686	1761		1770	1852	
Flt Permitted	0.27	1.00		0.52	1.00		0.26	1.00		0.25	1.00	
Satd. Flow (perm)	460	1704		976	1683		457	1761		459	1852	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	47	55	304	174	316	25	400	113	116	585	20
RTOR Reduction (vph)	0	46	0	0	69	0	0	10	0	0	1	0
Lane Group Flow (vph)	10	56	0	304	421	0	25	503	0	116	604	0
Confl. Peds. (#/hr)	5		5				5					5
Heavy Vehicles (%)	13%	2%	0%	2%	2%	2%	7%	5%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	15.1	14.1		29.4	23.9		37.7	35.5		44.9	39.1	
Effective Green, g (s)	16.1	14.1		29.4	23.9		38.7	36.0		44.9	39.1	
Actuated g/C Ratio	0.19	0.17		0.35	0.28		0.46	0.43		0.53	0.46	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.5	2.3		2.5	2.3		2.5	4.5		2.5	4.5	
Lane Grp Cap (vph)	108	285		442	477		249	752		335	860	
v/s Ratio Prot	0.00	0.03		c0.09	c0.25		0.00	0.29		c0.02	c0.33	
v/s Ratio Perm	0.02			0.15			0.04			0.16		
v/c Ratio	0.09	0.20		0.69	0.88		0.10	0.67		0.35	0.70	
Uniform Delay, d1	28.1	30.2		21.9	28.8		13.8	19.3		12.2	17.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.2		4.0	17.1		0.1	4.7		0.5	4.8	
Delay (s)	28.4	30.4		25.9	45.9		13.9	24.0		12.7	22.7	
Level of Service	C	C		C	D		B	C		B	C	
Approach Delay (s)		30.2			38.3			23.6			21.1	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	84.2	Sum of lost time (s)	17.5
Intersection Capacity Utilization	74.7%	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												
Traffic Volume (vph)	20	0	50	0	0	0	105	518	0	0	889	55
Future Volume (vph)	20	0	50	0	0	0	105	518	0	0	889	55
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		1.00	1.00				1.00	1.00			1.00	
Frpb, ped/bikes		1.00	0.93				1.00	1.00			1.00	
Flpb, ped/bikes		0.95	1.00				1.00	1.00			1.00	
Frt		1.00	0.85				1.00	1.00			0.99	
Flt Protected		0.95	1.00				0.95	1.00			1.00	
Satd. Flow (prot)		1308	1404				1736	1863			1855	
Flt Permitted		0.80	1.00				0.14	1.00			1.00	
Satd. Flow (perm)		1101	1404				247	1863			1855	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	0	50	0	0	0	105	518	0	0	889	55
RTOR Reduction (vph)	0	0	46	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	20	4	0	0	0	105	518	0	0	942	0
Confl. Peds. (#/hr)	30		30	30		30	20		20	20		20
Confl. Bikes (#/hr)									3			
Heavy Vehicles (%)	31%	0%	7%	0%	14%	9%	4%	2%	60%	46%	1%	6%
Turn Type	Perm	NA	Perm				pm+pt	NA			NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4			2			6		
Actuated Green, G (s)		5.0	5.0				51.4	51.4			41.0	
Effective Green, g (s)		5.0	5.0				51.4	51.4			41.0	
Actuated g/C Ratio		0.08	0.08				0.80	0.80			0.64	
Clearance Time (s)		4.0	4.0				4.0	4.0			4.0	
Vehicle Extension (s)		2.5	2.5				2.5	2.5			2.5	
Lane Grp Cap (vph)		85	109				345	1486			1180	
v/s Ratio Prot							0.03	c0.28			c0.51	
v/s Ratio Perm		c0.02	0.00				0.21					
v/c Ratio		0.24	0.04				0.30	0.35			0.80	
Uniform Delay, d1		27.9	27.5				7.7	1.8			8.6	
Progression Factor		1.00	1.00				1.00	1.00			1.00	
Incremental Delay, d2		1.0	0.1				0.4	0.1			3.7	
Delay (s)		28.9	27.6				8.1	1.9			12.4	
Level of Service		C	C				A	A			B	
Approach Delay (s)		28.0			0.0			3.0			12.4	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	64.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	98.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	70	320	250	553	824	115
Future Volume (vph)	70	320	250	553	824	115
Ideal Flow (vphpl)	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	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1553	1770	1652	1712	1599
Flt Permitted	0.95	1.00	0.25	1.00	1.00	1.00
Satd. Flow (perm)	1805	1553	468	1652	1712	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	70	320	250	553	824	115
RTOR Reduction (vph)	0	143	0	0	0	31
Lane Group Flow (vph)	70	177	250	553	824	84
Heavy Vehicles (%)	0%	4%	2%	15%	11%	1%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Prot
Protected Phases	8	1	1	6	2	2
Permitted Phases		8	6			
Actuated Green, G (s)	8.3	15.3	91.4	91.4	79.4	79.4
Effective Green, g (s)	9.3	17.3	92.4	92.7	80.7	80.7
Actuated g/C Ratio	0.08	0.16	0.84	0.84	0.73	0.73
Clearance Time (s)	5.0	5.0	5.0	5.3	5.3	5.3
Vehicle Extension (s)	2.3	2.3	2.3	6.0	6.0	6.0
Lane Grp Cap (vph)	152	300	487	1392	1255	1173
v/s Ratio Prot	0.04	c0.04	0.04	0.33	c0.48	0.05
v/s Ratio Perm		0.07	0.39			
v/c Ratio	0.46	0.59	0.51	0.40	0.66	0.07
Uniform Delay, d1	48.0	43.0	6.1	2.0	7.5	4.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	2.2	0.6	0.8	2.7	0.1
Delay (s)	49.2	45.3	6.7	2.9	10.2	4.2
Level of Service	D	D	A	A	B	A
Approach Delay (s)	46.0			4.1	9.5	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

SWC - RR Crossings 12/5/19

double time for 2 trains

UBF RR Crossing

6.7 min headways = 9 trains/hour per direction

= 18 trains/hour

EXISTING UBF
1 AM RR crossing
avg time = 70 sec/hr.
+ hold time

total split = 55 sec.

18 x 55 sec = 990 sec delay/hour

$\frac{3600 \text{ sec/hr}}{18 \text{ trains/hr}}$ = 200 s cycle length

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1960	265	65	1055	0	0	0	0	470	5	245
Future Volume (vph)	0	1960	265	65	1055	0	0	0	0	470	5	245
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		0.95	1.00	1.00	0.95					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	1770	3539					1681	1687	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	1770	3539					1681	1687	1583
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	2130	288	71	1147	0	0	0	0	511	5	266
RTOR Reduction (vph)	0	0	73	0	0	0	0	0	0	0	0	117
Lane Group Flow (vph)	0	2130	216	71	1147	0	0	0	0	255	261	149
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		89.5	89.5	12.0	106.0					24.5	24.5	24.5
Effective Green, g (s)		90.0	90.0	12.5	106.5					25.5	25.5	25.5
Actuated g/C Ratio		0.64	0.64	0.09	0.76					0.18	0.18	0.18
Clearance Time (s)		4.5	4.5	4.5	4.5					5.0	5.0	5.0
Vehicle Extension (s)		4.8	4.8	2.5	4.8					2.3	2.3	2.3
Lane Grp Cap (vph)		2275	1017	158	2692					306	307	288
v/s Ratio Prot		c0.60		0.04	c0.32					0.15	c0.15	
v/s Ratio Perm			0.14									0.09
v/c Ratio		0.94	0.21	0.45	0.43					0.83	0.85	0.52
Uniform Delay, d1		22.4	10.3	60.5	5.9					55.2	55.4	51.7
Progression Factor		1.94	3.13	1.00	1.00					1.00	1.00	1.00
Incremental Delay, d2		7.0	0.4	9.0	0.5					16.9	19.2	1.0
Delay (s)		50.5	32.7	69.5	6.4					72.1	74.6	52.7
Level of Service		D	C	E	A					E	E	D
Approach Delay (s)		48.4			10.1			0.0			66.3	
Approach LOS		D			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	41.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.0%	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												
Traffic Volume (vph)	210	1820	55	200	960	140	35	201	265	140	240	165
Future Volume (vph)	210	1820	55	200	960	140	35	201	265	140	240	165
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	4.0	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	5012		1703	5001		1787	1863	1583	1787	1900	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	5012		1703	5001		1787	1863	1583	1787	1900	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	210	1820	55	200	960	140	35	201	265	140	240	165
RTOR Reduction (vph)	0	2	0	0	13	0	0	0	232	0	0	95
Lane Group Flow (vph)	210	1873	0	200	1087	0	35	201	33	140	240	70
Heavy Vehicles (%)	1%	3%	4%	6%	2%	0%	1%	2%	2%	1%	0%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Prot	Prot	NA	pt+ov
Protected Phases	5	2		1	6		3	8	8	7	4	4 5
Permitted Phases												
Actuated Green, G (s)	19.9	71.1		20.2	71.4		6.4	17.0	17.0	14.2	24.8	49.2
Effective Green, g (s)	20.4	71.6		20.7	71.9		6.4	17.5	17.5	14.2	25.3	49.2
Actuated g/C Ratio	0.15	0.51		0.15	0.51		0.05	0.12	0.12	0.10	0.18	0.35
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.5	4.5	4.0	4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	260	2563		251	2568		81	232	197	181	343	561
v/s Ratio Prot	c0.12	c0.37		0.12	0.22		0.02	c0.11	0.02	c0.08	0.13	0.04
v/s Ratio Perm												
v/c Ratio	0.81	0.73		0.80	0.42		0.43	0.87	0.17	0.77	0.70	0.13
Uniform Delay, d1	57.9	26.7		57.6	21.2		65.0	60.1	54.7	61.3	53.8	30.8
Progression Factor	1.10	0.56		0.97	0.97		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.5	1.4		14.0	0.5		2.1	26.5	0.2	17.4	5.4	0.1
Delay (s)	76.3	16.4		69.7	21.1		67.2	86.6	55.0	78.7	59.2	30.9
Level of Service	E	B		E	C		E	F	D	E	E	C
Approach Delay (s)		22.5			28.6			68.5			55.6	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	33.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	79.1%	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												
Traffic Volume (vph)	40	1950	80	127	1225	25	45	25	200	65	60	35
Future Volume (vph)	40	1950	80	127	1225	25	45	25	200	65	60	35
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	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	3471	1544	1752	4924		1805	1624	1515	1641	1737	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	3471	1544	1752	4924		1805	1624	1515	1641	1737	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	1950	80	127	1225	25	45	25	200	65	60	35
RTOR Reduction (vph)	0	0	32	0	1	0	0	0	180	0	16	0
Lane Group Flow (vph)	40	1950	48	127	1249	0	45	25	20	65	79	0
Confl. Peds. (#/hr)			3						2			
Heavy Vehicles (%)	3%	4%	2%	3%	5%	6%	0%	17%	5%	10%	0%	9%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	7.9	83.2	83.2	16.0	91.3		8.4	13.7	13.7	9.1	14.4	
Effective Green, g (s)	8.4	83.7	83.7	16.5	91.8		8.9	14.2	14.2	9.6	14.9	
Actuated g/C Ratio	0.06	0.60	0.60	0.12	0.66		0.06	0.10	0.10	0.07	0.11	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	5.1	5.1	2.5	5.1		3.0	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	105	2075	923	206	3228		114	164	153	112	184	
v/s Ratio Prot	0.02	c0.56		c0.07	0.25		0.02	0.02		c0.04	c0.05	
v/s Ratio Perm			0.03						0.01			
v/c Ratio	0.38	0.94	0.05	0.62	0.39		0.39	0.15	0.13	0.58	0.43	
Uniform Delay, d1	63.3	25.8	11.7	58.7	11.1		63.0	57.4	57.3	63.2	58.6	
Progression Factor	1.00	1.00	1.00	1.18	0.53		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.3	9.9	0.1	3.6	0.3		2.2	0.3	0.2	5.7	0.9	
Delay (s)	65.6	35.7	11.8	73.1	6.2		65.2	57.7	57.5	68.9	59.5	
Level of Service	E	D	B	E	A		E	E	E	E	E	
Approach Delay (s)		35.4			12.3			58.8			63.3	
Approach LOS		D			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	30.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	2195	1372	126	25	5
Future Vol, veh/h	20	2195	1372	126	25	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	80	-	-	150	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	2195	1372	126	25	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1498	0	-	0	2510	686
Stage 1	-	-	-	-	1372	-
Stage 2	-	-	-	-	1138	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	444	-	-	-	~ 23	390
Stage 1	-	-	-	-	201	-
Stage 2	-	-	-	-	268	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	444	-	-	-	~ 22	390
Mov Cap-2 Maneuver	-	-	-	-	112	-
Stage 1	-	-	-	-	192	-
Stage 2	-	-	-	-	268	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	41.9
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	444	-	-	-	127
HCM Lane V/C Ratio	0.045	-	-	-	0.236
HCM Control Delay (s)	13.5	-	-	-	41.9
HCM Lane LOS	B	-	-	-	E
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	1985	215	35	1373	45	95	90	60	90	150	30
Future Volume (vph)	20	1985	215	35	1373	45	95	90	60	90	150	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00		1.00	1.00	0.94	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1656	3471	1423	1752	3410		1698	1794	1411	1752	1790	
Flt Permitted	0.12	1.00	1.00	0.05	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	201	3471	1423	85	3410		1698	1794	1411	1752	1790	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	1985	215	35	1373	45	95	90	60	90	150	30
RTOR Reduction (vph)	0	0	32	0	1	0	0	0	53	0	5	0
Lane Group Flow (vph)	20	1985	183	35	1417	0	85	100	7	90	175	0
Confl. Peds. (#/hr)	20		20	20		20	30		30	30		30
Heavy Vehicles (%)	9%	4%	3%	3%	5%	7%	1%	0%	8%	3%	0%	15%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2		2	6					8			
Actuated Green, G (s)	87.5	85.1	85.1	89.1	85.9		14.7	14.7	14.7	19.0	19.0	
Effective Green, g (s)	88.5	85.6	85.1	90.1	86.4		15.2	15.2	15.2	19.5	19.5	
Actuated g/C Ratio	0.63	0.61	0.61	0.64	0.62		0.11	0.11	0.11	0.14	0.14	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.3	5.1	5.1	2.3	5.1		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	157	2122	864	98	2104		184	194	153	244	249	
v/s Ratio Prot	0.00	c0.57		c0.01	0.42		0.05	c0.06		0.05	c0.10	
v/s Ratio Perm	0.08		0.13	0.22					0.00			
v/c Ratio	0.13	0.94	0.21	0.36	0.67		0.46	0.52	0.04	0.37	0.70	
Uniform Delay, d1	13.8	24.7	12.4	29.0	17.6		58.6	58.9	55.9	54.7	57.5	
Progression Factor	1.56	0.99	1.55	1.51	0.63		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	5.1	0.3	1.0	1.4		1.3	1.7	0.1	0.7	8.0	
Delay (s)	21.5	29.4	19.5	44.7	12.4		59.9	60.6	56.0	55.4	65.5	
Level of Service	C	C	B	D	B		E	E	E	E	E	
Approach Delay (s)		28.4			13.2			59.2			62.1	
Approach LOS		C			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	100.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	SBL	SBT	SBR	SWR	SWR2
Lane Configurations											
Traffic Volume (vph)	0	1236	30	215	533	40	95	145	75	845	12
Future Volume (vph)	0	1236	30	215	533	40	95	145	75	845	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1750
Total Lost time (s)		4.0		4.0	4.0			4.0		4.0	
Lane Util. Factor		0.95		1.00	0.95			1.00		*0.95	
Frpb, ped/bikes		1.00		1.00	1.00			1.00		1.00	
Flpb, ped/bikes		1.00		1.00	1.00			0.99		1.00	
Frt		1.00		1.00	0.99			0.97		1.00	
Flt Protected		1.00		0.95	1.00			0.99		1.00	
Satd. Flow (prot)		3494		1719	3413			1733		3405	
Flt Permitted		1.00		0.95	1.00			0.99		1.00	
Satd. Flow (perm)		3494		1719	3413			1733		3405	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1236	30	215	533	40	95	145	75	845	12
RTOR Reduction (vph)	0	1	0	0	0	0	0	8	0	88	0
Lane Group Flow (vph)	0	1265	0	215	573	0	0	307	0	769	0
Confl. Peds. (#/hr)	10			10		10	15				10
Confl. Bikes (#/hr)			4								
Heavy Vehicles (%)	11%	3%	0%	5%	4%	9%	2%	2%	8%	6%	8%
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Prot	
Protected Phases	3	3 6		5	1			4		2	
Permitted Phases							4				
Actuated Green, G (s)		80.5		19.5	28.7			24.0		56.7	
Effective Green, g (s)		77.7		21.5	31.0			25.0		58.0	
Actuated g/C Ratio		0.56		0.15	0.22			0.18		0.41	
Clearance Time (s)				6.0	6.3			5.0		5.3	
Vehicle Extension (s)				2.3	4.8			2.3		4.8	
Lane Grp Cap (vph)		1939		263	755			309		1410	
v/s Ratio Prot		c0.36		c0.13	c0.17					0.23	
v/s Ratio Perm								0.18			
v/c Ratio		0.65		0.82	0.76			0.99		0.55	
Uniform Delay, d1		21.7		57.4	51.0			57.4		31.0	
Progression Factor		0.42		0.76	0.81			1.00		1.00	
Incremental Delay, d2		0.3		16.4	4.9			49.0		1.5	
Delay (s)		9.5		60.2	46.4			106.4		32.5	
Level of Service		A		E	D			F		C	
Approach Delay (s)		9.5			50.1			106.4			
Approach LOS		A			D			F			

Intersection Summary			
HCM 2000 Control Delay	35.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.2%	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												
Traffic Volume (vph)	0	779	90	0	0	0	0	0	0	25	365	0
Future Volume (vph)	0	779	90	0	0	0	0	0	0	25	365	0
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	
Lane Util. Factor		0.95								1.00	1.00	
Frt		0.98								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3484								1752	1845	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3484								1752	1845	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	779	90	0	0	0	0	0	0	25	365	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	869	0	0	0	0	0	0	0	25	365	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type		NA								Perm	NA	
Protected Phases		3 6									4 5	
Permitted Phases										4 5		
Actuated Green, G (s)		80.5								48.5	48.5	
Effective Green, g (s)		77.7								49.5	49.5	
Actuated g/C Ratio		0.56								0.35	0.35	
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)		1933								619	652	
v/s Ratio Prot		c0.25									c0.20	
v/s Ratio Perm										0.01		
v/c Ratio		0.45								0.04	0.56	
Uniform Delay, d1		18.5								29.7	36.5	
Progression Factor		0.46								0.25	0.18	
Incremental Delay, d2		0.0								0.0	0.4	
Delay (s)		8.6								7.3	7.1	
Level of Service		A								A	A	
Approach Delay (s)		8.6			0.0			0.0			7.1	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1096	235	20	658	130	0
Future Volume (vph)	1096	235	20	658	130	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	0.99		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3384		1556	3505	1570	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3384		1556	3505	1570	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1096	235	20	658	130	0
RTOR Reduction (vph)	11	0	0	0	0	0
Lane Group Flow (vph)	1320	0	20	658	130	0
Confl. Peds. (#/hr)		7	7		7	
Confl. Bikes (#/hr)		2				
Heavy Vehicles (%)	3%	3%	16%	3%	15%	0%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	4 8	
Permitted Phases						
Actuated Green, G (s)	60.9		6.8	72.2	57.5	
Effective Green, g (s)	62.2		7.3	73.5	58.8	
Actuated g/C Ratio	0.44		0.05	0.52	0.42	
Clearance Time (s)	5.3		4.5	5.3		
Vehicle Extension (s)	4.7		2.3	4.7		
Lane Grp Cap (vph)	1503		81	1840	659	
v/s Ratio Prot	c0.39		0.01	c0.19	c0.08	
v/s Ratio Perm						
v/c Ratio	0.88		0.25	0.36	0.20	
Uniform Delay, d1	35.4		63.7	19.4	25.7	
Progression Factor	0.85		1.00	1.00	0.12	
Incremental Delay, d2	5.9		0.9	0.5	0.4	
Delay (s)	35.9		64.6	20.0	3.5	
Level of Service	D		E	B	A	
Approach Delay (s)	35.9			21.3	3.5	
Approach LOS	D			C	A	

Intersection Summary			
HCM 2000 Control Delay	29.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	565	20	0	0	0	0	70	45	5	250	0
Future Volume (vph)	60	565	20	0	0	0	0	70	45	5	250	0
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	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		1.00						0.95			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		3385						1566			1820	
Flt Permitted		1.00						1.00			0.72	
Satd. Flow (perm)		3385						1566			1318	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	565	20	0	0	0	0	70	45	5	250	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	17	0	0	0	0
Lane Group Flow (vph)	0	644	0	0	0	0	0	98	0	0	255	0
Confl. Peds. (#/hr)	7		7						7	7		
Confl. Bikes (#/hr)			1						1			
Heavy Vehicles (%)	10%	5%	7%	0%	0%	0%	0%	17%	8%	20%	4%	0%
Turn Type	Split	NA						NA		Perm	NA	
Protected Phases	4	4						8			1 2 8	
Permitted Phases										1 2 8		
Actuated Green, G (s)		36.9						15.3			92.5	
Effective Green, g (s)		38.2						16.3			88.5	
Actuated g/C Ratio		0.27						0.12			0.63	
Clearance Time (s)		5.3						5.0				
Vehicle Extension (s)		6.4						2.3				
Lane Grp Cap (vph)		923						182			833	
v/s Ratio Prot		c0.19						c0.06				
v/s Ratio Perm											c0.19	
v/c Ratio		0.70						0.54			0.31	
Uniform Delay, d1		45.7						58.3			11.7	
Progression Factor		1.00						1.00			0.16	
Incremental Delay, d2		3.7						2.0			0.1	
Delay (s)		49.4						60.4			2.0	
Level of Service		D						E			A	
Approach Delay (s)		49.4			0.0			60.4			2.0	
Approach LOS		D			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	38.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	42.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	60	185	60	135	265
Future Vol, veh/h	15	60	185	60	135	265
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	60	185	60	135	265

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	750	215	0	0	245	0
Stage 1	215	-	-	-	-	-
Stage 2	535	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	379	825	-	-	1321	-
Stage 1	821	-	-	-	-	-
Stage 2	587	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	340	825	-	-	1321	-
Mov Cap-2 Maneuver	433	-	-	-	-	-
Stage 1	821	-	-	-	-	-
Stage 2	527	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	433	825	1321	-
HCM Lane V/C Ratio	-	-	0.035	0.073	0.102	-
HCM Control Delay (s)	-	-	13.6	9.7	8	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	0.3	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	1620	20	125	865	170	26	169	295	170	83	145
Future Volume (vph)	180	1620	20	125	865	170	26	169	295	170	83	145
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	4.5	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	5077		1671	4968		1805	1810	1583	1787	1810	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	5077		1671	4968		1805	1810	1583	1787	1810	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	180	1620	20	125	865	170	26	169	295	170	83	145
RTOR Reduction (vph)	0	1	0	0	19	0	0	0	29	0	0	109
Lane Group Flow (vph)	180	1639	0	125	1016	0	26	169	266	170	83	36
Heavy Vehicles (%)	1%	2%	0%	8%	2%	1%	0%	5%	2%	1%	5%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	Prot
Protected Phases	5	2		1	6		3	8	8 1	7	4	4
Permitted Phases												
Actuated Green, G (s)	19.4	68.7		14.9	64.2		4.7	25.4	44.8	14.0	34.7	34.7
Effective Green, g (s)	19.4	69.2		14.9	64.7		4.7	25.9	44.8	14.0	35.2	35.2
Actuated g/C Ratio	0.14	0.49		0.11	0.46		0.03	0.18	0.32	0.10	0.25	0.25
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.5		4.0	4.5	4.5
Vehicle Extension (s)	2.3	5.2		2.3	5.2		2.3	2.3		2.3	2.3	2.3
Lane Grp Cap (vph)	247	2509		177	2295		60	334	506	178	455	402
v/s Ratio Prot	c0.10	c0.32		0.07	0.20		0.01	0.09	c0.17	c0.10	0.05	0.02
v/s Ratio Perm												
v/c Ratio	0.73	0.65		0.71	0.44		0.43	0.51	0.53	0.96	0.18	0.09
Uniform Delay, d1	57.8	26.4		60.4	25.5		66.3	51.3	38.9	62.7	41.1	40.1
Progression Factor	1.00	1.00		1.45	0.56		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.3	1.3		10.1	0.6		2.9	0.7	0.6	53.8	0.1	0.1
Delay (s)	67.1	27.8		97.8	14.8		69.2	52.0	39.5	116.5	41.2	40.2
Level of Service	E	C		F	B		E	D	D	F	D	D
Approach Delay (s)		31.7			23.7			45.4			73.0	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	35.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	364	135	27	170	49	11
Future Vol, veh/h	364	135	27	170	49	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	364	135	27	170	49	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	499	0	571	432
Stage 1	-	-	-	-	432	-
Stage 2	-	-	-	-	139	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1063	-	466	623
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	874	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1063	-	453	623
Mov Cap-2 Maneuver	-	-	-	-	453	-
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	850	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	477	-	-	1063	-
HCM Lane V/C Ratio	0.126	-	-	0.025	-
HCM Control Delay (s)	13.6	-	-	8.5	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	527	0	0	445
Future Vol, veh/h	0	0	527	0	0	445
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	527	0	0	445

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	972	527	0	0	-	-
Stage 1	527	-	-	-	-	-
Stage 2	445	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	280	551	-	-	0	-
Stage 1	592	-	-	-	0	-
Stage 2	646	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	280	551	-	-	-	-
Mov Cap-2 Maneuver	409	-	-	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	646	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	785	0	0	446	0	0	0	0	0	0	0
Future Volume (vph)	0	785	0	0	446	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1681			1727							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1681			1727							
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	785	0	0	446	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	785	0	0	446	0	0	0	0	0	0	0
Heavy Vehicles (%)	2%	13%	2%	2%	10%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA			NA							
Protected Phases		6			2							
Permitted Phases												
Actuated Green, G (s)		851.0			851.0							
Effective Green, g (s)		851.0			851.0							
Actuated g/C Ratio		0.95			0.95							
Clearance Time (s)		4.0			4.0							
Lane Grp Cap (vph)		1589			1632							
v/s Ratio Prot		c0.47			0.26							
v/s Ratio Perm												
v/c Ratio		0.49			0.27							
Uniform Delay, d1		2.5			1.8							
Progression Factor		1.00			1.00							
Incremental Delay, d2		1.1			0.4							
Delay (s)		3.6			2.2							
Level of Service		A			A							
Approach Delay (s)		3.6			2.2			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	900.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	1935	200	200	1055	50	300	25	75	60	25	50
Future Volume (vph)	60	1935	200	200	1055	50	300	25	75	60	25	50
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	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5051		3433	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	5051		3433	1863	1583	1770	1863	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	1935	200	200	1055	50	300	25	75	60	25	50
RTOR Reduction (vph)	0	0	55	0	3	0	0	0	67	0	0	47
Lane Group Flow (vph)	60	1935	145	200	1102	0	300	25	8	60	25	3
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8						6			2
Actuated Green, G (s)	7.6	74.9	74.9	17.2	84.5		13.7	14.3	14.3	6.8	7.4	7.4
Effective Green, g (s)	7.6	74.9	74.9	17.2	84.5		13.7	14.3	14.3	6.8	7.4	7.4
Actuated g/C Ratio	0.06	0.58	0.58	0.13	0.65		0.11	0.11	0.11	0.05	0.06	0.06
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	104	2051	917	235	3303		364	206	175	93	106	90
v/s Ratio Prot	0.03	c0.55		c0.11	0.22		c0.09	0.01		0.03	c0.01	
v/s Ratio Perm			0.09						0.01			0.00
v/c Ratio	0.58	0.94	0.16	0.85	0.33		0.82	0.12	0.05	0.65	0.24	0.03
Uniform Delay, d1	59.2	25.2	12.6	54.7	9.9		56.6	51.8	51.4	60.0	58.2	57.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.2	9.6	0.1	24.1	0.0		13.7	0.2	0.1	12.8	0.8	0.1
Delay (s)	65.5	34.8	12.6	78.9	9.9		70.3	52.0	51.4	72.8	59.0	57.6
Level of Service	E	C	B	E	A		E	D	D	E	E	E
Approach Delay (s)		33.6			20.5			65.6			64.6	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	33.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	129.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL	SWR
Lane Configurations		↑			↑↑					
Traffic Volume (vph)	0	499	0	0	219	0	0	0	0	0
Future Volume (vph)	0	499	0	0	219	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		10.5			10.5					
Lane Util. Factor		1.00			0.95					
Frt		1.00			1.00					
Flt Protected		1.00			1.00					
Satd. Flow (prot)		1863			3539					
Flt Permitted		1.00			1.00					
Satd. Flow (perm)		1863			3539					
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	499	0	0	219	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	499	0	0	219	0	0	0	0	0
Turn Type		NA			NA					
Protected Phases		4			4					
Permitted Phases										
Actuated Green, G (s)		134.5			134.5					
Effective Green, g (s)		134.5			134.5					
Actuated g/C Ratio		0.67			0.67					
Clearance Time (s)		10.5			10.5					
Lane Grp Cap (vph)		1252			2379					
v/s Ratio Prot		c0.27			0.06					
v/s Ratio Perm										
v/c Ratio		0.40			0.09					
Uniform Delay, d1		14.7			11.4					
Progression Factor		1.00			1.00					
Incremental Delay, d2		0.9			0.1					
Delay (s)		15.6			11.5					
Level of Service		B			B					
Approach Delay (s)		15.6			11.5		0.0		0.0	
Approach LOS		B			B		A		A	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	200.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	120.8%	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												
Traffic Volume (vph)	10	92	20	86	47	86	10	431	287	120	315	10
Future Volume (vph)	10	92	20	86	47	86	10	431	287	120	315	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.5	4.5		4.0	4.0		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.90		1.00	0.94		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1593	1810		1770	1682		1680	1721		1770	1852	
Flt Permitted	0.67	1.00		0.49	1.00		0.56	1.00		0.15	1.00	
Satd. Flow (perm)	1127	1810		907	1682		998	1721		285	1852	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	92	20	86	47	86	10	431	287	120	315	10
RTOR Reduction (vph)	0	10	0	0	68	0	0	19	0	0	1	0
Lane Group Flow (vph)	10	102	0	86	65	0	10	699	0	120	324	0
Confl. Peds. (#/hr)	5		5				5					5
Heavy Vehicles (%)	13%	2%	0%	2%	2%	2%	7%	5%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	12.6	11.6		22.2	16.7		41.5	40.6		50.6	45.2	
Effective Green, g (s)	13.6	11.6		22.2	16.7		42.5	41.1		50.6	45.2	
Actuated g/C Ratio	0.17	0.14		0.27	0.20		0.52	0.50		0.62	0.55	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.5	2.3		2.5	2.3		2.5	4.5		2.5	4.5	
Lane Grp Cap (vph)	195	256		310	343		530	864		276	1023	
v/s Ratio Prot	0.00	c0.06		c0.02	0.04		0.00	c0.41		c0.03	0.17	
v/s Ratio Perm	0.01			0.05			0.01			0.24		
v/c Ratio	0.05	0.40		0.28	0.19		0.02	0.81		0.43	0.32	
Uniform Delay, d1	28.6	31.9		23.0	26.9		9.5	17.1		11.9	9.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.6		0.4	0.2		0.0	8.0		0.8	0.8	
Delay (s)	28.7	32.5		23.3	27.1		9.5	25.1		12.7	10.7	
Level of Service	C	C		C	C		A	C		B	B	
Approach Delay (s)		32.2			25.6			24.9			11.3	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	81.8	Sum of lost time (s)	17.5
Intersection Capacity Utilization	69.1%	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												
Traffic Volume (vph)	48	0	40	0	0	0	105	680	0	0	406	15
Future Volume (vph)	48	0	40	0	0	0	105	680	0	0	406	15
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		1.00	1.00				1.00	1.00			1.00	
Frpb, ped/bikes		1.00	0.95				1.00	1.00			1.00	
Flpb, ped/bikes		0.97	1.00				1.00	1.00			1.00	
Frt		1.00	0.85				1.00	1.00			1.00	
Flt Protected		0.95	1.00				0.95	1.00			1.00	
Satd. Flow (prot)		1333	1431				1730	1863			1866	
Flt Permitted		0.76	1.00				0.35	1.00			1.00	
Satd. Flow (perm)		1062	1431				646	1863			1866	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	48	0	40	0	0	0	105	680	0	0	406	15
RTOR Reduction (vph)	0	0	35	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	48	5	0	0	0	105	680	0	0	419	0
Confl. Peds. (#/hr)	30		30	30		30	20		20	20		20
Confl. Bikes (#/hr)									3			
Heavy Vehicles (%)	31%	0%	7%	0%	14%	9%	4%	2%	60%	46%	1%	6%
Turn Type	Perm	NA	Perm				pm+pt	NA			NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4			2			6		
Actuated Green, G (s)		5.4	5.4				28.0	28.0			18.4	
Effective Green, g (s)		5.4	5.4				28.0	28.0			18.4	
Actuated g/C Ratio		0.13	0.13				0.68	0.68			0.44	
Clearance Time (s)		4.0	4.0				4.0	4.0			4.0	
Vehicle Extension (s)		2.5	2.5				2.5	2.5			2.5	
Lane Grp Cap (vph)		138	186				583	1260			829	
v/s Ratio Prot							0.02	c0.37			0.22	
v/s Ratio Perm		c0.05	0.00				0.10					
v/c Ratio		0.35	0.03				0.18	0.54			0.51	
Uniform Delay, d1		16.4	15.7				3.0	3.4			8.2	
Progression Factor		1.00	1.00				1.00	1.00			1.00	
Incremental Delay, d2		1.1	0.0				0.1	0.3			0.4	
Delay (s)		17.5	15.8				3.1	3.8			8.6	
Level of Service		B	B				A	A			A	
Approach Delay (s)		16.7			0.0			3.7			8.6	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	41.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	92	205	165	693	356	90
Future Volume (vph)	92	205	165	693	356	90
Ideal Flow (vphpl)	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	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1553	1770	1652	1712	1599
Flt Permitted	0.95	1.00	0.48	1.00	1.00	1.00
Satd. Flow (perm)	1805	1553	885	1652	1712	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	92	205	165	693	356	90
RTOR Reduction (vph)	0	163	0	0	0	33
Lane Group Flow (vph)	92	42	165	693	356	57
Heavy Vehicles (%)	0%	4%	2%	15%	11%	1%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Prot
Protected Phases	8	1	1	6	2	2
Permitted Phases		8	6			
Actuated Green, G (s)	8.2	13.2	55.4	55.4	45.4	45.4
Effective Green, g (s)	9.2	15.2	56.4	56.7	46.7	46.7
Actuated g/C Ratio	0.12	0.21	0.76	0.77	0.63	0.63
Clearance Time (s)	5.0	5.0	5.0	5.3	5.3	5.3
Vehicle Extension (s)	2.3	2.3	2.3	6.0	6.0	6.0
Lane Grp Cap (vph)	224	403	747	1267	1081	1010
v/s Ratio Prot	c0.05	0.01	0.02	c0.42	0.21	0.04
v/s Ratio Perm		0.02	0.15			
v/c Ratio	0.41	0.10	0.22	0.55	0.33	0.06
Uniform Delay, d1	29.8	23.8	2.6	3.4	6.3	5.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.1	0.1	1.7	0.8	0.1
Delay (s)	30.6	23.9	2.7	5.2	7.1	5.3
Level of Service	C	C	A	A	A	A
Approach Delay (s)	26.0			4.7	6.8	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	73.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	32.3
Intersection LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	281	105	50	350	355	190
Future Vol, veh/h	281	105	50	350	355	190
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	3	7	0	1	1	2
Mvmt Flow	281	105	50	350	355	190
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	16.9	26.2	47.6
HCM LOS	C	D	E

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	65%	0%	0%	12%
Vol Thru, %	0%	100%	0%	88%
Vol Right, %	35%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	545	281	105	400
LT Vol	355	0	0	50
Through Vol	0	281	0	350
RT Vol	190	0	105	0
Lane Flow Rate	545	281	105	400
Geometry Grp	2	7	7	5
Degree of Util (X)	0.934	0.566	0.193	0.738
Departure Headway (Hd)	6.172	7.25	6.601	6.64
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	589	497	543	544
Service Time	4.21	5.005	4.355	4.688
HCM Lane V/C Ratio	0.925	0.565	0.193	0.735
HCM Control Delay	47.6	19.1	10.9	26.2
HCM Lane LOS	E	C	B	D
HCM 95th-tile Q	12.1	3.5	0.7	6.2

Intersection	
Intersection Delay, s/veh	25.2
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	30	5	440	60	205	15	80	271	85	120	20
Future Vol, veh/h	10	30	5	440	60	205	15	80	271	85	120	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	0	4	0	1	0	2	0	4	5	3	1	0
Mvmt Flow	10	30	5	440	60	205	15	80	271	85	120	20
Number of Lanes	0	1	1	1	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	12.3	34.4	16.1	13.8
HCM LOS	B	D	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	16%	0%	25%	0%	100%	0%	0%	100%	0%
Vol Thru, %	84%	0%	75%	0%	0%	100%	0%	0%	86%
Vol Right, %	0%	100%	0%	100%	0%	0%	100%	0%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	95	271	40	5	440	60	205	85	140
LT Vol	15	0	10	0	440	0	0	85	0
Through Vol	80	0	30	0	0	60	0	0	120
RT Vol	0	271	0	5	0	0	205	0	20
Lane Flow Rate	95	271	40	5	440	60	205	85	140
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.204	0.528	0.097	0.011	0.906	0.115	0.354	0.201	0.307
Departure Headway (Hd)	7.732	7.011	8.76	7.978	7.415	6.89	6.213	8.533	7.888
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	465	515	408	448	488	521	578	421	456
Service Time	5.474	4.753	6.524	5.741	5.153	4.628	3.951	6.281	5.636
HCM Lane V/C Ratio	0.204	0.526	0.098	0.011	0.902	0.115	0.355	0.202	0.307
HCM Control Delay	12.5	17.4	12.5	10.8	48	10.5	12.3	13.4	14.1
HCM Lane LOS	B	C	B	B	E	B	B	B	B
HCM 95th-tile Q	0.8	3	0.3	0	10.3	0.4	1.6	0.7	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	110	55	150	240	115	35	140	120	240	120	160
Future Volume (vph)	151	110	55	150	240	115	35	140	120	240	120	160
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	4.5	4.0	4.0	4.8	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00		0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98		1.00	1.00	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1810	1576		3444	1599	1805	1712	1615	1787	1700	
Flt Permitted	0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1810	1576		3444	1599	1805	1712	1615	1787	1700	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	151	110	55	150	240	115	35	140	120	240	120	160
RTOR Reduction (vph)	0	0	46	0	0	0	0	0	63	0	37	0
Lane Group Flow (vph)	151	110	9	0	390	115	35	140	57	240	243	0
Confl. Peds. (#/hr)			3			1			1			4
Heavy Vehicles (%)	2%	5%	0%	1%	4%	1%	0%	11%	0%	1%	3%	0%
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3	3 1	5	2	2 3	1	6	
Permitted Phases			4									
Actuated Green, G (s)	11.2	11.2	11.2		14.1	28.8	3.9	16.3	35.2	14.7	27.1	
Effective Green, g (s)	11.7	11.7	11.7		14.6	28.8	4.4	17.1	35.2	15.2	27.9	
Actuated g/C Ratio	0.16	0.16	0.16		0.20	0.39	0.06	0.23	0.47	0.20	0.37	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.8		4.5	4.8	
Vehicle Extension (s)	2.3	2.3	2.3		2.5		2.3	4.7		2.3	4.7	
Lane Grp Cap (vph)	277	283	247		674	617	106	392	762	364	635	
v/s Ratio Prot	c0.09	0.06			c0.11	0.07	0.02	0.08	0.04	c0.13	c0.14	
v/s Ratio Perm			0.01									
v/c Ratio	0.55	0.39	0.03		0.58	0.19	0.33	0.36	0.07	0.66	0.38	
Uniform Delay, d1	29.0	28.2	26.7		27.2	15.1	33.7	24.1	10.8	27.3	17.1	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	0.5	0.0		1.0	0.1	1.1	1.0	0.1	3.6	0.7	
Delay (s)	30.5	28.8	26.7		28.2	15.3	34.8	25.2	10.9	30.9	17.8	
Level of Service	C	C	C		C	B	C	C	B	C	B	
Approach Delay (s)		29.2			25.3			20.5			23.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	74.6	Sum of lost time (s)	17.8
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1320	245	65	1810	0	0	0	0	470	5	245
Future Volume (vph)	0	1320	245	65	1810	0	0	0	0	470	5	245
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		0.95	1.00	1.00	0.95					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	1770	3539					1681	1687	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	1770	3539					1681	1687	1583
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	1435	266	71	1967	0	0	0	0	511	5	266
RTOR Reduction (vph)	0	0	111	0	0	0	0	0	0	0	0	38
Lane Group Flow (vph)	0	1435	155	71	1967	0	0	0	0	255	261	228
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		68.9	68.9	30.1	103.5					27.0	27.0	27.0
Effective Green, g (s)		69.4	69.4	30.6	104.0					28.0	28.0	28.0
Actuated g/C Ratio		0.50	0.50	0.22	0.74					0.20	0.20	0.20
Clearance Time (s)		4.5	4.5	4.5	4.5					5.0	5.0	5.0
Vehicle Extension (s)		4.8	4.8	2.5	4.8					2.3	2.3	2.3
Lane Grp Cap (vph)		1754	784	386	2628					336	337	316
v/s Ratio Prot		c0.41		0.04	c0.56					0.15	c0.15	
v/s Ratio Perm			0.10									0.14
v/c Ratio		0.82	0.20	0.18	0.75					0.76	0.77	0.72
Uniform Delay, d1		29.9	19.7	44.5	10.4					52.8	53.0	52.4
Progression Factor		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Incremental Delay, d2		4.4	0.6	1.0	2.0					8.8	10.0	7.2
Delay (s)		34.3	20.3	45.6	12.4					61.6	63.0	59.5
Level of Service		C	C	D	B					E	E	E
Approach Delay (s)		32.1			13.6			0.0			61.4	
Approach LOS		C			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.9%	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												
Traffic Volume (vph)	220	1165	35	310	1600	145	135	355	230	170	340	230
Future Volume (vph)	220	1165	35	310	1600	145	135	355	230	170	340	230
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	4.0	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	5012		1703	5030		1787	1863	1583	1787	1900	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	5012		1703	5030		1787	1863	1583	1787	1900	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	220	1165	35	310	1600	145	135	355	230	170	340	230
RTOR Reduction (vph)	0	2	0	0	8	0	0	0	177	0	0	51
Lane Group Flow (vph)	220	1198	0	310	1737	0	135	355	53	170	340	179
Heavy Vehicles (%)	1%	3%	4%	6%	2%	0%	1%	2%	2%	1%	0%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Prot	Prot	NA	pt+ov
Protected Phases	5	2		1	6		3	8	8	7	4	4 5
Permitted Phases												
Actuated Green, G (s)	13.5	57.5		25.5	69.5		10.0	22.9	22.9	17.1	30.0	48.0
Effective Green, g (s)	14.0	58.0		26.0	70.0		10.0	23.4	23.4	17.1	30.5	48.0
Actuated g/C Ratio	0.10	0.41		0.19	0.50		0.07	0.17	0.17	0.12	0.22	0.34
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.5	4.5	4.0	4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	178	2069		315	2506		127	310	263	217	412	546
v/s Ratio Prot	c0.12	0.24		c0.18	c0.35		c0.08	c0.19	0.03	c0.10	0.18	0.11
v/s Ratio Perm												
v/c Ratio	1.24	0.58		0.98	0.69		1.06	1.15	0.20	0.78	0.83	0.33
Uniform Delay, d1	63.2	31.8		57.0	27.0		65.2	58.5	50.5	59.9	52.5	34.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	145.0	1.2		46.0	1.6		97.7	96.4	0.2	15.9	12.3	0.2
Delay (s)	208.2	33.0		103.1	28.6		163.0	154.9	50.7	75.8	64.7	34.5
Level of Service	F	C		F	C		F	F	D	E	E	C
Approach Delay (s)		60.2			39.9			123.1			57.9	
Approach LOS		E			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	60.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.5	Sum of lost time (s)	17.0
Intersection Capacity Utilization	87.8%	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												
Traffic Volume (vph)	205	995	25	245	1395	325	44	238	260	165	244	250
Future Volume (vph)	205	995	25	245	1395	325	44	238	260	165	244	250
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	4.5	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	5069		1671	4950		1805	1810	1583	1787	1810	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	5069		1671	4950		1805	1810	1583	1787	1810	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	205	995	25	245	1395	325	44	238	260	165	244	250
RTOR Reduction (vph)	0	2	0	0	25	0	0	0	36	0	0	192
Lane Group Flow (vph)	205	1018	0	245	1695	0	44	238	224	165	244	58
Heavy Vehicles (%)	1%	2%	0%	8%	2%	1%	0%	5%	2%	1%	5%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	Prot
Protected Phases	5	2		1	6		3	8	8 1	7	4	4
Permitted Phases												
Actuated Green, G (s)	21.5	58.0		25.7	62.2		7.1	24.1	54.3	15.2	32.2	32.2
Effective Green, g (s)	21.5	58.5		25.7	62.7		7.1	24.6	54.3	15.2	32.7	32.7
Actuated g/C Ratio	0.15	0.42		0.18	0.45		0.05	0.18	0.39	0.11	0.23	0.23
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.5		4.0	4.5	4.5
Vehicle Extension (s)	2.3	5.2		2.3	5.2		2.3	2.3		2.3	2.3	2.3
Lane Grp Cap (vph)	274	2118		306	2216		91	318	613	194	422	373
v/s Ratio Prot	0.11	0.20		c0.15	c0.34		0.02	c0.13	0.14	c0.09	0.13	0.04
v/s Ratio Perm												
v/c Ratio	0.75	0.48		0.80	0.76		0.48	0.75	0.37	0.85	0.58	0.16
Uniform Delay, d1	56.7	29.7		54.7	32.5		64.7	54.8	30.6	61.3	47.5	42.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.8	0.8		13.4	2.6		2.3	8.6	0.2	27.7	1.4	0.1
Delay (s)	66.5	30.5		68.1	35.0		67.0	63.3	30.8	89.0	49.0	42.8
Level of Service	E	C		E	D		E	E	C	F	D	D
Approach Delay (s)		36.5			39.2			48.0			56.7	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	42.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	245	62	10	750	127	26
Future Vol, veh/h	245	62	10	750	127	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	245	62	10	750	127	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	307	0	671	276
Stage 1	-	-	-	-	276	-
Stage 2	-	-	-	-	395	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1252	-	405	762
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	650	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1252	-	399	762
Mov Cap-2 Maneuver	-	-	-	-	399	-
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	641	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	17.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	434	-	-	1252	-
HCM Lane V/C Ratio	0.353	-	-	0.008	-
HCM Control Delay (s)	17.7	-	-	7.9	0.1
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.6	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	720	0	0	685
Future Vol, veh/h	0	0	720	0	0	685
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	783	0	0	745

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1528	783	0	0	-	-
Stage 1	783	-	-	-	-	-
Stage 2	745	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	129	394	-	-	0	-
Stage 1	450	-	-	-	0	-
Stage 2	469	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	129	394	-	-	-	-
Mov Cap-2 Maneuver	268	-	-	-	-	-
Stage 1	450	-	-	-	-	-
Stage 2	469	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	641	0	0	966	0	0	0	0	0	0	0
Future Volume (vph)	0	641	0	0	966	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1681			1727							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1681			1727							
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	641	0	0	966	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	641	0	0	966	0	0	0	0	0	0	0
Heavy Vehicles (%)	2%	13%	2%	2%	10%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA			NA							
Protected Phases		6			2							
Permitted Phases												
Actuated Green, G (s)		851.0			851.0							
Effective Green, g (s)		851.0			851.0							
Actuated g/C Ratio		0.95			0.95							
Clearance Time (s)		4.0			4.0							
Lane Grp Cap (vph)		1589			1632							
v/s Ratio Prot		0.38			c0.56							
v/s Ratio Perm												
v/c Ratio		0.40			0.59							
Uniform Delay, d1		2.2			3.0							
Progression Factor		1.00			1.00							
Incremental Delay, d2		0.8			1.6							
Delay (s)		2.9			4.6							
Level of Service		A			A							
Approach Delay (s)		2.9			4.6			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	900.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL	SWR
Lane Configurations		↑			↑↑					
Traffic Volume (vph)	0	307	0	0	877	0	0	0	0	0
Future Volume (vph)	0	307	0	0	877	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		10.5			10.5					
Lane Util. Factor		1.00			0.95					
Frt		1.00			1.00					
Flt Protected		1.00			1.00					
Satd. Flow (prot)		1863			3539					
Flt Permitted		1.00			1.00					
Satd. Flow (perm)		1863			3539					
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	307	0	0	877	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	307	0	0	877	0	0	0	0	0
Turn Type		NA			NA					
Protected Phases		4			4					
Permitted Phases										
Actuated Green, G (s)		134.5			134.5					
Effective Green, g (s)		134.5			134.5					
Actuated g/C Ratio		0.67			0.67					
Clearance Time (s)		10.5			10.5					
Lane Grp Cap (vph)		1252			2379					
v/s Ratio Prot		0.16			c0.25					
v/s Ratio Perm										
v/c Ratio		0.25			0.37					
Uniform Delay, d1		12.8			14.3					
Progression Factor		1.00			1.00					
Incremental Delay, d2		0.5			0.4					
Delay (s)		13.3			14.7					
Level of Service		B			B					
Approach Delay (s)		13.3			14.7		0.0		0.0	
Approach LOS		B			B		A		A	

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	200.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	120.8%	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												
Traffic Volume (vph)	10	66	55	368	194	315	25	395	136	105	560	20
Future Volume (vph)	10	66	55	368	194	315	25	395	136	105	560	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.5	4.5		4.0	4.0		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.91		1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1595	1728		1770	1690		1687	1753		1770	1851	
Flt Permitted	0.48	1.00		0.48	1.00		0.20	1.00		0.16	1.00	
Satd. Flow (perm)	800	1728		899	1690		354	1753		292	1851	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	66	55	368	194	315	25	395	136	105	560	20
RTOR Reduction (vph)	0	30	0	0	57	0	0	10	0	0	1	0
Lane Group Flow (vph)	10	91	0	368	452	0	25	521	0	105	579	0
Confl. Peds. (#/hr)	5		5				5					5
Heavy Vehicles (%)	13%	2%	0%	2%	2%	2%	7%	5%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	15.4	14.5		39.2	33.8		34.6	32.3		41.6	35.8	
Effective Green, g (s)	16.4	14.5		39.2	33.8		35.6	32.8		41.6	35.8	
Actuated g/C Ratio	0.18	0.16		0.43	0.37		0.39	0.36		0.46	0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.5	2.3		2.5	2.3		2.5	4.5		2.5	4.5	
Lane Grp Cap (vph)	156	275		581	629		179	633		228	729	
v/s Ratio Prot	0.00	0.05		c0.14	c0.27		0.00	0.30		c0.03	c0.31	
v/s Ratio Perm	0.01			0.13			0.05			0.18		
v/c Ratio	0.06	0.33		0.63	0.72		0.14	0.82		0.46	0.79	
Uniform Delay, d1	30.7	33.8		18.7	24.4		18.9	26.4		17.7	24.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.4		2.0	3.5		0.3	11.6		1.1	8.7	
Delay (s)	30.8	34.3		20.7	27.9		19.2	38.0		18.8	32.9	
Level of Service	C	C		C	C		B	D		B	C	
Approach Delay (s)		34.0			24.9			37.1			30.8	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	30.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.8	Sum of lost time (s)	17.5
Intersection Capacity Utilization	81.9%	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												
Traffic Volume (vph)	20	0	50	0	0	0	105	536	0	0	916	67
Future Volume (vph)	20	0	50	0	0	0	105	536	0	0	916	67
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		1.00	1.00				1.00	1.00			1.00	
Frpb, ped/bikes		1.00	0.93				1.00	1.00			1.00	
Flpb, ped/bikes		0.95	1.00				1.00	1.00			1.00	
Frt		1.00	0.85				1.00	1.00			0.99	
Flt Protected		0.95	1.00				0.95	1.00			1.00	
Satd. Flow (prot)		1304	1400				1736	1863			1850	
Flt Permitted		0.76	1.00				0.12	1.00			1.00	
Satd. Flow (perm)		1039	1400				211	1863			1850	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	0	50	0	0	0	105	536	0	0	916	67
RTOR Reduction (vph)	0	0	45	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	20	5	0	0	0	105	536	0	0	980	0
Confl. Peds. (#/hr)	30		30	30		30	20		20	20		20
Confl. Bikes (#/hr)									3			
Heavy Vehicles (%)	31%	0%	7%	0%	14%	9%	4%	2%	60%	46%	1%	6%
Turn Type	Perm	NA	Perm				pm+pt	NA			NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4			2			6		
Actuated Green, G (s)		6.3	6.3				53.9	53.9			43.6	
Effective Green, g (s)		6.3	6.3				53.9	53.9			43.6	
Actuated g/C Ratio		0.09	0.09				0.79	0.79			0.64	
Clearance Time (s)		4.0	4.0				4.0	4.0			4.0	
Vehicle Extension (s)		2.5	2.5				2.5	2.5			2.5	
Lane Grp Cap (vph)		95	129				307	1472			1182	
v/s Ratio Prot							0.03	c0.29			c0.53	
v/s Ratio Perm		c0.02	0.00				0.24					
v/c Ratio		0.21	0.04				0.34	0.36			0.83	
Uniform Delay, d1		28.6	28.2				9.5	2.1			9.4	
Progression Factor		1.00	1.00				1.00	1.00			1.00	
Incremental Delay, d2		0.8	0.1				0.5	0.1			4.9	
Delay (s)		29.5	28.3				10.0	2.2			14.3	
Level of Service		C	C				A	A			B	
Approach Delay (s)		28.6			0.0			3.5			14.3	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	68.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	71	320	250	570	849	117
Future Volume (vph)	71	320	250	570	849	117
Ideal Flow (vphpl)	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	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1553	1770	1652	1712	1599
Flt Permitted	0.95	1.00	0.24	1.00	1.00	1.00
Satd. Flow (perm)	1805	1553	439	1652	1712	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	71	320	250	570	849	117
RTOR Reduction (vph)	0	134	0	0	0	32
Lane Group Flow (vph)	71	186	250	570	849	85
Heavy Vehicles (%)	0%	4%	2%	15%	11%	1%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Prot
Protected Phases	8	1	1	6	2	2
Permitted Phases		8	6			
Actuated Green, G (s)	8.3	16.1	91.4	91.4	78.6	78.6
Effective Green, g (s)	9.3	18.1	92.4	92.7	79.9	79.9
Actuated g/C Ratio	0.08	0.16	0.84	0.84	0.73	0.73
Clearance Time (s)	5.0	5.0	5.0	5.3	5.3	5.3
Vehicle Extension (s)	2.3	2.3	2.3	6.0	6.0	6.0
Lane Grp Cap (vph)	152	312	475	1392	1243	1161
v/s Ratio Prot	0.04	c0.05	0.04	0.35	c0.50	0.05
v/s Ratio Perm		0.07	0.40			
v/c Ratio	0.47	0.60	0.53	0.41	0.68	0.07
Uniform Delay, d1	48.0	42.6	7.0	2.1	8.2	4.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	2.4	0.7	0.9	3.1	0.1
Delay (s)	49.3	44.9	7.7	3.0	11.2	4.5
Level of Service	D	D	A	A	B	A
Approach Delay (s)	45.7			4.4	10.4	
Approach LOS	D			A	B	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.5%	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												
Traffic Volume (vph)	0	1320	245	65	1810	0	0	0	0	470	5	245
Future Volume (vph)	0	1320	245	65	1810	0	0	0	0	470	5	245
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		0.95	1.00	1.00	0.95					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	1770	3539					1681	1687	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	1770	3539					1681	1687	1583
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	1435	266	71	1967	0	0	0	0	511	5	266
RTOR Reduction (vph)	0	0	111	0	0	0	0	0	0	0	0	38
Lane Group Flow (vph)	0	1435	155	71	1967	0	0	0	0	255	261	228
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		68.9	68.9	30.1	103.5					27.0	27.0	27.0
Effective Green, g (s)		69.4	69.4	30.6	104.0					28.0	28.0	28.0
Actuated g/C Ratio		0.50	0.50	0.22	0.74					0.20	0.20	0.20
Clearance Time (s)		4.5	4.5	4.5	4.5					5.0	5.0	5.0
Vehicle Extension (s)		4.8	4.8	2.5	4.8					2.3	2.3	2.3
Lane Grp Cap (vph)		1754	784	386	2628					336	337	316
v/s Ratio Prot		c0.41		0.04	c0.56					0.15	c0.15	
v/s Ratio Perm			0.10									0.14
v/c Ratio		0.82	0.20	0.18	0.75					0.76	0.77	0.72
Uniform Delay, d1		29.9	19.7	44.5	10.4					52.8	53.0	52.4
Progression Factor		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Incremental Delay, d2		4.4	0.6	1.0	2.0					8.8	10.0	7.2
Delay (s)		34.3	20.3	45.6	12.4					61.6	63.0	59.5
Level of Service		C	C	D	B					E	E	E
Approach Delay (s)		32.1			13.6			0.0			61.4	
Approach LOS		C			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.9%	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												
Traffic Volume (vph)	220	1165	35	310	1600	145	135	355	230	170	340	230
Future Volume (vph)	220	1165	35	310	1600	145	135	355	230	170	340	230
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	4.0	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	5012		1703	5030		1787	1863	1583	1787	1900	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	5012		1703	5030		1787	1863	1583	1787	1900	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	220	1165	35	310	1600	145	135	355	230	170	340	230
RTOR Reduction (vph)	0	2	0	0	8	0	0	0	177	0	0	51
Lane Group Flow (vph)	220	1198	0	310	1737	0	135	355	53	170	340	179
Heavy Vehicles (%)	1%	3%	4%	6%	2%	0%	1%	2%	2%	1%	0%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Prot	Prot	NA	pt+ov
Protected Phases	5	2		1	6		3	8	8	7	4	4 5
Permitted Phases												
Actuated Green, G (s)	13.5	57.5		25.5	69.5		10.0	22.9	22.9	17.1	30.0	48.0
Effective Green, g (s)	14.0	58.0		26.0	70.0		10.0	23.4	23.4	17.1	30.5	48.0
Actuated g/C Ratio	0.10	0.41		0.19	0.50		0.07	0.17	0.17	0.12	0.22	0.34
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.5	4.5	4.0	4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	178	2069		315	2506		127	310	263	217	412	546
v/s Ratio Prot	c0.12	0.24		c0.18	c0.35		c0.08	c0.19	0.03	c0.10	0.18	0.11
v/s Ratio Perm												
v/c Ratio	1.24	0.58		0.98	0.69		1.06	1.15	0.20	0.78	0.83	0.33
Uniform Delay, d1	63.2	31.8		57.0	27.0		65.2	58.5	50.5	59.9	52.5	34.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	145.0	1.2		46.0	1.6		97.7	96.4	0.2	15.9	12.3	0.2
Delay (s)	208.2	33.0		103.1	28.6		163.0	154.9	50.7	75.8	64.7	34.5
Level of Service	F	C		F	C		F	F	D	E	E	C
Approach Delay (s)		60.2			39.9			123.1			57.9	
Approach LOS		E			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	60.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.5	Sum of lost time (s)	17.0
Intersection Capacity Utilization	87.8%	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												
Traffic Volume (vph)	205	995	25	245	1395	325	44	238	260	165	244	250
Future Volume (vph)	205	995	25	245	1395	325	44	238	260	165	244	250
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	4.5	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	5069		1671	4950		1805	1810	1583	1787	1810	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	5069		1671	4950		1805	1810	1583	1787	1810	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	205	995	25	245	1395	325	44	238	260	165	244	250
RTOR Reduction (vph)	0	2	0	0	25	0	0	0	36	0	0	192
Lane Group Flow (vph)	205	1018	0	245	1695	0	44	238	224	165	244	58
Heavy Vehicles (%)	1%	2%	0%	8%	2%	1%	0%	5%	2%	1%	5%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pt+ov	Prot	NA	Prot
Protected Phases	5	2		1	6		3	8	8 1	7	4	4
Permitted Phases												
Actuated Green, G (s)	21.5	58.0		25.7	62.2		7.1	24.1	54.3	15.2	32.2	32.2
Effective Green, g (s)	21.5	58.5		25.7	62.7		7.1	24.6	54.3	15.2	32.7	32.7
Actuated g/C Ratio	0.15	0.42		0.18	0.45		0.05	0.18	0.39	0.11	0.23	0.23
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.5		4.0	4.5	4.5
Vehicle Extension (s)	2.3	5.2		2.3	5.2		2.3	2.3		2.3	2.3	2.3
Lane Grp Cap (vph)	274	2118		306	2216		91	318	613	194	422	373
v/s Ratio Prot	0.11	0.20		c0.15	c0.34		0.02	c0.13	0.14	c0.09	0.13	0.04
v/s Ratio Perm												
v/c Ratio	0.75	0.48		0.80	0.76		0.48	0.75	0.37	0.85	0.58	0.16
Uniform Delay, d1	56.7	29.7		54.7	32.5		64.7	54.8	30.6	61.3	47.5	42.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.8	0.8		13.4	2.6		2.3	8.6	0.2	27.7	1.4	0.1
Delay (s)	66.5	30.5		68.1	35.0		67.0	63.3	30.8	89.0	49.0	42.8
Level of Service	E	C		E	D		E	E	C	F	D	D
Approach Delay (s)		36.5			39.2			48.0			56.7	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	42.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	245	62	10	750	127	26
Future Vol, veh/h	245	62	10	750	127	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	245	62	10	750	127	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	307	0	671	276
Stage 1	-	-	-	-	276	-
Stage 2	-	-	-	-	395	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1252	-	405	762
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	650	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1252	-	399	762
Mov Cap-2 Maneuver	-	-	-	-	399	-
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	641	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	17.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	434	-	-	1252	-
HCM Lane V/C Ratio	0.353	-	-	0.008	-
HCM Control Delay (s)	17.7	-	-	7.9	0.1
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.6	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	720	0	0	685
Future Vol, veh/h	0	0	720	0	0	685
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	783	0	0	745

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1528	783	0	0	-	-
Stage 1	783	-	-	-	-	-
Stage 2	745	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	129	394	-	-	0	-
Stage 1	450	-	-	-	0	-
Stage 2	469	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	129	394	-	-	-	-
Mov Cap-2 Maneuver	268	-	-	-	-	-
Stage 1	450	-	-	-	-	-
Stage 2	469	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	641	0	0	966	0	0	0	0	0	0	0
Future Volume (vph)	0	641	0	0	966	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1681			1727							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1681			1727							
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	641	0	0	966	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	641	0	0	966	0	0	0	0	0	0	0
Heavy Vehicles (%)	2%	13%	2%	2%	10%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA			NA							
Protected Phases		6			2							
Permitted Phases												
Actuated Green, G (s)		851.0			851.0							
Effective Green, g (s)		851.0			851.0							
Actuated g/C Ratio		0.95			0.95							
Clearance Time (s)		4.0			4.0							
Lane Grp Cap (vph)		1589			1632							
v/s Ratio Prot		0.38			c0.56							
v/s Ratio Perm												
v/c Ratio		0.40			0.59							
Uniform Delay, d1		2.2			3.0							
Progression Factor		1.00			1.00							
Incremental Delay, d2		0.8			1.6							
Delay (s)		2.9			4.6							
Level of Service		A			A							
Approach Delay (s)		2.9			4.6			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	900.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL	SWR
Lane Configurations		↑			↑↑					
Traffic Volume (vph)	0	307	0	0	877	0	0	0	0	0
Future Volume (vph)	0	307	0	0	877	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		10.5			10.5					
Lane Util. Factor		1.00			0.95					
Frt		1.00			1.00					
Flt Protected		1.00			1.00					
Satd. Flow (prot)		1863			3539					
Flt Permitted		1.00			1.00					
Satd. Flow (perm)		1863			3539					
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	307	0	0	877	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	307	0	0	877	0	0	0	0	0
Turn Type		NA			NA					
Protected Phases		4			4					
Permitted Phases										
Actuated Green, G (s)		134.5			134.5					
Effective Green, g (s)		134.5			134.5					
Actuated g/C Ratio		0.67			0.67					
Clearance Time (s)		10.5			10.5					
Lane Grp Cap (vph)		1252			2379					
v/s Ratio Prot		0.16			c0.25					
v/s Ratio Perm										
v/c Ratio		0.25			0.37					
Uniform Delay, d1		12.8			14.3					
Progression Factor		1.00			1.00					
Incremental Delay, d2		0.5			0.4					
Delay (s)		13.3			14.7					
Level of Service		B			B					
Approach Delay (s)		13.3			14.7		0.0		0.0	
Approach LOS		B			B		A		A	

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	200.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	120.8%	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												
Traffic Volume (vph)	10	66	55	368	194	315	25	395	136	105	560	20
Future Volume (vph)	10	66	55	368	194	315	25	395	136	105	560	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.5	4.5	4.5	4.0	4.0		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1593	1728		1770	1863	1583	1687	1753		1770	1851	
Flt Permitted	0.64	1.00		0.48	1.00	1.00	0.20	1.00		0.15	1.00	
Satd. Flow (perm)	1066	1728		887	1863	1583	358	1753		284	1851	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	66	55	368	194	315	25	395	136	105	560	20
RTOR Reduction (vph)	0	30	0	0	0	176	0	10	0	0	1	0
Lane Group Flow (vph)	10	91	0	368	194	139	25	521	0	105	579	0
Confl. Peds. (#/hr)	5		5				5					5
Heavy Vehicles (%)	13%	2%	0%	2%	2%	2%	7%	5%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4	1	5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)	15.5	14.5		40.6	35.1	41.3	35.4	33.1		43.2	37.0	
Effective Green, g (s)	16.5	14.5		40.6	35.1	41.3	36.4	33.6		43.2	37.0	
Actuated g/C Ratio	0.18	0.16		0.43	0.38	0.44	0.39	0.36		0.46	0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.5	2.3		2.5	2.3	2.5	2.5	4.5		2.5	4.5	
Lane Grp Cap (vph)	196	268		589	700	776	179	630		230	733	
v/s Ratio Prot	0.00	0.05		c0.14	0.10	0.01	0.00	0.30		c0.03	c0.31	
v/s Ratio Perm	0.01			c0.13		0.08	0.05			0.18		
v/c Ratio	0.05	0.34		0.62	0.28	0.18	0.14	0.83		0.46	0.79	
Uniform Delay, d1	31.9	35.2		19.1	20.3	15.8	19.5	27.3		18.1	24.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.4		1.8	0.1	0.1	0.3	11.9		1.0	8.5	
Delay (s)	31.9	35.6		20.9	20.4	15.9	19.8	39.2		19.2	33.2	
Level of Service	C	D		C	C	B	B	D		B	C	
Approach Delay (s)		35.3			19.0			38.3			31.1	
Approach LOS		D			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	93.4	Sum of lost time (s)	17.5
Intersection Capacity Utilization	78.9%	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												
Traffic Volume (vph)	20	0	50	0	0	0	105	536	0	0	916	67
Future Volume (vph)	20	0	50	0	0	0	105	536	0	0	916	67
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		1.00	1.00				1.00	1.00			1.00	
Frpb, ped/bikes		1.00	0.93				1.00	1.00			1.00	
Flpb, ped/bikes		0.95	1.00				1.00	1.00			1.00	
Frt		1.00	0.85				1.00	1.00			0.99	
Flt Protected		0.95	1.00				0.95	1.00			1.00	
Satd. Flow (prot)		1304	1400				1736	1863			1850	
Flt Permitted		0.76	1.00				0.12	1.00			1.00	
Satd. Flow (perm)		1039	1400				211	1863			1850	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	0	50	0	0	0	105	536	0	0	916	67
RTOR Reduction (vph)	0	0	45	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	20	5	0	0	0	105	536	0	0	980	0
Confl. Peds. (#/hr)	30		30	30		30	20		20	20		20
Confl. Bikes (#/hr)									3			
Heavy Vehicles (%)	31%	0%	7%	0%	14%	9%	4%	2%	60%	46%	1%	6%
Turn Type	Perm	NA	Perm				pm+pt	NA			NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4			2			6		
Actuated Green, G (s)		6.3	6.3				53.9	53.9			43.6	
Effective Green, g (s)		6.3	6.3				53.9	53.9			43.6	
Actuated g/C Ratio		0.09	0.09				0.79	0.79			0.64	
Clearance Time (s)		4.0	4.0				4.0	4.0			4.0	
Vehicle Extension (s)		2.5	2.5				2.5	2.5			2.5	
Lane Grp Cap (vph)		95	129				307	1472			1182	
v/s Ratio Prot							0.03	c0.29			c0.53	
v/s Ratio Perm		c0.02	0.00				0.24					
v/c Ratio		0.21	0.04				0.34	0.36			0.83	
Uniform Delay, d1		28.6	28.2				9.5	2.1			9.4	
Progression Factor		1.00	1.00				1.00	1.00			1.00	
Incremental Delay, d2		0.8	0.1				0.5	0.1			4.9	
Delay (s)		29.5	28.3				10.0	2.2			14.3	
Level of Service		C	C				A	A			B	
Approach Delay (s)		28.6			0.0			3.5			14.3	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	68.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	71	320	250	570	849	117
Future Volume (vph)	71	320	250	570	849	117
Ideal Flow (vphpl)	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	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1553	1770	1652	1712	1599
Flt Permitted	0.95	1.00	0.24	1.00	1.00	1.00
Satd. Flow (perm)	1805	1553	439	1652	1712	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	71	320	250	570	849	117
RTOR Reduction (vph)	0	134	0	0	0	32
Lane Group Flow (vph)	71	186	250	570	849	85
Heavy Vehicles (%)	0%	4%	2%	15%	11%	1%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Prot
Protected Phases	8	1	1	6	2	2
Permitted Phases		8	6			
Actuated Green, G (s)	8.3	16.1	91.4	91.4	78.6	78.6
Effective Green, g (s)	9.3	18.1	92.4	92.7	79.9	79.9
Actuated g/C Ratio	0.08	0.16	0.84	0.84	0.73	0.73
Clearance Time (s)	5.0	5.0	5.0	5.3	5.3	5.3
Vehicle Extension (s)	2.3	2.3	2.3	6.0	6.0	6.0
Lane Grp Cap (vph)	152	312	475	1392	1243	1161
v/s Ratio Prot	0.04	c0.05	0.04	0.35	c0.50	0.05
v/s Ratio Perm		0.07	0.40			
v/c Ratio	0.47	0.60	0.53	0.41	0.68	0.07
Uniform Delay, d1	48.0	42.6	7.0	2.1	8.2	4.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	2.4	0.7	0.9	3.1	0.1
Delay (s)	49.3	44.9	7.7	3.0	11.2	4.5
Level of Service	D	D	A	A	B	A
Approach Delay (s)	45.7			4.4	10.4	
Approach LOS	D			A	B	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX B40

Segment C – Bonita Subarea 2035 Build Operations

APPENDIX B

GREAT PLACES SW Corridor

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	640	570	0
Future Volume (vph)	0	0	0	640	570	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				10.5	10.5	
Lane Util. Factor				1.00	1.00	
Frt				1.00	1.00	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				1863	1863	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				1863	1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	640	570	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	640	570	0
Turn Type				NA	NA	
Protected Phases				8	8	
Permitted Phases						
Actuated Green, G (s)				384.5	384.5	
Effective Green, g (s)				384.5	384.5	
Actuated g/C Ratio				0.85	0.85	
Clearance Time (s)				10.5	10.5	
Lane Grp Cap (vph)				1591	1591	
v/s Ratio Prot				c0.34	0.31	
v/s Ratio Perm						
v/c Ratio				0.40	0.36	
Uniform Delay, d1				7.3	6.9	
Progression Factor				1.00	1.00	
Incremental Delay, d2				0.8	0.6	
Delay (s)				8.0	7.5	
Level of Service				A	A	
Approach Delay (s)	0.0			8.0	7.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	450.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	120.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			
Traffic Volume (vph)	0	850	1185	0	0	0
Future Volume (vph)	0	850	1185	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		10.5	10.5			
Lane Util. Factor		0.95	0.95			
Frt		1.00	1.00			
Flt Protected		1.00	1.00			
Satd. Flow (prot)		3539	3539			
Flt Permitted		1.00	1.00			
Satd. Flow (perm)		3539	3539			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	850	1185	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	850	1185	0	0	0
Turn Type		NA	NA			
Protected Phases		8	8			
Permitted Phases						
Actuated Green, G (s)		384.5	384.5			
Effective Green, g (s)		384.5	384.5			
Actuated g/C Ratio		0.85	0.85			
Clearance Time (s)		10.5	10.5			
Lane Grp Cap (vph)		3023	3023			
v/s Ratio Prot		0.24	c0.33			
v/s Ratio Perm						
v/c Ratio		0.28	0.39			
Uniform Delay, d1		6.3	7.2			
Progression Factor		1.00	1.00			
Incremental Delay, d2		0.2	0.4			
Delay (s)		6.5	7.6			
Level of Service		A	A			
Approach Delay (s)		6.5	7.6		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay	7.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	450.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	120.8%	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												
Traffic Volume (vph)	365	295	0	0	350	95	465	0	330	0	0	0
Future Volume (vph)	365	295	0	0	350	95	465	0	330	0	0	0
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	0.95	0.95			1.00		1.00	1.00				
Frt	1.00	1.00			0.97		1.00	0.85				
Flt Protected	0.95	0.99			1.00		0.95	1.00				
Satd. Flow (prot)	1681	1789			1831		1752	1599				
Flt Permitted	0.95	0.99			1.00		0.95	1.00				
Satd. Flow (perm)	1681	1789			1831		1752	1599				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	365	295	0	0	350	95	465	0	330	0	0	0
RTOR Reduction (vph)	0	0	0	0	13	0	0	207	0	0	0	0
Lane Group Flow (vph)	321	339	0	0	432	0	465	123	0	0	0	0
Heavy Vehicles (%)	2%	0%	0%	0%	1%	0%	3%	0%	1%	0%	0%	0%
Turn Type	Split	NA			NA		Perm	NA				
Protected Phases	6	6			2			4				
Permitted Phases							4					
Actuated Green, G (s)	16.1	16.1			17.0		26.9	26.9				
Effective Green, g (s)	17.1	17.1			18.0		27.9	27.9				
Actuated g/C Ratio	0.23	0.23			0.24		0.37	0.37				
Clearance Time (s)	5.0	5.0			5.0		5.0	5.0				
Vehicle Extension (s)	4.2	4.2			4.2		2.3	2.3				
Lane Grp Cap (vph)	383	407			439		651	594				
v/s Ratio Prot	c0.19	0.19			c0.24			0.08				
v/s Ratio Perm							c0.27					
v/c Ratio	0.84	0.83			0.98		0.71	0.21				
Uniform Delay, d1	27.6	27.6			28.4		20.1	16.0				
Progression Factor	0.97	0.97			1.00		1.00	1.00				
Incremental Delay, d2	13.0	12.0			39.2		6.6	0.8				
Delay (s)	39.9	38.9			67.6		26.7	16.8				
Level of Service	D	D			E		C	B				
Approach Delay (s)		39.4			67.6			22.6			0.0	
Approach LOS		D			E			C			A	

Intersection Summary			
HCM 2000 Control Delay	39.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.3%	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												
Traffic Volume (vph)	0	590	305	85	730	0	0	0	0	70	0	1065
Future Volume (vph)	0	590	305	85	730	0	0	0	0	70	0	1065
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		0.95		1.00	1.00						1.00	0.88
Frt		0.95		1.00	1.00						1.00	0.85
Flt Protected		1.00		0.95	1.00						0.95	1.00
Satd. Flow (prot)		3358		1805	1863						1805	2814
Flt Permitted		1.00		0.95	1.00						0.95	1.00
Satd. Flow (perm)		3358		1805	1863						1805	2814
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	590	305	85	730	0	0	0	0	70	0	1065
RTOR Reduction (vph)	0	76	0	0	0	0	0	0	0	0	0	209
Lane Group Flow (vph)	0	819	0	85	730	0	0	0	0	0	70	856
Heavy Vehicles (%)	0%	2%	2%	0%	2%	0%	0%	0%	0%	0%	0%	1%
Turn Type		NA		Prot	NA					Perm	NA	Perm
Protected Phases		6		5	2						8	
Permitted Phases										8		8
Actuated Green, G (s)		26.9		7.2	39.6						24.4	24.4
Effective Green, g (s)		28.4		8.7	41.1						25.9	25.9
Actuated g/C Ratio		0.38		0.12	0.55						0.35	0.35
Clearance Time (s)		5.5		5.5	5.5						5.5	5.5
Vehicle Extension (s)		4.2		2.3	4.2						2.3	2.3
Lane Grp Cap (vph)		1271		209	1020						623	971
v/s Ratio Prot		0.24		0.05	c0.39							
v/s Ratio Perm											0.04	c0.30
v/c Ratio		0.64		0.41	0.72						0.11	0.88
Uniform Delay, d1		19.2		30.8	12.6						16.7	23.1
Progression Factor		1.00		1.19	0.95						1.00	1.00
Incremental Delay, d2		2.5		0.4	2.3						0.0	9.4
Delay (s)		21.7		37.1	14.2						16.8	32.5
Level of Service		C		D	B						B	C
Approach Delay (s)		21.7			16.6			0.0			31.5	
Approach LOS		C			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.3%	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												
Traffic Volume (vph)	100	735	15	20	1125	650	10	5	20	140	10	50
Future Volume (vph)	100	735	15	20	1125	650	10	5	20	140	10	50
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	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.88		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	1770	3496		1805	3539	1583	1805	1672		1698	1715	1615
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	1770	3496		1805	3539	1583	1805	1672		1698	1715	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	100	735	15	20	1125	650	10	5	20	140	10	50
RTOR Reduction (vph)	0	1	0	0	0	264	0	19	0	0	0	45
Lane Group Flow (vph)	100	749	0	20	1125	386	10	6	0	74	76	5
Heavy Vehicles (%)	2%	3%	0%	0%	2%	2%	0%	0%	0%	1%	0%	0%
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						7
Actuated Green, G (s)	5.2	50.9		1.7	47.4	47.4	3.0	3.0		7.8	7.8	7.8
Effective Green, g (s)	5.2	51.9		1.7	48.4	48.4	3.5	3.5		8.3	8.3	8.3
Actuated g/C Ratio	0.06	0.64		0.02	0.59	0.59	0.04	0.04		0.10	0.10	0.10
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	1.5	4.0		1.5	4.0	4.0	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	113	2229		37	2104	941	77	71		173	174	164
v/s Ratio Prot	c0.06	c0.21		0.01	c0.32		c0.01	0.00		0.04	c0.04	
v/s Ratio Perm						0.24						0.00
v/c Ratio	0.88	0.34		0.54	0.53	0.41	0.13	0.08		0.43	0.44	0.03
Uniform Delay, d1	37.8	6.8		39.5	9.8	8.9	37.5	37.4		34.3	34.4	32.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	49.2	0.1		8.4	0.3	0.4	0.3	0.2		0.6	0.6	0.0
Delay (s)	87.0	6.9		47.8	10.1	9.2	37.8	37.6		34.9	35.0	33.0
Level of Service	F	A		D	B	A	D	D		C	C	C
Approach Delay (s)		16.4			10.2			37.6			34.5	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	81.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	10	5	985	45	155	5	475	660	180	385	5
Future Volume (vph)	10	10	5	985	45	155	5	475	660	180	385	5
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	3.5	4.0	4.0	
Lane Util. Factor		0.95		0.97	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.97		1.00	0.88		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3372		3502	1558		1805	1881	1599	1671	1842	
Flt Permitted		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		3372		3502	1558		1805	1881	1599	1671	1842	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	10	5	985	45	155	5	475	660	180	385	5
RTOR Reduction (vph)	0	5	0	0	102	0	0	0	130	0	1	0
Lane Group Flow (vph)	0	20	0	985	98	0	5	475	530	180	389	0
Heavy Vehicles (%)	0%	0%	9%	0%	0%	10%	0%	1%	1%	8%	3%	0%
Turn Type	Split	NA		Split	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4		8	8		5	2 3	8	1	6 3	
Permitted Phases									2 3			
Actuated Green, G (s)		1.2		30.9	30.9		0.8	30.8	61.7	12.0	42.0	
Effective Green, g (s)		1.7		31.4	31.4		0.8	31.8	59.7	12.0	43.0	
Actuated g/C Ratio		0.02		0.34	0.34		0.01	0.35	0.65	0.13	0.47	
Clearance Time (s)		4.5		4.5	4.5		4.0		4.5	4.0		
Vehicle Extension (s)		1.5		3.0	3.0		1.0		3.0	1.5		
Lane Grp Cap (vph)		62		1196	532		15	650	1038	218	861	
v/s Ratio Prot		c0.01		c0.28	0.06		0.00	c0.25	0.18	c0.11	0.21	
v/s Ratio Perm									0.15			
v/c Ratio		0.32		0.82	0.18		0.33	0.73	0.51	0.83	0.45	
Uniform Delay, d1		44.5		27.7	21.3		45.3	26.3	8.4	38.9	16.5	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.1		4.7	0.2		4.7	4.4	0.4	20.9	0.4	
Delay (s)		45.6		32.4	21.4		50.0	30.7	8.9	59.8	17.0	
Level of Service		D		C	C		D	C	A	E	B	
Approach Delay (s)		45.6			30.6			18.1			30.5	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	91.9	Sum of lost time (s)	19.5
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	750	0
Future Volume (vph)	0	0	0	0	750	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)					2.5	
Lane Util. Factor					0.95	
Frt					1.00	
Flt Protected					1.00	
Satd. Flow (prot)					3539	
Flt Permitted					1.00	
Satd. Flow (perm)					3539	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	750	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	750	0
Turn Type		Perm			NA	
Protected Phases					2	
Permitted Phases		8				
Actuated Green, G (s)					2.5	
Effective Green, g (s)					2.5	
Actuated g/C Ratio					0.29	
Clearance Time (s)					2.5	
Lane Grp Cap (vph)					1040	
v/s Ratio Prot					c0.21	
v/s Ratio Perm						
v/c Ratio					0.72	
Uniform Delay, d1					2.7	
Progression Factor					1.00	
Incremental Delay, d2					4.3	
Delay (s)					7.0	
Level of Service					A	
Approach Delay (s)	0.0			0.0	7.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	8.5	Sum of lost time (s)	5.0
Intersection Capacity Utilization	24.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	905	1120	0	0	0
Future Vol, veh/h	0	905	1120	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	905	1120	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1120	0	-	0	1573	560
Stage 1	-	-	-	-	1120	-
Stage 2	-	-	-	-	453	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	619	-	-	-	101	472
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	607	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	619	-	-	-	101	472
Mov Cap-2 Maneuver	-	-	-	-	101	-
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	607	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	619	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	770	700	0
Future Volume (vph)	0	0	0	770	700	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				10.5	10.5	
Lane Util. Factor				1.00	1.00	
Frt				1.00	1.00	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				1863	1863	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				1863	1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	770	700	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	770	700	0
Turn Type				NA	NA	
Protected Phases				2	2	
Permitted Phases						
Actuated Green, G (s)				384.5	384.5	
Effective Green, g (s)				384.5	384.5	
Actuated g/C Ratio				0.85	0.85	
Clearance Time (s)				10.5	10.5	
Lane Grp Cap (vph)				1591	1591	
v/s Ratio Prot				c0.41	0.38	
v/s Ratio Perm						
v/c Ratio				0.48	0.44	
Uniform Delay, d1				8.1	7.6	
Progression Factor				1.00	1.00	
Incremental Delay, d2				1.1	0.9	
Delay (s)				9.2	8.5	
Level of Service				A	A	
Approach Delay (s)	0.0			9.2	8.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	450.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	120.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑			
Traffic Vol, veh/h	0	0	780	0	0	0
Future Vol, veh/h	0	0	780	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	780	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	390	0	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	609	-	0
Stage 1	0	-	-	0
Stage 2	0	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	-	609	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	WBLn1
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	1125	1120	0	0	0
Future Volume (vph)	0	1125	1120	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		10.5	10.5			
Lane Util. Factor		0.95	0.95			
Frt		1.00	1.00			
Flt Protected		1.00	1.00			
Satd. Flow (prot)		3539	3539			
Flt Permitted		1.00	1.00			
Satd. Flow (perm)		3539	3539			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1125	1120	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	1125	1120	0	0	0
Turn Type		NA	NA			
Protected Phases		8	8			
Permitted Phases						
Actuated Green, G (s)		384.5	384.5			
Effective Green, g (s)		384.5	384.5			
Actuated g/C Ratio		0.85	0.85			
Clearance Time (s)		10.5	10.5			
Lane Grp Cap (vph)		3023	3023			
v/s Ratio Prot		c0.32	0.32			
v/s Ratio Perm						
v/c Ratio		0.37	0.37			
Uniform Delay, d1		7.0	7.0			
Progression Factor		1.00	1.00			
Incremental Delay, d2		0.4	0.4			
Delay (s)		7.3	7.3			
Level of Service		A	A			
Approach Delay (s)		7.3	7.3		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay	7.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	450.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	120.8%	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												
Traffic Volume (vph)	620	385	0	0	365	160	290	0	260	0	0	0
Future Volume (vph)	620	385	0	0	365	160	290	0	260	0	0	0
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	0.95	0.95			1.00		1.00	1.00				
Frt	1.00	1.00			0.96		1.00	0.85				
Flt Protected	0.95	0.99			1.00		0.95	1.00				
Satd. Flow (prot)	1681	1775			1809		1752	1599				
Flt Permitted	0.95	0.99			1.00		0.95	1.00				
Satd. Flow (perm)	1681	1775			1809		1752	1599				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	620	385	0	0	365	160	290	0	260	0	0	0
RTOR Reduction (vph)	0	0	0	0	20	0	0	203	0	0	0	0
Lane Group Flow (vph)	496	509	0	0	505	0	290	57	0	0	0	0
Heavy Vehicles (%)	2%	0%	0%	0%	1%	0%	3%	0%	1%	0%	0%	0%
Turn Type	Split	NA			NA		Perm	NA				
Protected Phases	6	6			2			4				
Permitted Phases							4					
Actuated Green, G (s)	23.4	23.4			21.1		15.5	15.5				
Effective Green, g (s)	24.4	24.4			22.1		16.5	16.5				
Actuated g/C Ratio	0.33	0.33			0.29		0.22	0.22				
Clearance Time (s)	5.0	5.0			5.0		5.0	5.0				
Vehicle Extension (s)	4.2	4.2			4.2		2.3	2.3				
Lane Grp Cap (vph)	546	577			533		385	351				
v/s Ratio Prot	c0.30	0.29			c0.28			0.04				
v/s Ratio Perm							c0.17					
v/c Ratio	0.91	0.88			0.95		0.75	0.16				
Uniform Delay, d1	24.2	23.9			25.9		27.3	23.7				
Progression Factor	1.15	1.15			1.00		1.00	1.00				
Incremental Delay, d2	14.8	11.4			28.0		7.5	0.1				
Delay (s)	42.6	38.9			53.9		34.9	23.8				
Level of Service	D	D			D		C	C				
Approach Delay (s)		40.8			53.9			29.6			0.0	
Approach LOS		D			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.0%	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												
Traffic Volume (vph)	0	820	570	125	530	0	0	0	0	185	55	650
Future Volume (vph)	0	820	570	125	530	0	0	0	0	185	55	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		4%			0%			0%			0%	
Total Lost time (s)		4.0		4.0	4.0						4.0	4.0
Lane Util. Factor		0.95		1.00	1.00						1.00	0.88
Frt		0.94		1.00	1.00						1.00	0.85
Flt Protected		1.00		0.95	1.00						0.96	1.00
Satd. Flow (prot)		3255		1805	1863						1829	2814
Flt Permitted		1.00		0.09	1.00						0.96	1.00
Satd. Flow (perm)		3255		178	1863						1829	2814
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	820	570	125	530	0	0	0	0	185	55	650
RTOR Reduction (vph)	0	123	0	0	0	0	0	0	0	0	0	473
Lane Group Flow (vph)	0	1267	0	125	530	0	0	0	0	0	240	177
Heavy Vehicles (%)	0%	2%	2%	0%	2%	0%	0%	0%	0%	0%	0%	1%
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		6		5	2						8	
Permitted Phases				2						8		8
Actuated Green, G (s)		37.3		48.6	48.6						15.4	15.4
Effective Green, g (s)		38.8		50.1	50.1						16.9	16.9
Actuated g/C Ratio		0.52		0.67	0.67						0.23	0.23
Clearance Time (s)		5.5		5.5	5.5						5.5	5.5
Vehicle Extension (s)		4.2		2.3	4.2						2.3	2.3
Lane Grp Cap (vph)		1683		277	1244						412	634
v/s Ratio Prot		c0.39		0.04	c0.28							
v/s Ratio Perm				0.26							0.13	0.06
v/c Ratio		0.75		0.45	0.43						0.58	0.28
Uniform Delay, d1		14.3		10.3	5.8						25.9	24.0
Progression Factor		1.00		2.02	1.52						1.00	1.00
Incremental Delay, d2		3.2		0.4	0.6						1.6	0.1
Delay (s)		17.5		21.1	9.4						27.5	24.2
Level of Service		B		C	A						C	C
Approach Delay (s)		17.5			11.6			0.0			25.1	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1390	0	0	1180	0	0
Future Vol, veh/h	1390	0	0	1180	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1390	0	0	1180	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1390	0	1980	695
Stage 1	-	-	-	-	1390	-
Stage 2	-	-	-	-	590	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	488	-	54	385
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	517	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	488	-	54	385
Mov Cap-2 Maneuver	-	-	-	-	54	-
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	517	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	488	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	1035	10	10	890	280	20	10	15	340	5	210
Future Volume (vph)	80	1035	10	10	890	280	20	10	15	340	5	210
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	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	1770	3501		1805	3539	1583	1805	1729		1698	1705	1615
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	1770	3501		1805	3539	1583	1805	1729		1698	1705	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	80	1035	10	10	890	280	20	10	15	340	5	210
RTOR Reduction (vph)	0	0	0	0	0	151	0	14	0	0	0	171
Lane Group Flow (vph)	80	1045	0	10	890	129	20	11	0	173	172	39
Heavy Vehicles (%)	2%	3%	0%	0%	2%	2%	0%	0%	0%	1%	0%	0%
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						7
Actuated Green, G (s)	5.9	37.3		0.8	32.2	32.2	2.9	2.9		12.8	12.8	12.8
Effective Green, g (s)	5.9	38.3		0.8	33.2	33.2	3.4	3.4		13.3	13.3	13.3
Actuated g/C Ratio	0.08	0.53		0.01	0.46	0.46	0.05	0.05		0.19	0.19	0.19
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	1.5	4.0		1.5	4.0	4.0	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	145	1867		20	1636	731	85	81		314	315	299
v/s Ratio Prot	c0.05	c0.30		0.01	0.25		c0.01	0.01		c0.10	0.10	
v/s Ratio Perm						0.08						0.02
v/c Ratio	0.55	0.56		0.50	0.54	0.18	0.24	0.13		0.55	0.55	0.13
Uniform Delay, d1	31.7	11.1		35.3	13.9	11.3	32.9	32.8		26.5	26.5	24.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.6	0.5		7.0	0.5	0.2	0.5	0.3		1.2	1.0	0.1
Delay (s)	34.2	11.6		42.3	14.3	11.5	33.5	33.1		27.7	27.6	24.5
Level of Service	C	B		D	B	B	C	C		C	C	C
Approach Delay (s)		13.2			13.9			33.2			26.4	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	71.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	45	20	980	20	120	15	630	860	220	470	10
Future Volume (vph)	20	45	20	980	20	120	15	630	860	220	470	10
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	5.0	4.0	4.0	5.0	
Lane Util. Factor		0.95		0.97	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.96		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3371		3502	1525		1805	1881	1599	1671	1840	
Flt Permitted		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		3371		3502	1525		1805	1881	1599	1671	1840	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	45	20	980	20	120	15	630	860	220	470	10
RTOR Reduction (vph)	0	19	0	0	81	0	0	0	76	0	1	0
Lane Group Flow (vph)	0	66	0	980	59	0	15	630	784	220	479	0
Heavy Vehicles (%)	0%	0%	9%	0%	0%	10%	0%	1%	1%	8%	3%	0%
Turn Type	Split	NA		Split	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4		8	8		5	2 3	8	1	6 3	
Permitted Phases									2 3			
Actuated Green, G (s)		4.2		33.4	33.4		1.9	37.9	71.3	13.0	49.0	
Effective Green, g (s)		4.7		33.9	33.9		1.9	37.9	67.8	13.0	49.0	
Actuated g/C Ratio		0.04		0.32	0.32		0.02	0.36	0.64	0.12	0.46	
Clearance Time (s)		4.5		4.5	4.5		4.0		4.5	4.0		
Vehicle Extension (s)		1.5		3.0	3.0		1.0		3.0	1.5		
Lane Grp Cap (vph)		150		1125	490		32	675	1027	205	854	
v/s Ratio Prot		c0.02		c0.28	0.04		0.01	c0.33	0.25	c0.13	0.26	
v/s Ratio Perm									0.25			
v/c Ratio		0.44		0.87	0.12		0.47	0.93	0.76	1.07	0.56	
Uniform Delay, d1		49.1		33.7	25.3		51.3	32.6	13.2	46.2	20.5	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.7		7.6	0.1		3.9	20.1	3.4	83.6	0.9	
Delay (s)		49.9		41.3	25.4		55.2	52.7	16.6	129.9	21.4	
Level of Service		D		D	C		E	D	B	F	C	
Approach Delay (s)		49.9			39.3			32.1			55.5	
Approach LOS		D			D			C			E	

Intersection Summary			
HCM 2000 Control Delay	39.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	105.5	Sum of lost time (s)	21.5
Intersection Capacity Utilization	90.8%	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												
Traffic Volume (vph)	5	890	10	430	1020	20	95	5	580	35	10	5
Future Volume (vph)	5	890	10	430	1020	20	95	5	580	35	10	5
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	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.97	
Satd. Flow (prot)	1805	3569		1752	3530			1814	1583		1811	
Flt Permitted	0.28	1.00		0.17	1.00			0.70	1.00		0.78	
Satd. Flow (perm)	523	3569		309	3530			1330	1583		1465	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	5	890	10	430	1020	20	95	5	580	35	10	5
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	382	0	4	0
Lane Group Flow (vph)	5	899	0	430	1039	0	0	100	198	0	46	0
Heavy Vehicles (%)	0%	1%	0%	3%	2%	0%	0%	0%	2%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	29.0	28.3		49.2	44.5			13.2	13.2		13.2	
Effective Green, g (s)	29.0	29.3		49.2	45.5			13.7	13.7		13.7	
Actuated g/C Ratio	0.40	0.41		0.68	0.63			0.19	0.19		0.19	
Clearance Time (s)	4.0	5.0		4.0	5.0			4.5	4.5		4.5	
Vehicle Extension (s)	1.5	4.0		1.5	4.0			2.0	2.0		2.0	
Lane Grp Cap (vph)	223	1454		550	2233			253	301		279	
v/s Ratio Prot	0.00	0.25		c0.18	0.29							
v/s Ratio Perm	0.01			c0.35				0.08	c0.13		0.03	
v/c Ratio	0.02	0.62		0.78	0.47			0.40	0.66		0.16	
Uniform Delay, d1	12.8	16.9		13.2	6.9			25.5	26.9		24.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.9		6.6	0.2			0.4	3.9		0.1	
Delay (s)	12.8	17.8		19.8	7.1			25.8	30.8		24.4	
Level of Service	B	B		B	A			C	C		C	
Approach Delay (s)		17.8			10.8			30.1			24.4	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	71.9	Sum of lost time (s)	12.0
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												
Traffic Volume (vph)	285	585	25	40	545	535	10	400	50	270	300	300
Future Volume (vph)	285	585	25	40	545	535	10	400	50	270	300	300
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	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	1853		1805	1863	1583	1805	1836		3433	1863	1615
Flt Permitted	0.10	1.00		0.23	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	186	1853		443	1863	1583	1805	1836		3433	1863	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	285	585	25	40	545	535	10	400	50	270	300	300
RTOR Reduction (vph)	0	1	0	0	0	68	0	3	0	0	0	187
Lane Group Flow (vph)	285	609	0	40	545	467	10	447	0	270	300	113
Heavy Vehicles (%)	3%	2%	0%	0%	2%	2%	0%	2%	0%	2%	2%	0%
Turn Type	pm+pt	NA		pm+pt	NA	pt+ov	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6	6 7	3	8		7	4	
Permitted Phases	2			6								4
Actuated Green, G (s)	69.1	59.3		50.2	45.4	64.7	2.3	38.7		14.3	50.7	50.7
Effective Green, g (s)	70.1	60.3		52.2	46.4	65.7	3.3	39.7		15.3	51.7	51.7
Actuated g/C Ratio	0.51	0.44		0.38	0.34	0.48	0.02	0.29		0.11	0.38	0.38
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0		2.0	3.0	3.0
Lane Grp Cap (vph)	320	814		226	630	758	43	531		383	702	609
v/s Ratio Prot	c0.13	0.33		0.01	0.29	c0.30	0.01	c0.24		c0.08	0.16	
v/s Ratio Perm	c0.33			0.06								0.07
v/c Ratio	0.89	0.75		0.18	0.87	0.62	0.23	0.84		0.70	0.43	0.19
Uniform Delay, d1	38.0	32.1		28.6	42.4	26.4	65.7	45.8		58.7	31.7	28.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	24.5	3.8		0.1	11.9	1.5	1.0	11.1		4.8	0.4	0.1
Delay (s)	62.5	35.8		28.8	54.3	27.9	66.7	56.9		63.5	32.1	28.7
Level of Service	E	D		C	D	C	E	E		E	C	C
Approach Delay (s)		44.3			40.8			57.1			40.7	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	44.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	137.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.6%	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												
Traffic Volume (vph)	405	275	65	20	140	55	45	95	45	190	245	560
Future Volume (vph)	405	275	65	20	140	55	45	95	45	190	245	560
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	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	1846		1805	1881	1615	1805	1808		1770	1881	1599
Flt Permitted	0.49	1.00		0.55	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	896	1846		1050	1881	1615	1805	1808		1770	1881	1599
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
Adj. Flow (vph)	413	281	66	20	143	56	46	97	46	194	250	571
RTOR Reduction (vph)	0	6	0	0	0	45	0	17	0	0	0	245
Lane Group Flow (vph)	413	341	0	20	143	11	46	126	0	194	250	326
Heavy Vehicles (%)	3%	0%	0%	0%	1%	0%	0%	0%	0%	2%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA	Prot	Prot	NA		Prot	NA	pt+ov
Protected Phases	3	8		7	4	4	1	6		5	2	2 3
Permitted Phases	8			4								
Actuated Green, G (s)	34.6	29.3		14.8	14.0	14.0	4.1	12.0		12.3	20.2	40.8
Effective Green, g (s)	35.1	29.8		15.8	14.5	14.5	4.6	12.5		12.8	20.7	41.3
Actuated g/C Ratio	0.48	0.41		0.22	0.20	0.20	0.06	0.17		0.18	0.29	0.57
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.3	2.0	2.0	2.3	2.0		2.3	2.0	
Lane Grp Cap (vph)	630	759		242	376	323	114	312		312	537	912
v/s Ratio Prot	c0.15	0.18		0.00	0.08	0.01	0.03	0.07		c0.11	c0.13	c0.20
v/s Ratio Perm	c0.17			0.02								
v/c Ratio	0.66	0.45		0.08	0.38	0.03	0.40	0.41		0.62	0.47	0.36
Uniform Delay, d1	12.8	15.4		22.4	25.1	23.3	32.6	26.6		27.6	21.3	8.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.9	0.2		0.1	0.2	0.0	1.4	0.3		3.1	0.2	0.1
Delay (s)	14.7	15.5		22.5	25.3	23.3	33.9	27.0		30.7	21.5	8.5
Level of Service	B	B		C	C	C	C	C		C	C	A
Approach Delay (s)		15.1			24.5			28.7			15.9	
Approach LOS		B			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	72.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	510	165	255	485	5	55	10	225	10	10	10
Future Volume (vph)	5	510	165	255	485	5	55	10	225	10	10	10
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			1.00	1.00		1.00	
Frt	1.00	0.96		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1805	1803		1805	1878			1778	1599		1785	
Flt Permitted	0.48	1.00		0.18	1.00			0.74	1.00		0.89	
Satd. Flow (perm)	921	1803		345	1878			1367	1599		1610	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	5	510	165	255	485	5	55	10	225	10	10	10
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	195	0	9	0
Lane Group Flow (vph)	5	663	0	255	490	0	0	65	30	0	21	0
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	3%	0%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	24.9	24.2		35.7	31.0			6.6	6.6		6.6	
Effective Green, g (s)	24.9	24.2		35.7	31.0			6.6	6.6		6.6	
Actuated g/C Ratio	0.50	0.48		0.71	0.62			0.13	0.13		0.13	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Vehicle Extension (s)	2.5	2.5		2.5	2.5			2.5	2.5		2.5	
Lane Grp Cap (vph)	468	867		462	1157			179	209		211	
v/s Ratio Prot	0.00	c0.37		c0.08	0.26							
v/s Ratio Perm	0.01			0.31				c0.05	0.02		0.01	
v/c Ratio	0.01	0.76		0.55	0.42			0.36	0.14		0.10	
Uniform Delay, d1	6.4	10.7		6.1	5.0			19.9	19.3		19.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	3.9		1.1	0.2			0.9	0.2		0.2	
Delay (s)	6.4	14.6		7.2	5.2			20.8	19.6		19.4	
Level of Service	A	B		A	A			C	B		B	
Approach Delay (s)		14.5			5.9			19.9			19.4	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	50.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.4%	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												
Traffic Volume (vph)	135	470	215	40	470	40	405	510	70	140	395	420
Future Volume (vph)	135	470	215	40	470	40	405	510	70	140	395	420
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	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1787	1863	1553	1752	1840		1787	1811		1770	1845	1599
Flt Permitted	0.09	1.00	1.00	0.18	1.00		0.12	1.00		0.28	1.00	1.00
Satd. Flow (perm)	175	1863	1553	326	1840		234	1811		530	1845	1599
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	141	490	224	42	490	42	422	531	73	146	411	438
RTOR Reduction (vph)	0	0	80	0	2	0	0	2	0	0	0	185
Lane Group Flow (vph)	141	490	144	42	530	0	422	602	0	146	411	253
Heavy Vehicles (%)	1%	2%	4%	3%	1%	14%	1%	3%	3%	2%	3%	1%
Turn Type	pm+pt	NA	Prot	pm+pt	NA		pm+pt	NA		pm+pt	NA	Prot
Protected Phases	7	4	4	3	8		5	2		1	6	6
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	55.4	45.9	45.9	44.4	38.9		77.0	60.7		49.0	36.7	36.7
Effective Green, g (s)	55.4	46.9	46.9	44.4	39.9		77.0	61.7		49.0	37.7	37.7
Actuated g/C Ratio	0.39	0.33	0.33	0.31	0.28		0.54	0.43		0.34	0.26	0.26
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0		2.0	3.0	3.0
Lane Grp Cap (vph)	209	613	511	156	515		522	784		289	488	423
v/s Ratio Prot	c0.06	0.26	0.09	0.01	c0.29		c0.21	0.33		0.04	c0.22	0.16
v/s Ratio Perm	0.20			0.07			0.23			0.13		
v/c Ratio	0.67	0.80	0.28	0.27	1.03		0.81	0.77		0.51	0.84	0.60
Uniform Delay, d1	34.6	43.5	35.3	36.8	51.2		36.0	34.3		34.1	49.5	45.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.6	7.2	0.3	0.3	47.2		8.5	4.5		0.5	12.5	2.3
Delay (s)	41.2	50.7	35.6	37.1	98.5		44.4	38.8		34.6	62.0	48.0
Level of Service	D	D	D	D	F		D	D		C	E	D
Approach Delay (s)		45.2			94.0			41.1			51.8	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM 2000 Control Delay	54.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	142.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX B41

Segment C – Bridgeport Subarea 2035 Build Operations

APPENDIX B

GREAT PLACES SW Corridor

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	215	76	714	300	510	13	194	616	525	156	105
Future Volume (vph)	65	215	76	714	300	510	13	194	616	525	156	105
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	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.95	1.00	1.00	1.00	0.88	*0.63	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.99	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	4763		3400	3505	1547	1687	1776	2656	2146	1674	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	4763		3400	3505	1547	1687	1776	2656	2146	1674	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	65	215	76	714	300	510	13	194	616	525	156	105
RTOR Reduction (vph)	0	47	0	0	0	337	0	0	145	0	15	0
Lane Group Flow (vph)	65	244	0	714	300	173	13	194	471	525	246	0
Confl. Peds. (#/hr)	1		10	10		1	3					3
Confl. Bikes (#/hr)			2						3			
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	7%	7%	7%	6%	6%	6%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases						6						
Actuated Green, G (s)	6.3	16.6		28.2	37.5	37.5	1.9	19.8	53.0	30.1	49.5	
Effective Green, g (s)	7.3	17.6		28.2	38.5	38.5	1.9	20.8	54.0	31.1	50.0	
Actuated g/C Ratio	0.06	0.15		0.25	0.34	0.34	0.02	0.18	0.47	0.27	0.44	
Clearance Time (s)	5.0	5.0		4.0	5.0	5.0	4.0	5.0		5.0	4.5	
Vehicle Extension (s)	5.1	5.1		2.3	4.2	4.2	2.3	2.3		3.0	2.3	
Lane Grp Cap (vph)	111	737		843	1186	523	28	324	1261	586	736	
v/s Ratio Prot	0.04	0.05		c0.21	0.09		0.01	c0.11	0.18	c0.24	0.15	
v/s Ratio Perm						c0.11						
v/c Ratio	0.59	0.33		0.85	0.25	0.33	0.46	0.60	0.37	0.90	0.33	
Uniform Delay, d1	51.7	42.8		40.7	27.2	28.0	55.4	42.6	19.1	39.7	20.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.9	0.6		7.7	0.2	0.6	6.9	2.3	0.1	16.2	0.2	
Delay (s)	63.6	43.4		48.4	27.4	28.6	62.3	44.9	19.2	55.9	21.1	
Level of Service	E	D		D	C	C	E	D	B	E	C	
Approach Delay (s)		47.1			37.6			25.9			44.4	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	37.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	113.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

The operations on the following pages are not part of the FEIS.
They were sink/source intersections for the purposes of analysis only.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	878	0	0	0
Future Volume (vph)	0	0	878	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			2.0			
Lane Util. Factor			0.95			
Frt			1.00			
Flt Protected			1.00			
Satd. Flow (prot)			3539			
Flt Permitted			1.00			
Satd. Flow (perm)			3539			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	878	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	878	0	0	0
Turn Type		Prot	NA			
Protected Phases		4	2			
Permitted Phases		4				
Actuated Green, G (s)			2.5			
Effective Green, g (s)			2.5			
Actuated g/C Ratio			0.28			
Clearance Time (s)			2.0			
Vehicle Extension (s)			0.2			
Lane Grp Cap (vph)			983			
v/s Ratio Prot			c0.25			
v/s Ratio Perm						
v/c Ratio			0.89			
Uniform Delay, d1			3.1			
Progression Factor			1.00			
Incremental Delay, d2			12.2			
Delay (s)			15.3			
Level of Service			B			
Approach Delay (s)	0.0		15.3		0.0	
Approach LOS	A		B		A	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	9.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	27.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↱			↑	↱
Traffic Vol, veh/h	0	0	0	0	899	0
Future Vol, veh/h	0	0	0	0	899	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	899	0

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	899	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	338	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	338	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	996	257	54	912	18	410	14	21	20	7	38
Future Volume (vph)	146	996	257	54	912	18	410	14	21	20	7	38
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.96	1.00
Satd. Flow (prot)	1703	3406	1524	1736	4971		1649	1640			1681	1482
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.96	1.00
Satd. Flow (perm)	1703	3406	1524	1736	4971		1649	1640			1681	1482
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	146	996	257	54	912	18	410	14	21	20	7	38
RTOR Reduction (vph)	0	0	84	0	1	0	0	2	0	0	0	29
Lane Group Flow (vph)	146	996	173	54	929	0	221	222	0	0	27	9
Confl. Peds. (#/hr)	2		5	5		2	2		2	2		2
Confl. Bikes (#/hr)			3									
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	4%	4%	4%	9%	9%	9%
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2	2 8	1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	13.7	44.2	62.2	6.6	37.6		18.0	18.0			8.8	22.5
Effective Green, g (s)	13.7	45.2	64.2	6.6	38.1		18.5	18.5			9.3	23.5
Actuated g/C Ratio	0.14	0.47	0.67	0.07	0.40		0.19	0.19			0.10	0.25
Clearance Time (s)	4.0	5.0		4.0	4.5		4.5	4.5			4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3			2.3	
Lane Grp Cap (vph)	244	1610	1023	119	1981		319	317			163	364
v/s Ratio Prot	c0.09	c0.29	0.11	0.03	0.19		0.13	c0.14			c0.02	0.01
v/s Ratio Perm												
v/c Ratio	0.60	0.62	0.17	0.45	0.47		0.69	0.70			0.17	0.03
Uniform Delay, d1	38.4	18.8	5.8	42.8	21.3		35.9	36.0			39.6	27.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.0	0.9	0.1	1.6	0.3		5.6	5.8			0.3	0.0
Delay (s)	41.4	19.6	5.9	44.4	21.5		41.5	41.7			39.9	27.4
Level of Service	D	B	A	D	C		D	D			D	C
Approach Delay (s)		19.4			22.8			41.6			32.6	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	24.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	95.6	Sum of lost time (s)	16.5
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	373	824	0	0	860	500	550	5	575	0	0	0
Future Volume (vph)	373	824	0	0	860	500	550	5	575	0	0	0
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	0.97	0.95			0.86	1.00	0.95	0.95	0.88			
Frpb, ped/bikes	1.00	1.00			1.00	0.99	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3335	3438			6108	1488	1633	1639	2707			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3335	3438			6108	1488	1633	1639	2707			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	373	824	0	0	860	500	550	5	575	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	216	0	0	0
Lane Group Flow (vph)	373	824	0	0	860	500	275	280	359	0	0	0
Confl. Peds. (#/hr)	7		8	8		7			3			
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	5%	5%	5%	7%	7%	7%	5%	5%	5%	0%	0%	0%
Turn Type	Prot	NA			NA	Free	Split	NA	custom			
Protected Phases	5	2			6		8	8	8			
Permitted Phases						Free			8			
Actuated Green, G (s)	12.2	44.7			28.0	72.0	17.3	17.3	17.3			
Effective Green, g (s)	12.7	45.7			29.0	72.0	18.3	18.3	18.3			
Actuated g/C Ratio	0.18	0.63			0.40	1.00	0.25	0.25	0.25			
Clearance Time (s)	4.5	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	2.3	4.2			4.2		2.3	2.3	2.3			
Lane Grp Cap (vph)	588	2182			2460	1488	415	416	688			
v/s Ratio Prot	c0.11	c0.24			0.14		0.17	c0.17	0.13			
v/s Ratio Perm						0.34						
v/c Ratio	0.63	0.38			0.35	0.34	0.66	0.67	0.52			
Uniform Delay, d1	27.5	6.3			14.9	0.0	24.1	24.2	23.1			
Progression Factor	0.50	0.44			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	1.8	0.5			0.4	0.6	3.4	3.7	0.5			
Delay (s)	15.4	3.2			15.3	0.6	27.4	27.8	23.6			
Level of Service	B	A			B	A	C	C	C			
Approach Delay (s)		7.0			9.9			25.6			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	882	474	420	990	0	0	0	0	315	5	534
Future Volume (vph)	0	882	474	420	990	0	0	0	0	315	5	534
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		*0.74	1.00	0.97	0.95					0.95	0.95	0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		5356	1538	3367	3471					1649	1655	2733
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		5356	1538	3367	3471					1649	1655	2733
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	882	474	420	990	0	0	0	0	315	5	534
RTOR Reduction (vph)	0	0	253	0	0	0	0	0	0	0	0	167
Lane Group Flow (vph)	0	882	221	420	990	0	0	0	0	161	159	367
Confl. Peds. (#/hr)	5		7	7		5						
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	0%	0%	0%	4%	4%	4%
Turn Type		NA	Prot	Prot	NA					Split	NA	custom
Protected Phases		2	2	1	6					4	4	4
Permitted Phases												1
Actuated Green, G (s)		32.6	32.6	13.1	50.2					11.8	11.8	24.9
Effective Green, g (s)		33.6	33.6	13.6	51.2					12.8	12.8	26.9
Actuated g/C Ratio		0.47	0.47	0.19	0.71					0.18	0.18	0.37
Clearance Time (s)		5.0	5.0	4.5	5.0					5.0	5.0	5.0
Vehicle Extension (s)		4.2	4.2	2.3	4.2					2.3	2.3	2.3
Lane Grp Cap (vph)		2499	717	635	2468					293	294	1172
v/s Ratio Prot		0.16	0.14	c0.12	c0.29					c0.10	0.10	0.06
v/s Ratio Perm												0.08
v/c Ratio		0.35	0.31	0.66	0.40					0.55	0.54	0.31
Uniform Delay, d1		12.3	12.0	27.1	4.2					27.0	26.9	16.0
Progression Factor		1.00	1.00	0.38	0.63					1.00	1.00	1.00
Incremental Delay, d2		0.4	1.1	2.1	0.4					1.5	1.4	0.1
Delay (s)		12.7	13.1	12.3	3.1					28.4	28.3	16.1
Level of Service		B	B	B	A					C	C	B
Approach Delay (s)		12.8			5.8			0.0			20.7	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	5	10	0	1	15	719	35	7	771	19
Future Volume (vph)	5	1	5	10	0	1	15	719	35	7	771	19
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	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.88		1.00	0.85		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1621	1479		1650	1459		1736	3442		1703	3403	
Flt Permitted	0.93	1.00		0.93	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1587	1479		1616	1459		1736	3442		1703	3403	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	5	1	5	10	0	1	15	719	35	7	771	19
RTOR Reduction (vph)	0	5	0	0	1	0	0	2	0	0	1	0
Lane Group Flow (vph)	5	1	0	10	0	0	15	752	0	7	789	0
Confl. Peds. (#/hr)	3		3	3		3	6		3	2		6
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	11%	11%	11%	9%	9%	9%	4%	4%	4%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	1.2	1.2		1.5	1.5		1.3	65.4		1.1	65.0	
Effective Green, g (s)	4.3	4.3		4.3	4.3		4.0	66.8		3.7	66.5	
Actuated g/C Ratio	0.05	0.05		0.05	0.05		0.05	0.77		0.04	0.77	
Clearance Time (s)	7.1	7.1		6.8	6.8		6.7	5.4		6.6	5.5	
Vehicle Extension (s)	2.4	2.4		2.4	2.4		2.6	2.5		2.6	2.5	
Lane Grp Cap (vph)	78	73		80	72		80	2648		72	2607	
v/s Ratio Prot		0.00			0.00		c0.01	0.22		0.00	c0.23	
v/s Ratio Perm	0.00			c0.01								
v/c Ratio	0.06	0.02		0.12	0.00		0.19	0.28		0.10	0.30	
Uniform Delay, d1	39.3	39.2		39.5	39.2		39.8	2.9		39.9	3.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.1		0.5	0.0		0.9	0.3		0.5	0.3	
Delay (s)	39.6	39.3		39.9	39.2		40.7	3.2		40.4	3.4	
Level of Service	D	D		D	D		D	A		D	A	
Approach Delay (s)		39.4			39.8			4.0			3.7	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	86.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	15	808	7	50	896
Future Vol, veh/h	0	15	808	7	50	896
Conflicting Peds, #/hr	31	30	0	30	30	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	50	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	6	6	4	4
Mvmt Flow	0	15	808	7	50	896

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1421	468	0	0	845	0
Stage 1	842	-	-	-	-	-
Stage 2	579	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.18	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.24	-
Pot Cap-1 Maneuver	130	547	-	-	775	-
Stage 1	388	-	-	-	-	-
Stage 2	529	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	115	520	-	-	756	-
Mov Cap-2 Maneuver	115	-	-	-	-	-
Stage 1	378	-	-	-	-	-
Stage 2	481	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	520	756	-
HCM Lane V/C Ratio	-	-	0.029	0.066	-
HCM Control Delay (s)	-	-	12.1	10.1	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	236	17	88	252	78	20	6	88	32	3	5
Future Volume (vph)	1	236	17	88	252	78	20	6	88	32	3	5
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	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.98		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.96		1.00	0.86		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	1716	3399		1770	3394		1671	1485		1665	1682	1536
Flt Permitted	0.55	1.00		0.55	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	998	3399		1025	3394		1671	1485		1665	1682	1536
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	236	17	88	252	78	20	6	88	32	3	5
RTOR Reduction (vph)	0	3	0	0	12	0	0	81	0	0	0	5
Lane Group Flow (vph)	1	250	0	88	318	0	20	13	0	17	18	0
Confl. Peds. (#/hr)	2					2	6		2	2		6
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	8%	8%	8%	3%	3%	3%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6								4
Actuated Green, G (s)	48.0	47.1		68.7	60.4		5.2	5.2		3.5	3.5	3.5
Effective Green, g (s)	54.8	48.8		71.0	62.1		8.3	8.3		7.1	7.1	7.1
Actuated g/C Ratio	0.56	0.50		0.73	0.63		0.08	0.08		0.07	0.07	0.07
Clearance Time (s)	7.4	5.7		6.3	5.7		7.1	7.1		7.6	7.6	7.6
Vehicle Extension (s)	2.4	3.1		2.7	3.1		2.4	2.4		2.3	2.3	2.3
Lane Grp Cap (vph)	590	1696		878	2155		141	126		120	122	111
v/s Ratio Prot	0.00	0.07		c0.02	c0.09		c0.01	0.01		0.01	c0.01	
v/s Ratio Perm	0.00			0.05								0.00
v/c Ratio	0.00	0.15		0.10	0.15		0.14	0.11		0.14	0.15	0.00
Uniform Delay, d1	9.5	13.2		4.0	7.2		41.5	41.3		42.5	42.5	42.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.2		0.2	0.1		0.3	0.2		0.3	0.3	0.0
Delay (s)	9.5	13.4		4.2	7.3		41.8	41.6		42.8	42.8	42.1
Level of Service	A	B		A	A		D	D		D	D	D
Approach Delay (s)		13.4			6.7			41.6			42.7	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.15		
Actuated Cycle Length (s)	97.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	881	0	0	0
Future Volume (vph)	0	0	881	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			2.0			
Lane Util. Factor			0.95			
Frt			1.00			
Flt Protected			1.00			
Satd. Flow (prot)			3539			
Flt Permitted			1.00			
Satd. Flow (perm)			3539			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	881	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	881	0	0	0
Turn Type		Prot	NA			
Protected Phases		4	2			
Permitted Phases		4				
Actuated Green, G (s)			2.5			
Effective Green, g (s)			2.5			
Actuated g/C Ratio			0.28			
Clearance Time (s)			2.0			
Vehicle Extension (s)			0.2			
Lane Grp Cap (vph)			983			
v/s Ratio Prot			c0.25			
v/s Ratio Perm						
v/c Ratio			0.90			
Uniform Delay, d1			3.1			
Progression Factor			1.00			
Incremental Delay, d2			12.5			
Delay (s)			15.6			
Level of Service			B			
Approach Delay (s)	0.0		15.6			0.0
Approach LOS	A		B			A

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	9.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	27.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↱			↑	↱
Traffic Vol, veh/h	0	0	0	0	916	0
Future Vol, veh/h	0	0	0	0	916	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	916	0

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	916	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	330	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	330	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	1002	257	54	929	18	410	14	21	20	7	38
Future Volume (vph)	146	1002	257	54	929	18	410	14	21	20	7	38
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.96	1.00
Satd. Flow (prot)	1703	3406	1524	1736	4971		1649	1640			1681	1482
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.96	1.00
Satd. Flow (perm)	1703	3406	1524	1736	4971		1649	1640			1681	1482
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	146	1002	257	54	929	18	410	14	21	20	7	38
RTOR Reduction (vph)	0	0	84	0	1	0	0	2	0	0	0	29
Lane Group Flow (vph)	146	1002	173	54	946	0	221	222	0	0	27	9
Confl. Peds. (#/hr)	2		5	5		2	2		2	2		2
Confl. Bikes (#/hr)			3									
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	4%	4%	4%	9%	9%	9%
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2	2 8	1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	13.7	44.9	62.9	6.6	38.3		18.0	18.0			8.8	22.5
Effective Green, g (s)	13.7	45.9	64.9	6.6	38.8		18.5	18.5			9.3	23.5
Actuated g/C Ratio	0.14	0.48	0.67	0.07	0.40		0.19	0.19			0.10	0.24
Clearance Time (s)	4.0	5.0		4.0	4.5		4.5	4.5			4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3			2.3	
Lane Grp Cap (vph)	242	1623	1027	118	2002		316	315			162	361
v/s Ratio Prot	c0.09	c0.29	0.11	0.03	0.19		0.13	c0.14			c0.02	0.01
v/s Ratio Perm												
v/c Ratio	0.60	0.62	0.17	0.46	0.47		0.70	0.70			0.17	0.03
Uniform Delay, d1	38.8	18.7	5.8	43.1	21.2		36.3	36.3			39.9	27.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.3	0.8	0.1	1.6	0.3		5.8	6.2			0.3	0.0
Delay (s)	42.0	19.5	5.9	44.8	21.5		42.1	42.5			40.2	27.7
Level of Service	D	B	A	D	C		D	D			D	C
Approach Delay (s)		19.4			22.7			42.3			32.9	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	24.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	96.3	Sum of lost time (s)	16.5
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	376	830	0	0	877	500	605	5	575	0	0	0
Future Volume (vph)	376	830	0	0	877	500	605	5	575	0	0	0
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	0.97	0.95			0.86	1.00	0.95	0.95	0.88			
Frpb, ped/bikes	1.00	1.00			1.00	0.99	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3335	3438			6108	1488	1633	1638	2707			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3335	3438			6108	1488	1633	1638	2707			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	376	830	0	0	877	500	605	5	575	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	209	0	0	0
Lane Group Flow (vph)	376	830	0	0	877	500	302	308	366	0	0	0
Confl. Peds. (#/hr)	7		8	8		7			3			
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	5%	5%	5%	7%	7%	7%	5%	5%	5%	0%	0%	0%
Turn Type	Prot	NA			NA	Free	Split	NA	custom			
Protected Phases	5	2			6		8	8	8			
Permitted Phases						Free			8			
Actuated Green, G (s)	12.3	43.9			27.1	72.0	18.1	18.1	18.1			
Effective Green, g (s)	12.8	44.9			28.1	72.0	19.1	19.1	19.1			
Actuated g/C Ratio	0.18	0.62			0.39	1.00	0.27	0.27	0.27			
Clearance Time (s)	4.5	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	2.3	4.2			4.2		2.3	2.3	2.3			
Lane Grp Cap (vph)	592	2143			2383	1488	433	434	718			
v/s Ratio Prot	c0.11	c0.24			0.14		0.18	c0.19	0.14			
v/s Ratio Perm						0.34						
v/c Ratio	0.64	0.39			0.37	0.34	0.70	0.71	0.51			
Uniform Delay, d1	27.4	6.7			15.6	0.0	23.8	23.9	22.5			
Progression Factor	0.49	0.47			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	1.7	0.5			0.4	0.6	4.3	4.7	0.3			
Delay (s)	15.3	3.7			16.1	0.6	28.1	28.6	22.8			
Level of Service	B	A			B	A	C	C	C			
Approach Delay (s)		7.3			10.5			25.7			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	891	491	420	1062	0	0	0	0	315	5	541
Future Volume (vph)	0	891	491	420	1062	0	0	0	0	315	5	541
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		*0.74	1.00	0.97	0.95					0.95	0.95	0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		5356	1538	3367	3471					1649	1655	2733
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		5356	1538	3367	3471					1649	1655	2733
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	891	491	420	1062	0	0	0	0	315	5	541
RTOR Reduction (vph)	0	0	262	0	0	0	0	0	0	0	0	144
Lane Group Flow (vph)	0	891	229	420	1062	0	0	0	0	161	159	397
Confl. Peds. (#/hr)	5		7	7		5						
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	0%	0%	0%	4%	4%	4%
Turn Type		NA	Prot	Prot	NA					Split	NA	custom
Protected Phases		2	2	1	6					4	4	4
Permitted Phases												1
Actuated Green, G (s)		32.6	32.6	13.1	50.2					11.8	11.8	24.9
Effective Green, g (s)		33.6	33.6	13.6	51.2					12.8	12.8	26.9
Actuated g/C Ratio		0.47	0.47	0.19	0.71					0.18	0.18	0.37
Clearance Time (s)		5.0	5.0	4.5	5.0					5.0	5.0	5.0
Vehicle Extension (s)		4.2	4.2	2.3	4.2					2.3	2.3	2.3
Lane Grp Cap (vph)		2499	717	635	2468					293	294	1172
v/s Ratio Prot		0.17	0.15	c0.12	c0.31					c0.10	0.10	0.06
v/s Ratio Perm												0.09
v/c Ratio		0.36	0.32	0.66	0.43					0.55	0.54	0.34
Uniform Delay, d1		12.3	12.0	27.1	4.3					27.0	26.9	16.2
Progression Factor		1.00	1.00	0.35	0.53					1.00	1.00	1.00
Incremental Delay, d2		0.4	1.2	2.1	0.5					1.5	1.4	0.1
Delay (s)		12.7	13.2	11.6	2.8					28.4	28.3	16.3
Level of Service		B	B	B	A					C	C	B
Approach Delay (s)		12.9			5.3			0.0			20.8	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	215	86	793	300	510	16	206	642	525	166	105
Future Volume (vph)	65	215	86	793	300	510	16	206	642	525	166	105
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	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.95	1.00	1.00	1.00	0.88	*0.63	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.99	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	4741		3400	3505	1547	1687	1776	2656	2146	1679	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	4741		3400	3505	1547	1687	1776	2656	2146	1679	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	65	215	86	793	300	510	16	206	642	525	166	105
RTOR Reduction (vph)	0	53	0	0	0	329	0	0	140	0	14	0
Lane Group Flow (vph)	65	248	0	793	300	181	16	206	502	525	257	0
Confl. Peds. (#/hr)	1		10	10		1	3					3
Confl. Bikes (#/hr)			2						3			
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	7%	7%	7%	6%	6%	6%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases						6						
Actuated Green, G (s)	6.2	16.8		31.2	40.8	40.8	1.9	20.7	56.9	30.0	50.3	
Effective Green, g (s)	7.2	17.8		31.2	41.8	41.8	1.9	21.7	57.9	31.0	50.8	
Actuated g/C Ratio	0.06	0.15		0.27	0.36	0.36	0.02	0.18	0.49	0.26	0.43	
Clearance Time (s)	5.0	5.0		4.0	5.0	5.0	4.0	5.0		5.0	4.5	
Vehicle Extension (s)	5.1	5.1		2.3	4.2	4.2	2.3	2.3		3.0	2.3	
Lane Grp Cap (vph)	106	716		901	1244	549	27	327	1306	565	724	
v/s Ratio Prot	0.04	0.05		c0.23	0.09		0.01	c0.12	0.19	c0.24	0.15	
v/s Ratio Perm						c0.12						
v/c Ratio	0.61	0.35		0.88	0.24	0.33	0.59	0.63	0.38	0.93	0.36	
Uniform Delay, d1	53.9	44.7		41.5	26.8	27.7	57.5	44.3	18.7	42.3	22.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.5	0.6		9.9	0.2	0.5	23.9	3.1	0.1	21.7	0.2	
Delay (s)	68.4	45.4		51.3	26.9	28.3	81.5	47.4	18.8	64.0	22.6	
Level of Service	E	D		D	C	C	F	D	B	E	C	
Approach Delay (s)		49.5			39.4			26.8			49.9	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	39.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	117.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.7%	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												
Traffic Volume (vph)	5	1	5	10	0	1	15	731	35	7	781	19
Future Volume (vph)	5	1	5	10	0	1	15	731	35	7	781	19
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	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.88		1.00	0.85		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1621	1479		1650	1459		1736	3443		1703	3403	
Flt Permitted	0.93	1.00		0.93	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1587	1479		1616	1459		1736	3443		1703	3403	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	5	1	5	10	0	1	15	731	35	7	781	19
RTOR Reduction (vph)	0	5	0	0	1	0	0	2	0	0	1	0
Lane Group Flow (vph)	5	1	0	10	0	0	15	764	0	7	799	0
Confl. Peds. (#/hr)	3		3	3		3	6		3	2		6
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	11%	11%	11%	9%	9%	9%	4%	4%	4%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	1.2	1.2		1.5	1.5		1.3	65.4		1.1	65.0	
Effective Green, g (s)	4.3	4.3		4.3	4.3		4.0	66.8		3.7	66.5	
Actuated g/C Ratio	0.05	0.05		0.05	0.05		0.05	0.77		0.04	0.77	
Clearance Time (s)	7.1	7.1		6.8	6.8		6.7	5.4		6.6	5.5	
Vehicle Extension (s)	2.4	2.4		2.4	2.4		2.6	2.5		2.6	2.5	
Lane Grp Cap (vph)	78	73		80	72		80	2649		72	2607	
v/s Ratio Prot		0.00			0.00		c0.01	0.22		0.00	c0.23	
v/s Ratio Perm	0.00			c0.01								
v/c Ratio	0.06	0.02		0.12	0.00		0.19	0.29		0.10	0.31	
Uniform Delay, d1	39.3	39.2		39.5	39.2		39.8	3.0		39.9	3.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.1		0.5	0.0		0.9	0.3		0.5	0.3	
Delay (s)	39.6	39.3		39.9	39.2		40.7	3.2		40.4	3.4	
Level of Service	D	D		D	D		D	A		D	A	
Approach Delay (s)		39.4			39.8			4.0			3.7	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	86.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	37.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	15	849	7	50	995
Future Vol, veh/h	0	15	849	7	50	995
Conflicting Peds, #/hr	31	30	0	30	30	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	50	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	6	6	4	4
Mvmt Flow	0	15	849	7	50	995

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1512	488	0	0	886	0
Stage 1	883	-	-	-	-	-
Stage 2	629	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.18	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.24	-
Pot Cap-1 Maneuver	113	531	-	-	747	-
Stage 1	369	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	100	505	-	-	728	-
Mov Cap-2 Maneuver	100	-	-	-	-	-
Stage 1	360	-	-	-	-	-
Stage 2	453	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	505	728	-
HCM Lane V/C Ratio	-	-	0.03	0.069	-
HCM Control Delay (s)	-	-	12.3	10.3	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	246	17	88	255	78	20	6	88	32	3	5
Future Volume (vph)	1	246	17	88	255	78	20	6	88	32	3	5
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	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.98		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.96		1.00	0.86		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	1716	3400		1770	3395		1671	1485		1665	1682	1536
Flt Permitted	0.55	1.00		0.54	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	995	3400		1014	3395		1671	1485		1665	1682	1536
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	246	17	88	255	78	20	6	88	32	3	5
RTOR Reduction (vph)	0	3	0	0	12	0	0	81	0	0	0	5
Lane Group Flow (vph)	1	260	0	88	321	0	20	13	0	17	18	0
Confl. Peds. (#/hr)	2					2	6		2	2		6
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	8%	8%	8%	3%	3%	3%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6								4
Actuated Green, G (s)	48.0	47.1		68.7	60.4		5.2	5.2		3.5	3.5	3.5
Effective Green, g (s)	54.8	48.8		71.0	62.1		8.3	8.3		7.1	7.1	7.1
Actuated g/C Ratio	0.56	0.50		0.73	0.63		0.08	0.08		0.07	0.07	0.07
Clearance Time (s)	7.4	5.7		6.3	5.7		7.1	7.1		7.6	7.6	7.6
Vehicle Extension (s)	2.4	3.1		2.7	3.1		2.4	2.4		2.3	2.3	2.3
Lane Grp Cap (vph)	589	1696		872	2155		141	126		120	122	111
v/s Ratio Prot	0.00	0.08		c0.02	c0.09		c0.01	0.01		0.01	c0.01	
v/s Ratio Perm	0.00			0.06								0.00
v/c Ratio	0.00	0.15		0.10	0.15		0.14	0.11		0.14	0.15	0.00
Uniform Delay, d1	9.5	13.3		4.0	7.2		41.5	41.3		42.5	42.5	42.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.2		0.2	0.1		0.3	0.2		0.3	0.3	0.0
Delay (s)	9.5	13.5		4.2	7.3		41.8	41.6		42.8	42.8	42.1
Level of Service	A	B		A	A		D	D		D	D	D
Approach Delay (s)		13.5			6.7			41.6			42.7	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.15		
Actuated Cycle Length (s)	97.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	110	490	30	135	625
Future Vol, veh/h	30	110	490	30	135	625
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	110	490	30	135	625

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1400	260	0	0	520	0
Stage 1	505	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	143	740	-	-	1044	-
Stage 1	572	-	-	-	-	-
Stage 2	398	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	125	740	-	-	1044	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	572	-	-	-	-	-
Stage 2	347	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.2	0	1.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	360	1044	-
HCM Lane V/C Ratio	-	-	0.389	0.129	-
HCM Control Delay (s)	-	-	21.2	9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.8	0.4	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	1249	1642	0	0	5
Future Vol, veh/h	9	1249	1642	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	180	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	1249	1642	0	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1642	0	-	0	2285	821
Stage 1	-	-	-	-	1642	-
Stage 2	-	-	-	-	643	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	390	-	-	-	33	318
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	485	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	390	-	-	-	32	318
Mov Cap-2 Maneuver	-	-	-	-	109	-
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	485	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	16.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	390	-	-	-	-	318
HCM Lane V/C Ratio	0.023	-	-	-	-	0.016
HCM Control Delay (s)	14.4	-	-	-	0	16.5
HCM Lane LOS	B	-	-	-	A	C
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑	↱		
Traffic Vol, veh/h	0	0	1209	0	0	0
Future Vol, veh/h	0	0	1209	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1209	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	1209	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	223	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	223	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Intersection Delay, s/veh	22
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	1449	0
Future Vol, veh/h	0	0	0	0	1449	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	1449	0
Number of Lanes	0	1	0	0	2	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	2	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	0	22
HCM LOS	-	C

Lane	EBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	725	725
LT Vol	0	0	0
Through Vol	0	725	725
RT Vol	0	0	0
Lane Flow Rate	0	724	724
Geometry Grp	2	7	7
Degree of Util (X)	0	0.912	0.564
Departure Headway (Hd)	5.801	4.534	2.8
Convergence, Y/N	Yes	Yes	Yes
Cap	0	804	1297
Service Time	3.801	2.234	0.5
HCM Lane V/C Ratio	0	0.9	0.558
HCM Control Delay	8.8	34.9	9.1
HCM Lane LOS	N	D	A
HCM 95th-tile Q	0	12.7	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	1073	535	175	1422	50	520	30	50	135	50	355
Future Volume (vph)	240	1073	535	175	1422	50	520	30	50	135	50	355
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.97			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.96	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5052		1681	1664			1780	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.96	1.00
Satd. Flow (perm)	1770	3539	1583	1770	5052		1681	1664			1780	1568
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	240	1073	535	175	1422	50	520	30	50	135	50	355
RTOR Reduction (vph)	0	0	171	0	3	0	0	6	0	0	0	34
Lane Group Flow (vph)	240	1073	364	175	1469	0	302	292	0	0	185	321
Confl. Peds. (#/hr)	5		5	5		5	10					10
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2	2 8	1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	21.6	46.2	72.5	15.8	40.9		26.3	26.3			22.4	44.0
Effective Green, g (s)	21.6	47.2	74.5	15.8	41.4		26.8	26.8			22.9	45.0
Actuated g/C Ratio	0.17	0.37	0.58	0.12	0.32		0.21	0.21			0.18	0.35
Clearance Time (s)	4.0	5.0		4.0	4.5		4.5	4.5			4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3			2.3	
Lane Grp Cap (vph)	297	1297	916	217	1625		350	346			316	548
v/s Ratio Prot	c0.14	0.30	0.23	0.10	c0.29		c0.18	0.18			0.10	c0.20
v/s Ratio Perm												
v/c Ratio	0.81	0.83	0.40	0.81	0.90		0.86	0.85			0.59	0.59
Uniform Delay, d1	51.6	37.0	14.8	55.0	41.8		49.2	49.0			48.5	34.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	14.3	4.8	0.4	18.6	7.7		18.8	16.6			2.1	1.2
Delay (s)	65.8	41.8	15.3	73.5	49.5		68.0	65.6			50.6	35.4
Level of Service	E	D	B	E	D		E	E			D	D
Approach Delay (s)		37.2			52.0			66.8			40.6	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	46.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	128.7	Sum of lost time (s)	16.5
Intersection Capacity Utilization	81.4%	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												
Traffic Volume (vph)	579	1238	0	0	1672	625	776	5	610	0	0	0
Future Volume (vph)	579	1238	0	0	1672	625	776	5	610	0	0	0
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	*0.56	0.95			0.86	1.00	0.95	0.95	0.88			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1982	3539			6408	1554	1681	1686	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1982	3539			6408	1554	1681	1686	2787			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	579	1238	0	0	1672	625	776	5	610	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	79	0	0	0
Lane Group Flow (vph)	579	1238	0	0	1672	625	388	393	531	0	0	0
Confl. Peds. (#/hr)	10		20	20		10						
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Turn Type	Prot	NA			NA	Free	Split	NA	custom			
Protected Phases	5	2			6		8	8	8			
Permitted Phases						Free			8			
Actuated Green, G (s)	20.4	42.9			18.0	72.0	19.1	19.1	19.1			
Effective Green, g (s)	20.9	43.9			19.0	72.0	20.1	20.1	20.1			
Actuated g/C Ratio	0.29	0.61			0.26	1.00	0.28	0.28	0.28			
Clearance Time (s)	4.5	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	2.3	4.2			4.2		2.3	2.3	2.3			
Lane Grp Cap (vph)	575	2157			1691	1554	469	470	778			
v/s Ratio Prot	c0.29	0.35			c0.26		0.23	c0.23	0.19			
v/s Ratio Perm						0.40						
v/c Ratio	1.01	0.57			0.99	0.40	0.83	0.84	0.68			
Uniform Delay, d1	25.6	8.4			26.4	0.0	24.3	24.4	23.1			
Progression Factor	0.22	0.48			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	34.6	0.9			19.4	0.8	11.1	11.9	2.2			
Delay (s)	40.2	5.0			45.8	0.8	35.4	36.3	25.3			
Level of Service	D	A			D	A	D	D	C			
Approach Delay (s)		16.2			33.5			31.2			0.0	
Approach LOS		B			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.8%	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												
Traffic Volume (vph)	0	1502	594	850	1598	0	0	0	0	315	5	319
Future Volume (vph)	0	1502	594	850	1598	0	0	0	0	315	5	319
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		0.86	1.00	0.97	0.95					0.95	0.95	0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	0.99
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		6408	1583	3433	3539					1681	1688	2760
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		6408	1583	3433	3539					1681	1688	2760
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1502	594	850	1598	0	0	0	0	315	5	319
RTOR Reduction (vph)	0	0	286	0	0	0	0	0	0	0	0	36
Lane Group Flow (vph)	0	1502	308	850	1598	0	0	0	0	161	159	283
Confl. Peds. (#/hr)	10		20	20		10						5
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type		NA	Prot	Prot	NA					Split	NA	custom
Protected Phases		2	2	1	6					4	4	4
Permitted Phases												1
Actuated Green, G (s)		25.4	25.4	20.8	50.7					11.3	11.3	32.1
Effective Green, g (s)		26.4	26.4	21.3	51.7					12.3	12.3	34.1
Actuated g/C Ratio		0.37	0.37	0.30	0.72					0.17	0.17	0.47
Clearance Time (s)		5.0	5.0	4.5	5.0					5.0	5.0	5.0
Vehicle Extension (s)		4.2	4.2	2.3	4.2					2.3	2.3	2.3
Lane Grp Cap (vph)		2349	580	1015	2541					287	288	1460
v/s Ratio Prot		0.23	0.19	c0.25	c0.45					c0.10	0.09	0.03
v/s Ratio Perm												0.07
v/c Ratio		0.64	0.53	0.84	0.63					0.56	0.55	0.19
Uniform Delay, d1		18.9	17.9	23.7	5.2					27.4	27.3	11.0
Progression Factor		1.00	1.00	0.26	0.04					1.00	1.00	1.00
Incremental Delay, d2		1.3	3.5	1.6	0.5					1.8	1.6	0.0
Delay (s)		20.2	21.4	7.7	0.7					29.2	28.9	11.0
Level of Service		C	C	A	A					C	C	B
Approach Delay (s)		20.5			3.1			0.0			20.1	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.8%	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												
Traffic Volume (vph)	120	570	61	747	410	760	69	278	956	570	293	210
Future Volume (vph)	120	570	61	747	410	760	69	278	956	570	293	210
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	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.95	1.00	1.00	1.00	0.88	*0.63	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	5051		3433	3539	1541	1770	1863	2787	2230	1726	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1787	5051		3433	3539	1541	1770	1863	2787	2230	1726	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	120	570	61	747	410	760	69	278	956	570	293	210
RTOR Reduction (vph)	0	11	0	0	0	403	0	0	57	0	19	0
Lane Group Flow (vph)	120	620	0	747	410	357	69	278	899	570	484	0
Confl. Peds. (#/hr)	5		10	10		5	15					15
Confl. Bikes (#/hr)						15			5			5
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases						6						
Actuated Green, G (s)	8.1	22.5		28.8	42.2	42.2	6.1	11.1	44.9	29.5	36.0	
Effective Green, g (s)	9.1	23.5		28.8	43.2	43.2	6.1	12.1	45.9	30.5	36.5	
Actuated g/C Ratio	0.08	0.21		0.26	0.39	0.39	0.06	0.11	0.41	0.28	0.33	
Clearance Time (s)	5.0	5.0		4.0	5.0	5.0	4.0	5.0		5.0	4.5	
Vehicle Extension (s)	5.1	5.1		2.3	4.2	4.2	2.3	2.3		3.0	2.3	
Lane Grp Cap (vph)	146	1070		891	1378	600	97	203	1153	613	568	
v/s Ratio Prot	0.07	0.12		c0.22	0.12		0.04	c0.15	c0.32	c0.26	0.28	
v/s Ratio Perm						c0.23						
v/c Ratio	0.82	0.58		0.84	0.30	0.60	0.71	1.37	0.78	0.93	0.85	
Uniform Delay, d1	50.1	39.3		38.8	23.4	26.9	51.5	49.4	28.1	39.2	34.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	32.7	1.3		6.8	0.2	2.0	19.6	194.4	3.2	20.6	11.5	
Delay (s)	82.8	40.5		45.6	23.6	28.9	71.1	243.8	31.3	59.7	46.2	
Level of Service	F	D		D	C	C	E	F	C	E	D	
Approach Delay (s)		47.3			34.3			78.8			53.4	
Approach LOS		D			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	51.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	110.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.0%	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												
Traffic Volume (vph)	50	5	80	20	10	15	140	983	35	5	973	60
Future Volume (vph)	50	5	80	20	10	15	140	983	35	5	973	60
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	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.91		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1769	1572		1742	1672		1770	3515		1770	3501	
Flt Permitted	0.74	1.00		0.70	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1380	1572		1287	1672		1770	3515		1770	3501	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	5	80	20	10	15	140	983	35	5	973	60
RTOR Reduction (vph)	0	69	0	0	13	0	0	1	0	0	3	0
Lane Group Flow (vph)	50	16	0	20	12	0	140	1017	0	5	1030	0
Confl. Peds. (#/hr)	10		15	15		10	5		10	10		5
Confl. Bikes (#/hr)									5			5
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	8.9	8.9		9.2	9.2		11.0	59.4		1.0	49.2	
Effective Green, g (s)	12.0	12.0		12.0	12.0		13.7	60.8		3.6	50.7	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.15	0.69		0.04	0.57	
Clearance Time (s)	7.1	7.1		6.8	6.8		6.7	5.4		6.6	5.5	
Vehicle Extension (s)	2.4	2.4		2.4	2.4		2.6	2.5		2.6	2.5	
Lane Grp Cap (vph)	187	213		174	226		274	2417		72	2007	
v/s Ratio Prot		0.01			0.01		c0.08	0.29		0.00	c0.29	
v/s Ratio Perm	c0.04			0.02								
v/c Ratio	0.27	0.07		0.11	0.05		0.51	0.42		0.07	0.51	
Uniform Delay, d1	34.3	33.4		33.5	33.3		34.3	6.1		40.8	11.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1		0.2	0.1		1.3	0.5		0.3	0.9	
Delay (s)	34.8	33.4		33.7	33.3		35.6	6.6		41.1	12.3	
Level of Service	C	C		C	C		D	A		D	B	
Approach Delay (s)		33.9			33.5			10.1			12.5	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	88.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	10	404	20	10	10	474	569	5	25	614	25
Future Volume (vph)	65	10	404	20	10	10	474	569	5	25	614	25
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	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.98		0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.98	1.00		0.99		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.97		1.00	1.00		1.00	0.99	
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1736	1541		1754		1751	1842		1767	1849	
Flt Permitted		0.73	1.00		0.80		0.28	1.00		0.43	1.00	
Satd. Flow (perm)		1315	1541		1444		515	1842		807	1849	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	65	10	404	20	10	10	474	569	5	25	614	25
RTOR Reduction (vph)	0	0	182	0	9	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	75	222	0	31	0	474	574	0	25	637	0
Confl. Peds. (#/hr)	5		5	5		5	10		5	5		10
Confl. Bikes (#/hr)			5						5			5
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	3%	3%	3%	2%	2%	2%
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		6.3	14.4		6.3		58.6	50.5		46.2	44.3	
Effective Green, g (s)		8.7	19.2		8.7		61.2	52.9		51.0	46.7	
Actuated g/C Ratio		0.11	0.25		0.11		0.79	0.68		0.65	0.60	
Clearance Time (s)		6.4	6.4		6.4		6.4	6.4		6.4	6.4	
Vehicle Extension (s)		1.0	1.0		1.0		1.0	5.0		1.0	5.0	
Lane Grp Cap (vph)		146	458		161		571	1250		581	1108	
v/s Ratio Prot			c0.07				c0.11	0.31		0.00	0.34	
v/s Ratio Perm		0.06	0.08		0.02		c0.54			0.03		
v/c Ratio		0.51	0.49		0.19		0.83	0.46		0.04	0.58	
Uniform Delay, d1		32.6	25.1		31.4		7.3	5.8		4.7	9.5	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3	0.3		0.2		9.5	1.2		0.0	2.2	
Delay (s)		33.9	25.4		31.6		16.8	7.0		4.7	11.7	
Level of Service		C	C		C		B	A		A	B	
Approach Delay (s)		26.7			31.6			11.5			11.4	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	294	1009	0	0	1101
Future Vol, veh/h	0	294	1009	0	0	1101
Conflicting Peds, #/hr	0	0	0	35	35	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	50	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	3	3	3
Mvmt Flow	0	294	1009	0	0	1101

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	540	0	0	1044	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.16	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.23	-
Pot Cap-1 Maneuver	0	491	-	-	656	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	477	-	-	637	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	477	637	-
HCM Lane V/C Ratio	-	-	0.616	-	-
HCM Control Delay (s)	-	-	23.9	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	4.1	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	55	107	15	84	60	900	57	171	855	75
Future Volume (vph)	25	0	55	107	15	84	60	900	57	171	855	75
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		1.00	1.00		1.00	0.95	
Frpb, ped/bikes		1.00			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.91			0.94		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1657			1399		1769	1842		1770	3487	
Flt Permitted		0.89			0.83		0.27	1.00		0.10	1.00	
Satd. Flow (perm)		1496			1196		506	1842		183	3487	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	0	55	107	15	84	60	900	57	171	855	75
RTOR Reduction (vph)	0	63	0	0	37	0	0	3	0	0	8	0
Lane Group Flow (vph)	0	17	0	0	169	0	60	954	0	171	922	0
Confl. Peds. (#/hr)	10					10	5		5	5		5
Confl. Bikes (#/hr)									5			5
Heavy Vehicles (%)	2%	2%	2%	23%	23%	23%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		13.1			13.1		41.4	39.1		44.8	40.8	
Effective Green, g (s)		13.1			13.1		41.4	39.1		44.8	40.8	
Actuated g/C Ratio		0.19			0.19		0.61	0.57		0.66	0.60	
Clearance Time (s)		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	
Lane Grp Cap (vph)		287			229		349	1056		213	2086	
v/s Ratio Prot							0.01	c0.52		c0.05	0.26	
v/s Ratio Perm		0.01			c0.14		0.10			0.48		
v/c Ratio		0.06			0.74		0.17	0.90		0.80	0.44	
Uniform Delay, d1		22.5			25.9		5.6	12.9		13.4	7.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			11.7		0.2	10.7		19.2	0.2	
Delay (s)		22.6			37.6		5.9	23.6		32.7	7.6	
Level of Service		C			D		A	C		C	A	
Approach Delay (s)		22.6			37.6			22.6			11.5	
Approach LOS		C			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	68.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.3%	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												
Traffic Volume (vph)	30	419	40	180	359	150	40	30	167	165	30	25
Future Volume (vph)	30	419	40	180	359	150	40	30	167	165	30	25
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	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.91
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.96		1.00	0.87		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.97	1.00
Satd. Flow (prot)	1765	3462		1750	3343		1787	1606		1681	1710	1448
Flt Permitted	0.46	1.00		0.39	1.00		0.95	1.00		0.95	0.97	1.00
Satd. Flow (perm)	863	3462		726	3343		1787	1606		1681	1710	1448
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	419	40	180	359	150	40	30	167	165	30	25
RTOR Reduction (vph)	0	5	0	0	24	0	0	149	0	0	0	21
Lane Group Flow (vph)	30	454	0	180	485	0	40	48	0	97	98	4
Confl. Peds. (#/hr)	5		25	25		5	45		5	5		45
Confl. Bikes (#/hr)						10						5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6								4
Actuated Green, G (s)	47.2	43.6		65.0	54.0		8.4	8.4		13.1	13.1	13.1
Effective Green, g (s)	54.0	45.3		67.3	55.7		11.5	11.5		16.7	16.7	16.7
Actuated g/C Ratio	0.51	0.42		0.63	0.52		0.11	0.11		0.16	0.16	0.16
Clearance Time (s)	7.4	5.7		6.3	5.7		7.1	7.1		7.6	7.6	7.6
Vehicle Extension (s)	2.4	3.1		2.7	3.1		2.4	2.4		2.3	2.3	2.3
Lane Grp Cap (vph)	495	1467		623	1741		192	172		262	267	226
v/s Ratio Prot	0.00	c0.13		c0.05	0.15		0.02	c0.03		c0.06	0.06	
v/s Ratio Perm	0.03			0.13								0.00
v/c Ratio	0.06	0.31		0.29	0.28		0.21	0.28		0.37	0.37	0.02
Uniform Delay, d1	13.3	20.4		8.7	14.3		43.5	43.9		40.4	40.4	38.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.5		1.2	0.4		0.4	0.6		0.5	0.5	0.0
Delay (s)	13.3	21.0		9.9	14.7		43.9	44.5		40.9	40.9	38.2
Level of Service	B	C		A	B		D	D		D	D	D
Approach Delay (s)		20.5			13.5			44.4			40.6	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	106.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	284	50	50	229	145	50	65	50	155	65	50
Future Volume (vph)	50	284	50	50	229	145	50	65	50	155	65	50
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	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85		1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3460		1770	1863	1583		1823	1583	1770	1741	
Flt Permitted	0.61	1.00		0.55	1.00	1.00		0.83	1.00	0.68	1.00	
Satd. Flow (perm)	1144	3460		1025	1863	1583		1541	1583	1272	1741	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	284	50	50	229	145	50	65	50	155	65	50
RTOR Reduction (vph)	0	13	0	0	0	58	0	0	41	0	34	0
Lane Group Flow (vph)	50	321	0	50	229	87	0	115	9	155	81	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		
Actuated Green, G (s)	46.4	42.9		46.4	42.9	42.9		12.7	12.7	12.7	12.7	
Effective Green, g (s)	46.4	42.9		46.4	42.9	42.9		12.7	12.7	12.7	12.7	
Actuated g/C Ratio	0.65	0.60		0.65	0.60	0.60		0.18	0.18	0.18	0.18	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.6	3.1		2.7	3.1	3.1		2.6	2.6	2.6	2.6	
Lane Grp Cap (vph)	777	2087		705	1124	955		275	282	227	310	
v/s Ratio Prot	0.00	0.09		c0.00	c0.12						0.05	
v/s Ratio Perm	0.04			0.04		0.06		0.07	0.01	c0.12		
v/c Ratio	0.06	0.15		0.07	0.20	0.09		0.42	0.03	0.68	0.26	
Uniform Delay, d1	4.4	6.2		4.4	6.4	5.9		25.9	24.1	27.3	25.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.2		0.0	0.4	0.2		0.8	0.0	7.7	0.4	
Delay (s)	4.4	6.3		4.5	6.8	6.1		26.7	24.2	35.0	25.5	
Level of Service	A	A		A	A	A		C	C	C	C	
Approach Delay (s)		6.1			6.3			25.9			30.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	71.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	110	490	30	135	625
Future Vol, veh/h	30	110	490	30	135	625
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	110	490	30	135	625

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1400	260	0	0	520	0
Stage 1	505	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	143	740	-	-	1044	-
Stage 1	572	-	-	-	-	-
Stage 2	398	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	125	740	-	-	1044	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	572	-	-	-	-	-
Stage 2	347	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.2	0	1.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	360	1044	-
HCM Lane V/C Ratio	-	-	0.389	0.129	-
HCM Control Delay (s)	-	-	21.2	9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.8	0.4	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	1237	1634	0	0	5
Future Vol, veh/h	9	1237	1634	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	180	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	1237	1634	0	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1634	0	-	0	2271	817
Stage 1	-	-	-	-	1634	-
Stage 2	-	-	-	-	637	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	393	-	-	-	34	320
Stage 1	-	-	-	-	145	-
Stage 2	-	-	-	-	489	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	393	-	-	-	33	320
Mov Cap-2 Maneuver	-	-	-	-	110	-
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	489	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	16.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	393	-	-	-	-	320
HCM Lane V/C Ratio	0.023	-	-	-	-	0.016
HCM Control Delay (s)	14.4	-	-	-	0	16.4
HCM Lane LOS	B	-	-	-	A	C
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1198	0	0	0
Future Vol, veh/h	0	0	1198	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1198	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	1198	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	226	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	226	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Intersection Delay, s/veh	19.7
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	1398	0
Future Vol, veh/h	0	0	0	0	1398	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	1398	0
Number of Lanes	0	1	0	0	2	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	2	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	0	19.7
HCM LOS	-	C

Lane	EBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	699	699
LT Vol	0	0	0
Through Vol	0	699	699
RT Vol	0	0	0
Lane Flow Rate	0	699	699
Geometry Grp	2	7	7
Degree of Util (X)	0	0.88	0.544
Departure Headway (Hd)	5.769	4.534	2.8
Convergence, Y/N	Yes	Yes	Yes
Cap	0	804	1293
Service Time	3.769	2.234	0.5
HCM Lane V/C Ratio	0	0.869	0.541
HCM Control Delay	8.8	30.5	8.8
HCM Lane LOS	N	D	A
HCM 95th-tile Q	0	11.3	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	1061	535	175	1414	50	520	30	50	135	50	355
Future Volume (vph)	240	1061	535	175	1414	50	520	30	50	135	50	355
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.97			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.96	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5051		1681	1664			1780	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.96	1.00
Satd. Flow (perm)	1770	3539	1583	1770	5051		1681	1664			1780	1568
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	240	1061	535	175	1414	50	520	30	50	135	50	355
RTOR Reduction (vph)	0	0	171	0	3	0	0	6	0	0	0	34
Lane Group Flow (vph)	240	1061	364	175	1461	0	302	292	0	0	185	321
Confl. Peds. (#/hr)	5		5	5		5	10					10
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2	2 8	1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	21.6	45.9	72.2	15.8	40.6		26.3	26.3			22.4	44.0
Effective Green, g (s)	21.6	46.9	74.2	15.8	41.1		26.8	26.8			22.9	45.0
Actuated g/C Ratio	0.17	0.37	0.58	0.12	0.32		0.21	0.21			0.18	0.35
Clearance Time (s)	4.0	5.0		4.0	4.5		4.5	4.5			4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3			2.3	
Lane Grp Cap (vph)	297	1292	914	217	1616		350	347			317	549
v/s Ratio Prot	c0.14	0.30	0.23	0.10	c0.29		c0.18	0.18			0.10	c0.20
v/s Ratio Perm												
v/c Ratio	0.81	0.82	0.40	0.81	0.90		0.86	0.84			0.58	0.59
Uniform Delay, d1	51.4	36.9	14.9	54.8	41.8		49.0	48.8			48.4	34.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	14.3	4.6	0.4	18.6	7.7		18.8	16.4			2.1	1.2
Delay (s)	65.7	41.6	15.3	73.4	49.5		67.9	65.1			50.4	35.3
Level of Service	E	D	B	E	D		E	E			D	D
Approach Delay (s)		37.1			52.1			66.5			40.5	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	46.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	128.4	Sum of lost time (s)	16.5
Intersection Capacity Utilization	81.3%	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												
Traffic Volume (vph)	568	1226	0	0	1664	625	752	5	610	0	0	0
Future Volume (vph)	568	1226	0	0	1664	625	752	5	610	0	0	0
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	*0.56	0.95			0.86	1.00	0.95	0.95	0.88			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1982	3539			6408	1554	1681	1686	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1982	3539			6408	1554	1681	1686	2787			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	568	1226	0	0	1664	625	752	5	610	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	82	0	0	0
Lane Group Flow (vph)	568	1226	0	0	1664	625	376	381	528	0	0	0
Confl. Peds. (#/hr)	10		20	20		10						
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Turn Type	Prot	NA			NA	Free	Split	NA	custom			
Protected Phases	5	2			6		8	8	8			
Permitted Phases						Free			8			
Actuated Green, G (s)	20.8	43.3			18.0	72.0	18.7	18.7	18.7			
Effective Green, g (s)	21.3	44.3			19.0	72.0	19.7	19.7	19.7			
Actuated g/C Ratio	0.30	0.62			0.26	1.00	0.27	0.27	0.27			
Clearance Time (s)	4.5	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	2.3	4.2			4.2		2.3	2.3	2.3			
Lane Grp Cap (vph)	586	2177			1691	1554	459	461	762			
v/s Ratio Prot	c0.29	0.35			c0.26		0.22	c0.23	0.19			
v/s Ratio Perm						0.40						
v/c Ratio	0.97	0.56			0.98	0.40	0.82	0.83	0.69			
Uniform Delay, d1	25.0	8.2			26.3	0.0	24.5	24.5	23.4			
Progression Factor	0.21	0.47			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	25.0	0.9			18.4	0.8	10.5	11.2	2.4			
Delay (s)	30.3	4.7			44.8	0.8	35.0	35.7	25.8			
Level of Service	C	A			D	A	D	D	C			
Approach Delay (s)		12.8			32.8			31.1			0.0	
Approach LOS		B			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.7%	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												
Traffic Volume (vph)	0	1479	543	850	1566	0	0	0	0	315	5	316
Future Volume (vph)	0	1479	543	850	1566	0	0	0	0	315	5	316
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		0.86	1.00	0.97	0.95					0.95	0.95	0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	0.99
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		6408	1583	3433	3539					1681	1688	2760
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		6408	1583	3433	3539					1681	1688	2760
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1479	543	850	1566	0	0	0	0	315	5	316
RTOR Reduction (vph)	0	0	286	0	0	0	0	0	0	0	0	38
Lane Group Flow (vph)	0	1479	257	850	1566	0	0	0	0	161	159	278
Confl. Peds. (#/hr)	10		20	20		10						5
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type		NA	Prot	Prot	NA					Split	NA	custom
Protected Phases		2	2	1	6					4	4	4
Permitted Phases												1
Actuated Green, G (s)		25.4	25.4	20.8	50.7					11.3	11.3	32.1
Effective Green, g (s)		26.4	26.4	21.3	51.7					12.3	12.3	34.1
Actuated g/C Ratio		0.37	0.37	0.30	0.72					0.17	0.17	0.47
Clearance Time (s)		5.0	5.0	4.5	5.0					5.0	5.0	5.0
Vehicle Extension (s)		4.2	4.2	2.3	4.2					2.3	2.3	2.3
Lane Grp Cap (vph)		2349	580	1015	2541					287	288	1460
v/s Ratio Prot		0.23	0.16	c0.25	c0.44					c0.10	0.09	0.03
v/s Ratio Perm												0.07
v/c Ratio		0.63	0.44	0.84	0.62					0.56	0.55	0.19
Uniform Delay, d1		18.8	17.2	23.7	5.1					27.4	27.3	11.0
Progression Factor		1.00	1.00	0.25	0.04					1.00	1.00	1.00
Incremental Delay, d2		1.3	2.5	1.6	0.5					1.8	1.6	0.0
Delay (s)		20.1	19.7	7.7	0.7					29.2	28.9	11.0
Level of Service		C	B	A	A					C	C	B
Approach Delay (s)		20.0			3.1			0.0			20.1	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.7%	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												
Traffic Volume (vph)	120	570	57	712	410	760	60	261	882	570	287	210
Future Volume (vph)	120	570	57	712	410	760	60	261	882	570	287	210
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	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.95	1.00	1.00	1.00	0.88	*0.63	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	5056		3433	3539	1541	1770	1863	2787	2230	1725	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1787	5056		3433	3539	1541	1770	1863	2787	2230	1725	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	120	570	57	712	410	760	60	261	882	570	287	210
RTOR Reduction (vph)	0	10	0	0	0	414	0	0	57	0	19	0
Lane Group Flow (vph)	120	617	0	712	410	346	60	261	825	570	478	0
Confl. Peds. (#/hr)	5		10	10		5	15					15
Confl. Bikes (#/hr)						15			5			5
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases						6						
Actuated Green, G (s)	8.1	22.1		26.9	39.9	39.9	4.7	12.1	44.0	29.5	38.4	
Effective Green, g (s)	9.1	23.1		26.9	40.9	40.9	4.7	13.1	45.0	30.5	38.9	
Actuated g/C Ratio	0.08	0.21		0.25	0.37	0.37	0.04	0.12	0.41	0.28	0.35	
Clearance Time (s)	5.0	5.0		4.0	5.0	5.0	4.0	5.0		5.0	4.5	
Vehicle Extension (s)	5.1	5.1		2.3	4.2	4.2	2.3	2.3		3.0	2.3	
Lane Grp Cap (vph)	148	1065		842	1320	575	75	222	1144	620	612	
v/s Ratio Prot	0.07	0.12		c0.21	0.12		0.03	c0.14	c0.30	c0.26	0.28	
v/s Ratio Perm						c0.22						
v/c Ratio	0.81	0.58		0.85	0.31	0.60	0.80	1.18	0.72	0.92	0.78	
Uniform Delay, d1	49.4	38.9		39.4	24.4	27.8	52.0	48.2	27.0	38.4	31.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	30.5	1.3		7.6	0.2	2.2	42.5	116.0	2.0	18.7	6.1	
Delay (s)	79.9	40.1		47.0	24.6	29.9	94.5	164.3	29.1	57.1	37.6	
Level of Service	E	D		D	C	C	F	F	C	E	D	
Approach Delay (s)		46.5			35.2			61.7			48.0	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	46.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	109.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.3%	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												
Traffic Volume (vph)	50	5	80	20	10	15	140	966	35	5	967	60
Future Volume (vph)	50	5	80	20	10	15	140	966	35	5	967	60
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	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.91		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1769	1572		1742	1672		1770	3514		1770	3501	
Flt Permitted	0.74	1.00		0.70	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1380	1572		1287	1672		1770	3514		1770	3501	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	5	80	20	10	15	140	966	35	5	967	60
RTOR Reduction (vph)	0	69	0	0	13	0	0	1	0	0	3	0
Lane Group Flow (vph)	50	16	0	20	12	0	140	1000	0	5	1024	0
Confl. Peds. (#/hr)	10		15	15		10	5		10	10		5
Confl. Bikes (#/hr)									5			5
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	8.9	8.9		9.2	9.2		11.0	59.4		1.0	49.2	
Effective Green, g (s)	12.0	12.0		12.0	12.0		13.7	60.8		3.6	50.7	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.15	0.69		0.04	0.57	
Clearance Time (s)	7.1	7.1		6.8	6.8		6.7	5.4		6.6	5.5	
Vehicle Extension (s)	2.4	2.4		2.4	2.4		2.6	2.5		2.6	2.5	
Lane Grp Cap (vph)	187	213		174	226		274	2416		72	2007	
v/s Ratio Prot		0.01			0.01		c0.08	0.28		0.00	c0.29	
v/s Ratio Perm	c0.04			0.02								
v/c Ratio	0.27	0.07		0.11	0.05		0.51	0.41		0.07	0.51	
Uniform Delay, d1	34.3	33.4		33.5	33.3		34.3	6.0		40.8	11.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1		0.2	0.1		1.3	0.5		0.3	0.9	
Delay (s)	34.8	33.4		33.7	33.3		35.6	6.5		41.1	12.3	
Level of Service	C	C		C	C		D	A		D	B	
Approach Delay (s)		33.9			33.5			10.1			12.4	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	88.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	10	400	20	10	10	467	559	5	25	612	25
Future Volume (vph)	65	10	400	20	10	10	467	559	5	25	612	25
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	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.98		0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.98	1.00		0.99		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.97		1.00	1.00		1.00	0.99	
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1736	1541		1754		1751	1842		1766	1849	
Flt Permitted		0.73	1.00		0.80		0.28	1.00		0.44	1.00	
Satd. Flow (perm)		1315	1541		1444		517	1842		820	1849	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	65	10	400	20	10	10	467	559	5	25	612	25
RTOR Reduction (vph)	0	0	183	0	9	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	75	217	0	31	0	467	564	0	25	635	0
Confl. Peds. (#/hr)	5		5	5		5	10		5	5		10
Confl. Bikes (#/hr)			5						5			5
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	3%	3%	3%	2%	2%	2%
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		6.3	14.4		6.3		58.6	50.5		46.2	44.3	
Effective Green, g (s)		8.7	19.2		8.7		61.2	52.9		51.0	46.7	
Actuated g/C Ratio		0.11	0.25		0.11		0.79	0.68		0.65	0.60	
Clearance Time (s)		6.4	6.4		6.4		6.4	6.4		6.4	6.4	
Vehicle Extension (s)		1.0	1.0		1.0		1.0	5.0		1.0	5.0	
Lane Grp Cap (vph)		146	458		161		572	1250		589	1108	
v/s Ratio Prot			c0.06				c0.11	0.31		0.00	0.34	
v/s Ratio Perm		0.06	0.08		0.02		c0.53			0.03		
v/c Ratio		0.51	0.47		0.19		0.82	0.45		0.04	0.57	
Uniform Delay, d1		32.6	25.0		31.4		7.1	5.8		4.7	9.5	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3	0.3		0.2		8.4	1.2		0.0	2.2	
Delay (s)		33.9	25.3		31.6		15.5	7.0		4.7	11.7	
Level of Service		C	C		C		B	A		A	B	
Approach Delay (s)		26.7			31.6			10.8			11.4	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	178	1025	0	0	1056
Future Vol, veh/h	0	178	1025	0	0	1056
Conflicting Peds, #/hr	0	0	0	35	35	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	50	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	3	3	3
Mvmt Flow	0	178	1025	0	0	1056

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	548	0	0	1060	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.16	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.23	-
Pot Cap-1 Maneuver	0	485	-	-	647	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	471	-	-	628	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	471	628	-
HCM Lane V/C Ratio	-	-	0.378	-	-
HCM Control Delay (s)	-	-	17.2	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.7	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	55	79	0	100	60	900	42	126	855	75
Future Volume (vph)	25	0	55	79	0	100	60	900	42	126	855	75
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		1.00	1.00		1.00	0.95	
Frpb, ped/bikes		1.00			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.91			0.92		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1657			1366		1769	1848		1770	3487	
Flt Permitted		0.88			0.86		0.27	1.00		0.12	1.00	
Satd. Flow (perm)		1483			1203		507	1848		215	3487	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	0	55	79	0	100	60	900	42	126	855	75
RTOR Reduction (vph)	0	65	0	0	70	0	0	2	0	0	8	0
Lane Group Flow (vph)	0	15	0	0	109	0	60	940	0	126	922	0
Confl. Peds. (#/hr)	10					10	5		5	5		5
Confl. Bikes (#/hr)									5			5
Heavy Vehicles (%)	2%	2%	2%	23%	23%	23%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		10.6			10.6		40.7	38.5		42.5	39.4	
Effective Green, g (s)		10.6			10.6		40.7	38.5		42.5	39.4	
Actuated g/C Ratio		0.17			0.17		0.63	0.60		0.66	0.61	
Clearance Time (s)		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	
Lane Grp Cap (vph)		244			198		364	1108		217	2139	
v/s Ratio Prot							0.01	c0.51		c0.03	0.26	
v/s Ratio Perm		0.01			c0.09		0.10			0.36		
v/c Ratio		0.06			0.55		0.16	0.85		0.58	0.43	
Uniform Delay, d1		22.6			24.6		4.6	10.5		10.2	6.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			3.1		0.2	6.2		3.9	0.1	
Delay (s)		22.7			27.7		4.8	16.7		14.1	6.7	
Level of Service		C			C		A	B		B	A	
Approach Delay (s)		22.7			27.7			16.0			7.5	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	64.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.6%	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												
Traffic Volume (vph)	30	415	40	180	350	150	40	30	167	165	30	25
Future Volume (vph)	30	415	40	180	350	150	40	30	167	165	30	25
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	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.91
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.95		1.00	0.87		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.97	1.00
Satd. Flow (prot)	1765	3461		1749	3340		1787	1606		1681	1710	1448
Flt Permitted	0.47	1.00		0.40	1.00		0.95	1.00		0.95	0.97	1.00
Satd. Flow (perm)	871	3461		731	3340		1787	1606		1681	1710	1448
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	415	40	180	350	150	40	30	167	165	30	25
RTOR Reduction (vph)	0	5	0	0	25	0	0	149	0	0	0	21
Lane Group Flow (vph)	30	450	0	180	475	0	40	48	0	97	98	4
Confl. Peds. (#/hr)	5		25	25		5	45		5	5		45
Confl. Bikes (#/hr)						10						5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6								4
Actuated Green, G (s)	47.2	43.6		65.0	54.0		8.4	8.4		13.1	13.1	13.1
Effective Green, g (s)	54.0	45.3		67.3	55.7		11.5	11.5		16.7	16.7	16.7
Actuated g/C Ratio	0.51	0.42		0.63	0.52		0.11	0.11		0.16	0.16	0.16
Clearance Time (s)	7.4	5.7		6.3	5.7		7.1	7.1		7.6	7.6	7.6
Vehicle Extension (s)	2.4	3.1		2.7	3.1		2.4	2.4		2.3	2.3	2.3
Lane Grp Cap (vph)	498	1466		625	1740		192	172		262	267	226
v/s Ratio Prot	0.00	0.13		c0.05	0.14		0.02	c0.03		c0.06	0.06	
v/s Ratio Perm	0.03			c0.13								0.00
v/c Ratio	0.06	0.31		0.29	0.27		0.21	0.28		0.37	0.37	0.02
Uniform Delay, d1	13.3	20.4		8.7	14.3		43.5	43.9		40.4	40.4	38.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.5		1.2	0.4		0.4	0.6		0.5	0.5	0.0
Delay (s)	13.3	20.9		9.9	14.7		43.9	44.5		40.9	40.9	38.2
Level of Service	B	C		A	B		D	D		D	D	D
Approach Delay (s)		20.5			13.4			44.4			40.6	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	106.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	280	50	50	220	145	50	65	50	155	65	50
Future Volume (vph)	50	280	50	50	220	145	50	65	50	155	65	50
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	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85		1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3459		1770	1863	1583		1823	1583	1770	1741	
Flt Permitted	0.62	1.00		0.55	1.00	1.00		0.83	1.00	0.68	1.00	
Satd. Flow (perm)	1156	3459		1029	1863	1583		1541	1583	1272	1741	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	280	50	50	220	145	50	65	50	155	65	50
RTOR Reduction (vph)	0	14	0	0	0	58	0	0	41	0	34	0
Lane Group Flow (vph)	50	316	0	50	220	87	0	115	9	155	81	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		
Actuated Green, G (s)	46.4	42.9		46.4	42.9	42.9		12.7	12.7	12.7	12.7	
Effective Green, g (s)	46.4	42.9		46.4	42.9	42.9		12.7	12.7	12.7	12.7	
Actuated g/C Ratio	0.65	0.60		0.65	0.60	0.60		0.18	0.18	0.18	0.18	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.6	3.1		2.7	3.1	3.1		2.6	2.6	2.6	2.6	
Lane Grp Cap (vph)	784	2087		708	1124	955		275	282	227	310	
v/s Ratio Prot	0.00	0.09		c0.00	c0.12						0.05	
v/s Ratio Perm	0.04			0.04		0.06		0.07	0.01	c0.12		
v/c Ratio	0.06	0.15		0.07	0.20	0.09		0.42	0.03	0.68	0.26	
Uniform Delay, d1	4.4	6.2		4.4	6.3	5.9		25.9	24.1	27.3	25.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.2		0.0	0.4	0.2		0.8	0.0	7.7	0.4	
Delay (s)	4.4	6.3		4.5	6.7	6.1		26.7	24.2	35.0	25.5	
Level of Service	A	A		A	A	A		C	C	C	C	
Approach Delay (s)		6.1			6.2			25.9			30.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	71.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	110	490	30	135	625
Future Vol, veh/h	30	110	490	30	135	625
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	110	490	30	135	625

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1400	260	0	0	520	0
Stage 1	505	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	143	740	-	-	1044	-
Stage 1	572	-	-	-	-	-
Stage 2	398	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	125	740	-	-	1044	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	572	-	-	-	-	-
Stage 2	347	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.2	0	1.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	360	1044	-
HCM Lane V/C Ratio	-	-	0.389	0.129	-
HCM Control Delay (s)	-	-	21.2	9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.8	0.4	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	1249	1642	0	0	5
Future Vol, veh/h	9	1249	1642	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	180	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	1249	1642	0	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1642	0	-	0	2285	821
Stage 1	-	-	-	-	1642	-
Stage 2	-	-	-	-	643	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	390	-	-	-	33	318
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	485	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	390	-	-	-	32	318
Mov Cap-2 Maneuver	-	-	-	-	109	-
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	485	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	16.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	390	-	-	-	-	318
HCM Lane V/C Ratio	0.023	-	-	-	-	0.016
HCM Control Delay (s)	14.4	-	-	-	0	16.5
HCM Lane LOS	B	-	-	-	A	C
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑	↱		
Traffic Vol, veh/h	0	0	1209	0	0	0
Future Vol, veh/h	0	0	1209	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1209	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	1209	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	223	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	223	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Intersection Delay, s/veh	22
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	1449	0
Future Vol, veh/h	0	0	0	0	1449	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	1449	0
Number of Lanes	0	1	0	0	2	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	2	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	0	22
HCM LOS	-	C

Lane	EBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	725	725
LT Vol	0	0	0
Through Vol	0	725	725
RT Vol	0	0	0
Lane Flow Rate	0	724	724
Geometry Grp	2	7	7
Degree of Util (X)	0	0.912	0.564
Departure Headway (Hd)	5.801	4.534	2.8
Convergence, Y/N	Yes	Yes	Yes
Cap	0	804	1297
Service Time	3.801	2.234	0.5
HCM Lane V/C Ratio	0	0.9	0.558
HCM Control Delay	8.8	34.9	9.1
HCM Lane LOS	N	D	A
HCM 95th-tile Q	0	12.7	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	1073	535	175	1422	50	520	30	50	135	50	355
Future Volume (vph)	240	1073	535	175	1422	50	520	30	50	135	50	355
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.97			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.96	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5052		1681	1664			1780	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.96	1.00
Satd. Flow (perm)	1770	3539	1583	1770	5052		1681	1664			1780	1568
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	240	1073	535	175	1422	50	520	30	50	135	50	355
RTOR Reduction (vph)	0	0	163	0	3	0	0	5	0	0	0	48
Lane Group Flow (vph)	240	1073	372	175	1469	0	302	293	0	0	185	307
Confl. Peds. (#/hr)	5		5	5		5	10					10
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2	2 8	1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	22.7	54.4	82.7	12.7	44.9		28.3	28.3			23.0	49.7
Effective Green, g (s)	22.7	55.4	84.7	12.7	45.4		28.8	28.8			23.5	46.7
Actuated g/C Ratio	0.17	0.41	0.62	0.09	0.33		0.21	0.21			0.17	0.34
Clearance Time (s)	4.0	5.0		4.0	4.5		4.5	4.5			4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3			2.3	
Lane Grp Cap (vph)	294	1437	982	164	1681		354	351			306	536
v/s Ratio Prot	0.14	c0.30	0.23	c0.10	c0.29		c0.18	0.18			c0.10	0.20
v/s Ratio Perm												
v/c Ratio	0.82	0.75	0.38	1.07	0.87		0.85	0.84			0.60	0.57
Uniform Delay, d1	54.8	34.5	12.8	61.9	42.8		51.8	51.5			52.2	36.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	15.4	2.4	0.4	89.2	5.6		17.4	15.2			2.6	1.1
Delay (s)	70.2	36.9	13.2	151.1	48.4		69.1	66.8			54.8	37.8
Level of Service	E	D	B	F	D		E	E			D	D
Approach Delay (s)		34.3			59.3			68.0			43.6	
Approach LOS		C			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	48.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	136.4	Sum of lost time (s)	16.5
Intersection Capacity Utilization	81.4%	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												
Traffic Volume (vph)	579	1238	0	0	1672	625	776	5	610	0	0	0
Future Volume (vph)	579	1238	0	0	1672	625	776	5	610	0	0	0
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	*0.56	0.95			0.86	1.00	0.95	0.95	0.88			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1982	3539			6408	1554	1681	1686	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1982	3539			6408	1554	1681	1686	2787			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	579	1238	0	0	1672	625	776	5	610	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	68	0	0	0
Lane Group Flow (vph)	579	1238	0	0	1672	625	388	393	542	0	0	0
Confl. Peds. (#/hr)	10		20	20		10						
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Turn Type	Prot	NA			NA	Free	Split	NA	custom			
Protected Phases	5	2			6		8	8	8			
Permitted Phases						Free			8			
Actuated Green, G (s)	21.9	47.4			21.0	80.0	22.6	22.6	22.6			
Effective Green, g (s)	22.4	48.4			22.0	80.0	23.6	23.6	23.6			
Actuated g/C Ratio	0.28	0.60			0.28	1.00	0.30	0.30	0.30			
Clearance Time (s)	4.5	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	2.3	4.2			4.2		2.3	2.3	2.3			
Lane Grp Cap (vph)	554	2141			1762	1554	495	497	822			
v/s Ratio Prot	c0.29	0.35			c0.26		0.23	c0.23	0.19			
v/s Ratio Perm						0.40						
v/c Ratio	1.05	0.58			0.95	0.40	0.78	0.79	0.66			
Uniform Delay, d1	28.8	9.6			28.4	0.0	25.9	25.9	24.7			
Progression Factor	0.36	0.80			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	46.9	1.0			12.3	0.8	7.5	8.0	1.6			
Delay (s)	57.2	8.6			40.8	0.8	33.4	33.9	26.3			
Level of Service	E	A			D	A	C	C	C			
Approach Delay (s)		24.1			29.9			30.4			0.0	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.8%	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												
Traffic Volume (vph)	0	1502	594	850	1598	0	0	0	0	315	5	319
Future Volume (vph)	0	1502	594	850	1598	0	0	0	0	315	5	319
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		0.86	1.00	0.97	0.95					0.95	0.95	0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	0.99
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		6408	1583	3433	3539					1681	1688	2759
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		6408	1583	3433	3539					1681	1688	2759
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1502	594	850	1598	0	0	0	0	315	5	319
RTOR Reduction (vph)	0	0	239	0	0	0	0	0	0	0	0	47
Lane Group Flow (vph)	0	1502	355	850	1598	0	0	0	0	161	159	272
Confl. Peds. (#/hr)	10		20	20		10						5
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type		NA	Prot	Prot	NA					Split	NA	custom
Protected Phases		2	2	1	6					4	4	4
Permitted Phases												1
Actuated Green, G (s)		31.1	31.1	22.7	58.3					11.7	11.7	34.4
Effective Green, g (s)		32.1	32.1	23.2	59.3					12.7	12.7	36.4
Actuated g/C Ratio		0.40	0.40	0.29	0.74					0.16	0.16	0.45
Clearance Time (s)		5.0	5.0	4.5	5.0					5.0	5.0	5.0
Vehicle Extension (s)		4.2	4.2	2.3	4.2					2.3	2.3	2.3
Lane Grp Cap (vph)		2571	635	995	2623					266	267	1393
v/s Ratio Prot		0.23	0.22	c0.25	c0.45					c0.10	0.09	0.03
v/s Ratio Perm												0.07
v/c Ratio		0.58	0.56	0.85	0.61					0.61	0.60	0.20
Uniform Delay, d1		18.7	18.5	26.8	4.9					31.3	31.3	13.0
Progression Factor		1.00	1.00	0.32	0.03					1.00	1.00	1.00
Incremental Delay, d2		1.0	3.5	2.5	0.6					3.0	2.7	0.0
Delay (s)		19.7	22.0	11.0	0.7					34.3	34.0	13.1
Level of Service		B	C	B	A					C	C	B
Approach Delay (s)		20.4			4.3			0.0			23.6	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.8%	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												
Traffic Volume (vph)	120	570	61	747	410	760	69	278	956	570	293	210
Future Volume (vph)	120	570	61	747	410	760	69	278	956	570	293	210
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	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.95	1.00	1.00	1.00	0.88	*0.63	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	5050		3433	3539	1535	1770	1863	2787	2230	1725	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1787	5050		3433	3539	1535	1770	1863	2787	2230	1725	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	120	570	61	747	410	760	69	278	956	570	293	210
RTOR Reduction (vph)	0	9	0	0	0	448	0	0	62	0	17	0
Lane Group Flow (vph)	120	622	0	747	410	312	69	278	894	570	486	0
Confl. Peds. (#/hr)	5		10	10		5	15					15
Confl. Bikes (#/hr)						15			5			5
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases						6						
Actuated Green, G (s)	12.1	19.1		33.5	39.5	39.5	8.4	26.6	65.1	37.2	56.9	
Effective Green, g (s)	13.1	20.1		33.5	40.5	40.5	8.4	27.6	66.1	38.2	57.4	
Actuated g/C Ratio	0.10	0.15		0.25	0.30	0.30	0.06	0.20	0.49	0.28	0.42	
Clearance Time (s)	5.0	5.0		4.0	5.0	5.0	4.0	5.0		5.0	4.5	
Vehicle Extension (s)	5.1	5.1		2.3	4.2	4.2	2.3	2.3		3.0	2.3	
Lane Grp Cap (vph)	172	749		849	1058	459	109	379	1360	629	731	
v/s Ratio Prot	0.07	c0.12		c0.22	0.12		0.04	c0.15	0.32	c0.26	0.28	
v/s Ratio Perm						0.20						
v/c Ratio	0.70	0.83		0.88	0.39	0.68	0.63	0.73	0.66	0.91	0.67	
Uniform Delay, d1	59.2	56.0		49.0	37.6	41.7	62.0	50.5	26.1	46.9	31.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.8	8.7		10.2	0.4	4.6	9.4	6.6	1.0	16.7	2.0	
Delay (s)	74.0	64.7		59.2	38.0	46.3	71.4	57.0	27.1	63.5	33.2	
Level of Service	E	E		E	D	D	E	E	C	E	C	
Approach Delay (s)		66.2			49.6			35.8			49.3	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	48.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	135.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.0%	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												
Traffic Volume (vph)	50	5	80	20	10	15	140	983	35	5	973	60
Future Volume (vph)	50	5	80	20	10	15	140	983	35	5	973	60
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	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.91		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1769	1572		1742	1672		1770	3515		1770	3501	
Flt Permitted	0.74	1.00		0.70	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1380	1572		1287	1672		1770	3515		1770	3501	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	5	80	20	10	15	140	983	35	5	973	60
RTOR Reduction (vph)	0	69	0	0	13	0	0	1	0	0	3	0
Lane Group Flow (vph)	50	16	0	20	12	0	140	1017	0	5	1030	0
Confl. Peds. (#/hr)	10		15	15		10	5		10	10		5
Confl. Bikes (#/hr)									5			5
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	8.9	8.9		9.2	9.2		11.0	59.4		1.0	49.2	
Effective Green, g (s)	12.0	12.0		12.0	12.0		13.7	60.8		3.6	50.7	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.15	0.69		0.04	0.57	
Clearance Time (s)	7.1	7.1		6.8	6.8		6.7	5.4		6.6	5.5	
Vehicle Extension (s)	2.4	2.4		2.4	2.4		2.6	2.5		2.6	2.5	
Lane Grp Cap (vph)	187	213		174	226		274	2417		72	2007	
v/s Ratio Prot		0.01			0.01		c0.08	0.29		0.00	c0.29	
v/s Ratio Perm	c0.04			0.02								
v/c Ratio	0.27	0.07		0.11	0.05		0.51	0.42		0.07	0.51	
Uniform Delay, d1	34.3	33.4		33.5	33.3		34.3	6.1		40.8	11.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1		0.2	0.1		1.3	0.5		0.3	0.9	
Delay (s)	34.8	33.4		33.7	33.3		35.6	6.6		41.1	12.3	
Level of Service	C	C		C	C		D	A		D	B	
Approach Delay (s)		33.9			33.5			10.1			12.5	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	88.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	10	404	20	10	10	474	569	5	25	614	25
Future Volume (vph)	65	10	404	20	10	10	474	569	5	25	614	25
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	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.98		0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.98	1.00		0.99		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.97		1.00	1.00		1.00	0.99	
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1736	1541		1754		1751	1842		1767	1849	
Flt Permitted		0.73	1.00		0.80		0.28	1.00		0.43	1.00	
Satd. Flow (perm)		1315	1541		1444		515	1842		807	1849	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	65	10	404	20	10	10	474	569	5	25	614	25
RTOR Reduction (vph)	0	0	182	0	9	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	75	222	0	31	0	474	574	0	25	637	0
Confl. Peds. (#/hr)	5		5	5		5	10		5	5		10
Confl. Bikes (#/hr)			5						5			5
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	3%	3%	3%	2%	2%	2%
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		6.3	14.4		6.3		58.6	50.5		46.2	44.3	
Effective Green, g (s)		8.7	19.2		8.7		61.2	52.9		51.0	46.7	
Actuated g/C Ratio		0.11	0.25		0.11		0.79	0.68		0.65	0.60	
Clearance Time (s)		6.4	6.4		6.4		6.4	6.4		6.4	6.4	
Vehicle Extension (s)		1.0	1.0		1.0		1.0	5.0		1.0	5.0	
Lane Grp Cap (vph)		146	458		161		571	1250		581	1108	
v/s Ratio Prot			c0.07				c0.11	0.31		0.00	0.34	
v/s Ratio Perm		0.06	0.08		0.02		c0.54			0.03		
v/c Ratio		0.51	0.49		0.19		0.83	0.46		0.04	0.58	
Uniform Delay, d1		32.6	25.1		31.4		7.3	5.8		4.7	9.5	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3	0.3		0.2		9.5	1.2		0.0	2.2	
Delay (s)		33.9	25.4		31.6		16.8	7.0		4.7	11.7	
Level of Service		C	C		C		B	A		A	B	
Approach Delay (s)		26.7			31.6			11.5			11.4	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	294	1009	0	0	1101
Future Vol, veh/h	0	294	1009	0	0	1101
Conflicting Peds, #/hr	0	0	0	35	35	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	50	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	3	3	3
Mvmt Flow	0	294	1009	0	0	1101

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	540	0	0	1044	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.16	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.23	-
Pot Cap-1 Maneuver	0	491	-	-	656	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	477	-	-	637	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	477	637	-
HCM Lane V/C Ratio	-	-	0.616	-	-
HCM Control Delay (s)	-	-	23.9	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	4.1	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	55	107	15	84	60	900	57	171	855	75
Future Volume (vph)	25	0	55	107	15	84	60	900	57	171	855	75
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		1.00	1.00		1.00	0.95	
Frpb, ped/bikes		1.00			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.91			0.94		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1657			1399		1769	1842		1770	3487	
Flt Permitted		0.89			0.83		0.27	1.00		0.10	1.00	
Satd. Flow (perm)		1496			1196		506	1842		183	3487	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	0	55	107	15	84	60	900	57	171	855	75
RTOR Reduction (vph)	0	63	0	0	37	0	0	3	0	0	8	0
Lane Group Flow (vph)	0	17	0	0	169	0	60	954	0	171	922	0
Confl. Peds. (#/hr)	10					10	5		5	5		5
Confl. Bikes (#/hr)									5			5
Heavy Vehicles (%)	2%	2%	2%	23%	23%	23%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		13.1			13.1		41.4	39.1		44.8	40.8	
Effective Green, g (s)		13.1			13.1		41.4	39.1		44.8	40.8	
Actuated g/C Ratio		0.19			0.19		0.61	0.57		0.66	0.60	
Clearance Time (s)		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	
Lane Grp Cap (vph)		287			229		349	1056		213	2086	
v/s Ratio Prot							0.01	c0.52		c0.05	0.26	
v/s Ratio Perm		0.01			c0.14		0.10			0.48		
v/c Ratio		0.06			0.74		0.17	0.90		0.80	0.44	
Uniform Delay, d1		22.5			25.9		5.6	12.9		13.4	7.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			11.7		0.2	10.7		19.2	0.2	
Delay (s)		22.6			37.6		5.9	23.6		32.7	7.6	
Level of Service		C			D		A	C		C	A	
Approach Delay (s)		22.6			37.6			22.6			11.5	
Approach LOS		C			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	68.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.3%	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												
Traffic Volume (vph)	30	419	40	180	359	150	40	30	167	165	30	25
Future Volume (vph)	30	419	40	180	359	150	40	30	167	165	30	25
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	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.91
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.96		1.00	0.87		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.97	1.00
Satd. Flow (prot)	1765	3462		1750	3343		1787	1606		1681	1710	1448
Flt Permitted	0.46	1.00		0.39	1.00		0.95	1.00		0.95	0.97	1.00
Satd. Flow (perm)	863	3462		726	3343		1787	1606		1681	1710	1448
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	419	40	180	359	150	40	30	167	165	30	25
RTOR Reduction (vph)	0	5	0	0	24	0	0	149	0	0	0	21
Lane Group Flow (vph)	30	454	0	180	485	0	40	48	0	97	98	4
Confl. Peds. (#/hr)	5		25	25		5	45		5	5		45
Confl. Bikes (#/hr)						10						5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6								4
Actuated Green, G (s)	47.2	43.6		65.0	54.0		8.4	8.4		13.1	13.1	13.1
Effective Green, g (s)	54.0	45.3		67.3	55.7		11.5	11.5		16.7	16.7	16.7
Actuated g/C Ratio	0.51	0.42		0.63	0.52		0.11	0.11		0.16	0.16	0.16
Clearance Time (s)	7.4	5.7		6.3	5.7		7.1	7.1		7.6	7.6	7.6
Vehicle Extension (s)	2.4	3.1		2.7	3.1		2.4	2.4		2.3	2.3	2.3
Lane Grp Cap (vph)	495	1467		623	1741		192	172		262	267	226
v/s Ratio Prot	0.00	c0.13		c0.05	0.15		0.02	c0.03		c0.06	0.06	
v/s Ratio Perm	0.03			0.13								0.00
v/c Ratio	0.06	0.31		0.29	0.28		0.21	0.28		0.37	0.37	0.02
Uniform Delay, d1	13.3	20.4		8.7	14.3		43.5	43.9		40.4	40.4	38.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.5		1.2	0.4		0.4	0.6		0.5	0.5	0.0
Delay (s)	13.3	21.0		9.9	14.7		43.9	44.5		40.9	40.9	38.2
Level of Service	B	C		A	B		D	D		D	D	D
Approach Delay (s)		20.5			13.5			44.4			40.6	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	106.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	284	50	50	229	145	50	65	50	155	65	50
Future Volume (vph)	50	284	50	50	229	145	50	65	50	155	65	50
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	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85		1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3460		1770	1863	1583		1823	1583	1770	1741	
Flt Permitted	0.61	1.00		0.55	1.00	1.00		0.83	1.00	0.68	1.00	
Satd. Flow (perm)	1144	3460		1025	1863	1583		1541	1583	1272	1741	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	284	50	50	229	145	50	65	50	155	65	50
RTOR Reduction (vph)	0	13	0	0	0	58	0	0	41	0	34	0
Lane Group Flow (vph)	50	321	0	50	229	87	0	115	9	155	81	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		
Actuated Green, G (s)	46.4	42.9		46.4	42.9	42.9		12.7	12.7	12.7	12.7	
Effective Green, g (s)	46.4	42.9		46.4	42.9	42.9		12.7	12.7	12.7	12.7	
Actuated g/C Ratio	0.65	0.60		0.65	0.60	0.60		0.18	0.18	0.18	0.18	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.6	3.1		2.7	3.1	3.1		2.6	2.6	2.6	2.6	
Lane Grp Cap (vph)	777	2087		705	1124	955		275	282	227	310	
v/s Ratio Prot	0.00	0.09		c0.00	c0.12						0.05	
v/s Ratio Perm	0.04			0.04		0.06		0.07	0.01	c0.12		
v/c Ratio	0.06	0.15		0.07	0.20	0.09		0.42	0.03	0.68	0.26	
Uniform Delay, d1	4.4	6.2		4.4	6.4	5.9		25.9	24.1	27.3	25.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.2		0.0	0.4	0.2		0.8	0.0	7.7	0.4	
Delay (s)	4.4	6.3		4.5	6.8	6.1		26.7	24.2	35.0	25.5	
Level of Service	A	A		A	A	A		C	C	C	C	
Approach Delay (s)		6.1			6.3			25.9			30.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	71.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX B42

Segment C – Tigard Subarea 2045 Build Operations

APPENDIX B

GREAT PLACES SW Corridor

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	1555	95	130	1955	25	215	180	260	130	135	140
Future Volume (vph)	225	1555	95	130	1955	25	215	180	260	130	135	140
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	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	1.00	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3471	1570	1787	5026		1805	1900	1538	1770	1711	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3471	1570	1787	5026		1805	1900	1538	1770	1711	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	225	1555	95	130	1955	25	215	180	260	130	135	140
RTOR Reduction (vph)	0	0	49	0	1	0	0	0	133	0	27	0
Lane Group Flow (vph)	225	1555	46	130	1979	0	215	180	127	130	248	0
Confl. Peds. (#/hr)	5		5	5		5	5		12	5		5
Heavy Vehicles (%)	2%	4%	0%	1%	3%	0%	0%	0%	2%	2%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	11.9	68.0	68.0	11.7	67.8		19.3	28.8	28.8	13.5	23.0	
Effective Green, g (s)	12.4	68.5	68.5	12.2	68.3		19.8	29.3	29.3	14.0	23.5	
Actuated g/C Ratio	0.09	0.49	0.49	0.09	0.49		0.14	0.21	0.21	0.10	0.17	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	5.1	5.1	2.5	5.1		3.0	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	156	1698	768	155	2451		255	397	321	177	287	
v/s Ratio Prot	c0.13	c0.45		0.07	0.39		c0.12	0.09		0.07	c0.14	
v/s Ratio Perm			0.03						0.08			
v/c Ratio	1.44	0.92	0.06	0.84	0.81		0.84	0.45	0.40	0.73	0.86	
Uniform Delay, d1	63.8	33.1	18.8	62.9	30.3		58.6	48.4	47.7	61.2	56.7	
Progression Factor	1.00	1.00	1.00	1.02	1.04		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	231.4	9.3	0.2	16.3	1.4		21.6	0.5	0.5	13.4	22.0	
Delay (s)	295.2	42.3	19.0	80.5	32.9		80.2	48.8	48.2	74.6	78.7	
Level of Service	F	D	B	F	C		F	D	D	E	E	
Approach Delay (s)		71.5			35.8			58.9			77.4	
Approach LOS		E			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	55.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	1930	2075	290	75	35
Future Vol, veh/h	15	1930	2075	290	75	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	80	-	-	150	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	1930	2075	290	75	35

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2365	0	-	0	3070	1038
Stage 1	-	-	-	-	2075	-
Stage 2	-	-	-	-	995	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	203	-	-	-	~ 9	228
Stage 1	-	-	-	-	82	-
Stage 2	-	-	-	-	318	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	203	-	-	-	~ 8	228
Mov Cap-2 Maneuver	-	-	-	-	~ 58	-
Stage 1	-	-	-	-	76	-
Stage 2	-	-	-	-	318	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	$ 355.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	203	-	-	-	76
HCM Lane V/C Ratio	0.074	-	-	-	1.447
HCM Control Delay (s)	24.1	-	-	-	$ 355.5
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	8.9

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	1855	120	40	1880	45	455	265	155	65	65	30
Future Volume (vph)	30	1855	120	40	1880	45	455	265	155	65	65	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00		1.00	1.00	0.94	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	3539	1452	1736	3488		3467	1881	1524	1805	1754	
Flt Permitted	0.05	1.00	1.00	0.05	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	90	3539	1452	85	3488		3467	1881	1524	1805	1754	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	1855	120	40	1880	45	455	265	155	65	65	30
RTOR Reduction (vph)	0	0	47	0	1	0	0	0	66	0	12	0
Lane Group Flow (vph)	30	1855	73	40	1924	0	455	265	89	65	83	0
Confl. Peds. (#/hr)	20		20	20		20	30		30	30		30
Heavy Vehicles (%)	0%	2%	1%	4%	3%	0%	1%	1%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6					8			
Actuated Green, G (s)	86.8	84.3	84.3	88.2	85.0		18.5	26.5	26.5	8.0	16.0	
Effective Green, g (s)	87.8	84.8	84.3	89.2	85.5		19.0	27.0	27.0	8.5	16.5	
Actuated g/C Ratio	0.63	0.61	0.60	0.64	0.61		0.14	0.19	0.19	0.06	0.12	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.3	5.1	5.1	2.3	5.1		2.3	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	93	2143	874	97	2130		470	362	293	109	206	
v/s Ratio Prot	0.01	0.52		c0.01	c0.55		c0.13	c0.14		0.04	0.05	
v/s Ratio Perm	0.20		0.05	0.25					0.06			
v/c Ratio	0.32	0.87	0.08	0.41	0.90		0.97	0.73	0.30	0.60	0.40	
Uniform Delay, d1	26.5	22.9	11.7	25.2	23.7		60.2	53.1	48.4	64.1	57.2	
Progression Factor	1.60	0.71	1.57	1.65	0.54		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	2.8	0.1	0.9	3.8		32.9	7.0	0.4	7.1	0.9	
Delay (s)	43.0	19.1	18.4	42.5	16.6		93.1	60.1	48.9	71.2	58.1	
Level of Service	D	B	B	D	B		F	E	D	E	E	
Approach Delay (s)		19.4			17.1			75.3			63.4	
Approach LOS		B			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBT	WBL	WBT	WBR	SBL	SBT	SBR	SWR	SWR2
Lane Configurations										
Traffic Volume (vph)	125	1095	195	750	105	40	80	50	1165	35
Future Volume (vph)	125	1095	195	750	105	40	80	50	1165	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1750
Total Lost time (s)	4.0	4.0	4.0	4.0			4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.95			1.00		*0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00			0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00			0.99		1.00	
Frt	1.00	1.00	1.00	0.98			0.96		1.00	
Flt Protected	0.95	1.00	0.95	1.00			0.99		1.00	
Satd. Flow (prot)	1787	3504	1770	3465			1731		3505	
Flt Permitted	0.95	1.00	0.95	1.00			0.99		1.00	
Satd. Flow (perm)	1787	3504	1770	3465			1731		3505	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	125	1095	195	750	105	40	80	50	1165	35
RTOR Reduction (vph)	0	0	0	0	0	0	10	0	85	0
Lane Group Flow (vph)	125	1095	195	855	0	0	160	0	1115	0
Confl. Peds. (#/hr)	10		10		10	15		15		10
Confl. Bikes (#/hr)										
Heavy Vehicles (%)	1%	2%	2%	2%	0%	0%	4%	2%	3%	3%
Bus Blockages (#/hr)	0	5	0	0	0	0	0	0	0	0
Turn Type	Prot	NA	Prot	NA		Perm	NA		Prot	
Protected Phases	3	3 6	5	1			4		2	
Permitted Phases						4				
Actuated Green, G (s)	9.0	88.7	18.4	32.7			16.9		59.8	
Effective Green, g (s)	10.0	85.9	20.4	35.0			17.9		61.1	
Actuated g/C Ratio	0.07	0.61	0.15	0.25			0.13		0.44	
Clearance Time (s)	5.0		6.0	6.3			5.0		5.3	
Vehicle Extension (s)	2.3		2.3	4.8			2.3		4.8	
Lane Grp Cap (vph)	127	2149	257	866			221		1529	
v/s Ratio Prot	c0.07	0.31	0.11	c0.25					c0.32	
v/s Ratio Perm							0.09			
v/c Ratio	0.98	0.51	0.76	0.99			0.72		0.73	
Uniform Delay, d1	64.9	15.2	57.4	52.3			58.7		32.6	
Progression Factor	0.75	0.58	0.84	0.99			1.00		1.00	
Incremental Delay, d2	55.4	0.1	10.5	26.2			10.0		3.1	
Delay (s)	104.2	8.9	58.7	77.8			68.7		35.7	
Level of Service	F	A	E	E			E		D	
Approach Delay (s)		18.7		74.2			68.7			
Approach LOS		B		E			E			

Intersection Summary			
HCM 2000 Control Delay	42.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
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												
Traffic Volume (vph)	0	790	65	0	0	0	0	0	0	35	240	0
Future Volume (vph)	0	790	65	0	0	0	0	0	0	35	240	0
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	
Lane Util. Factor		0.95								1.00	1.00	
Frt		0.99								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3465								1752	1845	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3465								1752	1845	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	790	65	0	0	0	0	0	0	35	240	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	855	0	0	0	0	0	0	0	35	240	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type		NA								Perm	NA	
Protected Phases		3 6									4 5	
Permitted Phases										4 5		
Actuated Green, G (s)		88.7								40.3	40.3	
Effective Green, g (s)		85.9								41.3	41.3	
Actuated g/C Ratio		0.61								0.29	0.29	
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)		2126								516	544	
v/s Ratio Prot		c0.25									c0.13	
v/s Ratio Perm										0.02		
v/c Ratio		0.40								0.07	0.44	
Uniform Delay, d1		13.9								35.5	40.0	
Progression Factor		0.63								0.13	0.09	
Incremental Delay, d2		0.0								0.0	0.2	
Delay (s)		8.8								4.5	4.0	
Level of Service		A								A	A	
Approach Delay (s)		8.8			0.0			0.0			4.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	970	165	70	755	295	0
Future Volume (vph)	970	165	70	755	295	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	0.99		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.98		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3443		1752	3505	1787	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3443		1752	3505	1787	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	970	165	70	755	295	0
RTOR Reduction (vph)	9	0	0	0	0	0
Lane Group Flow (vph)	1126	0	70	755	295	0
Confl. Peds. (#/hr)		7	7		7	
Confl. Bikes (#/hr)		2				
Heavy Vehicles (%)	2%	1%	3%	3%	1%	1%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	4 8	
Permitted Phases						
Actuated Green, G (s)	52.2		10.1	66.8	62.9	
Effective Green, g (s)	53.5		10.6	68.1	64.2	
Actuated g/C Ratio	0.38		0.08	0.49	0.46	
Clearance Time (s)	5.3		4.5	5.3		
Vehicle Extension (s)	4.7		2.3	4.7		
Lane Grp Cap (vph)	1315		132	1704	819	
v/s Ratio Prot	c0.33		c0.04	0.22	c0.17	
v/s Ratio Perm						
v/c Ratio	0.86		0.53	0.44	0.36	
Uniform Delay, d1	39.7		62.3	23.5	24.6	
Progression Factor	0.64		1.00	1.00	0.10	
Incremental Delay, d2	6.5		2.7	0.8	0.6	
Delay (s)	31.9		65.0	24.4	3.1	
Level of Service	C		E	C	A	
Approach Delay (s)	31.9			27.8	3.1	
Approach LOS	C			C	A	

Intersection Summary			
HCM 2000 Control Delay	26.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	680	50	0	0	0	0	155	25	0	235	0
Future Volume (vph)	140	680	50	0	0	0	0	155	25	0	235	0
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	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						0.98			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		3426						1857			1881	
Flt Permitted		0.99						1.00			1.00	
Satd. Flow (perm)		3426						1857			1881	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	140	680	50	0	0	0	0	155	25	0	235	0
RTOR Reduction (vph)	0	3	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	867	0	0	0	0	0	176	0	0	235	0
Confl. Peds. (#/hr)	7		7						7	7		
Confl. Bikes (#/hr)			1						1			
Heavy Vehicles (%)	5%	3%	4%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Turn Type	Split	NA						NA			NA	
Protected Phases	4	4						8			1 2 8	
Permitted Phases										1 2 8		
Actuated Green, G (s)		41.2						16.4			88.2	
Effective Green, g (s)		42.5						17.4			84.2	
Actuated g/C Ratio		0.30						0.12			0.60	
Clearance Time (s)		5.3						5.0				
Vehicle Extension (s)		6.4						2.3				
Lane Grp Cap (vph)		1040						230			1131	
v/s Ratio Prot		c0.25						c0.09			c0.12	
v/s Ratio Perm												
v/c Ratio		0.83						0.76			0.21	
Uniform Delay, d1		45.4						59.3			12.7	
Progression Factor		1.00						1.00			0.14	
Incremental Delay, d2		6.9						13.1			0.0	
Delay (s)		52.3						72.4			1.8	
Level of Service		D						E			A	
Approach Delay (s)		52.3			0.0			72.4			1.8	
Approach LOS		D			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	45.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	170	705	10	65	160
Future Vol, veh/h	25	170	705	10	65	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	1	0	0	2
Mvmt Flow	25	170	705	10	65	160

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1000	710	0	0	715	0
Stage 1	710	-	-	-	-	-
Stage 2	290	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	272	437	-	-	895	-
Stage 1	491	-	-	-	-	-
Stage 2	764	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	252	437	-	-	895	-
Mov Cap-2 Maneuver	373	-	-	-	-	-
Stage 1	491	-	-	-	-	-
Stage 2	708	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18	0	2.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	373	437	895	-
HCM Lane V/C Ratio	-	-	0.067	0.389	0.073	-
HCM Control Delay (s)	-	-	15.3	18.4	9.3	-
HCM Lane LOS	-	-	C	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	1.8	0.2	-

Intersection	
Intersection Delay, s/veh	68.8
Intersection LOS	F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	500	290	60	385	405	180
Future Vol, veh/h	500	290	60	385	405	180
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	1	0	2	2	0	0
Mvmt Flow	500	290	60	385	405	180
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	57.2	45.5	102.3
HCM LOS	F	E	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	69%	0%	0%	13%
Vol Thru, %	0%	100%	0%	87%
Vol Right, %	31%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	585	500	290	445
LT Vol	405	0	0	60
Through Vol	0	500	0	385
RT Vol	180	0	290	0
Lane Flow Rate	585	500	290	445
Geometry Grp	2	7	7	5
Degree of Util (X)	1.121	1.035	0.542	0.884
Departure Headway (Hd)	6.896	7.939	7.198	7.636
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	527	460	505	476
Service Time	4.949	5.639	4.898	5.636
HCM Lane V/C Ratio	1.11	1.087	0.574	0.935
HCM Control Delay	102.3	79.8	18.1	45.5
HCM Lane LOS	F	F	C	E
HCM 95th-tile Q	19.2	14.3	3.2	9.5

Intersection	
Intersection Delay, s/veh	98.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	115	135	105	310	0	480	0	120	555	100	85	0
Future Vol, veh/h	115	135	105	310	0	480	0	120	555	100	85	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	17	3	0	1	1	1	0	1	1	0	1	7
Mvmt Flow	115	135	105	310	0	480	0	120	555	100	85	0
Number of Lanes	0	1	1	1	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	32.6	87.1	167.9	19.5
HCM LOS	D	F	F	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	0%	0%	46%	0%	100%	0%	0%	100%	0%
Vol Thru, %	100%	0%	54%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	555	250	105	310	0	480	100	85
LT Vol	0	0	115	0	310	0	0	100	0
Through Vol	120	0	135	0	0	0	0	0	85
RT Vol	0	555	0	105	0	0	480	0	0
Lane Flow Rate	120	555	250	105	310	0	480	100	85
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.316	1.354	0.726	0.271	0.827	0	1.121	0.311	0.253
Departure Headway (Hd)	9.832	9.104	11.452	10.226	10.45	9.928	9.197	12.267	11.757
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	368	405	318	354	350	0	398	295	308
Service Time	7.532	6.804	9.152	7.926	8.15	7.628	6.897	9.967	9.457
HCM Lane V/C Ratio	0.326	1.37	0.786	0.297	0.886	0	1.206	0.339	0.276
HCM Control Delay	17	200.5	39.3	16.7	47.7	12.6	112.5	20.4	18.4
HCM Lane LOS	C	F	E	C	E	N	F	C	C
HCM 95th-tile Q	1.3	25.4	5.3	1.1	7.3	0	16.1	1.3	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	260	55	120	395	130	60	285	195	165	135	200
Future Volume (vph)	260	260	55	120	395	130	60	285	195	165	135	200
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	4.5	4.0	4.0	4.8	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00		0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98		1.00	1.00	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1863	1576		3517	1599	1770	1863	1615	1787	1651	
Flt Permitted	0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1805	1863	1576		3517	1599	1770	1863	1615	1787	1651	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	260	260	55	120	395	130	60	285	195	165	135	200
RTOR Reduction (vph)	0	0	44	0	0	0	0	0	94	0	48	0
Lane Group Flow (vph)	260	260	11	0	515	130	60	285	101	165	287	0
Confl. Peds. (#/hr)			3			1			1			4
Heavy Vehicles (%)	0%	2%	0%	3%	1%	1%	2%	2%	0%	1%	8%	1%
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3	3 1	5	2	2 3	1	6	
Permitted Phases			4									
Actuated Green, G (s)	15.3	15.3	15.3		17.1	27.6	6.0	20.7	42.6	10.5	25.2	
Effective Green, g (s)	15.8	15.8	15.8		17.6	27.6	6.5	21.5	42.6	11.0	26.0	
Actuated g/C Ratio	0.19	0.19	0.19		0.21	0.34	0.08	0.26	0.52	0.13	0.32	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.8		4.5	4.8	
Vehicle Extension (s)	2.3	2.3	2.3		2.5		2.3	4.7		2.3	4.7	
Lane Grp Cap (vph)	348	359	304		755	538	140	489	840	240	524	
v/s Ratio Prot	c0.14	0.14			c0.15	0.08	0.03	0.15	0.06	c0.09	c0.17	
v/s Ratio Perm			0.01									
v/c Ratio	0.75	0.72	0.03		0.68	0.24	0.43	0.58	0.12	0.69	0.55	
Uniform Delay, d1	31.2	31.0	26.9		29.6	19.6	35.9	26.3	10.1	33.8	23.1	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.8	6.4	0.0		2.3	0.2	1.2	2.5	0.1	6.9	1.9	
Delay (s)	39.0	37.4	26.9		31.9	19.8	37.2	28.8	10.2	40.7	25.0	
Level of Service	D	D	C		C	B	D	C	B	D	C	
Approach Delay (s)		37.1			29.5			23.0			30.2	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	81.9	Sum of lost time (s)	17.8
Intersection Capacity Utilization	67.3%	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												
Traffic Volume (vph)	225	1555	95	130	1955	25	215	180	260	130	135	140
Future Volume (vph)	225	1555	95	130	1955	25	215	180	260	130	135	140
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	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	1.00	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3471	1570	1787	5026		1805	1900	1538	1770	1711	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3471	1570	1787	5026		1805	1900	1538	1770	1711	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	225	1555	95	130	1955	25	215	180	260	130	135	140
RTOR Reduction (vph)	0	0	49	0	1	0	0	0	133	0	27	0
Lane Group Flow (vph)	225	1555	46	130	1979	0	215	180	127	130	248	0
Confl. Peds. (#/hr)	5		5	5		5	5		12	5		5
Heavy Vehicles (%)	2%	4%	0%	1%	3%	0%	0%	0%	2%	2%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	11.9	68.0	68.0	11.7	67.8		19.3	28.8	28.8	13.5	23.0	
Effective Green, g (s)	12.4	68.5	68.5	12.2	68.3		19.8	29.3	29.3	14.0	23.5	
Actuated g/C Ratio	0.09	0.49	0.49	0.09	0.49		0.14	0.21	0.21	0.10	0.17	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	5.1	5.1	2.5	5.1		3.0	2.3	2.3	2.3	2.3	
Lane Grp Cap (vph)	156	1698	768	155	2451		255	397	321	177	287	
v/s Ratio Prot	c0.13	c0.45		0.07	0.39		c0.12	0.09		0.07	c0.14	
v/s Ratio Perm			0.03						0.08			
v/c Ratio	1.44	0.92	0.06	0.84	0.81		0.84	0.45	0.40	0.73	0.86	
Uniform Delay, d1	63.8	33.1	18.8	62.9	30.3		58.6	48.4	47.7	61.2	56.7	
Progression Factor	1.00	1.00	1.00	1.13	0.77		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	231.4	9.3	0.2	12.0	1.0		21.6	0.5	0.5	13.4	22.0	
Delay (s)	295.2	42.3	19.0	83.0	24.4		80.2	48.8	48.2	74.6	78.7	
Level of Service	F	D	B	F	C		F	D	D	E	E	
Approach Delay (s)		71.5			28.0			58.9			77.4	
Approach LOS		E			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	52.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	1930	2075	290	75	35
Future Vol, veh/h	15	1930	2075	290	75	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	80	-	-	150	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	1930	2075	290	75	35

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2365	0	-	0	3070	1038
Stage 1	-	-	-	-	2075	-
Stage 2	-	-	-	-	995	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	203	-	-	-	~ 9	228
Stage 1	-	-	-	-	82	-
Stage 2	-	-	-	-	318	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	203	-	-	-	~ 8	228
Mov Cap-2 Maneuver	-	-	-	-	~ 58	-
Stage 1	-	-	-	-	76	-
Stage 2	-	-	-	-	318	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	$ 355.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	203	-	-	-	76
HCM Lane V/C Ratio	0.074	-	-	-	1.447
HCM Control Delay (s)	24.1	-	-	-	$ 355.5
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	8.9

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	1855	120	40	1880	45	455	265	155	65	65	30
Future Volume (vph)	30	1855	120	40	1880	45	455	265	155	65	65	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00		1.00	1.00	0.94	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1805	3539	1452	1736	3488		1698	1763	1524	1805	1754	
Flt Permitted	0.05	1.00	1.00	0.05	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (perm)	98	3539	1452	93	3488		1698	1763	1524	1805	1754	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	1855	120	40	1880	45	455	265	155	65	65	30
RTOR Reduction (vph)	0	0	37	0	1	0	0	0	65	0	13	0
Lane Group Flow (vph)	30	1855	83	40	1924	0	355	365	90	65	82	0
Confl. Peds. (#/hr)	20		20	20		20	30		30	30		30
Heavy Vehicles (%)	0%	2%	1%	4%	3%	0%	1%	1%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2		2	6					8			
Actuated Green, G (s)	79.6	77.2	77.2	81.2	78.0		28.0	28.0	28.0	13.6	13.6	
Effective Green, g (s)	80.6	77.7	77.2	82.2	78.5		28.5	28.5	28.5	14.1	14.1	
Actuated g/C Ratio	0.58	0.56	0.55	0.59	0.56		0.20	0.20	0.20	0.10	0.10	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.3	5.1	5.1	2.3	5.1		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	91	1964	800	98	1955		345	358	310	181	176	
v/s Ratio Prot	0.01	0.52		c0.01	c0.55		c0.21	0.21		0.04	c0.05	
v/s Ratio Perm	0.18		0.06	0.23					0.06			
v/c Ratio	0.33	0.94	0.10	0.41	0.98		1.03	1.02	0.29	0.36	0.46	
Uniform Delay, d1	32.5	29.1	14.9	30.8	30.1		55.8	55.8	47.2	58.7	59.4	
Progression Factor	1.78	1.69	2.73	1.61	1.17		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	6.7	0.1	0.8	11.5		56.1	52.6	0.4	0.9	1.4	
Delay (s)	58.7	55.9	41.0	50.6	46.7		111.9	108.4	47.6	59.6	60.8	
Level of Service	E	E	D	D	D		F	F	D	E	E	
Approach Delay (s)		55.0			46.8			99.0			60.3	
Approach LOS		E			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	59.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	102.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBT	WBL	WBT	WBR	SBL	SBT	SBR	SWR	SWR2
Lane Configurations										
Traffic Volume (vph)	125	1095	195	750	105	40	80	50	1165	35
Future Volume (vph)	125	1095	195	750	105	40	80	50	1165	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1750
Total Lost time (s)	4.0	4.0	4.0	4.0			4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.95			1.00		*0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00			0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00			0.99		1.00	
Frt	1.00	1.00	1.00	0.98			0.96		1.00	
Flt Protected	0.95	1.00	0.95	1.00			0.99		1.00	
Satd. Flow (prot)	1787	3504	1770	3465			1731		3505	
Flt Permitted	0.95	1.00	0.95	1.00			0.99		1.00	
Satd. Flow (perm)	1787	3504	1770	3465			1731		3505	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	125	1095	195	750	105	40	80	50	1165	35
RTOR Reduction (vph)	0	0	0	0	0	0	10	0	85	0
Lane Group Flow (vph)	125	1095	195	855	0	0	160	0	1115	0
Confl. Peds. (#/hr)	10		10		10	15		15		10
Confl. Bikes (#/hr)										
Heavy Vehicles (%)	1%	2%	2%	2%	0%	0%	4%	2%	3%	3%
Bus Blockages (#/hr)	0	5	0	0	0	0	0	0	0	0
Turn Type	Prot	NA	Prot	NA		Perm	NA		Prot	
Protected Phases	3	3 6	5	1			4		2	
Permitted Phases						4				
Actuated Green, G (s)	9.0	88.7	18.4	32.7			16.9		59.8	
Effective Green, g (s)	10.0	85.9	20.4	35.0			17.9		61.1	
Actuated g/C Ratio	0.07	0.61	0.15	0.25			0.13		0.44	
Clearance Time (s)	5.0		6.0	6.3			5.0		5.3	
Vehicle Extension (s)	2.3		2.3	4.8			2.3		4.8	
Lane Grp Cap (vph)	127	2149	257	866			221		1529	
v/s Ratio Prot	c0.07	0.31	0.11	c0.25					c0.32	
v/s Ratio Perm							0.09			
v/c Ratio	0.98	0.51	0.76	0.99			0.72		0.73	
Uniform Delay, d1	64.9	15.2	57.4	52.3			58.7		32.6	
Progression Factor	0.95	0.44	0.84	0.99			1.00		1.00	
Incremental Delay, d2	49.6	0.1	10.5	26.2			10.0		3.1	
Delay (s)	111.5	6.8	58.7	77.8			68.7		35.7	
Level of Service	F	A	E	E			E		D	
Approach Delay (s)		17.5		74.2			68.7			
Approach LOS		B		E			E			

Intersection Summary			
HCM 2000 Control Delay	42.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
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												
Traffic Volume (vph)	0	790	65	0	0	0	0	0	0	35	240	0
Future Volume (vph)	0	790	65	0	0	0	0	0	0	35	240	0
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	
Lane Util. Factor		0.95								1.00	1.00	
Frt		0.99								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3465								1752	1845	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3465								1752	1845	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	790	65	0	0	0	0	0	0	35	240	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	855	0	0	0	0	0	0	0	35	240	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type		NA								Perm	NA	
Protected Phases		3 6									4 5	
Permitted Phases										4 5		
Actuated Green, G (s)		88.7								40.3	40.3	
Effective Green, g (s)		85.9								41.3	41.3	
Actuated g/C Ratio		0.61								0.29	0.29	
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)		2126								516	544	
v/s Ratio Prot		c0.25									c0.13	
v/s Ratio Perm										0.02		
v/c Ratio		0.40								0.07	0.44	
Uniform Delay, d1		13.9								35.5	40.0	
Progression Factor		0.39								0.13	0.09	
Incremental Delay, d2		0.0								0.0	0.2	
Delay (s)		5.4								4.5	4.0	
Level of Service		A								A	A	
Approach Delay (s)		5.4			0.0			0.0			4.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	970	165	70	755	295	0
Future Volume (vph)	970	165	70	755	295	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	0.99		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.98		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3443		1752	3505	1787	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3443		1752	3505	1787	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	970	165	70	755	295	0
RTOR Reduction (vph)	9	0	0	0	0	0
Lane Group Flow (vph)	1126	0	70	755	295	0
Confl. Peds. (#/hr)		7	7		7	
Confl. Bikes (#/hr)		2				
Heavy Vehicles (%)	2%	1%	3%	3%	1%	1%
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	4 8	
Permitted Phases						
Actuated Green, G (s)	52.2		10.1	66.8	62.9	
Effective Green, g (s)	53.5		10.6	68.1	64.2	
Actuated g/C Ratio	0.38		0.08	0.49	0.46	
Clearance Time (s)	5.3		4.5	5.3		
Vehicle Extension (s)	4.7		2.3	4.7		
Lane Grp Cap (vph)	1315		132	1704	819	
v/s Ratio Prot	c0.33		c0.04	0.22	c0.17	
v/s Ratio Perm						
v/c Ratio	0.86		0.53	0.44	0.36	
Uniform Delay, d1	39.7		62.3	23.5	24.6	
Progression Factor	1.01		1.00	1.00	0.10	
Incremental Delay, d2	6.5		2.7	0.8	0.6	
Delay (s)	46.7		65.0	24.4	3.1	
Level of Service	D		E	C	A	
Approach Delay (s)	46.7			27.8	3.1	
Approach LOS	D			C	A	

Intersection Summary			
HCM 2000 Control Delay	34.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	680	50	0	0	0	0	155	25	0	235	0
Future Volume (vph)	140	680	50	0	0	0	0	155	25	0	235	0
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	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						0.98			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		3426						1857			1881	
Flt Permitted		0.99						1.00			1.00	
Satd. Flow (perm)		3426						1857			1881	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	140	680	50	0	0	0	0	155	25	0	235	0
RTOR Reduction (vph)	0	3	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	867	0	0	0	0	0	176	0	0	235	0
Confl. Peds. (#/hr)	7		7						7	7		
Confl. Bikes (#/hr)			1						1			
Heavy Vehicles (%)	5%	3%	4%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Turn Type	Split	NA						NA			NA	
Protected Phases	4	4						8			1 2 8	
Permitted Phases										1 2 8		
Actuated Green, G (s)		41.2						16.4			88.2	
Effective Green, g (s)		42.5						17.4			84.2	
Actuated g/C Ratio		0.30						0.12			0.60	
Clearance Time (s)		5.3						5.0				
Vehicle Extension (s)		6.4						2.3				
Lane Grp Cap (vph)		1040						230			1131	
v/s Ratio Prot		c0.25						c0.09			c0.12	
v/s Ratio Perm												
v/c Ratio		0.83						0.76			0.21	
Uniform Delay, d1		45.4						59.3			12.7	
Progression Factor		1.00						1.00			0.14	
Incremental Delay, d2		6.9						13.1			0.0	
Delay (s)		52.3						72.4			1.8	
Level of Service		D						E			A	
Approach Delay (s)		52.3			0.0			72.4			1.8	
Approach LOS		D			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	45.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	170	705	10	65	160
Future Vol, veh/h	25	170	705	10	65	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	1	0	0	2
Mvmt Flow	25	170	705	10	65	160

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1000	710	0	0	715	0
Stage 1	710	-	-	-	-	-
Stage 2	290	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	272	437	-	-	895	-
Stage 1	491	-	-	-	-	-
Stage 2	764	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	252	437	-	-	895	-
Mov Cap-2 Maneuver	373	-	-	-	-	-
Stage 1	491	-	-	-	-	-
Stage 2	708	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18	0	2.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	373	437	895	-
HCM Lane V/C Ratio	-	-	0.067	0.389	0.073	-
HCM Control Delay (s)	-	-	15.3	18.4	9.3	-
HCM Lane LOS	-	-	C	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	1.8	0.2	-

Intersection	
Intersection Delay, s/veh	68.8
Intersection LOS	F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	500	290	60	385	405	180
Future Vol, veh/h	500	290	60	385	405	180
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	1	0	2	2	0	0
Mvmt Flow	500	290	60	385	405	180
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	57.2	45.5	102.3
HCM LOS	F	E	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	69%	0%	0%	13%
Vol Thru, %	0%	100%	0%	87%
Vol Right, %	31%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	585	500	290	445
LT Vol	405	0	0	60
Through Vol	0	500	0	385
RT Vol	180	0	290	0
Lane Flow Rate	585	500	290	445
Geometry Grp	2	7	7	5
Degree of Util (X)	1.121	1.035	0.542	0.884
Departure Headway (Hd)	6.896	7.939	7.198	7.636
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	527	460	505	476
Service Time	4.949	5.639	4.898	5.636
HCM Lane V/C Ratio	1.11	1.087	0.574	0.935
HCM Control Delay	102.3	79.8	18.1	45.5
HCM Lane LOS	F	F	C	E
HCM 95th-tile Q	19.2	14.3	3.2	9.5

Intersection	
Intersection Delay, s/veh	98.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	115	135	105	310	0	480	0	120	555	100	85	0
Future Vol, veh/h	115	135	105	310	0	480	0	120	555	100	85	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	17	3	0	1	1	1	0	1	1	0	1	7
Mvmt Flow	115	135	105	310	0	480	0	120	555	100	85	0
Number of Lanes	0	1	1	1	1	1	0	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	2
HCM Control Delay	32.6	87.1	167.9	19.5
HCM LOS	D	F	F	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	0%	0%	46%	0%	100%	0%	0%	100%	0%
Vol Thru, %	100%	0%	54%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	555	250	105	310	0	480	100	85
LT Vol	0	0	115	0	310	0	0	100	0
Through Vol	120	0	135	0	0	0	0	0	85
RT Vol	0	555	0	105	0	0	480	0	0
Lane Flow Rate	120	555	250	105	310	0	480	100	85
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.316	1.354	0.726	0.271	0.827	0	1.121	0.311	0.253
Departure Headway (Hd)	9.832	9.104	11.452	10.226	10.45	9.928	9.197	12.267	11.757
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	368	405	318	354	350	0	398	295	308
Service Time	7.532	6.804	9.152	7.926	8.15	7.628	6.897	9.967	9.457
HCM Lane V/C Ratio	0.326	1.37	0.786	0.297	0.886	0	1.206	0.339	0.276
HCM Control Delay	17	200.5	39.3	16.7	47.7	12.6	112.5	20.4	18.4
HCM Lane LOS	C	F	E	C	E	N	F	C	C
HCM 95th-tile Q	1.3	25.4	5.3	1.1	7.3	0	16.1	1.3	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	260	55	120	395	130	60	285	195	165	135	200
Future Volume (vph)	260	260	55	120	395	130	60	285	195	165	135	200
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	4.5	4.0	4.0	4.8	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00		0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98		1.00	1.00	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1863	1576		3517	1599	1770	1863	1615	1787	1651	
Flt Permitted	0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1805	1863	1576		3517	1599	1770	1863	1615	1787	1651	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	260	260	55	120	395	130	60	285	195	165	135	200
RTOR Reduction (vph)	0	0	44	0	0	0	0	0	94	0	48	0
Lane Group Flow (vph)	260	260	11	0	515	130	60	285	101	165	287	0
Confl. Peds. (#/hr)			3			1			1			4
Heavy Vehicles (%)	0%	2%	0%	3%	1%	1%	2%	2%	0%	1%	8%	1%
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		3	3	3 1	5	2	2 3	1	6	
Permitted Phases			4									
Actuated Green, G (s)	15.3	15.3	15.3		17.1	27.6	6.0	20.7	42.6	10.5	25.2	
Effective Green, g (s)	15.8	15.8	15.8		17.6	27.6	6.5	21.5	42.6	11.0	26.0	
Actuated g/C Ratio	0.19	0.19	0.19		0.21	0.34	0.08	0.26	0.52	0.13	0.32	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.8		4.5	4.8	
Vehicle Extension (s)	2.3	2.3	2.3		2.5		2.3	4.7		2.3	4.7	
Lane Grp Cap (vph)	348	359	304		755	538	140	489	840	240	524	
v/s Ratio Prot	c0.14	0.14			c0.15	0.08	0.03	0.15	0.06	c0.09	c0.17	
v/s Ratio Perm			0.01									
v/c Ratio	0.75	0.72	0.03		0.68	0.24	0.43	0.58	0.12	0.69	0.55	
Uniform Delay, d1	31.2	31.0	26.9		29.6	19.6	35.9	26.3	10.1	33.8	23.1	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.8	6.4	0.0		2.3	0.2	1.2	2.5	0.1	6.9	1.9	
Delay (s)	39.0	37.4	26.9		31.9	19.8	37.2	28.8	10.2	40.7	25.0	
Level of Service	D	D	C		C	B	D	C	B	D	C	
Approach Delay (s)		37.1			29.5			23.0			30.2	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	81.9	Sum of lost time (s)	17.8
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX B43

Segment C – Bonita Subarea 2045 Build Operations

APPENDIX B

GREAT PLACES SW Corridor

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1175	0	0	0
Future Vol, veh/h	0	0	1175	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1175	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	1175	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	233	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	233	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Intersection Delay, s/veh	17
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	1325	0
Future Vol, veh/h	0	0	0	0	1325	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	1325	0
Number of Lanes	0	1	0	0	2	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	2	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	0	17
HCM LOS	-	C

Lane	EBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	663	663
LT Vol	0	0	0
Through Vol	0	663	663
RT Vol	0	0	0
Lane Flow Rate	0	662	662
Geometry Grp	2	7	7
Degree of Util (X)	0	0.834	0.515
Departure Headway (Hd)	5.719	4.534	2.8
Convergence, Y/N	Yes	Yes	Yes
Cap	0	802	1299
Service Time	3.719	2.234	0.5
HCM Lane V/C Ratio	0	0.825	0.51
HCM Control Delay	8.7	25.5	8.4
HCM Lane LOS	N	D	A
HCM 95th-tile Q	0	9.5	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	540	1200	0	0	1730	625	790	10	750	0	0	0
Future Volume (vph)	540	1200	0	0	1730	625	790	10	750	0	0	0
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	*0.56	0.95			0.86	1.00	0.95	0.95	0.88			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1982	3539			6408	1554	1681	1687	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1982	3539			6408	1554	1681	1687	2787			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	540	1200	0	0	1730	625	790	10	750	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	93	0	0	0
Lane Group Flow (vph)	540	1200	0	0	1730	625	403	397	657	0	0	0
Confl. Peds. (#/hr)	10		20	20		10						
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Turn Type	Prot	NA			NA	Free	Split	NA	custom			
Protected Phases	5	2			6		8	8	8			
Permitted Phases						Free			8			
Actuated Green, G (s)	20.3	43.5			18.7	72.0	18.5	18.5	18.5			
Effective Green, g (s)	20.8	44.5			19.7	72.0	19.5	19.5	19.5			
Actuated g/C Ratio	0.29	0.62			0.27	1.00	0.27	0.27	0.27			
Clearance Time (s)	4.5	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	2.3	4.2			4.2		2.3	2.3	2.3			
Lane Grp Cap (vph)	572	2187			1753	1554	455	456	754			
v/s Ratio Prot	c0.27	0.34			c0.27		c0.24	0.24	0.24			
v/s Ratio Perm						0.40						
v/c Ratio	0.94	0.55			0.99	0.40	0.89	0.87	0.87			
Uniform Delay, d1	25.0	7.9			26.0	0.0	25.2	25.0	25.0			
Progression Factor	0.18	0.37			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	20.3	0.8			18.6	0.8	18.1	16.2	10.6			
Delay (s)	24.7	3.7			44.6	0.8	43.2	41.2	35.6			
Level of Service	C	A			D	A	D	D	D			
Approach Delay (s)		10.2			33.0			39.0			0.0	
Approach LOS		B			C			D			A	

Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.6%	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												
Traffic Volume (vph)	0	1425	400	920	1600	0	0	0	0	315	5	310
Future Volume (vph)	0	1425	400	920	1600	0	0	0	0	315	5	310
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		0.86	1.00	0.97	0.95					0.95	0.95	0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	0.99
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		6408	1583	3433	3539					1681	1688	2759
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		6408	1583	3433	3539					1681	1688	2759
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1425	400	920	1600	0	0	0	0	315	5	310
RTOR Reduction (vph)	0	0	261	0	0	0	0	0	0	0	0	35
Lane Group Flow (vph)	0	1425	139	920	1600	0	0	0	0	161	159	275
Confl. Peds. (#/hr)	10		20	20		10						5
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type		NA	Prot	Prot	NA					Split	NA	custom
Protected Phases		2	2	1	6					4	4	4
Permitted Phases												1
Actuated Green, G (s)		24.1	24.1	22.1	50.7					11.3	11.3	33.4
Effective Green, g (s)		25.1	25.1	22.6	51.7					12.3	12.3	35.4
Actuated g/C Ratio		0.35	0.35	0.31	0.72					0.17	0.17	0.49
Clearance Time (s)		5.0	5.0	4.5	5.0					5.0	5.0	5.0
Vehicle Extension (s)		4.2	4.2	2.3	4.2					2.3	2.3	2.3
Lane Grp Cap (vph)		2233	551	1077	2541					287	288	1509
v/s Ratio Prot		0.22	0.09	c0.27	c0.45					c0.10	0.09	0.03
v/s Ratio Perm												0.07
v/c Ratio		0.64	0.25	0.85	0.63					0.56	0.55	0.18
Uniform Delay, d1		19.6	16.8	23.2	5.2					27.4	27.3	10.2
Progression Factor		1.00	1.00	0.13	0.03					1.00	1.00	1.00
Incremental Delay, d2		1.4	1.1	1.8	0.4					1.8	1.6	0.0
Delay (s)		21.1	17.9	4.8	0.6					29.2	28.9	10.3
Level of Service		C	B	A	A					C	C	B
Approach Delay (s)		20.4			2.1			0.0			19.8	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX B44

Segment C – Bridgeport Subarea 2045 Build Operations

GREAT PLACES SW Corridor

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1214	0	0	0
Future Vol, veh/h	0	0	1214	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1214	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	1214	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	221	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	221	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Intersection Delay, s/veh	26.2
Intersection LOS	D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	1519	0
Future Vol, veh/h	0	0	0	0	1519	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	1519	0
Number of Lanes	0	1	0	0	2	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	2	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	0	26.2
HCM LOS	-	D

Lane	EBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	760	760
LT Vol	0	0	0
Through Vol	0	760	760
RT Vol	0	0	0
Lane Flow Rate	0	760	760
Geometry Grp	2	7	7
Degree of Util (X)	0	0.957	0.591
Departure Headway (Hd)	5.841	4.534	2.8
Convergence, Y/N	Yes	Yes	Yes
Cap	0	805	1299
Service Time	3.841	2.234	0.5
HCM Lane V/C Ratio	0	0.944	0.585
HCM Control Delay	8.8	42.8	9.5
HCM Lane LOS	N	E	A
HCM 95th-tile Q	0	14.9	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	245	1218	605	185	1492	50	535	30	50	135	50	360
Future Volume (vph)	245	1218	605	185	1492	50	535	30	50	135	50	360
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.96	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5053		1681	1665			1780	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.96	1.00
Satd. Flow (perm)	1770	3539	1583	1770	5053		1681	1665			1780	1568
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	245	1218	605	185	1492	50	535	30	50	135	50	360
RTOR Reduction (vph)	0	0	167	0	3	0	0	6	0	0	0	34
Lane Group Flow (vph)	245	1218	438	185	1539	0	310	299	0	0	185	326
Confl. Peds. (#/hr)	5		5	5		5	10					10
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2	2 8	1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	22.0	46.7	73.6	16.4	41.6		26.9	26.9			22.7	44.7
Effective Green, g (s)	22.0	47.7	75.6	16.4	42.1		27.4	27.4			23.2	45.7
Actuated g/C Ratio	0.17	0.36	0.58	0.13	0.32		0.21	0.21			0.18	0.35
Clearance Time (s)	4.0	5.0		4.0	4.5		4.5	4.5			4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3			2.3	
Lane Grp Cap (vph)	297	1291	915	222	1627		352	349			315	548
v/s Ratio Prot	c0.14	c0.34	0.28	0.10	0.30		c0.18	0.18			0.10	c0.21
v/s Ratio Perm												
v/c Ratio	0.82	0.94	0.48	0.83	0.95		0.88	0.86			0.59	0.60
Uniform Delay, d1	52.5	40.2	16.1	55.8	43.2		50.1	49.8			49.4	34.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	16.3	13.9	0.6	22.1	12.0		21.5	18.0			2.1	1.3
Delay (s)	68.8	54.1	16.7	77.9	55.2		71.5	67.8			51.5	36.2
Level of Service	E	D	B	E	E		E	E			D	D
Approach Delay (s)		44.9			57.6			69.7			41.4	
Approach LOS		D			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	52.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	130.7	Sum of lost time (s)	16.5
Intersection Capacity Utilization	83.2%	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												
Traffic Volume (vph)	579	1318	0	0	1762	625	881	10	750	0	0	0
Future Volume (vph)	579	1318	0	0	1762	625	881	10	750	0	0	0
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	*0.56	0.95			0.86	1.00	0.95	0.95	0.88			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1982	3539			6408	1554	1681	1687	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1982	3539			6408	1554	1681	1687	2787			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	579	1318	0	0	1762	625	881	10	750	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	71	0	0	0
Lane Group Flow (vph)	579	1318	0	0	1762	625	449	442	679	0	0	0
Confl. Peds. (#/hr)	10		20	20		10						
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Turn Type	Prot	NA			NA	Free	Split	NA	custom			
Protected Phases	5	2			6		8	8	8			
Permitted Phases						Free			8			
Actuated Green, G (s)	20.5	43.0			18.0	72.0	19.0	19.0	19.0			
Effective Green, g (s)	21.0	44.0			19.0	72.0	20.0	20.0	20.0			
Actuated g/C Ratio	0.29	0.61			0.26	1.00	0.28	0.28	0.28			
Clearance Time (s)	4.5	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	2.3	4.2			4.2		2.3	2.3	2.3			
Lane Grp Cap (vph)	578	2162			1691	1554	466	468	774			
v/s Ratio Prot	c0.29	0.37			c0.27		c0.27	0.26	0.24			
v/s Ratio Perm						0.40						
v/c Ratio	1.00	0.61			1.04	0.40	0.96	0.94	0.88			
Uniform Delay, d1	25.5	8.7			26.5	0.0	25.6	25.5	24.8			
Progression Factor	0.16	0.42			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	31.5	1.0			33.7	0.8	32.2	27.8	10.8			
Delay (s)	35.6	4.6			60.2	0.8	57.8	53.3	35.7			
Level of Service	D	A			E	A	E	D	D			
Approach Delay (s)		14.1			44.6			46.5			0.0	
Approach LOS		B			D			D			A	

Intersection Summary			
HCM 2000 Control Delay	35.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.8%	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												
Traffic Volume (vph)	0	1582	594	920	1723	0	0	0	0	315	5	319
Future Volume (vph)	0	1582	594	920	1723	0	0	0	0	315	5	319
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		0.86	1.00	0.97	0.95					0.95	0.95	0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	0.99
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		6408	1583	3433	3539					1681	1688	2759
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		6408	1583	3433	3539					1681	1688	2759
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1582	594	920	1723	0	0	0	0	315	5	319
RTOR Reduction (vph)	0	0	292	0	0	0	0	0	0	0	0	26
Lane Group Flow (vph)	0	1582	302	920	1723	0	0	0	0	161	159	293
Confl. Peds. (#/hr)	10		20	20		10						5
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type		NA	Prot	Prot	NA					Split	NA	custom
Protected Phases		2	2	1	6					4	4	4
Permitted Phases												1
Actuated Green, G (s)		24.1	24.1	22.1	50.7					11.3	11.3	33.4
Effective Green, g (s)		25.1	25.1	22.6	51.7					12.3	12.3	35.4
Actuated g/C Ratio		0.35	0.35	0.31	0.72					0.17	0.17	0.49
Clearance Time (s)		5.0	5.0	4.5	5.0					5.0	5.0	5.0
Vehicle Extension (s)		4.2	4.2	2.3	4.2					2.3	2.3	2.3
Lane Grp Cap (vph)		2233	551	1077	2541					287	288	1509
v/s Ratio Prot		0.25	0.19	c0.27	c0.49					c0.10	0.09	0.03
v/s Ratio Perm												0.07
v/c Ratio		0.71	0.55	0.85	0.68					0.56	0.55	0.19
Uniform Delay, d1		20.3	18.9	23.2	5.6					27.4	27.3	10.3
Progression Factor		1.00	1.00	0.22	0.05					1.00	1.00	1.00
Incremental Delay, d2		1.9	3.9	0.6	0.3					1.8	1.6	0.0
Delay (s)		22.2	22.8	5.6	0.6					29.2	28.9	10.3
Level of Service		C	C	A	A					C	C	B
Approach Delay (s)		22.4			2.4			0.0			19.7	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.8%	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												
Traffic Volume (vph)	125	570	66	747	455	840	79	378	986	620	377	245
Future Volume (vph)	125	570	66	747	455	840	79	378	986	620	377	245
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	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.95	1.00	1.00	1.00	0.88	*0.63	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	5045		3433	3539	1541	1770	1863	2787	2230	1734	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1787	5045		3433	3539	1541	1770	1863	2787	2230	1734	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	125	570	66	747	455	840	79	378	986	620	377	245
RTOR Reduction (vph)	0	12	0	0	0	437	0	0	59	0	18	0
Lane Group Flow (vph)	125	624	0	747	455	403	79	378	927	620	604	0
Confl. Peds. (#/hr)	5		10	10		5	15					15
Confl. Bikes (#/hr)						15			5			5
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases						6						
Actuated Green, G (s)	8.1	22.7		28.6	42.2	42.2	6.0	10.4	44.0	34.1	40.0	
Effective Green, g (s)	9.1	23.7		28.6	43.2	43.2	6.0	11.4	45.0	35.1	40.5	
Actuated g/C Ratio	0.08	0.21		0.25	0.38	0.38	0.05	0.10	0.39	0.31	0.35	
Clearance Time (s)	5.0	5.0		4.0	5.0	5.0	4.0	5.0		5.0	4.5	
Vehicle Extension (s)	5.1	5.1		2.3	4.2	4.2	2.3	2.3		3.0	2.3	
Lane Grp Cap (vph)	141	1041		855	1331	579	92	185	1092	681	611	
v/s Ratio Prot	0.07	0.12		0.22	0.13		0.04	c0.20	c0.33	c0.28	c0.35	
v/s Ratio Perm						c0.26						
v/c Ratio	0.89	0.60		0.87	0.34	0.70	0.86	2.04	0.85	0.91	0.99	
Uniform Delay, d1	52.3	41.3		41.4	25.6	30.2	54.0	51.7	31.8	38.3	36.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	46.1	1.4		9.7	0.2	4.0	49.6	487.8	6.1	16.4	33.1	
Delay (s)	98.5	42.7		51.0	25.9	34.3	103.6	539.5	38.0	54.7	70.0	
Level of Service	F	D		D	C	C	F	F	D	D	E	
Approach Delay (s)		51.9			38.5			172.9			62.3	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	81.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	114.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.4%	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												
Traffic Volume (vph)	50	5	80	20	10	15	140	1168	35	5	1142	60
Future Volume (vph)	50	5	80	20	10	15	140	1168	35	5	1142	60
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	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.91		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1769	1572		1742	1672		1770	3518		1770	3506	
Flt Permitted	0.74	1.00		0.70	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1380	1572		1287	1672		1770	3518		1770	3506	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	5	80	20	10	15	140	1168	35	5	1142	60
RTOR Reduction (vph)	0	69	0	0	13	0	0	1	0	0	3	0
Lane Group Flow (vph)	50	16	0	20	12	0	140	1202	0	5	1199	0
Confl. Peds. (#/hr)	10		15	15		10	5		10	10		5
Confl. Bikes (#/hr)									5			5
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	8.9	8.9		9.2	9.2		11.0	59.4		1.0	49.2	
Effective Green, g (s)	12.0	12.0		12.0	12.0		13.7	60.8		3.6	50.7	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.15	0.69		0.04	0.57	
Clearance Time (s)	7.1	7.1		6.8	6.8		6.7	5.4		6.6	5.5	
Vehicle Extension (s)	2.4	2.4		2.4	2.4		2.6	2.5		2.6	2.5	
Lane Grp Cap (vph)	187	213		174	226		274	2419		72	2010	
v/s Ratio Prot		0.01			0.01		c0.08	0.34		0.00	c0.34	
v/s Ratio Perm	c0.04			0.02								
v/c Ratio	0.27	0.07		0.11	0.05		0.51	0.50		0.07	0.60	
Uniform Delay, d1	34.3	33.4		33.5	33.3		34.3	6.5		40.8	12.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1		0.2	0.1		1.3	0.7		0.3	1.3	
Delay (s)	34.8	33.4		33.7	33.3		35.6	7.3		41.1	13.5	
Level of Service	C	C		C	C		D	A		D	B	
Approach Delay (s)		33.9			33.5			10.2			13.6	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	88.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	178	1265	0	0	1190
Future Vol, veh/h	0	178	1265	0	0	1190
Conflicting Peds, #/hr	0	0	0	35	35	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	50	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	3	3	3
Mvmt Flow	0	178	1265	0	0	1190

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	668	0	0	1300	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.16	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.23	-
Pot Cap-1 Maneuver	0	405	-	-	523	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	393	-	-	508	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	393	508	-
HCM Lane V/C Ratio	-	-	0.453	-	-
HCM Control Delay (s)	-	-	21.5	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	2.3	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	55	79	0	100	60	1140	42	126	989	75
Future Volume (vph)	25	0	55	79	0	100	60	1140	42	126	989	75
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		1.00	1.00		1.00	0.95	
Frpb, ped/bikes		1.00			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.91			0.92		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1657			1366		1769	1851		1770	3494	
Flt Permitted		0.87			0.86		0.23	1.00		0.09	1.00	
Satd. Flow (perm)		1468			1198		422	1851		174	3494	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	0	55	79	0	100	60	1140	42	126	989	75
RTOR Reduction (vph)	0	66	0	0	71	0	0	2	0	0	6	0
Lane Group Flow (vph)	0	14	0	0	108	0	60	1180	0	126	1058	0
Confl. Peds. (#/hr)	10					10	5		5	5		5
Confl. Bikes (#/hr)									5			5
Heavy Vehicles (%)	2%	2%	2%	23%	23%	23%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		10.8			10.8		44.4	42.0		46.0	42.8	
Effective Green, g (s)		10.8			10.8		44.4	42.0		46.0	42.8	
Actuated g/C Ratio		0.16			0.16		0.65	0.62		0.68	0.63	
Clearance Time (s)		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	
Lane Grp Cap (vph)		233			190		323	1143		192	2199	
v/s Ratio Prot							0.01	c0.64		c0.03	0.30	
v/s Ratio Perm		0.01			c0.09		0.11			0.41		
v/c Ratio		0.06			0.57		0.19	1.03		0.66	0.48	
Uniform Delay, d1		24.3			26.5		4.6	13.0		15.7	6.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			4.1		0.3	35.4		7.8	0.2	
Delay (s)		24.4			30.5		4.9	48.4		23.5	6.9	
Level of Service		C			C		A	D		C	A	
Approach Delay (s)		24.4			30.5			46.3			8.6	
Approach LOS		C			C			D			A	

Intersection Summary			
HCM 2000 Control Delay	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	68.0	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	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	429	40	180	449	150	40	30	167	165	30	25
Future Volume (vph)	30	429	40	180	449	150	40	30	167	165	30	25
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	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.86
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.96		1.00	0.87		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.97	1.00
Satd. Flow (prot)	1766	3464		1751	3373		1787	1606		1681	1710	1357
Flt Permitted	0.43	1.00		0.39	1.00		0.95	1.00		0.95	0.97	1.00
Satd. Flow (perm)	791	3464		715	3373		1787	1606		1681	1710	1357
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	429	40	180	449	150	40	30	167	165	30	25
RTOR Reduction (vph)	0	5	0	0	17	0	0	149	0	0	0	21
Lane Group Flow (vph)	30	464	0	180	582	0	40	48	0	97	98	4
Confl. Peds. (#/hr)	5		25	25		5	45		5	5		45
Confl. Bikes (#/hr)						10						5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6								4
Actuated Green, G (s)	47.2	43.6		65.0	54.0		8.4	8.4		13.1	13.1	13.1
Effective Green, g (s)	54.0	45.3		67.3	55.7		11.5	11.5		16.7	16.7	16.7
Actuated g/C Ratio	0.51	0.42		0.63	0.52		0.11	0.11		0.16	0.16	0.16
Clearance Time (s)	7.4	5.7		6.3	5.7		7.1	7.1		7.6	7.6	7.6
Vehicle Extension (s)	2.4	3.1		2.7	3.1		2.4	2.4		2.3	2.3	2.3
Lane Grp Cap (vph)	463	1467		618	1757		192	172		262	267	211
v/s Ratio Prot	0.00	0.13		c0.05	c0.17		0.02	c0.03		c0.06	0.06	
v/s Ratio Perm	0.03			0.14								0.00
v/c Ratio	0.06	0.32		0.29	0.33		0.21	0.28		0.37	0.37	0.02
Uniform Delay, d1	13.3	20.5		8.7	14.8		43.5	43.9		40.4	40.4	38.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.6		1.2	0.5		0.4	0.6		0.5	0.5	0.0
Delay (s)	13.4	21.1		9.9	15.3		43.9	44.5		40.9	40.9	38.2
Level of Service	B	C		A	B		D	D		D	D	D
Approach Delay (s)		20.6			14.1			44.4			40.6	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	23.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	106.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑	↱		
Traffic Vol, veh/h	0	0	1204	0	0	0
Future Vol, veh/h	0	0	1204	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1204	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	1204	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	224	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	224	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Intersection Delay, s/veh	23
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	1468	0
Future Vol, veh/h	0	0	0	0	1468	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	1468	0
Number of Lanes	0	1	0	0	2	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	2	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	0	23
HCM LOS	-	C

Lane	EBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	734	734
LT Vol	0	0	0
Through Vol	0	734	734
RT Vol	0	0	0
Lane Flow Rate	0	734	734
Geometry Grp	2	7	7
Degree of Util (X)	0	0.924	0.571
Departure Headway (Hd)	5.812	4.534	2.8
Convergence, Y/N	Yes	Yes	Yes
Cap	0	807	1299
Service Time	3.812	2.234	0.5
HCM Lane V/C Ratio	0	0.91	0.565
HCM Control Delay	8.8	36.8	9.2
HCM Lane LOS	N	E	A
HCM 95th-tile Q	0	13.2	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	569	1305	0	0	1754	625	857	10	750	0	0	0
Future Volume (vph)	569	1305	0	0	1754	625	857	10	750	0	0	0
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	*0.56	0.95			0.86	1.00	0.95	0.95	0.88			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1982	3539			6408	1554	1681	1687	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1982	3539			6408	1554	1681	1687	2787			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	569	1305	0	0	1754	625	857	10	750	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	62	0	0	0
Lane Group Flow (vph)	569	1305	0	0	1754	625	437	430	688	0	0	0
Confl. Peds. (#/hr)	10		20	20		10						
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Turn Type	Prot	NA			NA	Free	Split	NA	custom			
Protected Phases	5	2			6		8	8	8			
Permitted Phases						Free			8			
Actuated Green, G (s)	21.0	46.5			21.0	80.0	23.5	23.5	23.5			
Effective Green, g (s)	21.5	47.5			22.0	80.0	24.5	24.5	24.5			
Actuated g/C Ratio	0.27	0.59			0.28	1.00	0.31	0.31	0.31			
Clearance Time (s)	4.5	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	2.3	4.2			4.2		2.3	2.3	2.3			
Lane Grp Cap (vph)	532	2101			1762	1554	514	516	853			
v/s Ratio Prot	c0.29	0.37			c0.27		c0.26	0.25	0.25			
v/s Ratio Perm						0.40						
v/c Ratio	1.07	0.62			1.00	0.40	0.85	0.83	0.81			
Uniform Delay, d1	29.2	10.5			29.0	0.0	26.0	25.8	25.6			
Progression Factor	0.33	0.80			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	54.5	1.1			20.4	0.8	12.4	10.8	5.4			
Delay (s)	64.2	9.5			49.3	0.8	38.5	36.6	31.0			
Level of Service	E	A			D	A	D	D	C			
Approach Delay (s)		26.1			36.6			34.5			0.0	
Approach LOS		C			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	32.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.7%	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												
Traffic Volume (vph)	0	1559	543	920	1691	0	0	0	0	315	5	317
Future Volume (vph)	0	1559	543	920	1691	0	0	0	0	315	5	317
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		0.86	1.00	0.97	0.95					0.95	0.95	0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	0.99
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		6408	1583	3433	3539					1681	1688	2759
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		6408	1583	3433	3539					1681	1688	2759
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1559	543	920	1691	0	0	0	0	315	5	317
RTOR Reduction (vph)	0	0	242	0	0	0	0	0	0	0	0	38
Lane Group Flow (vph)	0	1559	301	920	1691	0	0	0	0	161	159	279
Confl. Peds. (#/hr)	10		20	20		10						5
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type		NA	Prot	Prot	NA					Split	NA	custom
Protected Phases		2	2	1	6					4	4	4
Permitted Phases												1
Actuated Green, G (s)		29.9	29.9	23.9	58.3					11.7	11.7	35.6
Effective Green, g (s)		30.9	30.9	24.4	59.3					12.7	12.7	37.6
Actuated g/C Ratio		0.39	0.39	0.30	0.74					0.16	0.16	0.47
Clearance Time (s)		5.0	5.0	4.5	5.0					5.0	5.0	5.0
Vehicle Extension (s)		4.2	4.2	2.3	4.2					2.3	2.3	2.3
Lane Grp Cap (vph)		2475	611	1047	2623					266	267	1434
v/s Ratio Prot		0.24	0.19	c0.27	c0.48					c0.10	0.09	0.03
v/s Ratio Perm												0.07
v/c Ratio		0.63	0.49	0.88	0.64					0.61	0.60	0.19
Uniform Delay, d1		19.9	18.6	26.4	5.1					31.3	31.3	12.4
Progression Factor		1.00	1.00	0.29	0.03					1.00	1.00	1.00
Incremental Delay, d2		1.2	2.8	2.2	0.5					3.0	2.7	0.0
Delay (s)		21.1	21.4	9.8	0.7					34.3	34.0	12.4
Level of Service		C	C	A	A					C	C	B
Approach Delay (s)		21.2			3.9			0.0			23.3	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑	↱		
Traffic Vol, veh/h	0	0	1204	0	0	0
Future Vol, veh/h	0	0	1204	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1204	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	1204	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	224	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	224	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Intersection Delay, s/veh	23
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	1468	0
Future Vol, veh/h	0	0	0	0	1468	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	1468	0
Number of Lanes	0	1	0	0	2	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	2	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	0	23
HCM LOS	-	C

Lane	EBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	734	734
LT Vol	0	0	0
Through Vol	0	734	734
RT Vol	0	0	0
Lane Flow Rate	0	734	734
Geometry Grp	2	7	7
Degree of Util (X)	0	0.924	0.571
Departure Headway (Hd)	5.812	4.534	2.8
Convergence, Y/N	Yes	Yes	Yes
Cap	0	807	1299
Service Time	3.812	2.234	0.5
HCM Lane V/C Ratio	0	0.91	0.565
HCM Control Delay	8.8	36.8	9.2
HCM Lane LOS	N	E	A
HCM 95th-tile Q	0	13.2	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	569	1305	0	0	1754	625	857	10	750	0	0	0
Future Volume (vph)	569	1305	0	0	1754	625	857	10	750	0	0	0
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	*0.56	0.95			0.86	1.00	0.95	0.95	0.88			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1982	3539			6408	1554	1681	1687	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1982	3539			6408	1554	1681	1687	2787			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	569	1305	0	0	1754	625	857	10	750	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	62	0	0	0
Lane Group Flow (vph)	569	1305	0	0	1754	625	437	430	688	0	0	0
Confl. Peds. (#/hr)	10		20	20		10						
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Turn Type	Prot	NA			NA	Free	Split	NA	custom			
Protected Phases	5	2			6		8	8	8			
Permitted Phases						Free			8			
Actuated Green, G (s)	21.0	46.5			21.0	80.0	23.5	23.5	23.5			
Effective Green, g (s)	21.5	47.5			22.0	80.0	24.5	24.5	24.5			
Actuated g/C Ratio	0.27	0.59			0.28	1.00	0.31	0.31	0.31			
Clearance Time (s)	4.5	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	2.3	4.2			4.2		2.3	2.3	2.3			
Lane Grp Cap (vph)	532	2101			1762	1554	514	516	853			
v/s Ratio Prot	c0.29	0.37			c0.27		c0.26	0.25	0.25			
v/s Ratio Perm						0.40						
v/c Ratio	1.07	0.62			1.00	0.40	0.85	0.83	0.81			
Uniform Delay, d1	29.2	10.5			29.0	0.0	26.0	25.8	25.6			
Progression Factor	0.33	0.80			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	54.5	1.1			20.4	0.8	12.4	10.8	5.4			
Delay (s)	64.2	9.5			49.3	0.8	38.5	36.6	31.0			
Level of Service	E	A			D	A	D	D	C			
Approach Delay (s)		26.1			36.6			34.5			0.0	
Approach LOS		C			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	32.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.7%	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												
Traffic Volume (vph)	0	1559	543	920	1691	0	0	0	0	315	5	317
Future Volume (vph)	0	1559	543	920	1691	0	0	0	0	315	5	317
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		0.86	1.00	0.97	0.95					0.95	0.95	0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	0.99
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		6408	1583	3433	3539					1681	1688	2759
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		6408	1583	3433	3539					1681	1688	2759
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1559	543	920	1691	0	0	0	0	315	5	317
RTOR Reduction (vph)	0	0	242	0	0	0	0	0	0	0	0	38
Lane Group Flow (vph)	0	1559	301	920	1691	0	0	0	0	161	159	279
Confl. Peds. (#/hr)	10		20	20		10						5
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type		NA	Prot	Prot	NA					Split	NA	custom
Protected Phases		2	2	1	6					4	4	4
Permitted Phases												1
Actuated Green, G (s)		29.9	29.9	23.9	58.3					11.7	11.7	35.6
Effective Green, g (s)		30.9	30.9	24.4	59.3					12.7	12.7	37.6
Actuated g/C Ratio		0.39	0.39	0.30	0.74					0.16	0.16	0.47
Clearance Time (s)		5.0	5.0	4.5	5.0					5.0	5.0	5.0
Vehicle Extension (s)		4.2	4.2	2.3	4.2					2.3	2.3	2.3
Lane Grp Cap (vph)		2475	611	1047	2623					266	267	1434
v/s Ratio Prot		0.24	0.19	c0.27	c0.48					c0.10	0.09	0.03
v/s Ratio Perm												0.07
v/c Ratio		0.63	0.49	0.88	0.64					0.61	0.60	0.19
Uniform Delay, d1		19.9	18.6	26.4	5.1					31.3	31.3	12.4
Progression Factor		1.00	1.00	0.29	0.03					1.00	1.00	1.00
Incremental Delay, d2		1.2	2.8	2.2	0.5					3.0	2.7	0.0
Delay (s)		21.1	21.4	9.8	0.7					34.3	34.0	12.4
Level of Service		C	C	A	A					C	C	B
Approach Delay (s)		21.2			3.9			0.0			23.3	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑	↱		
Traffic Vol, veh/h	0	0	1214	0	0	0
Future Vol, veh/h	0	0	1214	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1214	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	1214	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	221	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	221	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Intersection Delay, s/veh	26.2
Intersection LOS	D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	1519	0
Future Vol, veh/h	0	0	0	0	1519	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	1519	0
Number of Lanes	0	1	0	0	2	0

Approach	EB	SB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	SB	
Conflicting Lanes Left	2	0
Conflicting Approach Right		EB
Conflicting Lanes Right	0	1
HCM Control Delay	0	26.2
HCM LOS	-	D

Lane	EBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	760	760
LT Vol	0	0	0
Through Vol	0	760	760
RT Vol	0	0	0
Lane Flow Rate	0	760	760
Geometry Grp	2	7	7
Degree of Util (X)	0	0.957	0.591
Departure Headway (Hd)	5.841	4.534	2.8
Convergence, Y/N	Yes	Yes	Yes
Cap	0	805	1299
Service Time	3.841	2.234	0.5
HCM Lane V/C Ratio	0	0.944	0.585
HCM Control Delay	8.8	42.8	9.5
HCM Lane LOS	N	E	A
HCM 95th-tile Q	0	14.9	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	579	1318	0	0	1762	625	881	10	750	0	0	0
Future Volume (vph)	579	1318	0	0	1762	625	881	10	750	0	0	0
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	*0.56	0.95			0.86	1.00	0.95	0.95	0.88			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1982	3539			6408	1554	1681	1687	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1982	3539			6408	1554	1681	1687	2787			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	579	1318	0	0	1762	625	881	10	750	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	61	0	0	0
Lane Group Flow (vph)	579	1318	0	0	1762	625	449	442	689	0	0	0
Confl. Peds. (#/hr)	10		20	20		10						
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Turn Type	Prot	NA			NA	Free	Split	NA	custom			
Protected Phases	5	2			6		8	8	8			
Permitted Phases						Free			8			
Actuated Green, G (s)	20.7	46.2			21.0	80.0	23.8	23.8	23.8			
Effective Green, g (s)	21.2	47.2			22.0	80.0	24.8	24.8	24.8			
Actuated g/C Ratio	0.26	0.59			0.28	1.00	0.31	0.31	0.31			
Clearance Time (s)	4.5	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	2.3	4.2			4.2		2.3	2.3	2.3			
Lane Grp Cap (vph)	525	2088			1762	1554	521	522	863			
v/s Ratio Prot	c0.29	0.37			c0.27		c0.27	0.26	0.25			
v/s Ratio Perm						0.40						
v/c Ratio	1.10	0.63			1.00	0.40	0.86	0.85	0.80			
Uniform Delay, d1	29.4	10.7			29.0	0.0	26.0	25.8	25.3			
Progression Factor	0.34	0.81			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	66.0	1.2			21.4	0.8	13.5	11.8	5.0			
Delay (s)	76.0	9.8			50.4	0.8	39.4	37.6	30.3			
Level of Service	E	A			D	A	D	D	C			
Approach Delay (s)		30.0			37.4			34.8			0.0	
Approach LOS		C			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	34.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.8%	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												
Traffic Volume (vph)	0	1582	594	920	1723	0	0	0	0	315	5	319
Future Volume (vph)	0	1582	594	920	1723	0	0	0	0	315	5	319
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		0.86	1.00	0.97	0.95					0.95	0.95	0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	0.99
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		6408	1583	3433	3539					1681	1688	2759
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		6408	1583	3433	3539					1681	1688	2759
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1582	594	920	1723	0	0	0	0	315	5	319
RTOR Reduction (vph)	0	0	242	0	0	0	0	0	0	0	0	36
Lane Group Flow (vph)	0	1582	352	920	1723	0	0	0	0	161	159	283
Confl. Peds. (#/hr)	10		20	20		10						5
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type		NA	Prot	Prot	NA					Split	NA	custom
Protected Phases		2	2	1	6					4	4	4
Permitted Phases												1
Actuated Green, G (s)		29.9	29.9	23.9	58.3					11.7	11.7	35.6
Effective Green, g (s)		30.9	30.9	24.4	59.3					12.7	12.7	37.6
Actuated g/C Ratio		0.39	0.39	0.30	0.74					0.16	0.16	0.47
Clearance Time (s)		5.0	5.0	4.5	5.0					5.0	5.0	5.0
Vehicle Extension (s)		4.2	4.2	2.3	4.2					2.3	2.3	2.3
Lane Grp Cap (vph)		2475	611	1047	2623					266	267	1434
v/s Ratio Prot		0.25	0.22	c0.27	c0.49					c0.10	0.09	0.03
v/s Ratio Perm												0.07
v/c Ratio		0.64	0.58	0.88	0.66					0.61	0.60	0.20
Uniform Delay, d1		20.0	19.4	26.4	5.2					31.3	31.3	12.4
Progression Factor		1.00	1.00	0.29	0.03					1.00	1.00	1.00
Incremental Delay, d2		1.3	3.9	0.9	0.5					3.0	2.7	0.0
Delay (s)		21.3	23.3	8.6	0.7					34.3	34.0	12.4
Level of Service		C	C	A	A					C	C	B
Approach Delay (s)		21.8			3.4			0.0			23.3	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑	↱		
Traffic Vol, veh/h	0	0	1204	0	0	0
Future Vol, veh/h	0	0	1204	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1204	0	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	1204	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	224	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	224	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	245	1205	605	185	1484	50	535	30	50	135	50	360
Future Volume (vph)	245	1205	605	185	1484	50	535	30	50	135	50	360
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.96	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5053		1681	1665			1780	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.96	1.00
Satd. Flow (perm)	1770	3539	1583	1770	5053		1681	1665			1780	1568
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	245	1205	605	185	1484	50	535	30	50	135	50	360
RTOR Reduction (vph)	0	0	167	0	3	0	0	6	0	0	0	34
Lane Group Flow (vph)	245	1205	438	185	1531	0	310	299	0	0	185	326
Confl. Peds. (#/hr)	5		5	5		5	10					10
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type	Prot	NA	pt+ov	Prot	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2	2 8	1	6		8	8		4	4	4 5
Permitted Phases												
Actuated Green, G (s)	22.0	46.7	73.6	16.4	41.6		26.9	26.9			22.7	44.7
Effective Green, g (s)	22.0	47.7	75.6	16.4	42.1		27.4	27.4			23.2	45.7
Actuated g/C Ratio	0.17	0.36	0.58	0.13	0.32		0.21	0.21			0.18	0.35
Clearance Time (s)	4.0	5.0		4.0	4.5		4.5	4.5			4.5	
Vehicle Extension (s)	2.3	4.2		2.3	4.2		2.3	2.3			2.3	
Lane Grp Cap (vph)	297	1291	915	222	1627		352	349			315	548
v/s Ratio Prot	c0.14	c0.34	0.28	0.10	0.30		c0.18	0.18			0.10	c0.21
v/s Ratio Perm												
v/c Ratio	0.82	0.93	0.48	0.83	0.94		0.88	0.86			0.59	0.60
Uniform Delay, d1	52.5	40.0	16.1	55.8	43.1		50.1	49.8			49.4	34.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	16.3	12.5	0.6	22.1	11.4		21.5	18.0			2.1	1.3
Delay (s)	68.8	52.5	16.7	77.9	54.5		71.5	67.8			51.5	36.2
Level of Service	E	D	B	E	D		E	E			D	D
Approach Delay (s)		43.9			57.0			69.7			41.4	
Approach LOS		D			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	51.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	130.7	Sum of lost time (s)	16.5
Intersection Capacity Utilization	83.0%	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												
Traffic Volume (vph)	569	1305	0	0	1754	625	857	10	750	0	0	0
Future Volume (vph)	569	1305	0	0	1754	625	857	10	750	0	0	0
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	*0.56	0.95			0.86	1.00	0.95	0.95	0.88			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1982	3539			6408	1554	1681	1687	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1982	3539			6408	1554	1681	1687	2787			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	569	1305	0	0	1754	625	857	10	750	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	73	0	0	0
Lane Group Flow (vph)	569	1305	0	0	1754	625	437	430	677	0	0	0
Confl. Peds. (#/hr)	10		20	20		10						
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Turn Type	Prot	NA			NA	Free	Split	NA	custom			
Protected Phases	5	2			6		8	8	8			
Permitted Phases						Free			8			
Actuated Green, G (s)	20.5	43.0			18.0	72.0	19.0	19.0	19.0			
Effective Green, g (s)	21.0	44.0			19.0	72.0	20.0	20.0	20.0			
Actuated g/C Ratio	0.29	0.61			0.26	1.00	0.28	0.28	0.28			
Clearance Time (s)	4.5	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	2.3	4.2			4.2		2.3	2.3	2.3			
Lane Grp Cap (vph)	578	2162			1691	1554	466	468	774			
v/s Ratio Prot	c0.29	0.37			c0.27		c0.26	0.25	0.24			
v/s Ratio Perm						0.40						
v/c Ratio	0.98	0.60			1.04	0.40	0.94	0.92	0.87			
Uniform Delay, d1	25.3	8.6			26.5	0.0	25.4	25.2	24.8			
Progression Factor	0.16	0.42			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	27.3	1.0			32.2	0.8	26.4	22.8	10.6			
Delay (s)	31.4	4.6			58.7	0.8	51.8	48.0	35.4			
Level of Service	C	A			E	A	D	D	D			
Approach Delay (s)		12.7			43.5			43.2			0.0	
Approach LOS		B			D			D			A	

Intersection Summary			
HCM 2000 Control Delay	33.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.7%	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												
Traffic Volume (vph)	0	1559	543	920	1691	0	0	0	0	315	5	317
Future Volume (vph)	0	1559	543	920	1691	0	0	0	0	315	5	317
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		0.86	1.00	0.97	0.95					0.95	0.95	0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	0.99
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		6408	1583	3433	3539					1681	1688	2759
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		6408	1583	3433	3539					1681	1688	2759
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1559	543	920	1691	0	0	0	0	315	5	317
RTOR Reduction (vph)	0	0	292	0	0	0	0	0	0	0	0	28
Lane Group Flow (vph)	0	1559	251	920	1691	0	0	0	0	161	159	289
Confl. Peds. (#/hr)	10		20	20		10						5
Confl. Bikes (#/hr)			5			15						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type		NA	Prot	Prot	NA					Split	NA	custom
Protected Phases		2	2	1	6					4	4	4
Permitted Phases												1
Actuated Green, G (s)		24.1	24.1	22.1	50.7					11.3	11.3	33.4
Effective Green, g (s)		25.1	25.1	22.6	51.7					12.3	12.3	35.4
Actuated g/C Ratio		0.35	0.35	0.31	0.72					0.17	0.17	0.49
Clearance Time (s)		5.0	5.0	4.5	5.0					5.0	5.0	5.0
Vehicle Extension (s)		4.2	4.2	2.3	4.2					2.3	2.3	2.3
Lane Grp Cap (vph)		2233	551	1077	2541					287	288	1509
v/s Ratio Prot		0.24	0.16	c0.27	c0.48					c0.10	0.09	0.03
v/s Ratio Perm												0.07
v/c Ratio		0.70	0.46	0.85	0.67					0.56	0.55	0.19
Uniform Delay, d1		20.2	18.2	23.2	5.5					27.4	27.3	10.3
Progression Factor		1.00	1.00	0.21	0.05					1.00	1.00	1.00
Incremental Delay, d2		1.8	2.7	0.6	0.4					1.8	1.6	0.0
Delay (s)		22.0	20.9	5.5	0.6					29.2	28.9	10.3
Level of Service		C	C	A	A					C	C	B
Approach Delay (s)		21.7			2.4			0.0			19.7	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.7%	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												
Traffic Volume (vph)	125	570	62	712	455	841	70	361	912	620	377	245
Future Volume (vph)	125	570	62	712	455	841	70	361	912	620	377	245
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	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.95	1.00	1.00	1.00	0.88	*0.63	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	5050		3433	3539	1540	1770	1863	2787	2230	1734	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1787	5050		3433	3539	1540	1770	1863	2787	2230	1734	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	125	570	62	712	455	841	70	361	912	620	377	245
RTOR Reduction (vph)	0	11	0	0	0	443	0	0	60	0	18	0
Lane Group Flow (vph)	125	621	0	712	455	398	70	361	852	620	604	0
Confl. Peds. (#/hr)	5		10	10		5	15					15
Confl. Bikes (#/hr)						15			5			5
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	8 1	7	4	
Permitted Phases						6						
Actuated Green, G (s)	8.1	22.7		27.2	40.8	40.8	6.1	10.6	42.8	34.0	40.0	
Effective Green, g (s)	9.1	23.7		27.2	41.8	41.8	6.1	11.6	43.8	35.0	40.5	
Actuated g/C Ratio	0.08	0.21		0.24	0.37	0.37	0.05	0.10	0.39	0.31	0.36	
Clearance Time (s)	5.0	5.0		4.0	5.0	5.0	4.0	5.0		5.0	4.5	
Vehicle Extension (s)	5.1	5.1		2.3	4.2	4.2	2.3	2.3		3.0	2.3	
Lane Grp Cap (vph)	143	1054		822	1303	567	95	190	1075	687	618	
v/s Ratio Prot	0.07	0.12		c0.21	0.13		0.04	c0.19	c0.31	c0.28	c0.35	
v/s Ratio Perm						c0.26						
v/c Ratio	0.87	0.59		0.87	0.35	0.70	0.74	1.90	0.79	0.90	0.98	
Uniform Delay, d1	51.6	40.5		41.4	26.0	30.5	52.9	51.0	30.8	37.6	36.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	43.1	1.3		9.3	0.2	4.3	23.4	424.1	3.9	15.1	30.1	
Delay (s)	94.7	41.9		50.7	26.2	34.9	76.3	475.0	34.7	52.8	66.2	
Level of Service	F	D		D	C	C	E	F	C	D	E	
Approach Delay (s)		50.6			38.5			155.3			59.5	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	74.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	113.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.8%	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												
Traffic Volume (vph)	50	5	80	20	10	15	140	1152	35	5	1142	60
Future Volume (vph)	50	5	80	20	10	15	140	1152	35	5	1142	60
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	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.91		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1769	1572		1742	1672		1770	3518		1770	3506	
Flt Permitted	0.74	1.00		0.70	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1380	1572		1287	1672		1770	3518		1770	3506	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	5	80	20	10	15	140	1152	35	5	1142	60
RTOR Reduction (vph)	0	69	0	0	13	0	0	1	0	0	3	0
Lane Group Flow (vph)	50	16	0	20	12	0	140	1186	0	5	1199	0
Confl. Peds. (#/hr)	10		15	15		10	5		10	10		5
Confl. Bikes (#/hr)									5			5
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	8.9	8.9		9.2	9.2		11.0	59.4		1.0	49.2	
Effective Green, g (s)	12.0	12.0		12.0	12.0		13.7	60.8		3.6	50.7	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.15	0.69		0.04	0.57	
Clearance Time (s)	7.1	7.1		6.8	6.8		6.7	5.4		6.6	5.5	
Vehicle Extension (s)	2.4	2.4		2.4	2.4		2.6	2.5		2.6	2.5	
Lane Grp Cap (vph)	187	213		174	226		274	2419		72	2010	
v/s Ratio Prot		0.01			0.01		c0.08	0.34		0.00	c0.34	
v/s Ratio Perm	c0.04			0.02								
v/c Ratio	0.27	0.07		0.11	0.05		0.51	0.49		0.07	0.60	
Uniform Delay, d1	34.3	33.4		33.5	33.3		34.3	6.5		40.8	12.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1		0.2	0.1		1.3	0.7		0.3	1.3	
Delay (s)	34.8	33.4		33.7	33.3		35.6	7.2		41.1	13.5	
Level of Service	C	C		C	C		D	A		D	B	
Approach Delay (s)		33.9			33.5			10.2			13.6	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	88.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	178	1165	0	0	1151
Future Vol, veh/h	0	178	1165	0	0	1151
Conflicting Peds, #/hr	0	0	0	35	35	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	50	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	3	3	3
Mvmt Flow	0	178	1165	0	0	1151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	618	0	0	1200	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.16	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.23	-
Pot Cap-1 Maneuver	0	437	-	-	572	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	424	-	-	555	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	424	555	-
HCM Lane V/C Ratio	-	-	0.42	-	-
HCM Control Delay (s)	-	-	19.5	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	2	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	55	79	0	100	60	1040	42	126	950	75
Future Volume (vph)	25	0	55	79	0	100	60	1040	42	126	950	75
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		1.00	1.00		1.00	0.95	
Frpb, ped/bikes		1.00			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.91			0.92		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1657			1366		1769	1849		1770	3492	
Flt Permitted		0.87			0.86		0.24	1.00		0.09	1.00	
Satd. Flow (perm)		1468			1198		446	1849		174	3492	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	0	55	79	0	100	60	1040	42	126	950	75
RTOR Reduction (vph)	0	66	0	0	71	0	0	2	0	0	7	0
Lane Group Flow (vph)	0	14	0	0	108	0	60	1080	0	126	1018	0
Confl. Peds. (#/hr)	10					10	5		5	5		5
Confl. Bikes (#/hr)									5			5
Heavy Vehicles (%)	2%	2%	2%	23%	23%	23%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		10.8			10.8		44.4	42.0		46.0	42.8	
Effective Green, g (s)		10.8			10.8		44.4	42.0		46.0	42.8	
Actuated g/C Ratio		0.16			0.16		0.65	0.62		0.68	0.63	
Clearance Time (s)		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	
Lane Grp Cap (vph)		233			190		337	1142		192	2197	
v/s Ratio Prot							0.01	c0.58		c0.03	0.29	
v/s Ratio Perm		0.01			c0.09		0.11			0.41		
v/c Ratio		0.06			0.57		0.18	0.95		0.66	0.46	
Uniform Delay, d1		24.3			26.5		4.5	12.0		14.6	6.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			4.1		0.3	15.3		7.8	0.2	
Delay (s)		24.4			30.5		4.8	27.2		22.4	6.7	
Level of Service		C			C		A	C		C	A	
Approach Delay (s)		24.4			30.5			26.1			8.5	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	68.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.0%	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												
Traffic Volume (vph)	30	425	40	180	440	150	40	30	167	165	30	25
Future Volume (vph)	30	425	40	180	440	150	40	30	167	165	30	25
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	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.86
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.96		1.00	0.87		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.97	1.00
Satd. Flow (prot)	1766	3463		1750	3370		1787	1606		1681	1710	1357
Flt Permitted	0.43	1.00		0.39	1.00		0.95	1.00		0.95	0.97	1.00
Satd. Flow (perm)	798	3463		720	3370		1787	1606		1681	1710	1357
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	425	40	180	440	150	40	30	167	165	30	25
RTOR Reduction (vph)	0	5	0	0	18	0	0	149	0	0	0	21
Lane Group Flow (vph)	30	460	0	180	572	0	40	48	0	97	98	4
Confl. Peds. (#/hr)	5		25	25		5	45		5	5		45
Confl. Bikes (#/hr)						10						5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6								4
Actuated Green, G (s)	47.2	43.6		65.0	54.0		8.4	8.4		13.1	13.1	13.1
Effective Green, g (s)	54.0	45.3		67.3	55.7		11.5	11.5		16.7	16.7	16.7
Actuated g/C Ratio	0.51	0.42		0.63	0.52		0.11	0.11		0.16	0.16	0.16
Clearance Time (s)	7.4	5.7		6.3	5.7		7.1	7.1		7.6	7.6	7.6
Vehicle Extension (s)	2.4	3.1		2.7	3.1		2.4	2.4		2.3	2.3	2.3
Lane Grp Cap (vph)	466	1467		620	1755		192	172		262	267	211
v/s Ratio Prot	0.00	0.13		c0.05	c0.17		0.02	c0.03		c0.06	0.06	
v/s Ratio Perm	0.03			0.14								0.00
v/c Ratio	0.06	0.31		0.29	0.33		0.21	0.28		0.37	0.37	0.02
Uniform Delay, d1	13.3	20.5		8.7	14.8		43.5	43.9		40.4	40.4	38.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.6		1.2	0.5		0.4	0.6		0.5	0.5	0.0
Delay (s)	13.4	21.0		9.9	15.3		43.9	44.5		40.9	40.9	38.2
Level of Service	B	C		A	B		D	D		D	D	D
Approach Delay (s)		20.6			14.0			44.4			40.6	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	23.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	106.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX B45

Segment C – Tigard Subarea 2035 No-Build Queue Analysis

GREAT PLACES SW Corridor

Intersection: 21: SW 72nd Ave & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	399	1640	1649	510	211	254	268	252	128	308	170	175
Average Queue (ft)	81	1425	1452	229	98	143	152	141	44	62	99	61
95th Queue (ft)	309	1992	2010	627	181	232	235	223	104	210	176	132
Link Distance (ft)		1598	1598			550	550	550		2362		1778
Upstream Blk Time (%)		7	13									
Queuing Penalty (veh)		77	134									
Storage Bay Dist (ft)	340			450	300				110		110	
Storage Blk Time (%)		41	48			0			1	1	11	
Queuing Penalty (veh)		17	43			0			2	2	9	

Intersection: 21: SW 72nd Ave & OR99W

Movement	SB
Directions Served	TR
Maximum Queue (ft)	193
Average Queue (ft)	74
95th Queue (ft)	156
Link Distance (ft)	1778
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 22: OR99W & SW 71st Ave

Movement	EB	EB	EB	WB	WB	SB
Directions Served	L	T	T	T	R	LR
Maximum Queue (ft)	59	564	588	6	4	143
Average Queue (ft)	5	278	313	0	0	50
95th Queue (ft)	33	589	623	5	3	140
Link Distance (ft)		550	550	440		2009
Upstream Blk Time (%)		1	2			
Queuing Penalty (veh)		6	18			
Storage Bay Dist (ft)	80				150	
Storage Blk Time (%)		23				
Queuing Penalty (veh)		1				

Intersection: 23: SW 68th Pkwy & OR99W

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (ft)	180	566	580	72	221	245	165	170	105	414	222
Average Queue (ft)	19	531	539	18	82	109	66	54	7	238	102
95th Queue (ft)	131	591	574	52	170	191	131	125	48	422	199
Link Distance (ft)		440	440		674	674		757		1414	1414
Upstream Blk Time (%)		32	41								
Queuing Penalty (veh)		349	456								
Storage Bay Dist (ft)	270			300			200		55		
Storage Blk Time (%)		31			0		0	18	0		
Queuing Penalty (veh)		6			0		0	19	0		

Intersection: 24: SW 64th Ave & Pacific Hwy (OR99W) & I-5 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SW	SW
Directions Served	<	T	T	L	T	TR	LTR	R	R>
Maximum Queue (ft)	187	613	598	395	431	459	1000	419	417
Average Queue (ft)	42	261	275	194	255	272	848	257	262
95th Queue (ft)	126	474	469	336	377	396	1181	384	390
Link Distance (ft)		391	391		914	914	944	451	451
Upstream Blk Time (%)		6	7				58	0	0
Queuing Penalty (veh)		38	43				0	0	0
Storage Bay Dist (ft)	200			850					
Storage Blk Time (%)	0	19							
Queuing Penalty (veh)	0	6							

Intersection: 25: I-5 SB On-Ramp/SW 64th Ave & I-5 NB On-Ramp

Movement	EB	EB	SB	SB
Directions Served	T	TR	L	T
Maximum Queue (ft)	426	296	32	90
Average Queue (ft)	175	189	5	44
95th Queue (ft)	338	272	24	81
Link Distance (ft)	393	393	46	46
Upstream Blk Time (%)			0	30
Queuing Penalty (veh)			0	50
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 26: SW 60th Ave & Pacific Hwy (OR99W)

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	L
Maximum Queue (ft)	741	765	84	296	290	85
Average Queue (ft)	343	390	25	161	150	25
95th Queue (ft)	644	697	65	262	251	67
Link Distance (ft)	914	914		10150	10150	51
Upstream Blk Time (%)	0	0				5
Queuing Penalty (veh)	1	2				7
Storage Bay Dist (ft)			300			
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 27: SW 60th Ave & I-5 Off Ramp/SW Barbur Blvd

Movement	EB	EB	B14	NB	SB
Directions Served	LT	TR	T	TR	LT
Maximum Queue (ft)	276	282	206	191	58
Average Queue (ft)	196	202	28	84	20
95th Queue (ft)	276	278	121	159	55
Link Distance (ft)	211	211	2128	2449	51
Upstream Blk Time (%)	5	8			3
Queuing Penalty (veh)	0	0			8
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 59: Dartmouth S/S & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	TR	L	L	T	R
Maximum Queue (ft)	278	5144	5167	500	181	532	550	558	78	125	48	141
Average Queue (ft)	30	2155	2191	247	36	127	143	156	4	53	8	33
95th Queue (ft)	181	4744	4786	645	97	332	360	373	31	105	32	98
Link Distance (ft)		12965	12965			1598	1598	1598			482	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300			400	300				350	350		225
Storage Blk Time (%)		42	46			3						
Queuing Penalty (veh)		6	46			2						

Intersection: 59: Dartmouth S/S & OR99W

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	155	76	38
Average Queue (ft)	50	8	4
95th Queue (ft)	129	44	21
Link Distance (ft)		570	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250		100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 83: I-5 NB On-Ramp & OR99W

Movement	EB	EB	EB
Directions Served	T	TR	R
Maximum Queue (ft)	550	608	123
Average Queue (ft)	37	43	9
95th Queue (ft)	268	294	63
Link Distance (ft)	674	674	
Upstream Blk Time (%)	1	1	
Queuing Penalty (veh)	9	11	
Storage Bay Dist (ft)			100
Storage Blk Time (%)		3	0
Queuing Penalty (veh)		15	1

Intersection: 170: SW 65th Ave & SW Haines St

Movement	EB	EB	WB	NB
Directions Served	T	R	LT	LR
Maximum Queue (ft)	156	10	228	275
Average Queue (ft)	69	0	99	125
95th Queue (ft)	114	8	172	222
Link Distance (ft)	698	698	996	2587
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 180: SW 68th Ave/SW 68th Pkwy & SW Haines St

Movement	EB	WB	WB	WB	NB	SB	SB
Directions Served	LT	L	T	R	LT	L	TR
Maximum Queue (ft)	78	168	73	78	66	85	100
Average Queue (ft)	29	85	32	56	30	38	49
95th Queue (ft)	62	146	57	68	55	67	80
Link Distance (ft)	713	698	698		593		938
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)				50		385	
Storage Blk Time (%)			1	1			
Queuing Penalty (veh)			1	1			

Intersection: 190: SW 68th Ave & SW Dartmouth St/I-5 SB

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	B4
Directions Served	L	T	R	LT	T	L	T	R	L	TR	T
Maximum Queue (ft)	130	204	70	206	181	70	141	91	189	471	67
Average Queue (ft)	57	71	25	112	98	22	57	25	145	170	7
95th Queue (ft)	108	150	53	181	153	55	116	66	209	388	68
Link Distance (ft)		1110	1110		2601		2175			553	593
Upstream Blk Time (%)										2	
Queuing Penalty (veh)										12	
Storage Bay Dist (ft)	200			600		100		100	90		
Storage Blk Time (%)		0			0	0	2	0	35	11	
Queuing Penalty (veh)		1			0	0	4	0	100	28	

Network Summary

Network wide Queuing Penalty: 1530

Intersection: 20: SW Hall Blvd & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	335	641	648	647	478	386	358	261	245	1011	350	405
Average Queue (ft)	288	595	602	617	251	204	186	153	31	951	345	237
95th Queue (ft)	416	630	633	672	454	359	324	255	114	1199	373	404
Link Distance (ft)		591	591	591		593	593	593		994		
Upstream Blk Time (%)		15	20	26	0	0	0			52		
Queuing Penalty (veh)		108	141	187	0	1	0			286		
Storage Bay Dist (ft)	235				500				250		250	400
Storage Blk Time (%)	30	55			2	1				8	88	3
Queuing Penalty (veh)	186	115			5	2				25	211	14

Intersection: 20: SW Hall Blvd & OR99W

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	595	299
Average Queue (ft)	241	116
95th Queue (ft)	516	265
Link Distance (ft)	1142	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		200
Storage Blk Time (%)	15	1
Queuing Penalty (veh)	46	4

Intersection: 21: SW 72nd Ave & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	400	1617	1624	510	209	263	272	249	129	268	170	160
Average Queue (ft)	82	1491	1506	239	106	138	156	145	42	60	96	61
95th Queue (ft)	317	1858	1868	641	188	233	251	229	97	202	176	133
Link Distance (ft)		1594	1594			550	550	550		2316		1778
Upstream Blk Time (%)		3	5									
Queuing Penalty (veh)		34	56									
Storage Bay Dist (ft)	340			450	300				110		110	
Storage Blk Time (%)		44	48			0			1	1	13	
Queuing Penalty (veh)		18	43			0			1	2	11	

Intersection: 21: SW 72nd Ave & OR99W

Movement	SB
Directions Served	TR
Maximum Queue (ft)	178
Average Queue (ft)	66
95th Queue (ft)	148
Link Distance (ft)	1778
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 22: OR99W & SW 71st Ave

Movement	EB	EB	EB	SB
Directions Served	L	T	T	LR
Maximum Queue (ft)	39	565	572	106
Average Queue (ft)	3	253	291	29
95th Queue (ft)	19	556	591	89
Link Distance (ft)		550	550	2009
Upstream Blk Time (%)		1	2	
Queuing Penalty (veh)		8	17	
Storage Bay Dist (ft)	80			
Storage Blk Time (%)		22		
Queuing Penalty (veh)		1		

Intersection: 23: SW 68th Pkwy & OR99W

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (ft)	265	565	564	78	228	238	154	159	101	451	208
Average Queue (ft)	24	532	541	19	84	106	74	49	5	199	100
95th Queue (ft)	154	575	559	55	188	208	141	119	40	427	180
Link Distance (ft)		440	440		674	674		757		1414	1414
Upstream Blk Time (%)		31	41								
Queuing Penalty (veh)		345	447								
Storage Bay Dist (ft)	270			300			200		55		
Storage Blk Time (%)		31						14	0		
Queuing Penalty (veh)		6						15	0		

Intersection: 24: SW 64th Ave & Pacific Hwy (OR99W) & I-5 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SW	SW	B51
Directions Served	<	T	T	L	T	TR	LTR	R	R>	T
Maximum Queue (ft)	110	582	560	326	432	466	1012	442	450	58
Average Queue (ft)	31	241	259	182	261	278	879	261	262	2
95th Queue (ft)	81	448	446	309	381	397	1144	391	388	42
Link Distance (ft)		391	391		914	914	944	445	445	2372
Upstream Blk Time (%)		5	5				62	0	0	
Queuing Penalty (veh)		31	31				0	0	0	
Storage Bay Dist (ft)	200			850						
Storage Blk Time (%)		17								
Queuing Penalty (veh)		6								

Intersection: 25: I-5 SB On-Ramp/SW 64th Ave & I-5 NB On-Ramp

Movement	EB	EB	SB	SB
Directions Served	T	TR	L	T
Maximum Queue (ft)	330	284	25	85
Average Queue (ft)	153	176	3	43
95th Queue (ft)	248	252	18	79
Link Distance (ft)	393	393	46	46
Upstream Blk Time (%)			0	28
Queuing Penalty (veh)			0	47
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 26: SW 60th Ave & Pacific Hwy (OR99W)

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	L
Maximum Queue (ft)	608	655	98	268	261	88
Average Queue (ft)	306	359	27	152	150	27
95th Queue (ft)	549	614	69	235	241	73
Link Distance (ft)	914	914		10150	10150	51
Upstream Blk Time (%)						7
Queuing Penalty (veh)						9
Storage Bay Dist (ft)			300			
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 27: SW 60th Ave & I-5 Off Ramp/SW Barbur Blvd

Movement	EB	EB	B14	NB	SB
Directions Served	LT	TR	T	TR	LT
Maximum Queue (ft)	285	283	207	183	60
Average Queue (ft)	203	202	35	80	17
95th Queue (ft)	284	278	147	160	52
Link Distance (ft)	211	211	2128	2449	51
Upstream Blk Time (%)	8	8			2
Queuing Penalty (veh)	0	0			6
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 30: SW Main St/SW Greenburg Rd & OR99W

Movement	EB	EB	EB	EB	B52	B52	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	TR	T	T	L	T	T	TR	L	T
Maximum Queue (ft)	400	514	502	496	4071	4080	258	339	431	356	59	361
Average Queue (ft)	348	490	487	441	1836	1852	156	163	189	120	14	140
95th Queue (ft)	493	530	521	495	3889	3908	247	294	329	260	47	313
Link Distance (ft)		427	427	427	9196	9196		591	591	591		499
Upstream Blk Time (%)		53	46	12					0	0		0
Queuing Penalty (veh)		0	0	0					0	0		0
Storage Bay Dist (ft)	300						170				250	
Storage Blk Time (%)	22	59					21	2				7
Queuing Penalty (veh)	121	115					62	3				1

Intersection: 30: SW Main St/SW Greenburg Rd & OR99W

Movement	NB	B43	SB	SB	SB
Directions Served	R	T	L	T	R
Maximum Queue (ft)	588	410	425	1777	162
Average Queue (ft)	548	337	400	1175	6
95th Queue (ft)	669	510	502	2238	80
Link Distance (ft)	499	352		1745	
Upstream Blk Time (%)	80	71		35	
Queuing Penalty (veh)	0	0		0	
Storage Bay Dist (ft)			325		280
Storage Blk Time (%)			86		
Queuing Penalty (veh)			206		

Intersection: 54: SW Hall Blvd & WES RR

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	324	258
Average Queue (ft)	241	30
95th Queue (ft)	454	149
Link Distance (ft)	299	258
Upstream Blk Time (%)	43	1
Queuing Penalty (veh)	325	2
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 90: SW Hall Blvd & Apt Dwy/SW Hunziker St

Movement	WB	WB	NB	SB	SB
Directions Served	LT	R	TR	L	TR
Maximum Queue (ft)	160	130	86	189	307
Average Queue (ft)	69	37	40	117	151
95th Queue (ft)	131	91	70	201	292
Link Distance (ft)		1216	30		303
Upstream Blk Time (%)			51		1
Queuing Penalty (veh)			188		3
Storage Bay Dist (ft)	280			90	
Storage Blk Time (%)				22	13
Queuing Penalty (veh)				75	16

Intersection: 95: SW Hall Blvd & SW Scoffins St

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (ft)	522	132	645	44
Average Queue (ft)	267	15	572	7
95th Queue (ft)	571	75	788	30
Link Distance (ft)	609		627	30
Upstream Blk Time (%)	5		47	2
Queuing Penalty (veh)	0		320	9
Storage Bay Dist (ft)		50		
Storage Blk Time (%)		2	71	
Queuing Penalty (veh)		14	11	

Intersection: 100: SW Hall Blvd & SW Commercial St/Parking Lot

Movement	EB	EB	NB	NB	SB
Directions Served	LT	R	L	TR	LTR
Maximum Queue (ft)	613	148	150	286	35
Average Queue (ft)	205	26	62	204	2
95th Queue (ft)	622	92	170	395	21
Link Distance (ft)	998			258	627
Upstream Blk Time (%)	2			45	
Queuing Penalty (veh)	0			348	
Storage Bay Dist (ft)		65	50		
Storage Blk Time (%)	58	1	1	60	
Queuing Penalty (veh)	23	0	7	63	

Intersection: 110: SW Hall Blvd & SW Burnham St

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	185	338	300	2216	227	132
Average Queue (ft)	91	98	157	1433	91	29
95th Queue (ft)	182	250	374	3016	181	86
Link Distance (ft)		1176		2144	299	
Upstream Blk Time (%)				54	0	0
Queuing Penalty (veh)				0	1	0
Storage Bay Dist (ft)	90		200			275
Storage Blk Time (%)	30	1		57	0	0
Queuing Penalty (veh)	62	1		92	0	0

Intersection: 170: SW 65th Ave & SW Haines St

Movement	EB	WB	NB
Directions Served	T	LT	LR
Maximum Queue (ft)	136	248	276
Average Queue (ft)	71	93	122
95th Queue (ft)	112	157	217
Link Distance (ft)	698	996	2587
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 180: SW 68th Ave/SW 68th Pkwy & SW Atlanta St/SW Haines St

Movement	EB	WB	WB	WB	NB	SB	SB
Directions Served	LT	L	T	R	LT	L	TR
Maximum Queue (ft)	79	169	68	73	60	81	97
Average Queue (ft)	30	80	34	55	30	39	51
95th Queue (ft)	64	133	61	67	56	69	82
Link Distance (ft)	713	698	698		593		938
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)				50		385	
Storage Blk Time (%)			1	1			
Queuing Penalty (veh)			2	1			

Intersection: 190: SW 68th Ave & SW Dartmouth St/I-5 SB

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	LT	T	L	T	R	L	TR
Maximum Queue (ft)	139	177	65	218	167	88	138	107	189	358
Average Queue (ft)	63	74	27	108	96	26	64	35	135	145
95th Queue (ft)	117	144	56	170	149	65	118	82	205	287
Link Distance (ft)		1117	1117		3760		2184			553
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	200			600		100		100	90	
Storage Blk Time (%)		0			0	0	2	0	28	11
Queuing Penalty (veh)		0			0	1	4	1	81	27

Zone Summary

Zone wide Queuing Penalty: 4653

Intersection: 18: OR 217 SB s/s & OR99W

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	LT	R
Maximum Queue (ft)	612	618	490	440	1112	1098	285	542	445
Average Queue (ft)	383	400	70	199	946	934	216	283	170
95th Queue (ft)	605	622	241	516	1397	1401	309	445	346
Link Distance (ft)	593	593	593		1049	1049		737	737
Upstream Blk Time (%)	0	1	0		55	37		1	0
Queuing Penalty (veh)	1	3	0		0	0		0	0
Storage Bay Dist (ft)				340			185		
Storage Blk Time (%)					66		6	31	
Queuing Penalty (veh)					43		14	73	

Intersection: 20: SW Hall Blvd & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	335	616	646	648	593	671	609	543	350	1011	350	500
Average Queue (ft)	332	571	473	394	569	615	357	339	227	894	274	324
95th Queue (ft)	353	712	763	791	644	736	586	528	425	1221	450	597
Link Distance (ft)		591	591	591		593	593	593		994		
Upstream Blk Time (%)		57	8	8	19	42	1	0		32		
Queuing Penalty (veh)		267	37	39	0	293	4	0		229		
Storage Bay Dist (ft)	235				500				250		250	400
Storage Blk Time (%)	92	3			59	1			11	74	6	1
Queuing Penalty (veh)	348	7			315	4			61	262	29	5

Intersection: 20: SW Hall Blvd & OR99W

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	1170	300
Average Queue (ft)	842	234
95th Queue (ft)	1437	404
Link Distance (ft)	1142	
Upstream Blk Time (%)	28	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		200
Storage Blk Time (%)	63	3
Queuing Penalty (veh)	257	17

Intersection: 21: SW 72nd Ave & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	400	1624	1637	433	297	406	426	391	170	988	170	247
Average Queue (ft)	397	1475	1479	89	142	280	297	273	160	616	99	117
95th Queue (ft)	416	1932	1932	381	274	378	390	356	194	1102	200	217
Link Distance (ft)		1595	1595			550	550	550		991		1778
Upstream Blk Time (%)		13	15			0	0	0		14		
Queuing Penalty (veh)		119	134			1	0	0		0		
Storage Bay Dist (ft)	340			450	300				110		110	
Storage Blk Time (%)	92	7	17		1	4			58	16	11	
Queuing Penalty (veh)	709	16	14		7	5			244	77	40	

Intersection: 21: SW 72nd Ave & OR99W

Movement	SB
Directions Served	TR
Maximum Queue (ft)	389
Average Queue (ft)	204
95th Queue (ft)	344
Link Distance (ft)	1778
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 22: OR99W & SW 71st Ave

Movement	EB	EB	EB	WB	WB	SB
Directions Served	L	T	T	T	R	LR
Maximum Queue (ft)	118	200	252	6	8	1104
Average Queue (ft)	35	20	25	0	1	668
95th Queue (ft)	84	133	168	5	7	1282
Link Distance (ft)		550	550	440		2009
Upstream Blk Time (%)			0			
Queuing Penalty (veh)			1			
Storage Bay Dist (ft)	80				150	
Storage Blk Time (%)	2	2				
Queuing Penalty (veh)	22	1				

Intersection: 23: SW 68th Pkwy & OR99W

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (ft)	316	515	535	331	755	813	454	432	115	187	157
Average Queue (ft)	26	338	374	40	416	445	254	182	45	74	48
95th Queue (ft)	158	555	565	217	685	728	441	345	131	157	113
Link Distance (ft)		440	440		674	674		757		1414	1414
Upstream Blk Time (%)	0	5	8		1	2					
Queuing Penalty (veh)	0	52	80		11	20					
Storage Bay Dist (ft)	350			500			500		55		
Storage Blk Time (%)		9			6		0	45	1		
Queuing Penalty (veh)		4			2		1	138	4		

Intersection: 24: SW 64th Ave & Pacific Hwy (OR99W) & I-5 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SW	SW	B51
Directions Served	<	T	T	L	T	TR	LTR	R	R>	T
Maximum Queue (ft)	235	320	306	463	856	873	358	514	517	713
Average Queue (ft)	143	142	156	120	628	649	188	430	434	187
95th Queue (ft)	258	291	280	362	950	962	334	554	551	688
Link Distance (ft)		391	391		914	914	944	445	445	2372
Upstream Blk Time (%)		0	0	0	2	3		8	8	
Queuing Penalty (veh)		2	1	0	9	13		0	0	
Storage Bay Dist (ft)	200			850						
Storage Blk Time (%)	15	1			6					
Queuing Penalty (veh)	76	1			6					

Intersection: 25: I-5 SB On-Ramp/SW 64th Ave & I-5 NB On-Ramp

Movement	EB	EB	SB	SB
Directions Served	T	TR	L	T
Maximum Queue (ft)	190	226	35	65
Average Queue (ft)	105	121	7	20
95th Queue (ft)	177	208	27	55
Link Distance (ft)	393	393	46	46
Upstream Blk Time (%)			1	9
Queuing Penalty (veh)			1	9
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 26: SW 60th Ave & Pacific Hwy (OR99W)

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	L
Maximum Queue (ft)	466	489	164	409	407	77
Average Queue (ft)	273	305	52	210	224	35
95th Queue (ft)	432	460	125	366	368	74
Link Distance (ft)	914	914		10150	10150	51
Upstream Blk Time (%)						15
Queuing Penalty (veh)						42
Storage Bay Dist (ft)			300			
Storage Blk Time (%)			0	3		
Queuing Penalty (veh)			0	1		

Intersection: 27: SW 60th Ave & I-5 Off Ramp/SW Barbur Blvd

Movement	EB	EB	B14	NB	SB
Directions Served	LT	TR	T	TR	LT
Maximum Queue (ft)	298	292	808	295	50
Average Queue (ft)	244	246	385	154	11
95th Queue (ft)	311	305	1003	265	39
Link Distance (ft)	211	211	2128	2449	51
Upstream Blk Time (%)	25	29			1
Queuing Penalty (veh)	0	0			2
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 30: SW Main St/SW Greenburg Rd & OR99W

Movement	EB	EB	EB	EB	B52	B52	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	TR	T	T	L	T	T	TR	L	T
Maximum Queue (ft)	400	546	536	487	2105	2096	269	511	587	485	217	463
Average Queue (ft)	284	419	316	246	494	473	195	225	224	140	31	277
95th Queue (ft)	489	655	523	447	1745	1749	307	448	441	343	121	471
Link Distance (ft)		479	479	479	9144	9144		591	591	591		499
Upstream Blk Time (%)		42	3	1				0	0	0		5
Queuing Penalty (veh)		0	0	0				0	1	0		0
Storage Bay Dist (ft)	300						170				250	
Storage Blk Time (%)	4	58					30	6				21
Queuing Penalty (veh)	13	107					144	13				4

Intersection: 30: SW Main St/SW Greenburg Rd & OR99W

Movement	NB	B43	SB	SB	SB
Directions Served	R	T	L	T	R
Maximum Queue (ft)	428	75	413	1762	230
Average Queue (ft)	196	19	365	1334	14
95th Queue (ft)	350	155	509	2427	115
Link Distance (ft)	499	352		1745	
Upstream Blk Time (%)	0	4		67	
Queuing Penalty (veh)	0	0		0	
Storage Bay Dist (ft)			325		280
Storage Blk Time (%)			78	1	
Queuing Penalty (veh)			392	3	

Intersection: 46: SW Hall Blvd & S/S

Movement	NB	NB	SB
Directions Served	T	R	T
Maximum Queue (ft)	341	342	666
Average Queue (ft)	199	98	228
95th Queue (ft)	440	339	590
Link Distance (ft)	303	303	994
Upstream Blk Time (%)	25	8	0
Queuing Penalty (veh)	91	30	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 52: Bend

Movement	WB	WB
Directions Served	T	T
Maximum Queue (ft)	371	424
Average Queue (ft)	15	27
95th Queue (ft)	149	206
Link Distance (ft)	479	479
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	0	1
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 54: SW Hall Blvd & WES RR

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	326	346
Average Queue (ft)	280	94
95th Queue (ft)	422	290
Link Distance (ft)	299	258
Upstream Blk Time (%)	61	3
Queuing Penalty (veh)	377	31
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 59: Dartmouth s/s & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	TR	L	L	T	R
Maximum Queue (ft)	400	674	658	500	399	883	1028	964	289	346	84	138
Average Queue (ft)	145	621	603	271	248	311	347	357	172	215	20	54
95th Queue (ft)	422	714	741	661	403	680	756	767	274	309	59	112
Link Distance (ft)		618	618			1595	1595	1595			503	
Upstream Blk Time (%)		53	47									
Queuing Penalty (veh)		0	0									
Storage Bay Dist (ft)	300			400	300				350	350		225
Storage Blk Time (%)		62	53		10	9			0	0		
Queuing Penalty (veh)		37	107		61	18			0	0		

Intersection: 59: Dartmouth s/s & OR99W

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	161	98	103
Average Queue (ft)	67	31	38
95th Queue (ft)	134	79	84
Link Distance (ft)		330	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250		100
Storage Blk Time (%)		0	1
Queuing Penalty (veh)		0	1

Intersection: 83: I-5 NB On-Ramp & OR99W

Movement	EB	WB	WB
Directions Served	T	T	T
Maximum Queue (ft)	57	9	15
Average Queue (ft)	2	0	1
95th Queue (ft)	45	7	8
Link Distance (ft)	674	391	391
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 90: SW Hall Blvd & Apt Dwy/SW Hunziker St

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	86	380	946	38	75	190	320
Average Queue (ft)	20	311	476	19	33	122	281
95th Queue (ft)	60	444	1200	41	64	220	385
Link Distance (ft)	130		1216	30	30		303
Upstream Blk Time (%)	0		9	34	41		22
Queuing Penalty (veh)	0		0	96	116		157
Storage Bay Dist (ft)		280				90	
Storage Blk Time (%)		30	6			24	45
Queuing Penalty (veh)		83	26			146	47

Intersection: 95: SW Hall Blvd & SW Scoffins St

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (ft)	238	147	708	85
Average Queue (ft)	85	23	666	37
95th Queue (ft)	189	87	734	78
Link Distance (ft)	609		627	30
Upstream Blk Time (%)			69	15
Queuing Penalty (veh)			387	132
Storage Bay Dist (ft)		50		
Storage Blk Time (%)		2	82	
Queuing Penalty (veh)		9	20	

Intersection: 100: SW Hall Blvd & SW Commercial St/Parking Lot

Movement	EB	EB	WB	NB	NB	SB
Directions Served	LT	R	LTR	L	TR	LTR
Maximum Queue (ft)	110	100	187	150	292	555
Average Queue (ft)	34	37	64	64	257	147
95th Queue (ft)	86	78	151	166	351	471
Link Distance (ft)	998		418		258	627
Upstream Blk Time (%)					64	2
Queuing Penalty (veh)					396	22
Storage Bay Dist (ft)		75		50		
Storage Blk Time (%)	5	3		8	75	
Queuing Penalty (veh)	3	1		40	79	

Intersection: 110: SW Hall Blvd & SW Burnham St

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	190	1144	300	2218	327	261
Average Queue (ft)	130	456	183	1671	226	38
95th Queue (ft)	231	1148	388	3067	389	151
Link Distance (ft)		1176		2144	299	
Upstream Blk Time (%)		16		66	5	0
Queuing Penalty (veh)		0		0	48	0
Storage Bay Dist (ft)	90		200			275
Storage Blk Time (%)	54	25	0	71	7	0
Queuing Penalty (veh)	174	17	2	180	6	0

Intersection: 130: SW 72nd Ave & SW Dartmouth St

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	R	L	T
Maximum Queue (ft)	200	262	252	219	234	198	204	400	496	290	179	310
Average Queue (ft)	83	143	82	88	106	93	121	200	322	52	89	142
95th Queue (ft)	151	228	187	171	183	166	194	376	492	174	171	285
Link Distance (ft)		1342	1342			1062	1062		487			406
Upstream Blk Time (%)									2	0		
Queuing Penalty (veh)									13	0		
Storage Bay Dist (ft)	150			160	200			300		375	80	
Storage Blk Time (%)	1	7	1	1	1	0		2	15		14	19
Queuing Penalty (veh)	1	10	2	2	2	0		8	56		11	27

Intersection: 130: SW 72nd Ave & SW Dartmouth St

Movement	SB
Directions Served	TR
Maximum Queue (ft)	367
Average Queue (ft)	228
95th Queue (ft)	330
Link Distance (ft)	406
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 135: SW 72nd Ave & SW Elmhurst St

Movement	WB	NB	SB
Directions Served	LR	TR	L
Maximum Queue (ft)	140	324	77
Average Queue (ft)	43	24	31
95th Queue (ft)	99	145	68
Link Distance (ft)	582	711	487
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 150: SW 72nd Ave & SW Beveland St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	TR
Maximum Queue (ft)	143	118	274	470	230	799	386	199	464
Average Queue (ft)	56	58	204	113	110	337	77	32	213
95th Queue (ft)	111	98	298	363	230	780	457	114	393
Link Distance (ft)	767			1040		1305	1305		711
Upstream Blk Time (%)						2	0		
Queuing Penalty (veh)						0	0		
Storage Bay Dist (ft)		100	175		130			100	
Storage Blk Time (%)	2	1	24	0	9	23		0	20
Queuing Penalty (veh)	2	0	14	0	64	26		0	4

Intersection: 170: SW 65th Ave & SW Haines St

Movement	EB	EB	WB	NB
Directions Served	T	R	LT	LR
Maximum Queue (ft)	208	83	178	390
Average Queue (ft)	102	4	90	169
95th Queue (ft)	170	34	143	323
Link Distance (ft)	698	698	996	2587
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 180: SW 68th Ave/SW 68th Pkwy & SW Atlanta St/SW Haines St

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	LT	R	L	T	R	LT	L	TR
Maximum Queue (ft)	104	6	94	259	82	74	83	72
Average Queue (ft)	42	0	50	70	62	39	44	41
95th Queue (ft)	74	4	79	174	74	64	69	65
Link Distance (ft)	713	713	698	698		593		938
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)					50		385	
Storage Blk Time (%)				2	4			
Queuing Penalty (veh)				7	4			

Intersection: 190: SW 68th Ave & SW Dartmouth St/I-5 SB

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	LT	T	R	L	T	R	L	TR
Maximum Queue (ft)	290	430	66	254	234	18	183	364	185	189	391
Average Queue (ft)	152	184	27	146	130	1	52	140	58	120	159
95th Queue (ft)	260	327	61	228	198	14	118	267	155	200	324
Link Distance (ft)		1062	1062		3760			2181			553
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200			600		200	100		100	90	
Storage Blk Time (%)	3	9			1		2	16	1	29	16
Queuing Penalty (veh)	8	22			3		11	37	2	85	26

Network Summary

Network wide Queuing Penalty: 8240

APPENDIX B46

Segment C – Bonita Subarea 2035 No-Build Queue Analysis

APPENDIX B

GREAT PLACES SW Corridor

Intersection: 19: SW 72nd Ave & RR

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 26: SW Upper Boones Ferry Rd & RR

Movement	EB	EB	WB	WB
Directions Served	T	T	T	T
Maximum Queue (ft)	12	48	147	168
Average Queue (ft)	0	4	15	25
95th Queue (ft)	7	31	79	100
Link Distance (ft)	299	299	194	194
Upstream Blk Time (%)			0	0
Queuing Penalty (veh)			0	1
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 123: I-5 NB Ramps & SW Upper Boones Ferry Rd/SW Carman Dr

Movement	EB	EB	WB	NB	NB
Directions Served	L	LT	TR	L	TR
Maximum Queue (ft)	388	407	540	744	325
Average Queue (ft)	227	240	273	385	216
95th Queue (ft)	380	401	509	659	414
Link Distance (ft)	628	628	2322	14259	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					225
Storage Blk Time (%)				34	0
Queuing Penalty (veh)				111	1

Intersection: 124: I-5 SB Ramps & SW Upper Boones Ferry Rd

Movement	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	TR	L	T	LT	R	R
Maximum Queue (ft)	243	296	216	360	107	275	402
Average Queue (ft)	136	193	63	262	39	147	229
95th Queue (ft)	224	303	143	350	84	250	358
Link Distance (ft)	198	198		628	568	568	568
Upstream Blk Time (%)	1	8					
Queuing Penalty (veh)	6	36					
Storage Bay Dist (ft)			225				
Storage Blk Time (%)				12			
Queuing Penalty (veh)				10			

Intersection: 126: SW Upper Boones Ferry Rd & SW Sequoia Pkwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	LT	R
Maximum Queue (ft)	141	203	227	56	249	274	191	37	47	88	122	92
Average Queue (ft)	67	74	102	19	136	159	12	10	15	37	65	36
95th Queue (ft)	118	160	194	48	218	242	87	33	39	72	109	74
Link Distance (ft)		194	194		250	250	250	472	472		2125	
Upstream Blk Time (%)		0	1		0	0	0					
Queuing Penalty (veh)		0	4		1	3	0					
Storage Bay Dist (ft)	125			125						225		150
Storage Blk Time (%)	1	1			7						0	
Queuing Penalty (veh)	5	1			1						0	

Intersection: 127: SW Upper Boones Ferry Rd & SW 72nd Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	TR	L	L	TR	L	T	R	L	TR
Maximum Queue (ft)	67	39	307	327	200	130	733	536	256	279
Average Queue (ft)	16	9	231	249	144	10	408	118	132	134
95th Queue (ft)	49	33	333	352	255	56	727	366	221	234
Link Distance (ft)	310	310	299	299			2004	2004		1084
Upstream Blk Time (%)			2	4						
Queuing Penalty (veh)			12	26						
Storage Bay Dist (ft)					100	150			900	
Storage Blk Time (%)				39	6		53			
Queuing Penalty (veh)				78	28		3			

Zone Summary

Zone wide Queuing Penalty: 327

Intersection: 3: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	16	7
Average Queue (ft)	1	0
95th Queue (ft)	6	6
Link Distance (ft)	140	140
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: I-5 SB On Ramp/I-5 SB Ramps

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	139	139
Average Queue (ft)	57	72
95th Queue (ft)	105	115
Link Distance (ft)	235	235
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: SW Upper Boones Ferry Rd & S/S

Movement	EB	EB	WB	WB
Directions Served	LT	T	T	TR
Maximum Queue (ft)	425	420	393	336
Average Queue (ft)	268	276	126	55
95th Queue (ft)	537	536	362	253
Link Distance (ft)	382	382	444	444
Upstream Blk Time (%)	12	14	1	1
Queuing Penalty (veh)	55	64	7	3
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 19: SW 72nd Ave & RR

Movement	SB
Directions Served	T
Maximum Queue (ft)	248
Average Queue (ft)	36
95th Queue (ft)	356
Link Distance (ft)	1222
Upstream Blk Time (%)	2
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 22: I-5 SB Ramps/I-5 NB Ramps

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 26: SW Upper Boones Ferry Rd & RR

Movement	EB	EB	WB	WB
Directions Served	T	T	T	T
Maximum Queue (ft)	292	329	228	233
Average Queue (ft)	166	209	172	161
95th Queue (ft)	392	429	270	284
Link Distance (ft)	297	297	185	185
Upstream Blk Time (%)	2	15	25	20
Queuing Penalty (veh)	9	87	141	110
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 123: I-5 NB Ramps & SW Upper Boones Ferry Rd/SW Carman Dr

Movement	EB	EB	WB	NB	NB
Directions Served	L	LT	TR	L	TR
Maximum Queue (ft)	443	394	840	408	293
Average Queue (ft)	275	243	464	197	97
95th Queue (ft)	410	361	1069	340	231
Link Distance (ft)	628	628	6188	10758	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					225
Storage Blk Time (%)				9	0
Queuing Penalty (veh)				24	0

Intersection: 124: I-5 SB Ramps & SW Upper Boones Ferry Rd

Movement	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	TR	L	T	LT	R	R
Maximum Queue (ft)	256	265	308	596	299	382	393
Average Queue (ft)	208	230	92	269	144	116	122
95th Queue (ft)	283	269	236	514	247	280	302
Link Distance (ft)	198	198		628	568	568	568
Upstream Blk Time (%)	21	40		3			0
Queuing Penalty (veh)	146	280		17			0
Storage Bay Dist (ft)			300				
Storage Blk Time (%)				9			
Queuing Penalty (veh)				12			

Intersection: 125: Dwy_S/S & SW Upper Boones Ferry Rd

Movement	EB	EB	WB	WB
Directions Served	T	TR	T	T
Maximum Queue (ft)	297	300	285	277
Average Queue (ft)	160	240	106	110
95th Queue (ft)	330	349	300	307
Link Distance (ft)	250	250	198	198
Upstream Blk Time (%)	3	18	13	15
Queuing Penalty (veh)	22	124	74	91
Storage Bay Dist (ft)				
Storage Blk Time (%)			32	
Queuing Penalty (veh)			0	

Intersection: 126: SW Upper Boones Ferry Rd & SW Sequoia Pkwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	LT	R
Maximum Queue (ft)	184	228	224	185	360	350	205	94	62	324	1191	250
Average Queue (ft)	68	159	190	20	265	253	23	24	15	167	447	163
95th Queue (ft)	142	238	236	104	416	406	165	71	44	354	1235	300
Link Distance (ft)		185	185		250	250	250	458	458		2109	
Upstream Blk Time (%)	0	9	37		40	31					2	
Queuing Penalty (veh)	0	52	211		156	120					0	
Storage Bay Dist (ft)	125			125						225		150
Storage Blk Time (%)	1	20			52					2	40	19
Queuing Penalty (veh)	3	16			5					8	152	67

Intersection: 127: SW Upper Boones Ferry Rd & SW 72nd Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	TR	L	L	TR	L	T	R	L	TR
Maximum Queue (ft)	101	119	346	344	200	174	481	502	708	700
Average Queue (ft)	38	48	307	302	124	23	431	387	400	281
95th Queue (ft)	83	103	340	354	254	99	543	615	808	707
Link Distance (ft)	309	309	297	297			452	452		1079
Upstream Blk Time (%)			43	29			16	12		3
Queuing Penalty (veh)			240	163			117	90		21
Storage Bay Dist (ft)					100	150			900	
Storage Blk Time (%)				56	2	0	58		5	4
Queuing Penalty (veh)				79	9	0	9		22	9

Intersection: 128: SW 72nd Ave & SW Upper Boones Ferry Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	LTR
Maximum Queue (ft)	165	532	533	200	462	459	1792	200	175
Average Queue (ft)	11	486	490	181	259	177	1287	199	58
95th Queue (ft)	77	580	572	230	476	381	2149	207	143
Link Distance (ft)		444	444		452	452	1752		196
Upstream Blk Time (%)		63	69		2	1	32		4
Queuing Penalty (veh)		287	315		12	5	0		0
Storage Bay Dist (ft)	100			100				100	
Storage Blk Time (%)		65		42	14		4	77	
Queuing Penalty (veh)		3		214	62		24	77	

Intersection: 129: SW Durham Rd & SW Upper Boones Ferry Rd

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	L	T	R
Maximum Queue (ft)	450	2493	249	441	419	149	1615	386	450	1793	325
Average Queue (ft)	423	1822	55	384	276	16	941	222	242	427	158
95th Queue (ft)	545	3158	182	472	429	78	1687	412	464	1306	304
Link Distance (ft)		2441		382	382		1588			3517	
Upstream Blk Time (%)		40		24	3		17				
Queuing Penalty (veh)		0		132	19		0				
Storage Bay Dist (ft)	350		150			50		350	350		225
Storage Blk Time (%)	50	28		53		3	77	13	16	8	2
Queuing Penalty (veh)	303	81		21		14	8	81	98	45	10

Intersection: 200: Bangy Rd & SW Bonita Rd

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	350	490	140	329	200	154	368	178	1144	190
Average Queue (ft)	200	186	23	168	66	64	200	104	577	144
95th Queue (ft)	337	385	98	314	172	153	346	181	1674	236
Link Distance (ft)		1006		2699			1529		1717	
Upstream Blk Time (%)									11	
Queuing Penalty (veh)									0	
Storage Bay Dist (ft)	250		175		100	55		90		90
Storage Blk Time (%)	3	6		47	0	14	72	12	12	26
Queuing Penalty (veh)	11	26		35	1	20	32	95	93	116

Intersection: 210: SW Sequoia Pkwy & SW Bonita Rd

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LTR
Maximum Queue (ft)	62	476	365	857	169	190	78
Average Queue (ft)	5	234	216	540	65	84	28
95th Queue (ft)	34	464	445	1226	146	154	65
Link Distance (ft)		476		1006	1067	1067	1751
Upstream Blk Time (%)		0		11			
Queuing Penalty (veh)		2		81			
Storage Bay Dist (ft)	75		265				
Storage Blk Time (%)		25	0	37			
Queuing Penalty (veh)		1	2	88			

Intersection: 220: SW 72nd Ave & SW Bonita Rd

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	TR	L	T	R
Maximum Queue (ft)	230	1208	290	400	492	225	1191	210	1791	295
Average Queue (ft)	150	670	214	116	462	220	1140	136	1667	285
95th Queue (ft)	273	1170	365	364	554	245	1242	242	2065	331
Link Distance (ft)		4347			476		1126		1724	
Upstream Blk Time (%)					36		58		54	
Queuing Penalty (veh)					202		0		0	
Storage Bay Dist (ft)	130		190	300		125		110		195
Storage Blk Time (%)	8	51	6		58	61	38	14	57	43
Queuing Penalty (veh)	53	176	35		26	350	153	116	317	232

Network Summary

Network wide Queuing Penalty: 6891

APPENDIX B47

Segment C – Bridgeport Subarea 2035 No-Build Queue Analysis

GREAT PLACES SW Corridor

Intersection: 99: I5 NB On Ramp & I5 NB On Ramp Meter

Movement	NB	NB
Directions Served	T	T
Maximum Queue (ft)	519	651
Average Queue (ft)	395	487
95th Queue (ft)	572	756
Link Distance (ft)	517	517
Upstream Blk Time (%)	0	41
Queuing Penalty (veh)	2	177
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 136: I5 SB On Ramp Meter & I5 SB On Ramp

Movement	SB
Directions Served	T
Maximum Queue (ft)	139
Average Queue (ft)	9
95th Queue (ft)	109
Link Distance (ft)	409
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 301: S/S & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B6	B6	B6	NB
Directions Served	L	T	T	R	L	T	T	TR	T	T	T	L
Maximum Queue (ft)	344	447	465	410	111	432	563	706	87	138	157	175
Average Queue (ft)	148	248	262	91	46	156	192	370	4	17	27	96
95th Queue (ft)	289	420	436	260	96	364	468	696	71	168	217	165
Link Distance (ft)		444	444			694	694	694	1744	1744	1744	84
Upstream Blk Time (%)		1	1			0	0	7				15
Queuing Penalty (veh)		4	6			0	0	0				0
Storage Bay Dist (ft)	220			260	280							
Storage Blk Time (%)	2	10	9			1						
Queuing Penalty (veh)	9	15	24			0						

Intersection: 301: S/S & Lower Boones Ferry Rd

Movement	NB	B63	B63	SB	SB
Directions Served	LTR	T	T	LT	R
Maximum Queue (ft)	193	128	206	82	72
Average Queue (ft)	144	8	41	23	23
95th Queue (ft)	214	59	146	58	57
Link Distance (ft)	84	1136	1136	734	
Upstream Blk Time (%)	36				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)					100
Storage Blk Time (%)				0	
Queuing Penalty (veh)				0	

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	R	L	LT	R
Maximum Queue (ft)	231	226	154	183	269	199	273	424	341	194	234	152
Average Queue (ft)	113	94	59	79	110	74	102	191	144	95	127	68
95th Queue (ft)	193	187	137	164	199	158	209	440	428	165	203	123
Link Distance (ft)	450	450	450	450		444	444	444		2785	2785	2785
Upstream Blk Time (%)							0	4				
Queuing Penalty (veh)							0	21				
Storage Bay Dist (ft)					210				280			
Storage Blk Time (%)					1	0		1	22			
Queuing Penalty (veh)					2	0		3	54			

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	NB
Directions Served	R
Maximum Queue (ft)	184
Average Queue (ft)	87
95th Queue (ft)	154
Link Distance (ft)	2785
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	R	L	L	T	T	L	LT	R
Maximum Queue (ft)	140	240	223	231	229	425	397	197	286	179	168	163
Average Queue (ft)	65	109	116	113	79	243	157	63	111	91	94	74
95th Queue (ft)	140	190	191	195	194	410	368	146	228	150	151	133
Link Distance (ft)		418	418	418		450	450	450	450	236	236	236
Upstream Blk Time (%)						1	0			0		
Queuing Penalty (veh)						2	0			0		
Storage Bay Dist (ft)	70				300							
Storage Blk Time (%)	2	16		0	0							
Queuing Penalty (veh)	4	37		0	0							

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	141
Average Queue (ft)	57
95th Queue (ft)	115
Link Distance (ft)	236
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	L	T	T	R	L	T	R
Maximum Queue (ft)	131	221	273	247	334	420	307	320	117	43	307	302
Average Queue (ft)	42	83	104	121	181	210	138	144	8	5	173	174
95th Queue (ft)	104	175	212	210	293	335	252	259	94	28	289	288
Link Distance (ft)		411	411			418	418	418			270	270
Upstream Blk Time (%)						0		0			3	2
Queuing Penalty (veh)						1		1			9	4
Storage Bay Dist (ft)	100			200	270				250	50		
Storage Blk Time (%)	1	11	2	1	1	3		2		0	54	
Queuing Penalty (veh)	1	6	2	1	3	8		10		0	3	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	NB	SB	SB	SB
Directions Served	R	L	L	TR
Maximum Queue (ft)	299	330	496	369
Average Queue (ft)	138	188	308	129
95th Queue (ft)	254	366	510	269
Link Distance (ft)	270		504	504
Upstream Blk Time (%)	0		5	0
Queuing Penalty (veh)	1		19	1
Storage Bay Dist (ft)		230		
Storage Blk Time (%)		2	26	
Queuing Penalty (veh)		6	69	

Intersection: 340: SW 72nd Ave & Sig Shopping Center Acc

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	43	38	53	29	56	205	213	7	351	262
Average Queue (ft)	3	3	8	1	15	36	50	1	98	53
95th Queue (ft)	21	17	36	11	46	121	143	4	291	178
Link Distance (ft)		422	305	305		504	504		1417	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	180				170			150		200
Storage Blk Time (%)						0			5	1
Queuing Penalty (veh)						0			23	2

Intersection: 360: Lower Boones Ferry Rd & Tualatin Transit Center Acc

Movement	WB	NB	NB	SB	SB	SB
Directions Served	LR	T	TR	L	T	T
Maximum Queue (ft)	44	234	82	108	128	132
Average Queue (ft)	13	33	32	39	22	20
95th Queue (ft)	38	138	82	89	85	82
Link Distance (ft)	284	355			270	270
Upstream Blk Time (%)		0				
Queuing Penalty (veh)		0				
Storage Bay Dist (ft)			50	130		
Storage Blk Time (%)		1	2	1	0	
Queuing Penalty (veh)		5	9	2	0	

Intersection: 380: S/S & SW Bridgeport Rd

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	T	TR	L	T	TR	L	TR	L	LT	R
Maximum Queue (ft)	123	158	144	146	189	75	125	64	87	35
Average Queue (ft)	34	47	33	30	48	23	49	18	21	4
95th Queue (ft)	87	109	93	101	135	62	93	52	59	22
Link Distance (ft)	210	210		411	411		468	554	554	
Upstream Blk Time (%)		0								
Queuing Penalty (veh)		0								
Storage Bay Dist (ft)			250			150				150
Storage Blk Time (%)	0						0			
Queuing Penalty (veh)	0						0			

Network Summary

Network wide Queuing Penalty: 544

Intersection: 63: SW McEwan Rd & SW 65th Ave

Movement	WB	NB	NB	B24	SB	SB
Directions Served	LR	T	TR	T	L	T
Maximum Queue (ft)	462	328	359	292	117	76
Average Queue (ft)	352	139	210	41	70	5
95th Queue (ft)	579	276	368	241	122	42
Link Distance (ft)	439	288	288	793	99	99
Upstream Blk Time (%)	55	2	10	0	11	1
Queuing Penalty (veh)	0	0	0	0	42	5
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 98: Lower Boones Ferry Rd & 63rd Ave

Movement	EB	WB	WB	SB
Directions Served	L	T	TR	R
Maximum Queue (ft)	47	4949	4991	39
Average Queue (ft)	8	2437	2494	16
95th Queue (ft)	33	5120	5117	51
Link Distance (ft)		11406	11406	466
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	180			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 99: I5 NB On Ramp & I5 NB On Ramp Meter

Movement	NB	NB
Directions Served	T	R
Maximum Queue (ft)	243	46
Average Queue (ft)	20	2
95th Queue (ft)	139	31
Link Distance (ft)	505	505
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 108: Bend

Movement	SB
Directions Served	T
Maximum Queue (ft)	165
Average Queue (ft)	7
95th Queue (ft)	88
Link Distance (ft)	276
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 136: I5 SB On Ramp

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	187	176
Average Queue (ft)	125	131
95th Queue (ft)	176	175
Link Distance (ft)	420	420
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 301: SW 65th Ave & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	TR	L	LTR	LT	R
Maximum Queue (ft)	345	455	478	410	380	668	717	769	160	166	663	200
Average Queue (ft)	256	350	365	269	212	422	486	743	124	141	241	166
95th Queue (ft)	400	494	508	482	412	679	786	764	159	172	504	235
Link Distance (ft)		436	436			714	714	714	99	99	2066	
Upstream Blk Time (%)		6	7			1	1	62	50	63		
Queuing Penalty (veh)		51	63			6	5	346	148	186		
Storage Bay Dist (ft)	220			260	280							100
Storage Blk Time (%)	14	28	26	7	3	23					35	23
Queuing Penalty (veh)	76	68	141	39	12	40					118	42

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	R	L	LT	R
Maximum Queue (ft)	326	309	342	358	324	343	340	370	335	448	496	265
Average Queue (ft)	148	116	98	128	174	201	184	209	59	253	295	107
95th Queue (ft)	262	242	288	329	290	315	318	336	247	414	454	217
Link Distance (ft)	447	447	447	447		436	436	436		7145	7145	7145
Upstream Blk Time (%)		0	0	1		0	0	0				
Queuing Penalty (veh)		0	1	3		0	1	2				
Storage Bay Dist (ft)					210				280			
Storage Blk Time (%)					4	8		3	0			
Queuing Penalty (veh)					16	33		21	1			

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	NB
Directions Served	R
Maximum Queue (ft)	296
Average Queue (ft)	127
95th Queue (ft)	242
Link Distance (ft)	7145
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	R	L	L	T	T	L	LT	R
Maximum Queue (ft)	140	326	298	389	333	395	412	284	351	146	169	165
Average Queue (ft)	95	155	161	183	154	185	191	61	115	78	92	63
95th Queue (ft)	164	268	260	294	309	331	350	180	262	121	149	123
Link Distance (ft)		418	418	418		447	447	447	447	236	236	236
Upstream Blk Time (%)		0		0		0	0		0			0
Queuing Penalty (veh)		0		2		0	1		0			0
Storage Bay Dist (ft)	70				300							
Storage Blk Time (%)	7	27		1	1							
Queuing Penalty (veh)	26	100		3	2							

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	138
Average Queue (ft)	56
95th Queue (ft)	112
Link Distance (ft)	236
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	L	T	T	R	L	T	R
Maximum Queue (ft)	160	387	410	310	339	428	406	326	116	90	331	320
Average Queue (ft)	120	205	192	202	261	260	181	141	10	39	301	164
95th Queue (ft)	197	364	349	300	358	403	338	265	101	96	344	317
Link Distance (ft)		409	409			418	418	418			267	267
Upstream Blk Time (%)		2	1			1	0	0			69	5
Queuing Penalty (veh)		8	3			7	2	0			250	18
Storage Bay Dist (ft)	100			200	270				250	50		
Storage Blk Time (%)	34	25	5	11	11	6		1	0	11	89	
Queuing Penalty (veh)	66	31	11	21	35	19		8	0	26	31	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	NB	SB	SB	SB
Directions Served	R	L	L	TR
Maximum Queue (ft)	307	330	489	513
Average Queue (ft)	147	188	281	341
95th Queue (ft)	282	330	462	520
Link Distance (ft)	267		508	508
Upstream Blk Time (%)	2		1	2
Queuing Penalty (veh)	7		5	11
Storage Bay Dist (ft)		230		
Storage Blk Time (%)		2	19	
Queuing Penalty (veh)		5	55	

Intersection: 340: SW 72nd Ave & Sig Shopping Center Acc

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	101	92	101	57	195	310	347	163	447	320
Average Queue (ft)	35	31	43	19	96	121	153	13	236	227
95th Queue (ft)	76	68	85	48	174	272	318	83	414	343
Link Distance (ft)		439	306	306		508	508		469	
Upstream Blk Time (%)						0	0		1	
Queuing Penalty (veh)						0	2		12	
Storage Bay Dist (ft)	180				170			150		200
Storage Blk Time (%)					0	5			16	13
Queuing Penalty (veh)					2	7			90	63

Intersection: 350: SW 72nd Ave & SW Durham Rd

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	240	537	67	437	325	149	758
Average Queue (ft)	92	241	33	259	119	24	311
95th Queue (ft)	228	516	67	463	322	96	624
Link Distance (ft)		4072	495	469	469		3884
Upstream Blk Time (%)				5	1		
Queuing Penalty (veh)				26	3		
Storage Bay Dist (ft)	100					100	
Storage Blk Time (%)	2	44					32
Queuing Penalty (veh)	7	33					8

Intersection: 360: Lower Boones Ferry Rd & Tualatin Transit Center Acc

Movement	WB	NB	NB	SB	SB	SB
Directions Served	R	T	TR	L	T	T
Maximum Queue (ft)	118	446	82	73	20	8
Average Queue (ft)	43	378	69	21	1	0
95th Queue (ft)	85	533	100	59	14	6
Link Distance (ft)	288	352			267	267
Upstream Blk Time (%)		49				
Queuing Penalty (veh)		499				
Storage Bay Dist (ft)			50	130		
Storage Blk Time (%)		51	10			
Queuing Penalty (veh)		265	50			

Intersection: 370: Lower Boones Ferry Rd & SW Travellers Ln

Movement	EB	WB	NB	NB	B108	SB	SB	SB
Directions Served	LTR	LTR	L	TR	T	L	T	TR
Maximum Queue (ft)	216	299	220	399	10711	123	265	212
Average Queue (ft)	93	141	75	334	5187	20	55	21
95th Queue (ft)	200	311	221	534	11696	71	197	117
Link Distance (ft)	212	344		276	11479		352	352
Upstream Blk Time (%)	9	5		52	7		0	
Queuing Penalty (veh)	0	0		0	0		0	
Storage Bay Dist (ft)			120			130		
Storage Blk Time (%)			0	53			3	
Queuing Penalty (veh)			1	32			1	

Intersection: 380: SW Hazel Fern Rd & SW Bridgeport Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	LT	R
Maximum Queue (ft)	62	227	254	253	292	319	131	334	157	192	128
Average Queue (ft)	18	113	144	87	101	121	47	113	61	91	18
95th Queue (ft)	47	188	237	181	223	260	111	234	126	165	68
Link Distance (ft)		429	429		409	409		468	528	528	
Upstream Blk Time (%)						0		0			
Queuing Penalty (veh)						0		0			
Storage Bay Dist (ft)	140			250			150				150
Storage Blk Time (%)		5		0	1			6		3	0
Queuing Penalty (veh)		1		0	1			2		1	0

Intersection: 390: REI & SW Bridgeport Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	R	L	TR
Maximum Queue (ft)	54	67	132	66	208	120	174	97	188	123
Average Queue (ft)	19	19	44	20	50	32	75	30	95	53
95th Queue (ft)	46	52	97	54	130	83	143	66	164	99
Link Distance (ft)			924		429	429	485		663	663
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	125	125		170				150		
Storage Blk Time (%)			0		0		1	0		
Queuing Penalty (veh)			0		0		0	0		

Network Summary

Network wide Queuing Penalty: 3328

APPENDIX B48

Segment C – Tigard Subarea 2045 No-Build Queue Analysis

GREAT PLACES SW Corridor

Intersection: 21: SW 72nd Ave & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	400	846	834	424	331	445	429	413	170	1018	170	336
Average Queue (ft)	399	812	795	61	150	279	307	274	165	832	99	148
95th Queue (ft)	401	832	912	295	290	384	402	372	180	1230	207	285
Link Distance (ft)		787	787			550	550	550		991		1778
Upstream Blk Time (%)		92	33							32		
Queuing Penalty (veh)		0	0							0		
Storage Bay Dist (ft)	340			450	300				110		110	
Storage Blk Time (%)	98	1	9		3	5			64	19	10	
Queuing Penalty (veh)	750	3	9		19	6			289	91	40	

Intersection: 21: SW 72nd Ave & OR99W

Movement	SB
Directions Served	TR
Maximum Queue (ft)	633
Average Queue (ft)	326
95th Queue (ft)	654
Link Distance (ft)	1778
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 22: OR99W & SW 71st Ave

Movement	EB	EB	EB	WB	SB
Directions Served	L	T	T	R	LR
Maximum Queue (ft)	58	107	135	5	898
Average Queue (ft)	19	7	9	0	571
95th Queue (ft)	52	88	97	4	1134
Link Distance (ft)		550	550		2009
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	80			150	
Storage Blk Time (%)	1	1			
Queuing Penalty (veh)	5	0			

Intersection: 23: SW 68th Pkwy & OR99W

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	B19	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	T	L	TR
Maximum Queue (ft)	56	488	518	300	475	537	826	556	115	846	188	134
Average Queue (ft)	8	237	283	34	291	317	800	170	55	738	81	47
95th Queue (ft)	32	450	485	151	447	484	915	399	142	1154	172	108
Link Distance (ft)		440	440		674	674	757	757		810	1414	1414
Upstream Blk Time (%)		2	4				75			70		
Queuing Penalty (veh)		21	38				0			0		
Storage Bay Dist (ft)	270			300					55			
Storage Blk Time (%)		7			9			51	3			
Queuing Penalty (veh)		3			4			74	8			

Intersection: 24: SW 64th Ave & Pacific Hwy (OR99W) & I-5 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SW	SW	B51
Directions Served	<	T	T	L	T	TR	LTR	R	R>	T
Maximum Queue (ft)	241	451	367	376	745	756	363	515	514	869
Average Queue (ft)	113	141	149	135	553	579	196	431	439	224
95th Queue (ft)	233	345	307	276	904	917	334	540	550	713
Link Distance (ft)		391	391		914	914	944	445	445	2372
Upstream Blk Time (%)		3	1		2	2		7	10	
Queuing Penalty (veh)		16	5		10	11		0	0	
Storage Bay Dist (ft)	200			850						
Storage Blk Time (%)	12	1			5					
Queuing Penalty (veh)	63	2			6					

Intersection: 25: I-5 SB On-Ramp/SW 64th Ave & I-5 NB On-Ramp

Movement	EB	EB	SB	SB
Directions Served	T	TR	L	T
Maximum Queue (ft)	193	208	32	68
Average Queue (ft)	93	106	8	27
95th Queue (ft)	167	184	29	58
Link Distance (ft)	393	393	46	46
Upstream Blk Time (%)			0	8
Queuing Penalty (veh)			0	9
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 26: SW 60th Ave & Pacific Hwy (OR99W)

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	L
Maximum Queue (ft)	494	531	203	362	366	83
Average Queue (ft)	251	284	56	199	207	40
95th Queue (ft)	422	462	145	325	330	83
Link Distance (ft)	914	914		10150	10150	51
Upstream Blk Time (%)						21
Queuing Penalty (veh)						61
Storage Bay Dist (ft)			300			
Storage Blk Time (%)				2		
Queuing Penalty (veh)				1		

Intersection: 27: SW 60th Ave & I-5 Off Ramp/SW Barbur Blvd

Movement	EB	EB	B14	NB	SB
Directions Served	LT	TR	T	TR	LT
Maximum Queue (ft)	370	352	726	315	59
Average Queue (ft)	309	294	301	161	11
95th Queue (ft)	390	360	986	286	42
Link Distance (ft)	285	285	2046	2438	51
Upstream Blk Time (%)	19	17			1
Queuing Penalty (veh)	0	0			2
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 83: I-5 NB On-Ramp & OR99W

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 170: SW 65th Ave & SW Haines St

Movement	EB	EB	WB	NB
Directions Served	T	R	LT	LR
Maximum Queue (ft)	243	73	219	561
Average Queue (ft)	126	4	103	273
95th Queue (ft)	212	32	172	522
Link Distance (ft)	706	706	996	2587
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 180: SW 68th Ave/SW 68th Pkwy & SW Atlanta St/SW Haines St

Movement	EB	WB	WB	WB	NB	SB	SB
Directions Served	LT	L	T	R	LT	L	TR
Maximum Queue (ft)	254	254	513	82	107	71	66
Average Queue (ft)	104	78	214	74	52	35	37
95th Queue (ft)	197	165	461	79	85	60	62
Link Distance (ft)	713	706	706		593		628
Upstream Blk Time (%)			0				
Queuing Penalty (veh)			1				
Storage Bay Dist (ft)				50		385	
Storage Blk Time (%)			0	56			
Queuing Penalty (veh)			2	3			

Intersection: 190: SW 68th Ave & SW Dartmouth St/I-5 SB

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	B4
Directions Served	L	T	R	LT	T	R	L	T	R	L	TR	T
Maximum Queue (ft)	299	419	65	288	255	50	184	427	200	190	417	13
Average Queue (ft)	163	177	28	164	157	2	61	177	96	138	179	0
95th Queue (ft)	275	309	56	251	232	26	141	332	210	211	353	9
Link Distance (ft)		1081	1081		3760			2181			553	593
Upstream Blk Time (%)											0	
Queuing Penalty (veh)											1	
Storage Bay Dist (ft)	200			600		200	100		100	90		
Storage Blk Time (%)	5	7			2		4	24	2	36	19	
Queuing Penalty (veh)	15	18			11		17	66	6	110	31	

Network Summary

Network wide Queuing Penalty: 1825

APPENDIX B49

Segment C – Bonita Subarea 2045 No-Build Queue Analysis

GREAT PLACES SW Corridor

Intersection: 3: Bend

Movement	SB
Directions Served	T
Maximum Queue (ft)	12
Average Queue (ft)	0
95th Queue (ft)	6
Link Distance (ft)	140
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: I-5 SB On Ramp/I-5 SB Ramps

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	111	117
Average Queue (ft)	54	70
95th Queue (ft)	92	99
Link Distance (ft)	235	235
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 22: I-5 SB Ramps/I-5 NB Ramps

Movement	NB
Directions Served	T
Maximum Queue (ft)	86
Average Queue (ft)	6
95th Queue (ft)	88
Link Distance (ft)	498
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 123: I-5 NB Ramps & SW Upper Boones Ferry Rd/SW Carman Dr

Movement	EB	EB	WB	NB	NB
Directions Served	L	LT	TR	L	TR
Maximum Queue (ft)	554	533	674	313	230
Average Queue (ft)	374	339	347	175	75
95th Queue (ft)	618	590	613	273	157
Link Distance (ft)	628	628	6188	10758	
Upstream Blk Time (%)	1	1			
Queuing Penalty (veh)	4	3			
Storage Bay Dist (ft)					225
Storage Blk Time (%)				4	0
Queuing Penalty (veh)				10	0

Intersection: 124: I-5 SB Ramps & SW Upper Boones Ferry Rd

Movement	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	TR	L	T	LT	R	R
Maximum Queue (ft)	251	272	131	310	256	103	108
Average Queue (ft)	223	236	63	196	135	53	58
95th Queue (ft)	264	256	117	288	220	89	94
Link Distance (ft)	198	198		628	568	568	568
Upstream Blk Time (%)	30	45					
Queuing Penalty (veh)	214	318					
Storage Bay Dist (ft)			300				
Storage Blk Time (%)				0			
Queuing Penalty (veh)				0			

Intersection: 125: Dwy_S/S & SW Upper Boones Ferry Rd

Movement	EB	EB
Directions Served	T	TR
Maximum Queue (ft)	3845	3848
Average Queue (ft)	2238	2273
95th Queue (ft)	3994	3970
Link Distance (ft)	3988	3988
Upstream Blk Time (%)	6	6
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 549

APPENDIX B50

Segment C – Bridgeport Subarea 2045 No-Build Queue Analysis

GREAT PLACES SW Corridor

Intersection: 99: I5 NB On Ramp & I5 NB On Ramp Meter

Movement	NB	NB
Directions Served	T	R
Maximum Queue (ft)	267	111
Average Queue (ft)	23	8
95th Queue (ft)	151	103
Link Distance (ft)	505	505
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 108: Bend

Movement	SB
Directions Served	T
Maximum Queue (ft)	143
Average Queue (ft)	9
95th Queue (ft)	99
Link Distance (ft)	276
Upstream Blk Time (%)	0
Queuing Penalty (veh)	1
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 136: I5 SB On Ramp

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	191	189
Average Queue (ft)	134	142
95th Queue (ft)	177	182
Link Distance (ft)	420	420
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 301: SW 65th Ave & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B98	B98	B98	NB
Directions Served	L	T	T	R	L	T	T	TR	T	T	T	L
Maximum Queue (ft)	345	434	455	406	380	802	800	807	2682	2738	2779	413
Average Queue (ft)	272	403	410	338	308	650	678	779	1323	1425	1489	263
95th Queue (ft)	423	459	464	502	479	924	923	833	2920	2984	2983	387
Link Distance (ft)		406	406			702	702	702	11452	11452	11452	379
Upstream Blk Time (%)		21	19	2		21	24	78				1
Queuing Penalty (veh)		220	196	0		0	0	0				0
Storage Bay Dist (ft)	220			260	280							
Storage Blk Time (%)	10	47	45	6	14	48						
Queuing Penalty (veh)	58	114	277	37	68	92						

Intersection: 301: SW 65th Ave & Lower Boones Ferry Rd

Movement	NB	B24	SB	SB
Directions Served	LTR	T	LT	R
Maximum Queue (ft)	430	186	469	200
Average Queue (ft)	296	11	220	170
95th Queue (ft)	431	87	386	236
Link Distance (ft)	379	792	2066	
Upstream Blk Time (%)	4			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				100
Storage Blk Time (%)			35	23
Queuing Penalty (veh)			119	43

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	R	L	LT	R
Maximum Queue (ft)	226	342	471	474	341	355	362	374	308	2203	2201	1988
Average Queue (ft)	115	97	207	239	215	235	210	219	49	1223	1258	778
95th Queue (ft)	207	246	472	492	333	349	347	347	212	2169	2176	1755
Link Distance (ft)	447	447	447	447		406	406	406		7145	7145	7145
Upstream Blk Time (%)		0	2	3		0			0			
Queuing Penalty (veh)		1	10	15		0			0			
Storage Bay Dist (ft)					210				280			
Storage Blk Time (%)					9	16		3	0			
Queuing Penalty (veh)					38	68		20	2			

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	NB
Directions Served	R
Maximum Queue (ft)	1508
Average Queue (ft)	557
95th Queue (ft)	1341
Link Distance (ft)	7145
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	R	L	L	T	T	L	LT	R
Maximum Queue (ft)	140	375	358	401	318	459	486	402	425	143	164	160
Average Queue (ft)	95	171	181	211	169	234	244	85	150	78	92	67
95th Queue (ft)	168	319	307	359	328	419	448	240	315	123	146	123
Link Distance (ft)		418	418	418		447	447	447	447	236	236	236
Upstream Blk Time (%)		0	0	1		0	1	0	0			0
Queuing Penalty (veh)		1	0	5		3	8	1	1			0
Storage Bay Dist (ft)	70				300							
Storage Blk Time (%)	9	27		2	1							
Queuing Penalty (veh)	33	104		12	5							

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	148
Average Queue (ft)	58
95th Queue (ft)	119
Link Distance (ft)	236
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	L	T	T	R	L	T	R
Maximum Queue (ft)	160	436	432	322	339	419	372	322	206	90	327	281
Average Queue (ft)	117	207	216	209	252	251	159	161	7	28	309	104
95th Queue (ft)	193	393	398	324	351	390	305	283	88	83	329	233
Link Distance (ft)		409	409			418	418	418			267	267
Upstream Blk Time (%)		2	1			0	0				83	1
Queuing Penalty (veh)		7	5			3	1				325	6
Storage Bay Dist (ft)	100			200	270				250	50		
Storage Blk Time (%)	32	24	6	13	7	5		4		8	90	
Queuing Penalty (veh)	62	30	15	25	25	16		39		24	36	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	NB	SB	SB	SB
Directions Served	R	L	L	TR
Maximum Queue (ft)	245	330	525	542
Average Queue (ft)	101	219	332	437
95th Queue (ft)	214	376	526	598
Link Distance (ft)	267		508	508
Upstream Blk Time (%)	1		2	8
Queuing Penalty (veh)	2		13	52
Storage Bay Dist (ft)		230		
Storage Blk Time (%)		3	24	
Queuing Penalty (veh)		8	78	

Intersection: 340: SW 72nd Ave & Sig Shopping Center Acc

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	74	78	137	79	168	253	273	168	240	204
Average Queue (ft)	27	25	51	23	85	103	132	7	222	199
95th Queue (ft)	63	63	102	57	145	207	233	62	235	215
Link Distance (ft)		427	305	305		508	508		204	
Upstream Blk Time (%)								0	36	12
Queuing Penalty (veh)								0	0	0
Storage Bay Dist (ft)	180				170			150		200
Storage Blk Time (%)					0	2			29	18
Queuing Penalty (veh)					1	2			187	104

Intersection: 360: Lower Boones Ferry Rd & Tualatin Transit Center Acc

Movement	WB	NB	NB	SB	SB
Directions Served	R	T	TR	L	T
Maximum Queue (ft)	144	442	77	75	32
Average Queue (ft)	55	406	71	18	1
95th Queue (ft)	143	439	95	54	19
Link Distance (ft)	288	352			267
Upstream Blk Time (%)	1	65			
Queuing Penalty (veh)	0	725			
Storage Bay Dist (ft)			50	130	
Storage Blk Time (%)		68	13	0	0
Queuing Penalty (veh)		378	71	0	0

Intersection: 370: Lower Boones Ferry Rd & SW Travellers Ln

Movement	EB	WB	NB	NB	B108	SB	SB	SB
Directions Served	LTR	LTR	L	TR	T	L	T	TR
Maximum Queue (ft)	233	336	220	403	11530	58	332	267
Average Queue (ft)	102	180	55	380	8049	14	74	30
95th Queue (ft)	215	354	191	433	14536	44	240	149
Link Distance (ft)	212	344		276	11479		352	352
Upstream Blk Time (%)	8	7		72	40		0	0
Queuing Penalty (veh)	0	0		0	0		1	1
Storage Bay Dist (ft)			120			130		
Storage Blk Time (%)			0	71			4	
Queuing Penalty (veh)			2	43			1	

Intersection: 380: SW Hazel Fern Rd & SW Bridgeport Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	LT	R
Maximum Queue (ft)	95	214	244	221	292	325	199	275	188	251	128
Average Queue (ft)	25	113	141	82	103	140	45	126	69	106	20
95th Queue (ft)	73	202	236	173	230	278	124	244	153	215	66
Link Distance (ft)		211	211		409	409		468	528	528	
Upstream Blk Time (%)	0	1	3								
Queuing Penalty (veh)	0	0	0								
Storage Bay Dist (ft)	140			250			150				150
Storage Blk Time (%)		5			0		0	9		4	0
Queuing Penalty (veh)		1			1		0	4		1	0

Network Summary

Network wide Queuing Penalty: 3844

APPENDIX B51

Segment C – Tigard Subarea 2035 Build Queue Analysis

GREAT PLACES SW Corridor

Intersection: 21: SW 72nd Ave & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	400	12689	12716	510	258	170	179	182	151	281	169	173
Average Queue (ft)	124	6624	6661	344	119	67	78	78	43	57	98	69
95th Queue (ft)	410	12607	12626	732	220	146	140	144	105	199	175	145
Link Distance (ft)		14713	14713			550	550	550		2362		1778
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	340			450	300				110		110	
Storage Blk Time (%)		58	71	0	0				1	1	13	
Queuing Penalty (veh)		23	57	0	0				1	3	9	

Intersection: 21: SW 72nd Ave & OR99W

Movement	SB
Directions Served	TR
Maximum Queue (ft)	143
Average Queue (ft)	55
95th Queue (ft)	121
Link Distance (ft)	1778
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 22: OR99W & SW 71st Ave

Movement	EB	EB	EB	SB
Directions Served	L	T	T	LR
Maximum Queue (ft)	121	589	595	901
Average Queue (ft)	7	468	503	472
95th Queue (ft)	57	681	696	931
Link Distance (ft)		550	550	2009
Upstream Blk Time (%)		6	11	
Queuing Penalty (veh)		65	126	
Storage Bay Dist (ft)	80			
Storage Blk Time (%)		45		
Queuing Penalty (veh)		2		

Intersection: 23: SW 68th Pkwy & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	LT	R	L	TR
Maximum Queue (ft)	329	572	574	260	246	539	543	145	205	101	215	315
Average Queue (ft)	19	542	545	180	29	267	287	39	90	13	84	160
95th Queue (ft)	134	557	558	359	117	487	516	109	165	70	167	278
Link Distance (ft)		442	442			675	675		268		1414	1414
Upstream Blk Time (%)		45	54			0	0					
Queuing Penalty (veh)		507	597			0	0					
Storage Bay Dist (ft)	270			200	300			150		55		
Storage Blk Time (%)		43	48	0		11		0	31	0		
Queuing Penalty (veh)		9	113	1		5		0	28	0		

Intersection: 24: SW 64th Ave & Pacific Hwy (OR99W) & I-5 SB Off-Ramp

Movement	EB	EB	WB	WB	WB	SB	SW	SW
Directions Served	T	T	L	T	TR	LTR	R	R>
Maximum Queue (ft)	615	609	497	592	600	1001	417	431
Average Queue (ft)	233	259	288	309	308	825	251	265
95th Queue (ft)	529	545	505	561	511	1217	378	395
Link Distance (ft)	391	391		917	917	946	465	465
Upstream Blk Time (%)	10	11				58	0	0
Queuing Penalty (veh)	63	64				0	0	0
Storage Bay Dist (ft)			400					
Storage Blk Time (%)	16		10	2				
Queuing Penalty (veh)	0		28	5				

Intersection: 25: I-5 SB On-Ramp/SW 64th Ave & I-5 NB On-Ramp

Movement	EB	EB	SB	SB
Directions Served	T	TR	L	T
Maximum Queue (ft)	277	226	32	100
Average Queue (ft)	123	136	6	55
95th Queue (ft)	248	215	26	95
Link Distance (ft)	393	393	46	46
Upstream Blk Time (%)			0	41
Queuing Penalty (veh)			0	72
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 26: SW 60th Ave & Pacific Hwy (OR99W)

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	L
Maximum Queue (ft)	876	901	100	296	297	75
Average Queue (ft)	324	370	31	169	160	16
95th Queue (ft)	687	762	80	276	260	54
Link Distance (ft)	917	917		10155	10155	59
Upstream Blk Time (%)	0	0				3
Queuing Penalty (veh)	1	1				5
Storage Bay Dist (ft)			300			
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 27: SW 60th Ave & I-5 Off Ramp/SW Barbur Blvd

Movement	EB	EB	B14	NB	SB
Directions Served	LT	TR	T	TR	LT
Maximum Queue (ft)	292	292	325	241	63
Average Queue (ft)	216	222	72	100	19
95th Queue (ft)	300	300	290	191	55
Link Distance (ft)	217	217	2128	2454	59
Upstream Blk Time (%)	11	11			3
Queuing Penalty (veh)	0	0			7
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 28: SW 68th Pkwy & Park & Ride

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	25	43	4	79	26
Average Queue (ft)	8	16	0	27	1
95th Queue (ft)	26	34	3	64	19
Link Distance (ft)	271	271	410		268
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				50	
Storage Blk Time (%)				1	
Queuing Penalty (veh)				3	

Intersection: 83: I-5 NB On-Ramp & OR99W

Movement	EB	EB	EB	WB
Directions Served	T	TR	R	T
Maximum Queue (ft)	450	473	125	8
Average Queue (ft)	33	45	7	0
95th Queue (ft)	248	294	54	5
Link Distance (ft)	675	675		391
Upstream Blk Time (%)	1	1		
Queuing Penalty (veh)	12	13		
Storage Bay Dist (ft)			100	
Storage Blk Time (%)		3	0	
Queuing Penalty (veh)		13	1	

Intersection: 170: SW 65th Ave & SW Haines St

Movement	EB	WB	NB
Directions Served	T	LT	LR
Maximum Queue (ft)	143	162	338
Average Queue (ft)	67	90	150
95th Queue (ft)	108	142	296
Link Distance (ft)	698	996	2587
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 180: SW 68th Ave/SW 68th Pkwy & SW Haines St

Movement	EB	WB	WB	WB	NB	SB	SB
Directions Served	LT	L	T	R	LT	L	TR
Maximum Queue (ft)	61	164	96	69	78	92	86
Average Queue (ft)	27	79	37	56	36	35	45
95th Queue (ft)	56	138	73	66	63	69	73
Link Distance (ft)	713	698	698		593		938
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)				50		385	
Storage Blk Time (%)			1	1			
Queuing Penalty (veh)			2	1			

Intersection: 190: SW 68th Ave & SW Dartmouth St/I-5 SB

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	LT	T	L	T	R	L	TR
Maximum Queue (ft)	162	168	74	213	206	64	168	124	189	453
Average Queue (ft)	72	70	28	109	104	24	69	26	136	150
95th Queue (ft)	132	135	59	178	163	59	139	82	205	332
Link Distance (ft)		1110	1110		2601		2175			553
Upstream Blk Time (%)										0
Queuing Penalty (veh)										1
Storage Bay Dist (ft)	200			600		100		100	90	
Storage Blk Time (%)	0	0			0		4	0	29	8
Queuing Penalty (veh)	0	0			2		6	0	82	19

Network Summary

Network wide Queuing Penalty: 1948

Intersection: 18: OR 217 SB s/s & OR99W

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	LT	R
Maximum Queue (ft)	634	663	628	146	308	289	284	413	185
Average Queue (ft)	594	612	205	60	153	127	214	259	84
95th Queue (ft)	689	700	621	121	267	248	305	369	141
Link Distance (ft)	593	593	593		1049	1049		737	737
Upstream Blk Time (%)	8	13	1						
Queuing Penalty (veh)	56	99	8						
Storage Bay Dist (ft)				340			185		
Storage Blk Time (%)					0		4	27	
Queuing Penalty (veh)					0		9	64	

Intersection: 20: SW Hall Blvd & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	335	636	653	653	478	502	410	294	306	1012	350	385
Average Queue (ft)	308	599	600	600	242	190	175	162	43	933	340	180
95th Queue (ft)	410	625	683	719	422	327	285	276	164	1257	390	352
Link Distance (ft)		591	591	591		593	593	593		994		
Upstream Blk Time (%)		20	16	21		0	0			51		
Queuing Penalty (veh)		138	110	147		0	0			261		
Storage Bay Dist (ft)	235				500				250		250	400
Storage Blk Time (%)	47	48			0	0				20	82	1
Queuing Penalty (veh)	285	106			1	0				59	200	3

Intersection: 20: SW Hall Blvd & OR99W

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	651	300
Average Queue (ft)	239	120
95th Queue (ft)	487	278
Link Distance (ft)	1142	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		200
Storage Blk Time (%)	19	1
Queuing Penalty (veh)	57	3

Intersection: 21: SW 72nd Ave & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	400	1622	1622	510	267	201	197	180	147	422	170	186
Average Queue (ft)	99	1526	1533	266	123	70	91	94	42	76	114	68
95th Queue (ft)	368	1865	1857	677	233	151	159	156	103	271	187	146
Link Distance (ft)		1593	1593			550	550	550		2280		1780
Upstream Blk Time (%)		12	15									
Queuing Penalty (veh)		124	160									
Storage Bay Dist (ft)	340			450	300				110		110	
Storage Blk Time (%)		66	73	0	0				1	1	20	
Queuing Penalty (veh)		26	59	0	0				1	2	14	

Intersection: 21: SW 72nd Ave & OR99W

Movement	SB
Directions Served	TR
Maximum Queue (ft)	216
Average Queue (ft)	81
95th Queue (ft)	162
Link Distance (ft)	1780
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 22: OR99W & SW 71st Ave

Movement	EB	EB	EB	WB	SB
Directions Served	L	T	T	T	LR
Maximum Queue (ft)	92	594	600	8	889
Average Queue (ft)	6	503	531	0	502
95th Queue (ft)	49	673	677	6	955
Link Distance (ft)		550	550	436	2009
Upstream Blk Time (%)		10	18		
Queuing Penalty (veh)		114	201		
Storage Bay Dist (ft)	80				
Storage Blk Time (%)		50			
Queuing Penalty (veh)		3			

Intersection: 23: SW 68th Pkwy & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	LT	R	L	TR
Maximum Queue (ft)	204	561	548	260	184	533	582	151	212	112	234	317
Average Queue (ft)	17	537	537	184	26	298	320	34	85	11	80	152
95th Queue (ft)	133	548	543	357	99	505	538	93	165	63	174	276
Link Distance (ft)		436	436			675	675		264		1414	1414
Upstream Blk Time (%)		50	59			0	0		0			
Queuing Penalty (veh)		555	658			1	4		0			
Storage Bay Dist (ft)	270			200	300			150		55		
Storage Blk Time (%)		46	53	0		14		0	23	0		
Queuing Penalty (veh)		9	125	0		6		0	22	0		

Intersection: 24: SW 64th Ave & Pacific Hwy (OR99W) & I-5 SB Off-Ramp

Movement	EB	EB	WB	WB	WB	SB	SW	SW
Directions Served	T	TR	L	T	TR	LTR	R	R>
Maximum Queue (ft)	635	624	471	453	458	1013	434	437
Average Queue (ft)	354	365	291	268	284	902	274	280
95th Queue (ft)	701	681	514	388	400	1161	397	399
Link Distance (ft)	391	391		915	915	944	451	451
Upstream Blk Time (%)	29	32				70	0	0
Queuing Penalty (veh)	180	200				0	0	0
Storage Bay Dist (ft)			850					
Storage Blk Time (%)	34							
Queuing Penalty (veh)	0							

Intersection: 25: I-5 SB On-Ramp & SW 64th Ave

Movement	EB	EB	SB	SB
Directions Served	T	TR	L	T
Maximum Queue (ft)	488	242	36	90
Average Queue (ft)	120	125	6	59
95th Queue (ft)	311	222	27	89
Link Distance (ft)	393	393	46	46
Upstream Blk Time (%)			0	50
Queuing Penalty (veh)			1	97
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 26: SW 60th Ave & Pacific Hwy (OR99W)

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	L
Maximum Queue (ft)	765	810	80	296	310	75
Average Queue (ft)	265	309	23	167	163	12
95th Queue (ft)	576	639	63	270	264	46
Link Distance (ft)	915	915		10150	10150	51
Upstream Blk Time (%)	0	0				3
Queuing Penalty (veh)	0	1				4
Storage Bay Dist (ft)			300			
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 27: SW 60th Ave & I-5 Off Ramp/SW Barbur Blvd

Movement	EB	EB	B14	NB	SB
Directions Served	LT	TR	T	TR	LT
Maximum Queue (ft)	298	284	275	236	59
Average Queue (ft)	220	218	58	92	14
95th Queue (ft)	299	287	214	188	48
Link Distance (ft)	211	211	2128	2449	51
Upstream Blk Time (%)	9	11			1
Queuing Penalty (veh)	0	0			2
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 28: SW 68th Pkwy & Park & Ride

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	L
Maximum Queue (ft)	34	60	7	81
Average Queue (ft)	9	22	0	26
95th Queue (ft)	32	43	5	64
Link Distance (ft)	424	424	409	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				50
Storage Blk Time (%)				1
Queuing Penalty (veh)				2

Intersection: 30: SW Main St/SW Greenburg Rd & OR99W

Movement	EB	EB	EB	EB	B62	B62	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	TR	T	T	L	T	T	TR	L	T
Maximum Queue (ft)	400	523	517	492	3974	3994	266	335	380	346	65	417
Average Queue (ft)	330	490	488	439	2001	2017	154	149	172	111	20	141
95th Queue (ft)	514	535	529	494	4010	4025	261	287	300	243	54	312
Link Distance (ft)		424	424	424	9198	9198		591	591	591		499
Upstream Blk Time (%)		56	51	16								0
Queuing Penalty (veh)		0	0	0								0
Storage Bay Dist (ft)	300						170				250	
Storage Blk Time (%)	8	65					21	2				5
Queuing Penalty (veh)	46	117					61	3				1

Intersection: 30: SW Main St/SW Greenburg Rd & OR99W

Movement	NB	B43	SB	SB	SB
Directions Served	R	T	L	T	R
Maximum Queue (ft)	580	357	425	1792	43
Average Queue (ft)	467	242	413	1419	1
95th Queue (ft)	725	530	471	2306	22
Link Distance (ft)	499	352		1745	
Upstream Blk Time (%)	56	50		56	
Queuing Penalty (veh)	0	0		0	
Storage Bay Dist (ft)			325		280
Storage Blk Time (%)			93		
Queuing Penalty (veh)			217		

Intersection: 44: SW Hunziker St

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	71	48
Average Queue (ft)	6	17
95th Queue (ft)	37	46
Link Distance (ft)	1432	695
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 46: SW Hall Blvd & S/S

Movement	NB	NB
Directions Served	T	R
Maximum Queue (ft)	438	435
Average Queue (ft)	325	110
95th Queue (ft)	582	409
Link Distance (ft)	406	406
Upstream Blk Time (%)	26	8
Queuing Penalty (veh)	66	19
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 54: SW Hall Blvd & WES RR

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	326	252
Average Queue (ft)	234	30
95th Queue (ft)	446	147
Link Distance (ft)	299	258
Upstream Blk Time (%)	36	0
Queuing Penalty (veh)	263	1
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 59: Dartmouth s/s & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	TR	L	L	T	R
Maximum Queue (ft)	643	669	661	639	526	510	519	502	331	294	88	131
Average Queue (ft)	549	636	634	475	291	176	197	181	211	167	22	57
95th Queue (ft)	878	675	683	904	523	412	438	413	309	273	61	114
Link Distance (ft)	618	618	618	618	1593	1593	1593	1593	497	497	497	497
Upstream Blk Time (%)	24	74	75	19								
Queuing Penalty (veh)	0	0	0	0								
Storage Bay Dist (ft)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 59: Dartmouth s/s & OR99W

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	290	132	64
Average Queue (ft)	174	30	22
95th Queue (ft)	366	113	58
Link Distance (ft)	324	324	324
Upstream Blk Time (%)	25	1	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 62: Bend

Movement	WB
Directions Served	T
Maximum Queue (ft)	166
Average Queue (ft)	6
95th Queue (ft)	86
Link Distance (ft)	424
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 83: 0 & OR99W

Movement	EB	EB	EB	WB
Directions Served	T	TR	R	T
Maximum Queue (ft)	723	764	125	3
Average Queue (ft)	162	175	27	0
95th Queue (ft)	617	655	111	2
Link Distance (ft)	675	675		391
Upstream Blk Time (%)	6	7		
Queuing Penalty (veh)	65	78		
Storage Bay Dist (ft)			100	
Storage Blk Time (%)		16	1	
Queuing Penalty (veh)		69	6	

Intersection: 85: LRT RR & SW Hunziker St

Movement	EB	WB	WB
Directions Served	T	T	T
Maximum Queue (ft)	142	102	127
Average Queue (ft)	99	24	47
95th Queue (ft)	182	70	116
Link Distance (ft)	121	134	134
Upstream Blk Time (%)	14	0	2
Queuing Penalty (veh)	59	0	2
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 95: SW Hall Blvd & SW Scoffins St/SW Hunziker St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	56	180	125	137	149	629	191	275
Average Queue (ft)	11	77	52	72	12	560	77	118
95th Queue (ft)	39	149	102	130	74	764	149	237
Link Distance (ft)	606	606	121	121		610	406	406
Upstream Blk Time (%)			1	5		32		
Queuing Penalty (veh)			1	4		210		
Storage Bay Dist (ft)					50			
Storage Blk Time (%)					0	71		
Queuing Penalty (veh)					0	7		

Intersection: 100: SW Hall Blvd & SW Commercial St/Parking Lot

Movement	EB	EB	NB	NB	SB
Directions Served	LT	R	L	TR	LTR
Maximum Queue (ft)	111	88	150	291	330
Average Queue (ft)	26	21	79	250	118
95th Queue (ft)	82	61	185	340	254
Link Distance (ft)	998			258	610
Upstream Blk Time (%)				40	
Queuing Penalty (veh)				293	
Storage Bay Dist (ft)		65	50		
Storage Blk Time (%)	8	0	4	61	
Queuing Penalty (veh)	3	0	25	65	

Intersection: 110: SW Hall Blvd & SW Burnham St

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	187	438	300	2214	279	93
Average Queue (ft)	84	113	138	1175	102	26
95th Queue (ft)	174	383	347	2760	212	72
Link Distance (ft)		1176		2144	299	
Upstream Blk Time (%)				38	0	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)	90		200			275
Storage Blk Time (%)	24	2		49	0	
Queuing Penalty (veh)	50	2		80	0	

Intersection: 170: SW 65th Ave & SW Haines St

Movement	EB	EB	WB	NB
Directions Served	T	R	LT	LR
Maximum Queue (ft)	127	42	183	338
Average Queue (ft)	67	2	95	143
95th Queue (ft)	105	18	157	274
Link Distance (ft)	698	698	996	2587
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 180: SW 68th Ave/SW 68th Pkwy & SW Atlanta St/SW Haines St

Movement	EB	WB	WB	WB	NB	SB	SB
Directions Served	LT	L	T	R	LT	L	TR
Maximum Queue (ft)	67	181	117	80	74	78	95
Average Queue (ft)	29	81	35	56	35	35	46
95th Queue (ft)	58	136	74	67	62	62	78
Link Distance (ft)	713	698	698		593		938
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)				50		385	
Storage Blk Time (%)			1	1			
Queuing Penalty (veh)			2	1			

Intersection: 190: SW 68th Ave & SW Dartmouth St/I-5 SB

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	LT	T	R	L	T	R	L	TR
Maximum Queue (ft)	139	161	62	203	174	35	66	161	110	189	299
Average Queue (ft)	69	67	27	111	101	3	21	71	28	132	133
95th Queue (ft)	124	130	54	181	151	39	51	138	76	197	246
Link Distance (ft)		1107	1107		3760			2181			553
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200			600		200	100		100	90	
Storage Blk Time (%)		0			0		0	4	0	27	10
Queuing Penalty (veh)		0			0		0	7	0	75	23

Network Summary

Network wide Queuing Penalty: 6101

Intersection: 18: OR 217 SB s/s & OR99W

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	LT	R
Maximum Queue (ft)	591	592	226	440	1109	1089	284	532	408
Average Queue (ft)	371	389	51	210	946	923	210	275	156
95th Queue (ft)	589	597	141	531	1366	1384	302	419	321
Link Distance (ft)	593	593	593		1049	1049		737	737
Upstream Blk Time (%)	0	0			51	33			
Queuing Penalty (veh)	1	2			0	0			
Storage Bay Dist (ft)				340			185		
Storage Blk Time (%)					62		5	29	
Queuing Penalty (veh)					40		13	66	

Intersection: 20: SW Hall Blvd & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	335	616	654	639	592	674	624	563	350	1009	350	500
Average Queue (ft)	332	577	497	386	571	615	393	330	228	982	289	282
95th Queue (ft)	349	705	773	781	657	735	653	546	426	1117	458	537
Link Distance (ft)		591	591	591		593	593	593		994		
Upstream Blk Time (%)		59	8	7	16	42	2	0		50		
Queuing Penalty (veh)		284	38	34	0	286	16	0		344		
Storage Bay Dist (ft)	235				500				250		250	400
Storage Blk Time (%)	92	2			61	1			8	78	8	1
Queuing Penalty (veh)	364	5			329	2			45	277	38	4

Intersection: 20: SW Hall Blvd & OR99W

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	1161	300
Average Queue (ft)	780	249
95th Queue (ft)	1376	400
Link Distance (ft)	1142	
Upstream Blk Time (%)	21	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		200
Storage Blk Time (%)	63	6
Queuing Penalty (veh)	260	31

Intersection: 21: SW 72nd Ave & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	400	1615	1632	510	256	441	438	405	170	902	170	229
Average Queue (ft)	397	1469	1472	56	105	268	294	307	149	434	104	114
95th Queue (ft)	417	1949	1967	272	212	372	386	378	200	886	204	198
Link Distance (ft)		1594	1594			550	550	550		990		1780
Upstream Blk Time (%)		13	15			0	0			3		
Queuing Penalty (veh)		117	135			0	0			0		
Storage Bay Dist (ft)	340			450	300				110		110	
Storage Blk Time (%)	93	7	13			4			45	16	10	
Queuing Penalty (veh)	721	15	11			5			185	72	37	

Intersection: 21: SW 72nd Ave & OR99W

Movement	SB
Directions Served	TR
Maximum Queue (ft)	394
Average Queue (ft)	183
95th Queue (ft)	331
Link Distance (ft)	1780
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 22: OR99W & SW 71st Ave

Movement	EB	EB	EB	WB	SB
Directions Served	L	T	T	R	LR
Maximum Queue (ft)	87	113	180	9	755
Average Queue (ft)	29	13	17	0	539
95th Queue (ft)	74	123	141	5	1150
Link Distance (ft)		550	550		2009
Upstream Blk Time (%)		0	0		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)	80			150	
Storage Blk Time (%)	3	1			
Queuing Penalty (veh)	28	0			

Intersection: 23: SW 68th Pkwy & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	L	T	R	L
Maximum Queue (ft)	223	495	521	260	359	905	909	210	284	274	115	146
Average Queue (ft)	28	275	309	67	58	652	684	203	268	123	22	53
95th Queue (ft)	150	486	499	226	236	1030	1061	229	306	287	93	117
Link Distance (ft)		429	429			668	668		265	265		1412
Upstream Blk Time (%)		4	5			20	24		56	7		
Queuing Penalty (veh)		35	52			194	242		183	24		
Storage Bay Dist (ft)	270			200	300			150			55	
Storage Blk Time (%)		9	23			34		67	85	39	0	
Queuing Penalty (veh)		4	22			14		107	135	31	0	

Intersection: 23: SW 68th Pkwy & OR99W

Movement	SB
Directions Served	TR
Maximum Queue (ft)	154
Average Queue (ft)	43
95th Queue (ft)	105
Link Distance (ft)	1412
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 24: SW 64th Ave & Pacific Hwy (OR99W) & I-5 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SW	SW
Directions Served	<	T	T	L	T	TR	LTR	R	R>
Maximum Queue (ft)	260	310	317	913	949	939	550	995	1005
Average Queue (ft)	104	95	114	365	841	845	256	514	527
95th Queue (ft)	213	228	239	915	1100	1095	531	921	928
Link Distance (ft)		391	391		914	914	945	1902	1902
Upstream Blk Time (%)		1	1	0	19	22			
Queuing Penalty (veh)		5	6	0	99	115			
Storage Bay Dist (ft)	200			850					
Storage Blk Time (%)	3	1			33				
Queuing Penalty (veh)	16	2			57				

Intersection: 25: I-5 SB On-Ramp/SW 64th Ave & I-5 NB On-Ramp

Movement	EB	EB	SB	SB
Directions Served	T	TR	L	T
Maximum Queue (ft)	185	198	34	72
Average Queue (ft)	77	90	7	31
95th Queue (ft)	148	170	26	67
Link Distance (ft)	393	393	46	46
Upstream Blk Time (%)			1	15
Queuing Penalty (veh)			1	19
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 26: SW 60th Ave & Pacific Hwy (OR99W)

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	L
Maximum Queue (ft)	526	558	380	1497	1507	79
Average Queue (ft)	250	280	152	701	703	46
95th Queue (ft)	445	476	382	1537	1536	82
Link Distance (ft)	914	914		10150	10150	51
Upstream Blk Time (%)						21
Queuing Penalty (veh)						60
Storage Bay Dist (ft)			300			
Storage Blk Time (%)				46		
Queuing Penalty (veh)				30		

Intersection: 27: SW 60th Ave & I-5 Off Ramp/SW Barbur Blvd

Movement	EB	EB	B14	NB	SB
Directions Served	LT	TR	T	TR	LT
Maximum Queue (ft)	293	294	1183	388	58
Average Queue (ft)	254	242	702	193	11
95th Queue (ft)	315	300	1852	348	39
Link Distance (ft)	211	211	2128	2449	51
Upstream Blk Time (%)	28	33	5		1
Queuing Penalty (veh)	0	0	0		2
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 28: SW 68th Pkwy & Park & Ride

Movement	WB	WB	NB	B19	SB	SB
Directions Served	L	R	TR	T	L	T
Maximum Queue (ft)	444	444	482	620	81	41
Average Queue (ft)	371	406	358	178	31	1
95th Queue (ft)	611	555	579	611	72	21
Link Distance (ft)	425	425	409	938		265
Upstream Blk Time (%)	81	86	30	1		
Queuing Penalty (veh)	0	0	139	3		
Storage Bay Dist (ft)					50	
Storage Blk Time (%)					4	
Queuing Penalty (veh)					5	

Intersection: 30: SW Main St/SW Greenburg Rd & OR99W

Movement	EB	EB	EB	EB	B62	B62	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	TR	T	T	L	T	T	TR	L	T
Maximum Queue (ft)	400	488	462	417	1984	2005	270	560	590	563	136	471
Average Queue (ft)	280	377	303	237	419	407	208	266	266	189	30	231
95th Queue (ft)	482	566	482	411	1631	1620	313	506	499	430	105	400
Link Distance (ft)		427	427	427	9197	9197		591	591	591		499
Upstream Blk Time (%)		33	4	2				0	0	0		0
Queuing Penalty (veh)		0	0	0				1	1	0		0
Storage Bay Dist (ft)	300						170				250	
Storage Blk Time (%)	5	48					36	11				12
Queuing Penalty (veh)	16	98					173	26				2

Intersection: 30: SW Main St/SW Greenburg Rd & OR99W

Movement	NB	B43	SB	SB	SB
Directions Served	R	T	L	T	R
Maximum Queue (ft)	377	28	416	1758	210
Average Queue (ft)	205	1	380	1366	13
95th Queue (ft)	333	20	508	2364	110
Link Distance (ft)	499	352		1745	
Upstream Blk Time (%)				67	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)			325		280
Storage Blk Time (%)			84	1	
Queuing Penalty (veh)			407	4	

Intersection: 46: SW Hall Blvd & S/S

Movement	NB	NB	SB
Directions Served	T	R	T
Maximum Queue (ft)	448	458	281
Average Queue (ft)	382	293	23
95th Queue (ft)	562	622	143
Link Distance (ft)	406	406	994
Upstream Blk Time (%)	33	19	
Queuing Penalty (veh)	119	70	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 54: SW Hall Blvd & WES RR

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	326	279
Average Queue (ft)	238	75
95th Queue (ft)	447	241
Link Distance (ft)	299	258
Upstream Blk Time (%)	43	2
Queuing Penalty (veh)	266	15
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 59: Dartmouth s/s & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	TR	L	L	T	R
Maximum Queue (ft)	644	665	670	643	547	798	842	839	321	281	70	139
Average Queue (ft)	496	622	611	400	211	290	316	301	201	161	21	55
95th Queue (ft)	908	727	747	875	393	630	663	643	312	281	57	119
Link Distance (ft)	618	618	618	618	1594	1594	1594	1594	497	497	497	497
Upstream Blk Time (%)	29	71	61	17					0			
Queuing Penalty (veh)	0	0	0	0					0			
Storage Bay Dist (ft)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 59: Dartmouth s/s & OR99W

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	250	97	88
Average Queue (ft)	98	31	32
95th Queue (ft)	243	76	71
Link Distance (ft)	324	324	324
Upstream Blk Time (%)	6		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 62: Bend

Movement	WB	WB
Directions Served	T	T
Maximum Queue (ft)	356	366
Average Queue (ft)	35	30
95th Queue (ft)	229	210
Link Distance (ft)	427	427
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	1	1
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 83: I-5 NB On-Ramp & OR99W

Movement	EB	WB	WB
Directions Served	R	T	T
Maximum Queue (ft)	5	369	393
Average Queue (ft)	0	65	92
95th Queue (ft)	4	248	299
Link Distance (ft)		391	391
Upstream Blk Time (%)		0	0
Queuing Penalty (veh)		0	1
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 85: LRT RR & SW Hunziker St

Movement	EB	WB	WB	B44
Directions Served	T	T	T	T
Maximum Queue (ft)	139	210	225	1487
Average Queue (ft)	72	102	207	1302
95th Queue (ft)	159	221	243	1842
Link Distance (ft)	121	144	144	1429
Upstream Blk Time (%)	6	15	63	63
Queuing Penalty (veh)	15	0	0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 95: SW Hall Blvd & SW Scoffins St/SW Hunziker St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	60	147	144	169	150	631	182	418
Average Queue (ft)	12	56	120	137	33	550	68	256
95th Queue (ft)	44	115	166	155	124	787	136	447
Link Distance (ft)	606	606	121	121		610	406	406
Upstream Blk Time (%)			26	44		41		2
Queuing Penalty (veh)			97	165		216		7
Storage Bay Dist (ft)					50			
Storage Blk Time (%)					0	76		
Queuing Penalty (veh)					2	19		

Intersection: 100: SW Hall Blvd & SW Commercial St/Parking Lot

Movement	EB	EB	NB	NB	SB
Directions Served	LT	R	L	TR	LTR
Maximum Queue (ft)	101	117	150	297	581
Average Queue (ft)	27	34	92	240	318
95th Queue (ft)	76	78	195	358	565
Link Distance (ft)	998			258	610
Upstream Blk Time (%)				47	0
Queuing Penalty (veh)				291	4
Storage Bay Dist (ft)		65	50		
Storage Blk Time (%)	9	1	11	66	
Queuing Penalty (veh)	4	0	56	69	

Intersection: 110: SW Hall Blvd & SW Burnham St

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	190	871	300	2209	328	255
Average Queue (ft)	118	414	192	1176	201	44
95th Queue (ft)	224	1113	376	2742	369	169
Link Distance (ft)		1176		2144	299	
Upstream Blk Time (%)		13		39	3	0
Queuing Penalty (veh)		0		0	31	0
Storage Bay Dist (ft)	90		200			275
Storage Blk Time (%)	41	30	1	53	5	0
Queuing Penalty (veh)	131	21	7	132	6	0

Intersection: 130: SW 72nd Ave & SW Dartmouth St

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	R	L	T
Maximum Queue (ft)	190	640	670	203	258	564	622	400	497	316	169	324
Average Queue (ft)	68	320	301	105	152	210	287	227	302	53	72	161
95th Queue (ft)	148	995	1091	227	288	814	807	409	484	180	154	358
Link Distance (ft)		1342	1342			1062	1062		487			406
Upstream Blk Time (%)		7	15			12	11		1	0		8
Queuing Penalty (veh)		0	0			39	36		10	0		0
Storage Bay Dist (ft)	150			160	200			300		375	80	
Storage Blk Time (%)	1	15	11	20	20			4	11		13	31
Queuing Penalty (veh)	1	21	28	35	12			16	42		9	43

Intersection: 130: SW 72nd Ave & SW Dartmouth St

Movement	SB	B5
Directions Served	TR	T
Maximum Queue (ft)	381	323
Average Queue (ft)	260	132
95th Queue (ft)	441	609
Link Distance (ft)	406	802
Upstream Blk Time (%)	18	14
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 135: SW 72nd Ave & SW Elmhurst St

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	338	84	425	480
Average Queue (ft)	122	14	142	283
95th Queue (ft)	352	55	468	538
Link Distance (ft)	586	37	487	487
Upstream Blk Time (%)	3	2	20	10
Queuing Penalty (veh)	0	17	63	33
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 140: SW 72nd Ave & LRT

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	644	55
Average Queue (ft)	412	30
95th Queue (ft)	709	60
Link Distance (ft)	639	37
Upstream Blk Time (%)	1	23
Queuing Penalty (veh)	6	142
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 150: SW 72nd Ave & SW Beveland St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	TR
Maximum Queue (ft)	121	110	274	414	230	702	336	173	568
Average Queue (ft)	46	60	209	136	89	356	72	27	218
95th Queue (ft)	93	97	311	428	214	770	361	106	512
Link Distance (ft)	767			1040		1305	1305		639
Upstream Blk Time (%)						0			0
Queuing Penalty (veh)						0			1
Storage Bay Dist (ft)		100	175		130			100	
Storage Blk Time (%)	1	1	26	0	3	30			17
Queuing Penalty (veh)	2	1	16	0	18	24			4

Intersection: 170: SW 65th Ave & SW Haines St

Movement	EB	EB	WB	NB
Directions Served	T	R	LT	LR
Maximum Queue (ft)	252	121	257	549
Average Queue (ft)	116	5	103	204
95th Queue (ft)	203	47	182	410
Link Distance (ft)	698	698	996	2587
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 180: SW 68th Ave/SW 68th Pkwy & SW Atlanta St/SW Haines St

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	LT	R	L	T	R	LT	L	TR
Maximum Queue (ft)	93	40	341	318	77	76	73	164
Average Queue (ft)	42	3	77	70	60	38	41	46
95th Queue (ft)	73	42	247	201	75	68	65	115
Link Distance (ft)	713	713	698	698		593		938
Upstream Blk Time (%)			2	0				
Queuing Penalty (veh)			6	0				
Storage Bay Dist (ft)					50		385	
Storage Blk Time (%)				2	4			
Queuing Penalty (veh)				7	4			

Intersection: 190: SW 68th Ave & SW Dartmouth St/I-5 SB

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	B4
Directions Served	L	T	R	LT	T	R	L	T	R	L	TR	T
Maximum Queue (ft)	289	375	65	409	1642	25	184	747	200	189	502	260
Average Queue (ft)	129	154	22	194	330	1	53	171	70	115	216	46
95th Queue (ft)	252	292	56	448	1436	18	133	417	183	211	475	304
Link Distance (ft)		1062	1062		3760			2181			553	593
Upstream Blk Time (%)					1						9	5
Queuing Penalty (veh)					0						36	22
Storage Bay Dist (ft)	200			600		200	100		100	90		
Storage Blk Time (%)	3	5		8	11		8	18	1	24	30	
Queuing Penalty (veh)	7	13		26	43		33	39	3	74	50	

Network Summary

Network wide Queuing Penalty: 8862

Intersection: 18: OR 217 SB s/s & OR99W

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	LT	R
Maximum Queue (ft)	596	595	312	440	1100	1086	284	531	395
Average Queue (ft)	364	383	71	192	896	874	217	287	171
95th Queue (ft)	598	615	253	496	1370	1389	312	456	323
Link Distance (ft)	593	593	593		1049	1049		737	737
Upstream Blk Time (%)	0	0			49	33		0	
Queuing Penalty (veh)	1	1			0	0		0	
Storage Bay Dist (ft)				340			185		
Storage Blk Time (%)					60		6	32	
Queuing Penalty (veh)					39		15	75	

Intersection: 20: SW Hall Blvd & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	335	618	664	641	592	674	599	530	350	1008	350	500
Average Queue (ft)	331	571	508	405	575	626	377	331	214	981	301	335
95th Queue (ft)	357	721	777	807	642	674	607	518	428	1126	458	613
Link Distance (ft)		591	591	591		593	593	593		994		
Upstream Blk Time (%)		55	10	10	16	40	0			48		
Queuing Penalty (veh)		264	49	46	0	274	3			340		
Storage Bay Dist (ft)	235				500				250		250	400
Storage Blk Time (%)	91	3			58	1			4	79	7	0
Queuing Penalty (veh)	361	6			316	4			21	281	34	1

Intersection: 20: SW Hall Blvd & OR99W

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	1183	300
Average Queue (ft)	988	236
95th Queue (ft)	1514	405
Link Distance (ft)	1142	
Upstream Blk Time (%)	43	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		200
Storage Blk Time (%)	65	3
Queuing Penalty (veh)	270	15

Intersection: 21: SW 72nd Ave & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	400	1624	1631	420	216	300	317	315	170	1021	170	254
Average Queue (ft)	395	1494	1494	74	98	122	144	154	155	705	117	117
95th Queue (ft)	435	1943	1950	329	182	234	253	270	209	1197	213	214
Link Distance (ft)		1594	1594			550	550	550		990		1780
Upstream Blk Time (%)		14	15							21		
Queuing Penalty (veh)		122	140							0		
Storage Bay Dist (ft)	340			450	300				110		110	
Storage Blk Time (%)	88	10	16			0			55	16	19	
Queuing Penalty (veh)	684	21	14			0			224	70	66	

Intersection: 21: SW 72nd Ave & OR99W

Movement	SB
Directions Served	TR
Maximum Queue (ft)	361
Average Queue (ft)	171
95th Queue (ft)	313
Link Distance (ft)	1780
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 22: OR99W & SW 71st Ave

Movement	EB	EB	EB	WB	WB	SB
Directions Served	L	T	T	T	R	LR
Maximum Queue (ft)	120	512	526	14	10	1909
Average Queue (ft)	36	243	265	0	0	1378
95th Queue (ft)	113	645	668	10	5	2237
Link Distance (ft)		550	550	436		2009
Upstream Blk Time (%)		2	6			20
Queuing Penalty (veh)		21	56			0
Storage Bay Dist (ft)	80				150	
Storage Blk Time (%)	0	22				
Queuing Penalty (veh)	5	10				

Intersection: 23: SW 68th Pkwy & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	LT	R	L	TR
Maximum Queue (ft)	330	557	564	260	359	941	930	210	282	115	146	151
Average Queue (ft)	54	481	498	109	56	895	896	180	260	33	52	52
95th Queue (ft)	241	640	631	304	240	956	946	271	332	117	116	119
Link Distance (ft)		436	436			675	675		264		1414	1414
Upstream Blk Time (%)		29	37			51	55		49			
Queuing Penalty (veh)		282	359			506	549		319			
Storage Bay Dist (ft)	270			200	300			150		55		
Storage Blk Time (%)		35	42	0		49		11	71	0		
Queuing Penalty (veh)		16	40	1		20		54	170	0		

Intersection: 24: SW 64th Ave & Pacific Hwy (OR99W) & I-5 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SW	SW
Directions Served	<	T	T	L	T	TR	LTR	R	R>
Maximum Queue (ft)	237	412	396	913	958	934	463	1145	1148
Average Queue (ft)	106	56	55	269	866	868	257	658	664
95th Queue (ft)	206	260	239	791	1089	1075	508	1156	1157
Link Distance (ft)		391	391		914	914	945	1902	1902
Upstream Blk Time (%)		2	2	0	35	36			
Queuing Penalty (veh)		10	11	0	178	186			
Storage Bay Dist (ft)	200			850					
Storage Blk Time (%)	2	3			51				
Queuing Penalty (veh)	11	3			90				

Intersection: 25: I-5 SB On-Ramp/SW 64th Ave & I-5 NB On-Ramp

Movement	EB	EB	SB	SB
Directions Served	T	TR	L	T
Maximum Queue (ft)	112	126	35	80
Average Queue (ft)	28	19	5	23
95th Queue (ft)	79	74	23	61
Link Distance (ft)	393	393	46	46
Upstream Blk Time (%)			1	9
Queuing Penalty (veh)			2	11
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 26: SW 60th Ave & Pacific Hwy (OR99W)

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	L
Maximum Queue (ft)	586	593	380	5594	5621	87
Average Queue (ft)	281	314	140	2349	2354	50
95th Queue (ft)	467	502	398	5365	5377	87
Link Distance (ft)	914	914		10150	10150	51
Upstream Blk Time (%)						27
Queuing Penalty (veh)						76
Storage Bay Dist (ft)			300			
Storage Blk Time (%)				70		
Queuing Penalty (veh)				45		

Intersection: 27: SW 60th Ave & I-5 Off Ramp/SW Barbur Blvd

Movement	EB	EB	B14	NB	SB
Directions Served	LT	TR	T	TR	LT
Maximum Queue (ft)	295	294	1359	327	48
Average Queue (ft)	250	250	775	180	10
95th Queue (ft)	313	302	1740	311	36
Link Distance (ft)	211	211	2128	2449	51
Upstream Blk Time (%)	31	38	3		1
Queuing Penalty (veh)	0	0	0		2
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 28: SW 68th Pkwy & Park & Ride

Movement	WB	WB	NB	B19	SB	SB
Directions Served	L	R	TR	T	L	T
Maximum Queue (ft)	444	444	477	195	53	55
Average Queue (ft)	380	402	305	20	10	8
95th Queue (ft)	608	578	549	113	38	82
Link Distance (ft)	424	424	409	938		264
Upstream Blk Time (%)	83	86	8			2
Queuing Penalty (veh)	0	0	39			5
Storage Bay Dist (ft)					50	
Storage Blk Time (%)					1	4
Queuing Penalty (veh)					1	2

Intersection: 30: SW Main St/SW Greenburg Rd & OR99W

Movement	EB	EB	EB	EB	B62	B62	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	TR	T	T	L	T	T	TR	L	T
Maximum Queue (ft)	400	477	465	440	2746	2743	270	555	521	502	144	452
Average Queue (ft)	291	384	310	254	950	940	202	230	233	162	23	239
95th Queue (ft)	486	592	511	459	3047	3047	301	456	464	384	85	404
Link Distance (ft)		427	427	427	9197	9197		591	591	591		499
Upstream Blk Time (%)		43	8	2				0	0	0		1
Queuing Penalty (veh)		0	0	0				0	1	0		0
Storage Bay Dist (ft)	300						170				250	
Storage Blk Time (%)	6	53					34	9				11
Queuing Penalty (veh)	20	110					160	21				2

Intersection: 30: SW Main St/SW Greenburg Rd & OR99W

Movement	NB	SB	SB	SB
Directions Served	R	L	T	R
Maximum Queue (ft)	355	421	1761	88
Average Queue (ft)	203	363	1310	11
95th Queue (ft)	336	526	2433	58
Link Distance (ft)	499		1745	
Upstream Blk Time (%)			66	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)		325		280
Storage Blk Time (%)		77	0	
Queuing Penalty (veh)		371	0	

Intersection: 46: SW Hall Blvd & S/S

Movement	NB	NB	SB
Directions Served	T	R	T
Maximum Queue (ft)	450	457	150
Average Queue (ft)	380	257	11
95th Queue (ft)	569	596	68
Link Distance (ft)	406	406	994
Upstream Blk Time (%)	33	17	
Queuing Penalty (veh)	119	62	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 54: SW Hall Blvd & WES RR

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	326	280
Average Queue (ft)	251	86
95th Queue (ft)	448	263
Link Distance (ft)	299	258
Upstream Blk Time (%)	47	2
Queuing Penalty (veh)	289	20
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 59: Dartmouth s/s & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	TR	L	L	T	R
Maximum Queue (ft)	661	667	670	645	605	792	787	779	360	318	82	208
Average Queue (ft)	558	633	628	475	186	268	289	277	208	165	19	68
95th Queue (ft)	877	688	701	898	407	584	601	583	306	274	54	154
Link Distance (ft)	618	618	618	618	1594	1594	1594	1594	497	497	497	497
Upstream Blk Time (%)	37	76	63	18								
Queuing Penalty (veh)	0	0	0	0								
Storage Bay Dist (ft)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 59: Dartmouth s/s & OR99W

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	236	96	84
Average Queue (ft)	115	31	33
95th Queue (ft)	247	77	66
Link Distance (ft)	324	324	324
Upstream Blk Time (%)	1		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 62: Bend

Movement	WB	WB
Directions Served	T	T
Maximum Queue (ft)	335	261
Average Queue (ft)	14	12
95th Queue (ft)	140	129
Link Distance (ft)	427	427
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 83: I-5 NB On-Ramp & OR99W

Movement	EB	EB	EB	WB	WB
Directions Served	T	TR	R	T	T
Maximum Queue (ft)	26	445	24	434	421
Average Queue (ft)	1	25	1	346	357
95th Queue (ft)	15	234	17	507	509
Link Distance (ft)	675	675		391	391
Upstream Blk Time (%)		0		4	6
Queuing Penalty (veh)		1		36	57
Storage Bay Dist (ft)			100		
Storage Blk Time (%)		0	0		
Queuing Penalty (veh)		0	0		

Intersection: 85: LRT RR & SW Hunziker St

Movement	EB	WB	WB	B44
Directions Served	T	T	T	T
Maximum Queue (ft)	140	194	240	1489
Average Queue (ft)	69	95	203	1272
95th Queue (ft)	156	211	261	1868
Link Distance (ft)	121	144	144	1429
Upstream Blk Time (%)	6	14	65	62
Queuing Penalty (veh)	14	0	0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 95: SW Hall Blvd & SW Scoffins St/SW Hunziker St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	51	143	143	163	150	632	150	418
Average Queue (ft)	12	57	115	136	27	569	61	262
95th Queue (ft)	40	108	170	155	106	783	119	441
Link Distance (ft)	606	606	121	121		610	406	406
Upstream Blk Time (%)			25	44		44		1
Queuing Penalty (veh)			94	166		233		3
Storage Bay Dist (ft)					50			
Storage Blk Time (%)					1	76		
Queuing Penalty (veh)					4	19		

Intersection: 100: SW Hall Blvd & SW Commercial St/Parking Lot

Movement	EB	EB	NB	NB	SB
Directions Served	LT	R	L	TR	LTR
Maximum Queue (ft)	85	82	150	311	574
Average Queue (ft)	30	28	99	245	287
95th Queue (ft)	74	63	194	356	525
Link Distance (ft)	998			258	610
Upstream Blk Time (%)				50	0
Queuing Penalty (veh)				305	1
Storage Bay Dist (ft)		65	50		
Storage Blk Time (%)	8	1	10	69	
Queuing Penalty (veh)	4	0	53	73	

Intersection: 110: SW Hall Blvd & SW Burnham St

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	190	941	300	2216	328	255
Average Queue (ft)	120	299	212	1341	220	39
95th Queue (ft)	223	763	387	2841	396	150
Link Distance (ft)		1176		2144	299	
Upstream Blk Time (%)		3		40	4	0
Queuing Penalty (veh)		0		0	39	0
Storage Bay Dist (ft)	90		200			275
Storage Blk Time (%)	44	31	2	58	6	0
Queuing Penalty (veh)	140	22	12	146	7	0

Intersection: 130: SW 72nd Ave & SW Dartmouth St

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	R	L	T
Maximum Queue (ft)	220	569	522	183	261	415	460	400	498	336	147	373
Average Queue (ft)	72	373	313	102	156	237	319	269	335	58	77	186
95th Queue (ft)	161	1145	1137	196	291	908	908	450	514	201	170	424
Link Distance (ft)		1342	1342			1062	1062		487			406
Upstream Blk Time (%)		18	18			17	16		3	0		18
Queuing Penalty (veh)		0	0			56	52		24	0		0
Storage Bay Dist (ft)	150			160	200			300		375	80	
Storage Blk Time (%)	0	7	2	21	22			5	14		15	33
Queuing Penalty (veh)	1	10	5	36	13			20	53		10	46

Intersection: 130: SW 72nd Ave & SW Dartmouth St

Movement	SB	B5
Directions Served	TR	T
Maximum Queue (ft)	409	163
Average Queue (ft)	261	141
95th Queue (ft)	418	642
Link Distance (ft)	406	802
Upstream Blk Time (%)	18	17
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 135: SW 72nd Ave & SW Elmhurst St

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	289	62	372	490
Average Queue (ft)	165	12	133	316
95th Queue (ft)	478	45	452	584
Link Distance (ft)	586	37	487	487
Upstream Blk Time (%)	13	4	22	22
Queuing Penalty (veh)	0	31	70	69
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 140: SW 72nd Ave & LRT

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	650	72
Average Queue (ft)	445	31
95th Queue (ft)	749	63
Link Distance (ft)	639	37
Upstream Blk Time (%)	2	23
Queuing Penalty (veh)	15	141
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 150: SW 72nd Ave & SW Beveland St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	TR
Maximum Queue (ft)	124	122	275	551	229	636	116	135	494
Average Queue (ft)	50	63	204	136	81	326	38	25	234
95th Queue (ft)	101	106	304	416	208	560	87	93	529
Link Distance (ft)	767			1040		1305	1305		639
Upstream Blk Time (%)									0
Queuing Penalty (veh)									1
Storage Bay Dist (ft)		100	175		130			100	
Storage Blk Time (%)	1	2	25	0	2	31		0	18
Queuing Penalty (veh)	1	1	15	1	11	25		2	4

Intersection: 170: SW 65th Ave & SW Haines St

Movement	EB	EB	WB	NB
Directions Served	T	R	LT	LR
Maximum Queue (ft)	238	44	348	786
Average Queue (ft)	101	3	185	418
95th Queue (ft)	185	22	636	1597
Link Distance (ft)	698	698	996	2587
Upstream Blk Time (%)			9	8
Queuing Penalty (veh)			0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 180: SW 68th Ave/SW 68th Pkwy & SW Atlanta St/SW Haines St

Movement	EB	EB	WB	WB	WB	NB	SB	SB	B19
Directions Served	LT	R	L	T	R	LT	L	TR	T
Maximum Queue (ft)	85	59	251	203	78	81	152	264	82
Average Queue (ft)	40	23	140	57	55	37	43	139	22
95th Queue (ft)	68	138	489	141	88	69	131	590	168
Link Distance (ft)	713	713	698	698		593		938	409
Upstream Blk Time (%)			12					7	4
Queuing Penalty (veh)			43					9	6
Storage Bay Dist (ft)					50		385		
Storage Blk Time (%)				1	4			11	
Queuing Penalty (veh)				5	3			15	

Intersection: 190: SW 68th Ave & SW Dartmouth St/I-5 SB

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	B4
Directions Served	L	T	R	LT	T	R	L	T	R	L	TR	T
Maximum Queue (ft)	279	350	53	336	947	120	182	707	200	176	421	129
Average Queue (ft)	141	148	20	227	619	5	69	414	59	102	237	91
95th Queue (ft)	281	294	49	532	2589	55	167	1535	167	201	558	453
Link Distance (ft)		1062	1062		3760			2181			553	593
Upstream Blk Time (%)					11			11			15	13
Queuing Penalty (veh)					0			0			61	55
Storage Bay Dist (ft)	200			600		200	100		100	90		
Storage Blk Time (%)	5	5		14	16		17	17	1	22	30	
Queuing Penalty (veh)	12	12		45	64		71	38	2	70	50	

Network Summary

Network wide Queuing Penalty: 10715

Intersection: 18: OR 217 SB s/s & OR99W

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	LT	R
Maximum Queue (ft)	461	489	72	440	1100	1087	285	760	762
Average Queue (ft)	216	229	20	173	834	803	185	529	512
95th Queue (ft)	372	395	45	462	1320	1321	349	931	941
Link Distance (ft)	593	593	593		1049	1049		737	737
Upstream Blk Time (%)	0	0			24	18		38	39
Queuing Penalty (veh)	0	0			0	0		0	0
Storage Bay Dist (ft)				340			185		
Storage Blk Time (%)					43		17	34	
Queuing Penalty (veh)					27		39	79	

Intersection: 20: SW Hall Blvd & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	335	619	645	644	592	686	615	546	350	1010	350	500
Average Queue (ft)	323	548	496	390	564	577	367	213	303	931	261	310
95th Queue (ft)	392	721	702	685	642	790	709	435	428	1249	458	605
Link Distance (ft)		591	591	591		593	593	593		994		
Upstream Blk Time (%)		23	8	6	16	38	1	0		41		
Queuing Penalty (veh)		110	37	27	0	259	7	1		285		
Storage Bay Dist (ft)	235				500				250		250	400
Storage Blk Time (%)	83	15			65	1			59	57	7	
Queuing Penalty (veh)	329	32			353	5			341	203	36	

Intersection: 20: SW Hall Blvd & OR99W

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	1169	300
Average Queue (ft)	762	246
95th Queue (ft)	1357	405
Link Distance (ft)	1142	
Upstream Blk Time (%)	22	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		200
Storage Blk Time (%)	60	3
Queuing Penalty (veh)	251	15

Intersection: 30: SW Main St/SW Greenburg Rd & OR99W

Movement	EB	EB	EB	EB	B62	B62	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	TR	T	T	L	T	T	TR	L	T
Maximum Queue (ft)	400	498	494	493	2371	2398	270	628	646	633	185	500
Average Queue (ft)	311	392	347	299	588	574	245	516	529	477	34	289
95th Queue (ft)	494	608	559	521	1950	1947	333	688	691	692	131	494
Link Distance (ft)		427	427	427	9197	9197		591	591	591		499
Upstream Blk Time (%)		47	16	7				5	5	2		5
Queuing Penalty (veh)		0	0	0				35	35	14		0
Storage Bay Dist (ft)	300						170				250	
Storage Blk Time (%)	4	59					34	29				21
Queuing Penalty (veh)	15	121					164	70				4

Intersection: 30: SW Main St/SW Greenburg Rd & OR99W

Movement	NB	B43	SB	SB	SB
Directions Served	R	T	L	T	R
Maximum Queue (ft)	396	111	404	1013	283
Average Queue (ft)	200	24	243	431	50
95th Queue (ft)	359	164	429	1277	165
Link Distance (ft)	499	352		1745	
Upstream Blk Time (%)	0	3		8	
Queuing Penalty (veh)	0	0		0	
Storage Bay Dist (ft)			325		280
Storage Blk Time (%)			21	2	
Queuing Penalty (veh)			103	10	

Intersection: 44: SW Hunziker St

Movement	WB	WB	NB
Directions Served	LT	T	LR
Maximum Queue (ft)	225	2507	117
Average Queue (ft)	148	1088	40
95th Queue (ft)	308	2721	83
Link Distance (ft)		3297	659
Upstream Blk Time (%)		4	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)	125		
Storage Blk Time (%)	4	48	
Queuing Penalty (veh)	16	182	

Intersection: 46: SW Hall Blvd & S/S

Movement	NB	NB	SB
Directions Served	T	R	T
Maximum Queue (ft)	441	465	536
Average Queue (ft)	321	265	96
95th Queue (ft)	577	598	385
Link Distance (ft)	406	406	994
Upstream Blk Time (%)	21	17	1
Queuing Penalty (veh)	76	62	7
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 54: SW Hall Blvd & WES RR

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	324	281
Average Queue (ft)	247	98
95th Queue (ft)	448	288
Link Distance (ft)	299	258
Upstream Blk Time (%)	47	3
Queuing Penalty (veh)	293	30
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Bend

Movement	WB	WB	WB
Directions Served	T	T	
Maximum Queue (ft)	460	470	95
Average Queue (ft)	113	126	6
95th Queue (ft)	422	454	96
Link Distance (ft)	427	427	427
Upstream Blk Time (%)	0	1	0
Queuing Penalty (veh)	2	4	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 85: LRT RR & SW Hunziker St

Movement	EB	WB	WB
Directions Served	T	T	T
Maximum Queue (ft)	140	165	189
Average Queue (ft)	78	100	149
95th Queue (ft)	167	188	180
Link Distance (ft)	121	134	134
Upstream Blk Time (%)	6	16	51
Queuing Penalty (veh)	17	62	201
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 95: SW Hall Blvd & SW Scoffins St/SW Hunziker St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	57	137	141	187	150	631	172	419
Average Queue (ft)	11	65	114	135	36	555	74	332
95th Queue (ft)	39	121	173	175	126	778	138	482
Link Distance (ft)	606	606	121	121		610	406	406
Upstream Blk Time (%)			19	35		44		9
Queuing Penalty (veh)			74	141		238		34
Storage Bay Dist (ft)					50			
Storage Blk Time (%)					3	76		
Queuing Penalty (veh)					13	19		

Intersection: 100: SW Hall Blvd & SW Commercial St/Parking Lot

Movement	EB	EB	NB	NB	SB
Directions Served	LT	R	L	TR	LTR
Maximum Queue (ft)	160	115	150	288	612
Average Queue (ft)	36	34	84	236	352
95th Queue (ft)	113	91	182	368	637
Link Distance (ft)	998			258	610
Upstream Blk Time (%)				51	1
Queuing Penalty (veh)				315	10
Storage Bay Dist (ft)		65	50		
Storage Blk Time (%)	9	3	12	66	
Queuing Penalty (veh)	4	1	60	70	

Intersection: 110: SW Hall Blvd & SW Burnham St

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	187	974	300	2205	326	256
Average Queue (ft)	128	496	206	1408	203	44
95th Queue (ft)	239	1246	382	2987	385	161
Link Distance (ft)		1176		2144	299	
Upstream Blk Time (%)		23		50	5	0
Queuing Penalty (veh)		0		0	46	0
Storage Bay Dist (ft)	90		200			275
Storage Blk Time (%)	53	27	2	58	6	0
Queuing Penalty (veh)	168	19	13	144	7	0

Network Summary

Network wide Queuing Penalty: 5335

Intersection: 18: OR 217 SB s/s & OR99W

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	LT	R
Maximum Queue (ft)	638	653	658	208	434	396	284	492	234
Average Queue (ft)	605	620	261	63	183	147	222	287	89
95th Queue (ft)	672	679	703	169	419	364	308	424	181
Link Distance (ft)	593	593	593		1049	1049		737	737
Upstream Blk Time (%)	10	15	2		0				
Queuing Penalty (veh)	74	114	17		0				
Storage Bay Dist (ft)				340			185		
Storage Blk Time (%)					3		6	33	
Queuing Penalty (veh)					2		14	78	

Intersection: 20: SW Hall Blvd & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	335	643	645	642	449	463	392	310	244	1009	350	404
Average Queue (ft)	299	598	600	610	232	231	199	185	40	883	342	201
95th Queue (ft)	418	633	629	707	477	450	336	286	130	1250	382	414
Link Distance (ft)		591	591	591		593	593	593		994		
Upstream Blk Time (%)		17	19	27	2	4	0			42		
Queuing Penalty (veh)		120	129	190	0	16	0			222		
Storage Bay Dist (ft)	235				500				250		250	400
Storage Blk Time (%)	30	56			4	2				16	81	2
Queuing Penalty (veh)	182	117			14	3				47	191	8

Intersection: 20: SW Hall Blvd & OR99W

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	557	300
Average Queue (ft)	320	136
95th Queue (ft)	767	302
Link Distance (ft)	1142	
Upstream Blk Time (%)	1	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		200
Storage Blk Time (%)	25	1
Queuing Penalty (veh)	77	3

Intersection: 21: SW 72nd Ave & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	400	1618	1624	510	209	160	183	185	162	570	170	190
Average Queue (ft)	103	1523	1534	311	106	69	92	96	45	160	122	77
95th Queue (ft)	375	1869	1859	713	193	137	157	164	111	484	199	154
Link Distance (ft)		1593	1593			550	550	550		2280		1780
Upstream Blk Time (%)		14	19									
Queuing Penalty (veh)		141	199									
Storage Bay Dist (ft)	340			450	300				110		110	
Storage Blk Time (%)		69	78	0					2	2	30	
Queuing Penalty (veh)		28	63	0					3	4	21	

Intersection: 21: SW 72nd Ave & OR99W

Movement	SB
Directions Served	TR
Maximum Queue (ft)	201
Average Queue (ft)	74
95th Queue (ft)	156
Link Distance (ft)	1780
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 22: OR99W & SW 71st Ave

Movement	EB	EB	EB	WB	SB
Directions Served	L	T	T	R	LR
Maximum Queue (ft)	179	595	610	5	899
Average Queue (ft)	27	517	543	0	474
95th Queue (ft)	119	680	685	4	929
Link Distance (ft)		550	550		2009
Upstream Blk Time (%)		15	24		
Queuing Penalty (veh)		169	265		
Storage Bay Dist (ft)	80			150	
Storage Blk Time (%)	0	53			
Queuing Penalty (veh)	0	11			

Intersection: 23: SW 68th Pkwy & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	LT	R	L	TR
Maximum Queue (ft)	274	549	566	260	125	607	638	116	214	115	208	282
Average Queue (ft)	19	536	538	156	18	283	308	31	91	25	72	139
95th Queue (ft)	140	547	551	344	73	494	523	89	180	98	151	248
Link Distance (ft)		436	436			675	675		264		1414	1414
Upstream Blk Time (%)		53	62			0	0		0			
Queuing Penalty (veh)		586	692			0	1		1			
Storage Bay Dist (ft)	270			200	300			150		55		
Storage Blk Time (%)		50	56	0		13		0	23	1		
Queuing Penalty (veh)		10	119	0		4		0	25	2		

Intersection: 24: SW 64th Ave & Pacific Hwy (OR99W) & I-5 SB Off-Ramp

Movement	EB	EB	WB	WB	WB	SB	SW	SW	B61
Directions Served	T	TR	L	T	TR	LTR	R	R>	T
Maximum Queue (ft)	640	625	519	419	444	1011	450	422	10
Average Queue (ft)	379	387	296	254	266	879	258	271	0
95th Queue (ft)	726	699	508	379	388	1175	383	392	7
Link Distance (ft)	391	391		915	915	944	451	451	2366
Upstream Blk Time (%)	31	34				63	0	0	
Queuing Penalty (veh)	198	214				0	0	0	
Storage Bay Dist (ft)			850						
Storage Blk Time (%)	39								
Queuing Penalty (veh)	0								

Intersection: 25: I-5 SB On-Ramp & SW 64th Ave

Movement	EB	EB	SB	SB
Directions Served	T	TR	L	T
Maximum Queue (ft)	528	276	39	99
Average Queue (ft)	139	130	7	64
95th Queue (ft)	359	234	30	94
Link Distance (ft)	393	393	46	46
Upstream Blk Time (%)			1	52
Queuing Penalty (veh)			2	100
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 26: SW 60th Ave & Pacific Hwy (OR99W)

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	L
Maximum Queue (ft)	787	834	97	294	296	75
Average Queue (ft)	276	313	29	170	158	15
95th Queue (ft)	630	692	80	264	253	53
Link Distance (ft)	915	915		10150	10150	51
Upstream Blk Time (%)						5
Queuing Penalty (veh)						6
Storage Bay Dist (ft)			300			
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 27: SW 60th Ave & I-5 Off Ramp/SW Barbur Blvd

Movement	EB	EB	B14	NB	SB
Directions Served	LT	TR	T	TR	LT
Maximum Queue (ft)	285	290	369	266	63
Average Queue (ft)	219	224	66	104	15
95th Queue (ft)	287	291	240	208	50
Link Distance (ft)	211	211	2128	2449	51
Upstream Blk Time (%)	11	13			3
Queuing Penalty (veh)	0	0			8
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 28: SW 68th Pkwy & Park & Ride

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	32	44	78	87	28
Average Queue (ft)	12	22	4	23	1
95th Queue (ft)	34	39	49	65	20
Link Distance (ft)	424	424	409		264
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				50	
Storage Blk Time (%)				1	
Queuing Penalty (veh)				3	

Intersection: 30: SW Main St/SW Greenburg Rd & OR99W

Movement	EB	EB	EB	EB	B62	B62	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	TR	T	T	L	T	T	TR	L	T
Maximum Queue (ft)	400	518	518	501	3623	3621	267	383	427	349	132	302
Average Queue (ft)	345	486	479	426	1682	1700	165	184	206	133	22	117
95th Queue (ft)	508	540	534	512	4097	4127	272	343	362	281	95	265
Link Distance (ft)		424	424	424	9198	9198		591	591	591		499
Upstream Blk Time (%)		51	41	10								
Queuing Penalty (veh)		0	0	0								
Storage Bay Dist (ft)	300						170				250	
Storage Blk Time (%)	23	54					25	3				3
Queuing Penalty (veh)	125	97					72	4				1

Intersection: 30: SW Main St/SW Greenburg Rd & OR99W

Movement	NB	B43	SB	SB	SB
Directions Served	R	T	L	T	R
Maximum Queue (ft)	582	395	425	1789	88
Average Queue (ft)	521	292	406	1406	1
95th Queue (ft)	700	540	495	2358	12
Link Distance (ft)	499	352		1745	
Upstream Blk Time (%)	73	66		58	
Queuing Penalty (veh)	0	0		0	
Storage Bay Dist (ft)			325		280
Storage Blk Time (%)			90		
Queuing Penalty (veh)			206		

Intersection: 44: SW Hunziker St

Movement	EB	WB	WB	NB
Directions Served	TR	LT	T	LR
Maximum Queue (ft)	5	49	20	70
Average Queue (ft)	0	9	1	32
95th Queue (ft)	4	36	11	59
Link Distance (ft)	134		1432	695
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		125		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 46: SW Hall Blvd & S/S

Movement	NB	NB	SB
Directions Served	T	R	T
Maximum Queue (ft)	444	432	22
Average Queue (ft)	259	52	1
95th Queue (ft)	565	278	16
Link Distance (ft)	406	406	994
Upstream Blk Time (%)	19	4	
Queuing Penalty (veh)	51	11	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 54: SW Hall Blvd & WES RR

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	326	260
Average Queue (ft)	264	30
95th Queue (ft)	437	151
Link Distance (ft)	299	258
Upstream Blk Time (%)	41	1
Queuing Penalty (veh)	319	2
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 59: Dartmouth s/s & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	TR	L	L	T	R
Maximum Queue (ft)	639	662	665	647	327	459	491	464	303	260	78	156
Average Queue (ft)	554	637	632	512	215	148	164	154	188	146	23	60
95th Queue (ft)	877	665	686	904	348	341	367	350	262	231	62	138
Link Distance (ft)	618	618	618	618	1593	1593	1593	1593	497	497	497	497
Upstream Blk Time (%)	26	75	76	23								
Queuing Penalty (veh)	0	0	0	0								
Storage Bay Dist (ft)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 59: Dartmouth s/s & OR99W

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	344	187	75
Average Queue (ft)	154	30	33
95th Queue (ft)	320	104	65
Link Distance (ft)	324	324	324
Upstream Blk Time (%)	10	1	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 62: Bend

Movement	WB
Directions Served	T
Maximum Queue (ft)	90
Average Queue (ft)	3
95th Queue (ft)	64
Link Distance (ft)	424
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 83: 0 & OR99W

Movement	EB	EB	EB
Directions Served	T	TR	R
Maximum Queue (ft)	732	757	125
Average Queue (ft)	184	202	30
95th Queue (ft)	664	709	117
Link Distance (ft)	675	675	
Upstream Blk Time (%)	9	10	
Queuing Penalty (veh)	94	109	
Storage Bay Dist (ft)			100
Storage Blk Time (%)		18	0
Queuing Penalty (veh)		79	4

Intersection: 85: LRT RR & SW Hunziker St

Movement	EB	WB	WB
Directions Served	T	T	T
Maximum Queue (ft)	143	112	128
Average Queue (ft)	98	22	50
95th Queue (ft)	184	69	120
Link Distance (ft)	121	134	134
Upstream Blk Time (%)	16	0	1
Queuing Penalty (veh)	78	0	1
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 95: SW Hall Blvd & SW Scoffins St/SW Hunziker St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	45	207	130	140	104	633	221	290
Average Queue (ft)	11	84	55	77	11	585	84	126
95th Queue (ft)	38	164	109	139	64	752	181	257
Link Distance (ft)	606	606	121	121		610	406	406
Upstream Blk Time (%)			2	4		36		0
Queuing Penalty (veh)			2	5		263		0
Storage Bay Dist (ft)					50			
Storage Blk Time (%)					0	69		
Queuing Penalty (veh)					0	7		

Intersection: 100: SW Hall Blvd & SW Commercial St/Parking Lot

Movement	EB	EB	NB	NB	SB
Directions Served	LT	R	L	TR	LTR
Maximum Queue (ft)	234	132	150	299	347
Average Queue (ft)	79	29	93	260	128
95th Queue (ft)	189	91	198	339	275
Link Distance (ft)	998			258	610
Upstream Blk Time (%)				45	
Queuing Penalty (veh)				351	
Storage Bay Dist (ft)		65	50		
Storage Blk Time (%)	27	0	5	68	
Queuing Penalty (veh)	11	0	33	71	

Intersection: 110: SW Hall Blvd & SW Burnham St

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	164	443	300	2216	289	118
Average Queue (ft)	90	134	154	1467	102	27
95th Queue (ft)	184	460	374	3008	217	79
Link Distance (ft)		1176		2144	299	
Upstream Blk Time (%)				55	0	
Queuing Penalty (veh)				0	1	
Storage Bay Dist (ft)	90		200			275
Storage Blk Time (%)	28	2		60	0	
Queuing Penalty (veh)	58	2		99	0	

Intersection: 170: SW 65th Ave & SW Haines St

Movement	EB	EB	WB	NB
Directions Served	T	R	LT	LR
Maximum Queue (ft)	148	6	178	289
Average Queue (ft)	71	0	86	130
95th Queue (ft)	117	4	141	227
Link Distance (ft)	698	698	996	2587
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 180: SW 68th Ave/SW 68th Pkwy & SW Atlanta St/SW Haines St

Movement	EB	WB	WB	WB	NB	SB	SB
Directions Served	LT	L	T	R	LT	L	TR
Maximum Queue (ft)	79	164	144	78	75	86	92
Average Queue (ft)	26	75	39	57	37	36	45
95th Queue (ft)	59	125	85	68	65	66	74
Link Distance (ft)	713	698	698		593		938
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)				50		385	
Storage Blk Time (%)			1	2			
Queuing Penalty (veh)			2	1			

Intersection: 190: SW 68th Ave & SW Dartmouth St/I-5 SB

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	LT	T	R	L	T	R	L	TR
Maximum Queue (ft)	215	154	63	220	174	24	75	209	153	188	290
Average Queue (ft)	85	68	29	110	94	1	27	80	35	121	120
95th Queue (ft)	159	130	56	185	151	17	62	160	99	194	224
Link Distance (ft)		1107	1107		3760			2181			553
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200			600		200	100		100	90	
Storage Blk Time (%)	1	0			0		0	6	0	22	11
Queuing Penalty (veh)	1	0			0		0	9	0	62	26

Network Summary

Network wide Queuing Penalty: 6752

Intersection: 18: OR 217 SB s/s & OR99W

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	LT	R
Maximum Queue (ft)	431	421	240	439	1096	1070	285	760	750
Average Queue (ft)	231	239	36	162	805	771	171	403	437
95th Queue (ft)	395	394	165	439	1289	1274	334	788	881
Link Distance (ft)	593	593	593		1049	1049		737	737
Upstream Blk Time (%)	0	0	0		17	10		19	27
Queuing Penalty (veh)	2	0	1		0	0		0	0
Storage Bay Dist (ft)				340			185		
Storage Blk Time (%)					38		11	27	
Queuing Penalty (veh)					25		26	65	

Intersection: 20: SW Hall Blvd & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	335	626	618	646	592	672	620	541	350	1008	350	500
Average Queue (ft)	332	584	461	365	561	588	424	251	294	971	256	262
95th Queue (ft)	358	690	699	658	660	769	756	501	430	1165	465	531
Link Distance (ft)		591	591	591		593	593	593		994		
Upstream Blk Time (%)		29	5	4	13	34	2	0		46		
Queuing Penalty (veh)		135	24	20	0	231	12	2		327		
Storage Bay Dist (ft)	235				500				250		250	400
Storage Blk Time (%)	88	12			65	3			49	58	10	0
Queuing Penalty (veh)	343	27			347	9			289	213	47	1

Intersection: 20: SW Hall Blvd & OR99W

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	1132	300
Average Queue (ft)	555	212
95th Queue (ft)	1101	387
Link Distance (ft)	1142	
Upstream Blk Time (%)	9	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		200
Storage Blk Time (%)	50	3
Queuing Penalty (veh)	200	16

Intersection: 30: SW Main St/SW Greenburg Rd & OR99W

Movement	EB	EB	EB	EB	B62	B62	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	TR	T	T	L	T	T	TR	L	T
Maximum Queue (ft)	400	513	505	481	2845	2851	270	629	644	638	154	461
Average Queue (ft)	292	414	334	286	979	968	246	510	528	471	51	245
95th Queue (ft)	508	610	542	500	2954	2953	318	692	680	679	126	404
Link Distance (ft)		427	427	427	9197	9197		591	591	591		499
Upstream Blk Time (%)		55	12	3				5	5	2		1
Queuing Penalty (veh)		0	0	0				31	35	13		0
Storage Bay Dist (ft)	300						170				250	
Storage Blk Time (%)	3	67					30	28				11
Queuing Penalty (veh)	11	137					139	69				5

Intersection: 30: SW Main St/SW Greenburg Rd & OR99W

Movement	NB	B43	SB	SB	SB
Directions Served	R	T	L	T	R
Maximum Queue (ft)	356	76	424	1310	334
Average Queue (ft)	195	10	293	500	64
95th Queue (ft)	319	109	486	1298	236
Link Distance (ft)	499	352		1745	
Upstream Blk Time (%)		1		5	
Queuing Penalty (veh)		0		0	
Storage Bay Dist (ft)			325		280
Storage Blk Time (%)			36	3	
Queuing Penalty (veh)			180	10	

Intersection: 44: SW Hunziker St

Movement	EB	WB	WB	NB
Directions Served	TR	LT	T	LR
Maximum Queue (ft)	7	225	3848	487
Average Queue (ft)	0	193	1708	212
95th Queue (ft)	7	312	3809	457
Link Distance (ft)	133		7060	712
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)		125		
Storage Blk Time (%)		16	55	
Queuing Penalty (veh)		61	212	

Intersection: 46: SW Hall Blvd & S/S

Movement	NB	NB	SB
Directions Served	T	R	T
Maximum Queue (ft)	439	456	359
Average Queue (ft)	348	226	70
95th Queue (ft)	563	580	297
Link Distance (ft)	406	406	994
Upstream Blk Time (%)	24	15	
Queuing Penalty (veh)	86	55	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 54: SW Hall Blvd & WES RR

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	324	283
Average Queue (ft)	254	98
95th Queue (ft)	449	280
Link Distance (ft)	299	258
Upstream Blk Time (%)	49	3
Queuing Penalty (veh)	315	31
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Bend

Movement	WB	WB	WB
Directions Served	T	T	
Maximum Queue (ft)	454	474	180
Average Queue (ft)	79	87	9
95th Queue (ft)	347	373	112
Link Distance (ft)	427	427	427
Upstream Blk Time (%)	0	1	0
Queuing Penalty (veh)	1	3	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 85: LRT RR & SW Hunziker St

Movement	EB	WB	WB
Directions Served	T	T	T
Maximum Queue (ft)	141	165	177
Average Queue (ft)	88	124	155
95th Queue (ft)	175	200	179
Link Distance (ft)	121	133	133
Upstream Blk Time (%)	9	29	57
Queuing Penalty (veh)	27	128	251
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 95: SW Hall Blvd & SW Scoffins St/SW Hunziker St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	63	198	142	185	147	631	188	420
Average Queue (ft)	13	83	123	137	30	595	70	327
95th Queue (ft)	45	154	165	169	110	720	137	477
Link Distance (ft)	606	606	121	121		610	406	406
Upstream Blk Time (%)			27	40		47		7
Queuing Penalty (veh)			118	176		259		23
Storage Bay Dist (ft)					50			
Storage Blk Time (%)					3	78		
Queuing Penalty (veh)					14	20		

Intersection: 100: SW Hall Blvd & SW Commercial St/Parking Lot

Movement	EB	EB	NB	NB	SB
Directions Served	LT	R	L	TR	LTR
Maximum Queue (ft)	124	98	150	290	620
Average Queue (ft)	33	33	87	244	400
95th Queue (ft)	93	70	189	353	655
Link Distance (ft)	998			258	610
Upstream Blk Time (%)				52	1
Queuing Penalty (veh)				331	9
Storage Bay Dist (ft)		65	50		
Storage Blk Time (%)	8	1	15	69	
Queuing Penalty (veh)	4	0	80	73	

Intersection: 110: SW Hall Blvd & SW Burnham St

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	190	950	300	2218	326	255
Average Queue (ft)	124	434	210	1499	223	51
95th Queue (ft)	226	1123	394	2994	392	177
Link Distance (ft)		1176		2144	299	
Upstream Blk Time (%)		10		52	5	0
Queuing Penalty (veh)		0		0	46	0
Storage Bay Dist (ft)	90		200			275
Storage Blk Time (%)	48	30	2	62	7	0
Queuing Penalty (veh)	154	22	11	156	8	0

Network Summary

Network wide Queuing Penalty: 5666

Intersection: 18: OR 217 SB s/s & OR99W

Movement	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	T	L	LT	R
Maximum Queue (ft)	428	441	193	439	1090	1074	285	771	760
Average Queue (ft)	208	220	33	147	804	774	202	464	453
95th Queue (ft)	381	390	155	415	1325	1321	349	869	917
Link Distance (ft)	593	593	593		1049	1049		737	737
Upstream Blk Time (%)			0		25	15		23	25
Queuing Penalty (veh)			1		0	0		0	0
Storage Bay Dist (ft)				340			185		
Storage Blk Time (%)					38		15	38	
Queuing Penalty (veh)					25		36	88	

Intersection: 20: SW Hall Blvd & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	335	620	651	637	592	673	604	578	350	1011	350	500
Average Queue (ft)	329	572	470	392	551	572	366	230	290	927	240	278
95th Queue (ft)	381	699	719	689	675	770	691	455	453	1262	450	557
Link Distance (ft)		591	591	591		593	593	593		994		
Upstream Blk Time (%)		27	7	6	13	31	1	0		42		
Queuing Penalty (veh)		128	32	29	0	212	6	1		299		
Storage Bay Dist (ft)	235				500				250		250	400
Storage Blk Time (%)	89	11			61	3			54	50	7	0
Queuing Penalty (veh)	344	24			328	9			318	182	33	2

Intersection: 20: SW Hall Blvd & OR99W

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	1141	300
Average Queue (ft)	713	228
95th Queue (ft)	1323	398
Link Distance (ft)	1142	
Upstream Blk Time (%)	17	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		200
Storage Blk Time (%)	57	3
Queuing Penalty (veh)	229	17

Intersection: 30: SW Main St/SW Greenburg Rd & OR99W

Movement	EB	EB	EB	EB	B62	B62	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	TR	T	T	L	T	T	TR	L	T
Maximum Queue (ft)	400	500	500	481	3709	3716	270	628	648	627	210	451
Average Queue (ft)	300	422	329	286	1152	1125	246	513	525	481	53	234
95th Queue (ft)	520	609	553	514	3649	3659	323	701	694	693	144	385
Link Distance (ft)		427	427	427	9197	9197		591	591	591		499
Upstream Blk Time (%)		57	14	6				5	5	2		0
Queuing Penalty (veh)		0	0	0				35	34	12		0
Storage Bay Dist (ft)	300						170				250	
Storage Blk Time (%)	7	68					31	27				12
Queuing Penalty (veh)	22	139					144	66				5

Intersection: 30: SW Main St/SW Greenburg Rd & OR99W

Movement	NB	SB	SB	SB
Directions Served	R	L	T	R
Maximum Queue (ft)	410	412	1158	296
Average Queue (ft)	199	254	424	51
95th Queue (ft)	352	436	1225	193
Link Distance (ft)	499		1745	
Upstream Blk Time (%)	0		5	
Queuing Penalty (veh)	0		0	
Storage Bay Dist (ft)		325		280
Storage Blk Time (%)		23	2	0
Queuing Penalty (veh)		112	9	0

Intersection: 44: SW Hunziker St

Movement	EB	WB	WB	NB
Directions Served	TR	LT	T	LR
Maximum Queue (ft)	99	225	3117	651
Average Queue (ft)	4	172	1096	302
95th Queue (ft)	41	302	2926	712
Link Distance (ft)	133		7060	712
Upstream Blk Time (%)	0			10
Queuing Penalty (veh)	1			0
Storage Bay Dist (ft)		125		
Storage Blk Time (%)		27	33	
Queuing Penalty (veh)		103	128	

Intersection: 46: SW Hall Blvd & S/S

Movement	NB	NB	SB
Directions Served	T	R	T
Maximum Queue (ft)	442	477	295
Average Queue (ft)	341	295	59
95th Queue (ft)	586	638	234
Link Distance (ft)	406	406	994
Upstream Blk Time (%)	30	24	
Queuing Penalty (veh)	109	87	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 54: SW Hall Blvd & WES RR

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	324	283
Average Queue (ft)	252	110
95th Queue (ft)	447	297
Link Distance (ft)	299	258
Upstream Blk Time (%)	51	4
Queuing Penalty (veh)	327	34
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Bend

Movement	WB	WB	WB
Directions Served	T	T	
Maximum Queue (ft)	436	472	172
Average Queue (ft)	63	81	3
95th Queue (ft)	308	360	61
Link Distance (ft)	427	427	427
Upstream Blk Time (%)	0	0	0
Queuing Penalty (veh)	1	3	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 85: LRT RR & SW Hunziker St

Movement	EB	WB	WB
Directions Served	T	T	T
Maximum Queue (ft)	142	172	170
Average Queue (ft)	83	134	139
95th Queue (ft)	170	201	204
Link Distance (ft)	129	133	133
Upstream Blk Time (%)	7	42	40
Queuing Penalty (veh)	20	186	176
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 95: SW Hall Blvd & SW Scoffins St/SW Hunziker St

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	44	179	148	198	129	150	634	129	422
Average Queue (ft)	10	79	132	135	80	33	584	59	319
95th Queue (ft)	38	144	170	217	176	123	755	109	489
Link Distance (ft)	606	606	129	129			610	406	406
Upstream Blk Time (%)			34	25	5		51		6
Queuing Penalty (veh)			148	111	0		284		22
Storage Bay Dist (ft)					181	50			
Storage Blk Time (%)				25	5	1	81		
Queuing Penalty (veh)				79	9	3	20		

Intersection: 100: SW Hall Blvd & SW Commercial St/Parking Lot

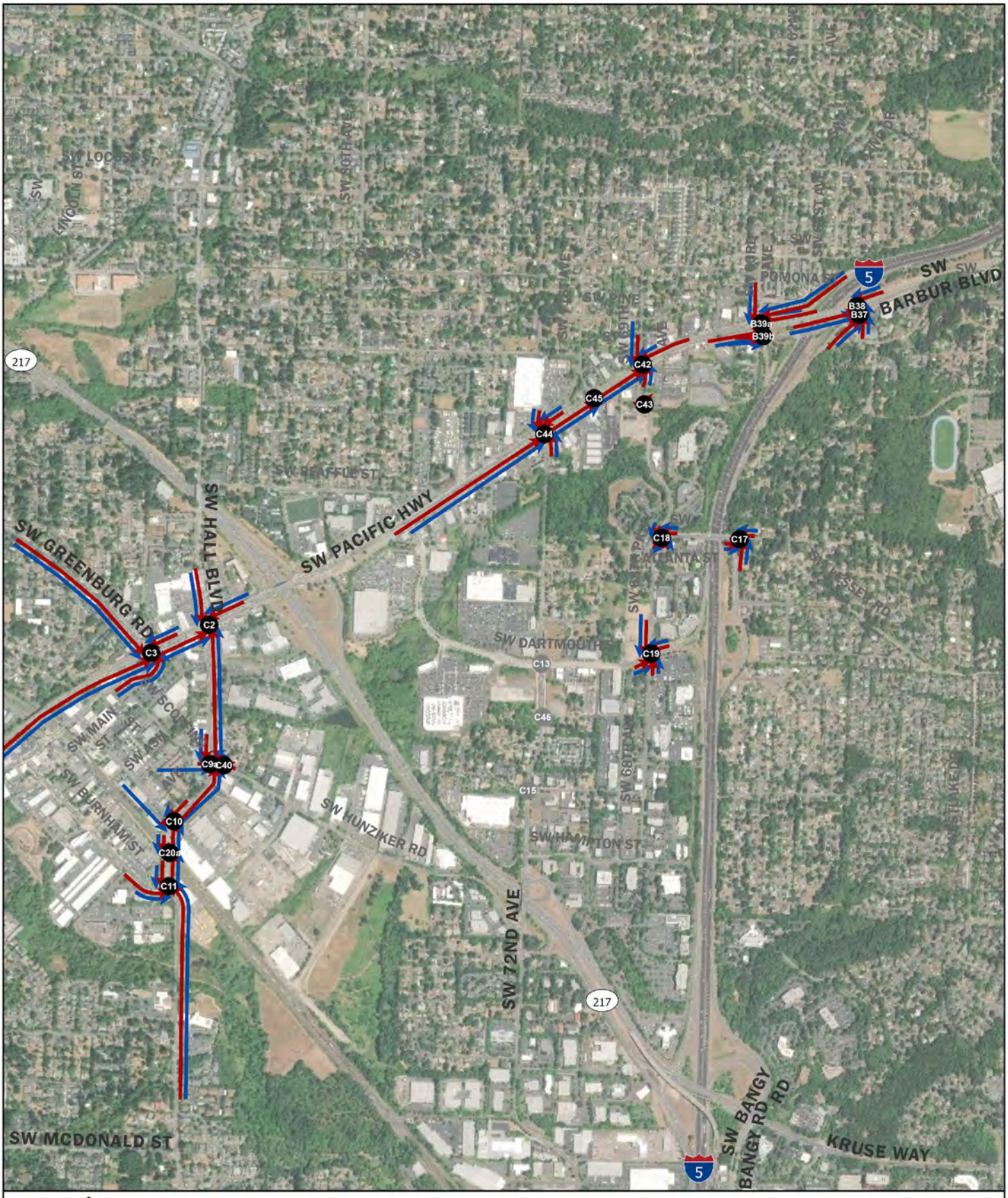
Movement	EB	EB	NB	NB	SB
Directions Served	LT	R	L	TR	LTR
Maximum Queue (ft)	242	132	150	288	624
Average Queue (ft)	68	38	87	242	412
95th Queue (ft)	224	114	193	361	683
Link Distance (ft)	998			258	610
Upstream Blk Time (%)				55	2
Queuing Penalty (veh)				352	18
Storage Bay Dist (ft)		65	50		
Storage Blk Time (%)	27	1	12	74	
Queuing Penalty (veh)	13	0	63	77	

Intersection: 110: SW Hall Blvd & SW Burnham St

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	190	1118	300	2211	329	298
Average Queue (ft)	123	465	207	1355	225	45
95th Queue (ft)	232	1175	391	2930	400	177
Link Distance (ft)		1176		2144	299	
Upstream Blk Time (%)		16		52	6	0
Queuing Penalty (veh)		0		0	57	0
Storage Bay Dist (ft)	90		200			275
Storage Blk Time (%)	51	31	2	63	8	0
Queuing Penalty (veh)	164	22	11	157	9	0

Network Summary

Network wide Queuing Penalty: 5718



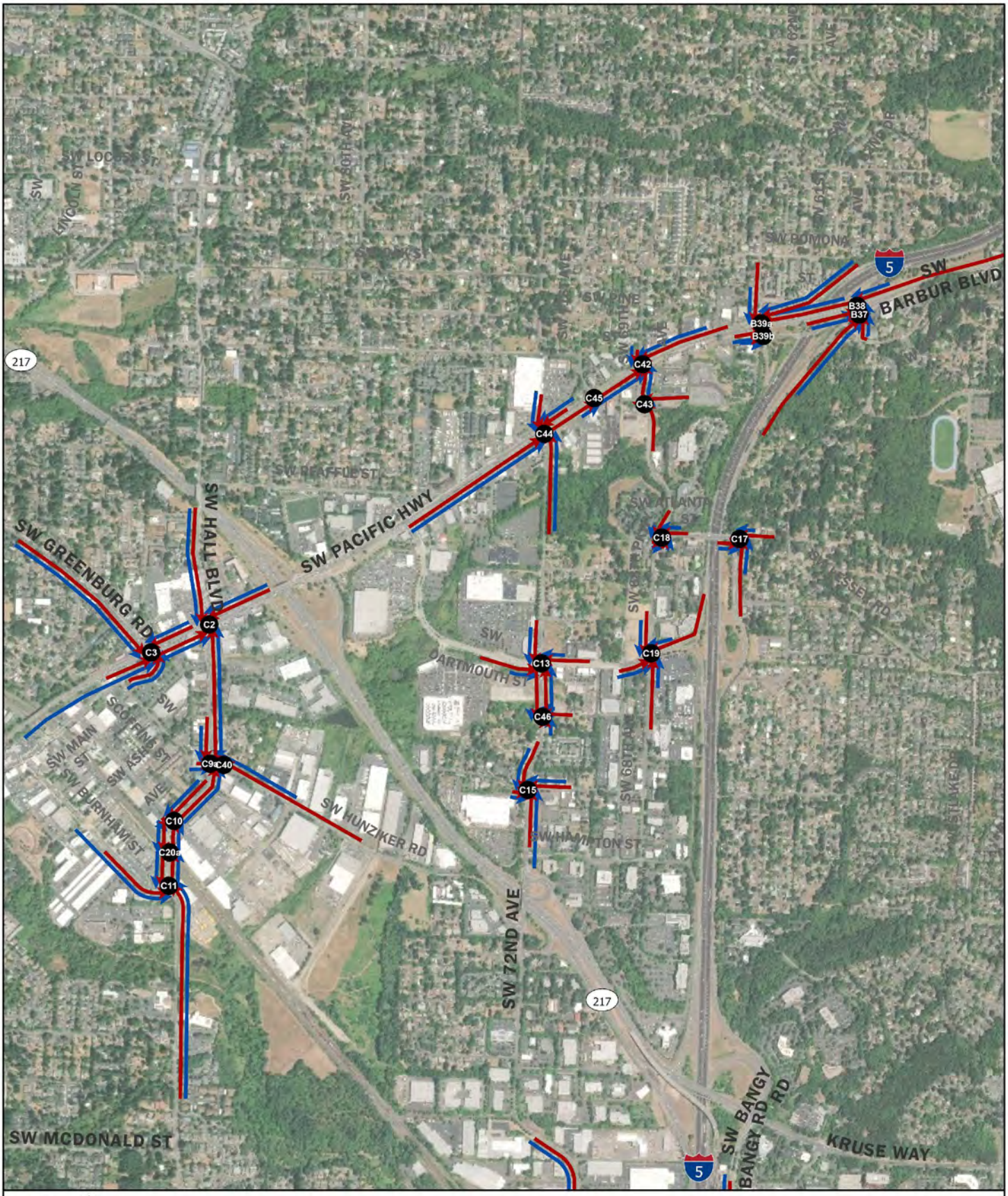
0 500 1,000 2,000 Feet

Study Intersection

Build Queue

No-Build Queue

2035 AM - Tigard
7:30-8:30 AM



0 500 1,000 2,000 Feet

Study Intersection

Build Queue

No-Build Queue

2035 PM - Tigard
4:30-5:30 PM

APPENDIX B52

Segment C – Bonita Subarea 2035 Build Queue Analysis

GREAT PLACES SW Corridor

Intersection: 9: I-5 SB On Ramp/I-5 SB Ramps

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 19: SW 72nd Ave & RR

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	446	533
Average Queue (ft)	98	97
95th Queue (ft)	344	353
Link Distance (ft)	1088	1893
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 22: I-5 SB Ramps/I-5 NB Ramps

Movement	NB	NB
Directions Served	T	T
Maximum Queue (ft)	244	54
Average Queue (ft)	131	3
95th Queue (ft)	213	24
Link Distance (ft)	499	499
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 26: SW Upper Boones Ferry Rd & RR

Movement	EB	EB	WB	WB
Directions Served	T	T	T	T
Maximum Queue (ft)	308	341	218	222
Average Queue (ft)	79	82	115	127
95th Queue (ft)	261	269	268	276
Link Distance (ft)	303	303	195	195
Upstream Blk Time (%)	0	1	10	12
Queuing Penalty (veh)	1	2	58	73
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 123: I-5 NB Ramps & SW Upper Boones Ferry Rd/SW Carman Dr

Movement	EB	EB	WB	NB	NB
Directions Served	L	LT	TR	L	TR
Maximum Queue (ft)	404	428	668	971	325
Average Queue (ft)	232	240	366	367	188
95th Queue (ft)	376	377	637	716	391
Link Distance (ft)	628	628	711	14503	
Upstream Blk Time (%)			1		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)					225
Storage Blk Time (%)				28	0
Queuing Penalty (veh)				92	2

Use 589 ft due to a bad seed skewing the results

Intersection: 124: I-5 SB Ramps & SW Upper Boones Ferry Rd

Movement	EB	EB	WB	WB	SB	SB	SB	B25
Directions Served	T	TR	L	T	LT	R	R	T
Maximum Queue (ft)	290	309	323	523	112	355	464	35
Average Queue (ft)	159	215	86	295	34	169	251	2
95th Queue (ft)	279	334	241	442	80	315	415	29
Link Distance (ft)	198	198		628	568	568	568	5022
Upstream Blk Time (%)	4	16		0		0	0	
Queuing Penalty (veh)	20	70		2		0	0	
Storage Bay Dist (ft)			225					
Storage Blk Time (%)				20				
Queuing Penalty (veh)				17				

Intersection: 125: Drwy_S/S & SW Upper Boones Ferry Rd

Movement	EB	EB	WB	WB
Directions Served	T	TR	T	T
Maximum Queue (ft)	139	227	251	266
Average Queue (ft)	9	26	26	41
95th Queue (ft)	73	124	138	178
Link Distance (ft)	250	250	198	198
Upstream Blk Time (%)	0	0	1	2
Queuing Penalty (veh)	0	2	7	17
Storage Bay Dist (ft)				
Storage Blk Time (%)			3	
Queuing Penalty (veh)			0	

Intersection: 126: SW Upper Boones Ferry Rd & SW Sequoia Pkwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	LT	R
Maximum Queue (ft)	184	224	233	191	349	350	200	38	57	89	148	90
Average Queue (ft)	95	98	111	26	192	207	12	9	17	38	73	37
95th Queue (ft)	169	210	216	89	351	349	96	31	45	79	125	77
Link Distance (ft)		195	195		250	250	250	456	456		2171	
Upstream Blk Time (%)	1	2	2		7	8						
Queuing Penalty (veh)	0	9	7		44	50						
Storage Bay Dist (ft)	125			125						225		150
Storage Blk Time (%)	14	3			17						0	
Queuing Penalty (veh)	50	3			3						0	

Intersection: 127: SW Upper Boones Ferry Rd & SW 72nd Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	TR	L	L	TR	L	T	R	L	TR
Maximum Queue (ft)	72	43	327	335	200	116	584	338	272	406
Average Queue (ft)	20	11	257	270	138	8	355	89	132	176
95th Queue (ft)	53	37	372	381	255	57	568	218	241	343
Link Distance (ft)	306	306	303	303			2017	2017		1088
Upstream Blk Time (%)			9	13						
Queuing Penalty (veh)			56	76						
Storage Bay Dist (ft)					100	150			900	
Storage Blk Time (%)				42	6		51			
Queuing Penalty (veh)				83	28		3			

Network Summary

Network wide Queuing Penalty: 775

Intersection: 9: I-5 SB On Ramp/I-5 SB Ramps

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	107	122
Average Queue (ft)	51	68
95th Queue (ft)	90	103
Link Distance (ft)	252	252
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: SW Upper Boones Ferry Rd & S/S

Movement	EB	EB	WB	WB
Directions Served	LT	T	T	TR
Maximum Queue (ft)	416	409	384	357
Average Queue (ft)	294	296	101	35
95th Queue (ft)	536	540	326	215
Link Distance (ft)	382	382	444	444
Upstream Blk Time (%)	11	14	1	1
Queuing Penalty (veh)	51	61	6	3
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 19: SW 72nd Ave & RR

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	493	833
Average Queue (ft)	112	248
95th Queue (ft)	377	863
Link Distance (ft)	1084	1236
Upstream Blk Time (%)		6
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 22: I-5 SB Ramps/I-5 NB Ramps

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 26: SW Upper Boones Ferry Rd & RR

Movement	EB	EB	WB	WB
Directions Served	T	T	T	T
Maximum Queue (ft)	333	348	238	242
Average Queue (ft)	206	246	196	189
95th Queue (ft)	410	424	258	280
Link Distance (ft)	299	299	191	191
Upstream Blk Time (%)	2	16	31	25
Queuing Penalty (veh)	12	89	171	138
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 123: I-5 NB Ramps & SW Upper Boones Ferry Rd/SW Carman Dr

Movement	EB	EB	WB	NB	NB
Directions Served	L	LT	TR	L	TR
Maximum Queue (ft)	456	413	864	413	288
Average Queue (ft)	286	254	455	191	83
95th Queue (ft)	409	370	851	320	195
Link Distance (ft)	632	632	6209	10652	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					225
Storage Blk Time (%)				7	
Queuing Penalty (veh)				17	

Intersection: 124: I-5 SB Ramps & SW Upper Boones Ferry Rd

Movement	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	TR	L	T	LT	R	R
Maximum Queue (ft)	259	268	307	573	260	328	342
Average Queue (ft)	217	240	95	258	129	114	128
95th Queue (ft)	295	280	239	458	215	251	272
Link Distance (ft)	210	210		632	580	580	580
Upstream Blk Time (%)	21	39		1			
Queuing Penalty (veh)	143	273		6			
Storage Bay Dist (ft)			300				
Storage Blk Time (%)				7			
Queuing Penalty (veh)				9			

Intersection: 125: Burgerville & Chevron Dwy & SW Upper Boones Ferry Rd

Movement	EB	EB	WB	WB
Directions Served	T	TR	T	T
Maximum Queue (ft)	303	295	236	241
Average Queue (ft)	176	244	118	116
95th Queue (ft)	344	348	280	288
Link Distance (ft)	250	250	210	210
Upstream Blk Time (%)	4	16	10	11
Queuing Penalty (veh)	25	109	61	64
Storage Bay Dist (ft)				
Storage Blk Time (%)			30	
Queuing Penalty (veh)			0	

Intersection: 126: SW Upper Boones Ferry Rd & SW Sequoia Pkwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	LT	R
Maximum Queue (ft)	189	234	240	222	309	312	67	72	59	325	900	250
Average Queue (ft)	66	168	203	18	251	244	5	21	17	163	326	165
95th Queue (ft)	149	253	237	91	341	342	69	55	45	330	809	293
Link Distance (ft)		191	191		250	250	250	242	242		2126	
Upstream Blk Time (%)	0	10	31		36	27						
Queuing Penalty (veh)	0	57	176		143	108						
Storage Bay Dist (ft)	125			125						225		150
Storage Blk Time (%)	1	19			58					1	37	19
Queuing Penalty (veh)	3	15			6					3	142	67

Intersection: 127: SW Upper Boones Ferry Rd & SW 72nd Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	TR	L	L	TR	L	T	R	L	TR
Maximum Queue (ft)	120	136	337	336	200	121	499	506	808	852
Average Queue (ft)	43	39	304	291	125	28	457	388	525	451
95th Queue (ft)	94	92	350	365	259	107	537	618	1012	1068
Link Distance (ft)	309	309	299	299			456	456		1084
Upstream Blk Time (%)			37	25			26	16		7
Queuing Penalty (veh)			209	141			192	121		50
Storage Bay Dist (ft)					100	150			900	
Storage Blk Time (%)				50	2	0	63		13	13
Queuing Penalty (veh)				71	10	0	9		63	28

Intersection: 128: SW 72nd Ave & SW Upper Boones Ferry Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	LTR
Maximum Queue (ft)	92	537	532	200	474	473	1811	200	189
Average Queue (ft)	5	481	484	182	288	207	1585	200	72
95th Queue (ft)	44	609	600	239	503	413	2204	201	157
Link Distance (ft)		444	444		456	456	1765		196
Upstream Blk Time (%)		67	71		2	0	66		3
Queuing Penalty (veh)		301	322		13	2	0		0
Storage Bay Dist (ft)	100			100				100	
Storage Blk Time (%)		70		40	14		4	82	
Queuing Penalty (veh)		3		205	61		22	82	

Intersection: 129: SW Durham Rd & SW Upper Boones Ferry Rd

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	L	T	R
Maximum Queue (ft)	450	2281	249	439	419	130	1606	398	438	1924	325
Average Queue (ft)	401	1337	53	361	256	18	1010	237	256	692	137
95th Queue (ft)	566	2697	183	483	418	76	1833	434	487	2248	288
Link Distance (ft)		2443		382	382		1582			3519	
Upstream Blk Time (%)		19		18	2		28			4	
Queuing Penalty (veh)		0		100	12		0			0	
Storage Bay Dist (ft)	350		150			50		350	350		225
Storage Blk Time (%)	44	27		48		4	75	17	23	7	1
Queuing Penalty (veh)	268	78		19		18	8	102	139	37	8

Intersection: 200: Bangy Rd & SW Bonita Rd

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	350	537	180	424	178	155	354	188	1081	190
Average Queue (ft)	187	191	24	180	58	73	191	95	372	144
95th Queue (ft)	316	423	106	361	151	164	316	176	1171	235
Link Distance (ft)		1006		2689			803		1749	
Upstream Blk Time (%)									7	
Queuing Penalty (veh)									0	
Storage Bay Dist (ft)	250		175		100	55		90		90
Storage Blk Time (%)	3	5		49	0	16	69	10	15	23
Queuing Penalty (veh)	10	21		37	0	23	31	81	111	100

Intersection: 210: SW Sequoia Pkwy & SW Bonita Rd

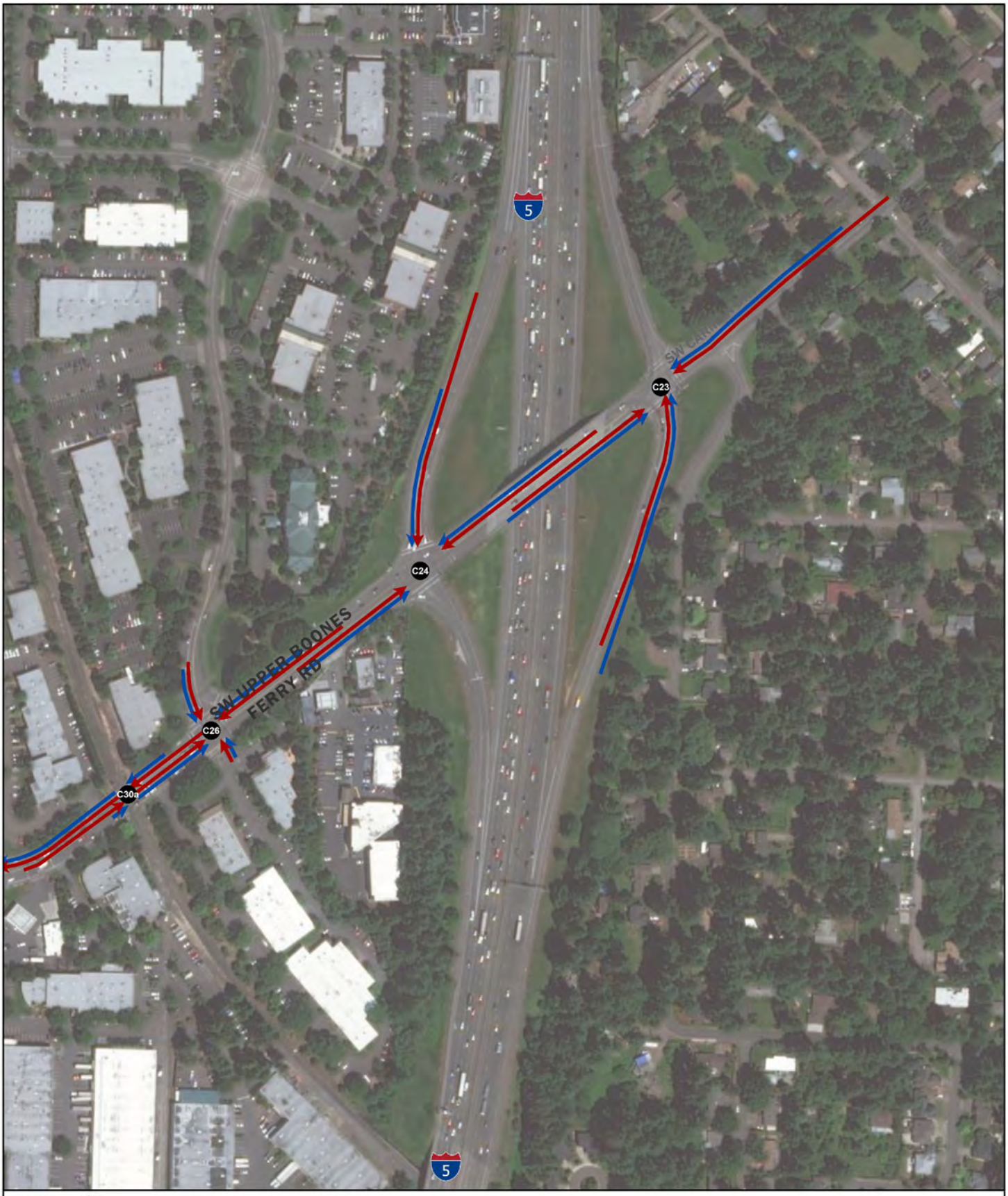
Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LTR
Maximum Queue (ft)	90	449	365	1023	188	163	87
Average Queue (ft)	5	217	255	595	68	76	30
95th Queue (ft)	42	418	472	1225	145	134	71
Link Distance (ft)		476		1006	1131	1131	1740
Upstream Blk Time (%)		0		9			
Queuing Penalty (veh)		1		67			
Storage Bay Dist (ft)	75		265				
Storage Blk Time (%)		23	1	44			
Queuing Penalty (veh)		1	4	112			

Intersection: 220: SW 72nd Ave & SW Bonita Rd

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	TR	L	T	R
Maximum Queue (ft)	230	1057	290	399	494	225	1194	210	1760	295
Average Queue (ft)	143	518	197	104	467	219	1149	125	1540	289
95th Queue (ft)	265	955	359	342	544	256	1177	235	2126	324
Link Distance (ft)		4340			476		1126		1746	
Upstream Blk Time (%)					41		61		41	
Queuing Penalty (veh)					225		0		0	
Storage Bay Dist (ft)	130		190	300		125		110		195
Storage Blk Time (%)	7	43	6		62	57	38	11	58	47
Queuing Penalty (veh)	50	151	36		24	333	155	93	324	251

Network Summary

Network wide Queuing Penalty: 6896



0 125 250 500 Feet

Study Intersection
Build Queue
No-Build Queue

2035 AM - Upper Boones Ferry Road
7:30-8:30 AM

0 250 500 1,000 Feet

Study Intersection
Build Queue
No-Build Queue

2035 PM - Upper Boones Ferry Road
4:30-5:30PM

APPENDIX B53

Segment C – Bridgeport Subarea 2035 Build Queue Analysis

APPENDIX B

GREAT PLACES SW Corridor

Intersection: 99: I5 NB On Ramp & I5 NB On Ramp Meter

Movement	NB	NB
Directions Served	T	T
Maximum Queue (ft)	536	661
Average Queue (ft)	429	530
95th Queue (ft)	586	762
Link Distance (ft)	517	517
Upstream Blk Time (%)	1	55
Queuing Penalty (veh)	3	241
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 136: I5 SB On Ramp Meter & I5 SB On Ramp

Movement	SB
Directions Served	T
Maximum Queue (ft)	64
Average Queue (ft)	2
95th Queue (ft)	50
Link Distance (ft)	409
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 301: S/S & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B6	B6	B6	NB
Directions Served	L	T	T	R	L	T	T	TR	T	T	T	L
Maximum Queue (ft)	304	428	444	362	115	577	614	747	79	228	309	188
Average Queue (ft)	129	212	232	66	45	151	213	363	5	16	34	100
95th Queue (ft)	236	361	386	199	93	374	577	741	57	139	219	173
Link Distance (ft)		444	444			694	694	694	1744	1744	1744	84
Upstream Blk Time (%)		0	0			0	1	12				16
Queuing Penalty (veh)		2	2			0	0	0				0
Storage Bay Dist (ft)	220			260	280							
Storage Blk Time (%)	1	7	6			0						
Queuing Penalty (veh)	6	10	16			0						

Intersection: 301: S/S & Lower Boones Ferry Rd

Movement	NB	B63	B63	SB	SB
Directions Served	LTR	T	T	LT	R
Maximum Queue (ft)	192	67	172	91	89
Average Queue (ft)	140	4	29	24	23
95th Queue (ft)	213	29	118	67	63
Link Distance (ft)	84	1136	1136	734	
Upstream Blk Time (%)	35				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)					100
Storage Blk Time (%)				0	0
Queuing Penalty (veh)				0	0

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	R	L	LT	R
Maximum Queue (ft)	237	256	212	231	250	180	319	504	405	244	261	113
Average Queue (ft)	122	104	70	93	124	76	100	234	207	133	147	57
95th Queue (ft)	213	212	161	185	216	158	212	551	517	217	228	96
Link Distance (ft)	450	450	450	450		444	444	444		2785	2785	2785
Upstream Blk Time (%)							0	10				
Queuing Penalty (veh)							0	45				
Storage Bay Dist (ft)					210				280			
Storage Blk Time (%)					1	0		1	38			
Queuing Penalty (veh)					3	0		5	82			

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	NB
Directions Served	R
Maximum Queue (ft)	146
Average Queue (ft)	77
95th Queue (ft)	129
Link Distance (ft)	2785
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	R	L	L	T	T	L	LT	R
Maximum Queue (ft)	140	286	227	216	276	404	382	232	221	162	173	223
Average Queue (ft)	64	110	105	105	99	212	124	77	84	90	86	95
95th Queue (ft)	136	205	180	183	236	360	296	179	175	143	140	176
Link Distance (ft)		418	418	418		450	450	450	450	236	236	236
Upstream Blk Time (%)						0	0					0
Queuing Penalty (veh)						1	0					0
Storage Bay Dist (ft)	70				300							
Storage Blk Time (%)	3	17			0							
Queuing Penalty (veh)	6	38			0							

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	127
Average Queue (ft)	51
95th Queue (ft)	105
Link Distance (ft)	236
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	L	T	T	R	L	T	R
Maximum Queue (ft)	126	267	315	293	340	439	320	293	58	76	278	313
Average Queue (ft)	46	87	102	138	234	266	130	135	4	19	152	184
95th Queue (ft)	103	185	230	244	354	406	262	251	65	61	261	307
Link Distance (ft)		411	411			418	418	418			270	270
Upstream Blk Time (%)						1	0	0			1	2
Queuing Penalty (veh)						5	0	0			2	6
Storage Bay Dist (ft)	100			200	270				250	50		
Storage Blk Time (%)	2	8	2	4	4	8		1		4	50	
Queuing Penalty (veh)	2	5	3	2	16	29		7		8	6	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	NB	SB	SB	SB
Directions Served	R	L	L	TR
Maximum Queue (ft)	279	330	520	371
Average Queue (ft)	141	206	336	113
95th Queue (ft)	255	385	553	258
Link Distance (ft)	270		504	504
Upstream Blk Time (%)	0		8	0
Queuing Penalty (veh)	1		30	1
Storage Bay Dist (ft)		230		
Storage Blk Time (%)		3	33	
Queuing Penalty (veh)		9	86	

Intersection: 340: SW 72nd Ave & Sig Shopping Center Acc

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	32	39	48	20	54	188	212	48	433	260
Average Queue (ft)	3	3	10	1	14	36	54	3	113	64
95th Queue (ft)	17	17	35	11	42	118	142	31	344	210
Link Distance (ft)		422	305	305		504	504		1417	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	180				170			150		200
Storage Blk Time (%)						0			7	2
Queuing Penalty (veh)						0			30	6

Intersection: 360: Lower Boones Ferry Rd & Tualatin Transit Center Acc

Movement	WB	NB	NB	SB	SB	SB
Directions Served	LR	T	TR	L	T	T
Maximum Queue (ft)	52	228	80	108	176	174
Average Queue (ft)	16	36	30	36	36	38
95th Queue (ft)	46	159	78	85	126	131
Link Distance (ft)	284	355			270	270
Upstream Blk Time (%)		3			0	0
Queuing Penalty (veh)		0			0	0
Storage Bay Dist (ft)			50	130		
Storage Blk Time (%)		4	2	1	0	
Queuing Penalty (veh)		15	9	4	0	

Intersection: 380: S/S & SW Bridgeport Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	LT	R
Maximum Queue (ft)	9	118	148	128	147	178	71	106	60	71	38
Average Queue (ft)	1	39	58	31	22	37	20	49	14	22	6
95th Queue (ft)	6	91	120	87	86	115	57	86	44	57	27
Link Distance (ft)		210	210		411	411		468	554	554	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	140			250			150				150
Storage Blk Time (%)		0			0						
Queuing Penalty (veh)		0			0						

Network Summary

Network wide Queuing Penalty: 747

Intersection: 99: I5 NB On Ramp & I5 NB On Ramp Meter

Movement	NB	NB
Directions Served	T	T
Maximum Queue (ft)	539	663
Average Queue (ft)	445	556
95th Queue (ft)	596	779
Link Distance (ft)	517	517
Upstream Blk Time (%)	1	68
Queuing Penalty (veh)	3	300
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 136: I5 SB On Ramp Meter & I5 SB On Ramp

Movement	SB
Directions Served	T
Maximum Queue (ft)	87
Average Queue (ft)	8
95th Queue (ft)	94
Link Distance (ft)	409
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 301: S/S & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B6	B6	B6	NB
Directions Served	L	T	T	R	L	T	T	TR	T	T	T	L
Maximum Queue (ft)	344	448	453	407	115	687	729	789	327	614	660	176
Average Queue (ft)	133	244	259	73	46	190	276	464	15	66	97	107
95th Queue (ft)	269	400	416	239	97	477	683	895	145	325	406	180
Link Distance (ft)		444	444			694	694	694	1744	1744	1744	84
Upstream Blk Time (%)		1	1			0	1	27				17
Queuing Penalty (veh)		4	4			0	0	0				0
Storage Bay Dist (ft)	220			260	280							
Storage Blk Time (%)	1	10	9			0						
Queuing Penalty (veh)	5	15	24			0						

Intersection: 301: S/S & Lower Boones Ferry Rd

Movement	NB	B63	B63	SB	SB
Directions Served	LTR	T	T	LT	R
Maximum Queue (ft)	212	274	472	94	77
Average Queue (ft)	157	14	97	27	22
95th Queue (ft)	221	107	332	66	56
Link Distance (ft)	84	1136	1136	734	
Upstream Blk Time (%)	51				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)					100
Storage Blk Time (%)				1	0
Queuing Penalty (veh)				0	0

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	R	L	LT	R
Maximum Queue (ft)	227	220	207	224	244	190	286	520	405	267	291	129
Average Queue (ft)	120	94	57	82	122	79	96	317	268	143	169	59
95th Queue (ft)	202	189	147	180	209	161	215	638	567	234	260	107
Link Distance (ft)	450	450	450	450		444	444	444		2785	2785	2785
Upstream Blk Time (%)							0	16				
Queuing Penalty (veh)							0	76				
Storage Bay Dist (ft)					210				280			
Storage Blk Time (%)					1	0		1	54			
Queuing Penalty (veh)					2	0		3	118			

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	NB
Directions Served	R
Maximum Queue (ft)	175
Average Queue (ft)	78
95th Queue (ft)	138
Link Distance (ft)	2785
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	R	L	L	T	T	L	LT	R
Maximum Queue (ft)	139	230	197	289	314	429	394	311	301	158	152	205
Average Queue (ft)	66	110	105	110	119	265	177	102	102	80	82	97
95th Queue (ft)	142	188	170	203	275	425	375	236	212	127	139	177
Link Distance (ft)		418	418	418		450	450	450	450	236	236	236
Upstream Blk Time (%)				0		1	0		0			0
Queuing Penalty (veh)				0		3	1		0			0
Storage Bay Dist (ft)	70				300							
Storage Blk Time (%)	3	19			1							
Queuing Penalty (veh)	7	42			2							

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	172
Average Queue (ft)	52
95th Queue (ft)	112
Link Distance (ft)	236
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	L	T	T	R	L	T	R
Maximum Queue (ft)	138	244	290	290	340	438	302	283	69	79	298	318
Average Queue (ft)	50	74	93	142	257	301	145	146	2	22	168	187
95th Queue (ft)	113	158	213	248	383	459	265	257	50	65	283	302
Link Distance (ft)		411	411			418	418	418			270	270
Upstream Blk Time (%)						3					3	2
Queuing Penalty (veh)						16					8	6
Storage Bay Dist (ft)	100			200	270				250	50		
Storage Blk Time (%)	5	7	1	4	8	14		2		4	57	
Queuing Penalty (veh)	3	5	2	3	30	54		10		9	9	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	NB	SB	SB	SB
Directions Served	R	L	L	TR
Maximum Queue (ft)	281	330	520	362
Average Queue (ft)	144	205	334	137
95th Queue (ft)	257	375	537	277
Link Distance (ft)	270		504	504
Upstream Blk Time (%)	0		4	
Queuing Penalty (veh)	1		18	
Storage Bay Dist (ft)		230		
Storage Blk Time (%)		2	32	
Queuing Penalty (veh)		4	85	

Intersection: 340: SW 72nd Ave & Sig Shopping Center Acc

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	22	26	47	28	52	170	186	16	366	222
Average Queue (ft)	2	2	10	2	13	40	58	2	88	50
95th Queue (ft)	13	11	35	13	42	122	143	8	248	154
Link Distance (ft)		422	305	305		504	504		1417	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	180				170			150		200
Storage Blk Time (%)						0			4	0
Queuing Penalty (veh)						0			17	1

Intersection: 360: Lower Boones Ferry Rd & Tualatin Transit Center Acc

Movement	WB	NB	NB	SB	SB	SB
Directions Served	LR	T	TR	L	T	T
Maximum Queue (ft)	36	346	81	118	194	178
Average Queue (ft)	13	58	38	37	33	37
95th Queue (ft)	38	213	89	86	114	125
Link Distance (ft)	284	355			270	270
Upstream Blk Time (%)		1			0	0
Queuing Penalty (veh)		0			0	0
Storage Bay Dist (ft)			50	130		
Storage Blk Time (%)		2	3	0	0	
Queuing Penalty (veh)		8	14	1	0	

Intersection: 380: S/S & SW Bridgeport Rd

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	T	TR	L	T	TR	L	TR	L	LT	R
Maximum Queue (ft)	121	163	125	192	232	98	112	62	74	35
Average Queue (ft)	41	59	34	25	45	24	46	15	25	6
95th Queue (ft)	94	124	87	99	133	67	82	47	60	26
Link Distance (ft)	210	210		411	411		468	554	554	
Upstream Blk Time (%)		0								
Queuing Penalty (veh)		0								
Storage Bay Dist (ft)			250			150				150
Storage Blk Time (%)	0			0			0			
Queuing Penalty (veh)	0			0			0			

Network Summary

Network wide Queuing Penalty: 911

Intersection: 63: SW McEwan Rd & SW 65th Ave

Movement	WB	NB	NB	B24	SB	SB
Directions Served	LR	T	TR	T	L	T
Maximum Queue (ft)	462	316	353	264	115	99
Average Queue (ft)	389	139	231	27	73	12
95th Queue (ft)	572	287	374	156	125	70
Link Distance (ft)	439	288	288	793	99	99
Upstream Blk Time (%)	60	1	9		11	3
Queuing Penalty (veh)	0	0	0		40	10
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 98: Lower Boones Ferry Rd & 63rd Ave

Movement	EB	WB	WB	SB
Directions Served	L	T	TR	R
Maximum Queue (ft)	52	4154	4183	61
Average Queue (ft)	9	1867	1918	16
95th Queue (ft)	35	4266	4271	59
Link Distance (ft)		11406	11406	466
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	180			
Storage Blk Time (%)				4
Queuing Penalty (veh)				0

Intersection: 99: I5 NB On Ramp & I5 NB On Ramp Meter

Movement	NB	NB
Directions Served	T	R
Maximum Queue (ft)	340	131
Average Queue (ft)	27	5
95th Queue (ft)	170	69
Link Distance (ft)	505	505
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 108: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	348	238
Average Queue (ft)	52	15
95th Queue (ft)	239	119
Link Distance (ft)	276	276
Upstream Blk Time (%)	1	0
Queuing Penalty (veh)	3	1
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 136: I5 SB On Ramp

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	198	201
Average Queue (ft)	126	139
95th Queue (ft)	182	199
Link Distance (ft)	420	420
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 301: SW 65th Ave & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	TR	L	LTR	LT	R
Maximum Queue (ft)	345	463	482	410	380	775	764	777	165	174	1303	200
Average Queue (ft)	265	380	383	290	364	688	680	728	120	144	698	186
95th Queue (ft)	418	528	525	508	436	889	869	811	156	172	1465	245
Link Distance (ft)		436	436			714	714	714	99	99	2066	
Upstream Blk Time (%)		9	8			40	19	41	48	69		
Queuing Penalty (veh)		79	77			219	104	227	143	206		
Storage Bay Dist (ft)	220			260	280							100
Storage Blk Time (%)	20	30	28	7	86	16					40	43
Queuing Penalty (veh)	109	72	151	37	406	27					142	80

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	R	L	LT	R
Maximum Queue (ft)	333	309	478	483	351	368	404	413	400	481	516	258
Average Queue (ft)	164	132	200	229	209	231	224	248	93	288	337	115
95th Queue (ft)	291	282	444	472	333	350	361	380	319	511	549	225
Link Distance (ft)	447	447	447	447		436	436	436		7145	7145	7145
Upstream Blk Time (%)	0	0	1	2			0	0				
Queuing Penalty (veh)	0	0	7	8			0	1				
Storage Bay Dist (ft)					210				280			
Storage Blk Time (%)					10	15		5	1			
Queuing Penalty (veh)					40	61		33	4			

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	NB
Directions Served	R
Maximum Queue (ft)	294
Average Queue (ft)	136
95th Queue (ft)	255
Link Distance (ft)	7145
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	R	L	L	T	T	L	LT	R
Maximum Queue (ft)	140	365	382	459	348	367	398	290	332	161	189	188
Average Queue (ft)	99	177	171	215	216	194	197	70	120	86	101	67
95th Queue (ft)	175	312	292	374	375	314	332	215	269	139	161	137
Link Distance (ft)		418	418	418		447	447	447	447	236	236	236
Upstream Blk Time (%)		0	0	1		0	0	0	0			0
Queuing Penalty (veh)		1	0	4		0	0	1	1			0
Storage Bay Dist (ft)	70				300							
Storage Blk Time (%)	8	24		1	3							
Queuing Penalty (veh)	29	91		3	13							

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	140
Average Queue (ft)	52
95th Queue (ft)	109
Link Distance (ft)	236
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	L	T	T	R	L	T	R
Maximum Queue (ft)	160	465	485	325	340	456	413	374	198	90	334	315
Average Queue (ft)	130	307	379	296	277	308	206	151	15	64	292	206
95th Queue (ft)	198	493	544	366	380	447	360	283	125	107	369	345
Link Distance (ft)		409	409			418	418	418			267	267
Upstream Blk Time (%)		5	21			3	1	0			38	7
Queuing Penalty (veh)		20	80			20	4	0			164	28
Storage Bay Dist (ft)	100			200	270				250	50		
Storage Blk Time (%)	36	42	14	57	11	16		2	0	38	73	
Queuing Penalty (veh)	68	51	36	109	41	59		12	1	105	51	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	NB	SB	SB	SB
Directions Served	R	L	L	TR
Maximum Queue (ft)	319	330	514	527
Average Queue (ft)	192	187	305	325
95th Queue (ft)	334	346	488	530
Link Distance (ft)	267		508	508
Upstream Blk Time (%)	5		1	2
Queuing Penalty (veh)	22		4	8
Storage Bay Dist (ft)		230		
Storage Blk Time (%)		1	22	
Queuing Penalty (veh)		4	63	

Intersection: 340: SW 72nd Ave & Sig Shopping Center Acc

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	88	92	67	44	269	485	551	68	467	320
Average Queue (ft)	32	30	17	16	109	179	199	4	233	226
95th Queue (ft)	76	67	50	44	215	384	447	37	414	356
Link Distance (ft)		439	306	306		508	508		469	
Upstream Blk Time (%)						0	2		0	
Queuing Penalty (veh)						2	11		5	
Storage Bay Dist (ft)	180				170			150		200
Storage Blk Time (%)					1	16			15	12
Queuing Penalty (veh)					3	23			81	57

Intersection: 350: SW 72nd Ave & SW Durham Rd

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	240	470	108	516	517	149	559
Average Queue (ft)	87	212	37	389	213	26	268
95th Queue (ft)	216	475	85	617	515	98	505
Link Distance (ft)		4072	495	469	469		3884
Upstream Blk Time (%)				22	3		
Queuing Penalty (veh)				113	15		
Storage Bay Dist (ft)	100					100	
Storage Blk Time (%)	2	37					30
Queuing Penalty (veh)	7	27					8

Intersection: 360: Lower Boones Ferry Rd & Tualatin Transit Center Acc

Movement	WB	NB	NB	SB	SB
Directions Served	R	T	TR	T	T
Maximum Queue (ft)	307	436	83	67	50
Average Queue (ft)	305	290	61	3	2
95th Queue (ft)	321	530	106	39	36
Link Distance (ft)	288	352		267	267
Upstream Blk Time (%)	94	14		0	
Queuing Penalty (veh)	0	145		0	
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		18	17		
Queuing Penalty (veh)		90	88		

Intersection: 370: Lower Boones Ferry Rd & SW Travellers Ln

Movement	EB	WB	NB	NB	B108	SB	SB	SB
Directions Served	LTR	LTR	L	TR	T	L	T	TR
Maximum Queue (ft)	130	309	220	407	5706	239	413	362
Average Queue (ft)	47	155	93	382	2392	129	197	160
95th Queue (ft)	100	265	249	394	5348	233	361	322
Link Distance (ft)	212	344		276	11479		352	352
Upstream Blk Time (%)	0	0		51			1	0
Queuing Penalty (veh)	0	0		0			4	1
Storage Bay Dist (ft)			120			130		
Storage Blk Time (%)				51		11	13	
Queuing Penalty (veh)				31		49	23	

Intersection: 380: SW Hazel Fern Rd & SW Bridgeport Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	LT	R
Maximum Queue (ft)	56	338	345	286	311	324	181	339	356	434	149
Average Queue (ft)	17	140	181	101	115	117	53	160	84	155	22
95th Queue (ft)	47	254	299	209	240	252	152	348	243	367	83
Link Distance (ft)		429	429		409	409		468	528	528	
Upstream Blk Time (%)		0				0		5	0	3	
Queuing Penalty (veh)		0				0		0	0	0	
Storage Bay Dist (ft)	140			250			150				150
Storage Blk Time (%)		7		0	1		1	23		20	0
Queuing Penalty (veh)		2		0	2		1	9		5	0

Intersection: 390: REI & SW Bridgeport Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	R	L	TR
Maximum Queue (ft)	63	82	145	67	182	109	173	93	234	117
Average Queue (ft)	20	22	43	22	53	29	74	31	104	53
95th Queue (ft)	50	61	96	55	130	78	143	71	187	99
Link Distance (ft)			924		429	429	485		663	663
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	125	125		170				150		
Storage Blk Time (%)		0	0		0		1			
Queuing Penalty (veh)		0	1		0		1			

Network Summary

Network wide Queuing Penalty: 4188

Intersection: 63: SW McEwan Rd & SW 65th Ave

Movement	WB	NB	NB	B24	SB	SB
Directions Served	LR	T	TR	T	L	T
Maximum Queue (ft)	482	302	350	100	116	40
Average Queue (ft)	394	121	200	10	74	2
95th Queue (ft)	591	245	330	78	130	26
Link Distance (ft)	439	288	288	793	99	99
Upstream Blk Time (%)	64	1	5		17	1
Queuing Penalty (veh)	0	0	0		64	2
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 98: Lower Boones Ferry Rd & 63rd Ave

Movement	EB	WB	WB	SB
Directions Served	L	T	TR	R
Maximum Queue (ft)	38	4991	4999	106
Average Queue (ft)	6	2165	2226	46
95th Queue (ft)	27	4663	4672	127
Link Distance (ft)		11406	11406	466
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	180			
Storage Blk Time (%)				23
Queuing Penalty (veh)				0

Intersection: 99: I5 NB On Ramp & I5 NB On Ramp Meter

Movement	NB	NB
Directions Served	T	R
Maximum Queue (ft)	349	12
Average Queue (ft)	14	0
95th Queue (ft)	122	9
Link Distance (ft)	505	505
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 108: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	336	115
Average Queue (ft)	62	8
95th Queue (ft)	264	80
Link Distance (ft)	276	276
Upstream Blk Time (%)	1	0
Queuing Penalty (veh)	6	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 136: I5 SB On Ramp

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	192	183
Average Queue (ft)	125	133
95th Queue (ft)	175	182
Link Distance (ft)	420	420
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 301: SW 65th Ave & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	TR	L	LTR	LT	R
Maximum Queue (ft)	345	454	486	410	380	710	728	764	156	175	1255	200
Average Queue (ft)	245	352	367	276	217	432	496	743	121	144	541	173
95th Queue (ft)	387	497	518	499	403	707	791	768	156	174	1442	248
Link Distance (ft)		436	436			714	714	714	99	99	2066	
Upstream Blk Time (%)		5	10			1	1	61	47	64	1	
Queuing Penalty (veh)		46	92			4	3	333	142	191	0	
Storage Bay Dist (ft)	220			260	280							100
Storage Blk Time (%)	11	27	25	12	2	24					43	25
Queuing Penalty (veh)	61	65	135	65	9	42					151	47

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	R	L	LT	R
Maximum Queue (ft)	253	238	334	376	338	357	335	350	296	629	662	380
Average Queue (ft)	122	90	102	131	184	209	180	198	45	394	432	127
95th Queue (ft)	217	197	310	349	302	323	298	312	197	756	787	330
Link Distance (ft)	447	447	447	447		436	436	436		7145	7145	7145
Upstream Blk Time (%)			0	1								
Queuing Penalty (veh)			1	4								
Storage Bay Dist (ft)					210				280			
Storage Blk Time (%)					5	10		1	0			
Queuing Penalty (veh)					22	42		9	1			

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	NB
Directions Served	R
Maximum Queue (ft)	388
Average Queue (ft)	154
95th Queue (ft)	364
Link Distance (ft)	7145
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	R	L	L	T	T	L	LT	R
Maximum Queue (ft)	140	278	259	455	350	400	403	388	420	150	185	155
Average Queue (ft)	89	141	152	188	211	178	181	85	151	82	95	61
95th Queue (ft)	161	242	241	332	369	330	351	233	321	129	155	119
Link Distance (ft)		418	418	418		447	447	447	447	236	236	236
Upstream Blk Time (%)				1		0	0	0	0		0	
Queuing Penalty (veh)				5		1	1	0	1		0	
Storage Bay Dist (ft)	70				300							
Storage Blk Time (%)	6	24		0	3							
Queuing Penalty (veh)	21	89		0	13							

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	141
Average Queue (ft)	53
95th Queue (ft)	112
Link Distance (ft)	236
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	L	T	T	R	L	T	R
Maximum Queue (ft)	160	403	417	324	338	448	390	352	210	90	330	312
Average Queue (ft)	112	196	211	220	237	267	186	141	7	50	314	132
95th Queue (ft)	195	364	387	330	350	417	354	276	89	106	330	277
Link Distance (ft)		409	409			418	418	418			267	267
Upstream Blk Time (%)		1	1			2	0	0			74	2
Queuing Penalty (veh)		3	4			11	1	0			323	8
Storage Bay Dist (ft)	100			200	270				250	50		
Storage Blk Time (%)	31	22	5	17	5	9		2		23	88	
Queuing Penalty (veh)	58	26	12	32	17	35		11		63	61	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	NB	SB	SB	SB
Directions Served	R	L	L	TR
Maximum Queue (ft)	304	330	533	555
Average Queue (ft)	136	263	435	380
95th Queue (ft)	282	418	595	595
Link Distance (ft)	267		508	508
Upstream Blk Time (%)	2		7	5
Queuing Penalty (veh)	11		38	28
Storage Bay Dist (ft)		230		
Storage Blk Time (%)		6	47	
Queuing Penalty (veh)		17	135	

Intersection: 340: SW 72nd Ave & Sig Shopping Center Acc

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	94	96	74	60	183	252	299	101	478	320
Average Queue (ft)	35	38	21	16	84	104	126	5	291	241
95th Queue (ft)	75	82	55	45	149	207	243	49	497	368
Link Distance (ft)		439	306	306		508	508		469	
Upstream Blk Time (%)									3	
Queuing Penalty (veh)									29	
Storage Bay Dist (ft)	180				170			150		200
Storage Blk Time (%)					0	3			25	17
Queuing Penalty (veh)					1	4			140	82

Intersection: 350: SW 72nd Ave & SW Durham Rd

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	240	659	123	442	412	149	621
Average Queue (ft)	116	294	41	245	114	26	291
95th Queue (ft)	270	618	89	444	296	100	559
Link Distance (ft)		4072	495	469	469		3884
Upstream Blk Time (%)				3	0		
Queuing Penalty (veh)				13	2		
Storage Bay Dist (ft)	100					100	
Storage Blk Time (%)	3	52					32
Queuing Penalty (veh)	11	39					8

Intersection: 360: Lower Boones Ferry Rd & Tualatin Transit Center Acc

Movement	WB	NB	NB	SB	SB
Directions Served	R	T	TR	T	T
Maximum Queue (ft)	307	441	79	181	166
Average Queue (ft)	291	377	72	17	14
95th Queue (ft)	375	511	94	124	113
Link Distance (ft)	288	352		267	267
Upstream Blk Time (%)	87	43		0	0
Queuing Penalty (veh)	0	430		2	2
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		47	29	1	
Queuing Penalty (veh)		236	146	0	

Intersection: 370: Lower Boones Ferry Rd & SW Travellers Ln

Movement	EB	WB	NB	NB	B108	SB	SB	SB
Directions Served	LTR	LTR	L	TR	T	L	T	TR
Maximum Queue (ft)	200	345	220	420	11514	239	383	364
Average Queue (ft)	71	189	79	383	6472	118	196	156
95th Queue (ft)	159	338	236	404	12956	229	370	348
Link Distance (ft)	212	344		276	11479		352	352
Upstream Blk Time (%)	1	4		69	17		4	3
Queuing Penalty (veh)	0	0		0	0		21	14
Storage Bay Dist (ft)			120			130		
Storage Blk Time (%)			0	70		10	16	
Queuing Penalty (veh)			0	42		44	28	

Intersection: 380: SW Hazel Fern Rd & SW Bridgeport Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	LT	R
Maximum Queue (ft)	72	194	292	227	253	267	111	293	155	223	62
Average Queue (ft)	21	98	147	88	91	105	37	113	65	98	16
95th Queue (ft)	55	171	245	171	201	225	89	229	128	176	44
Link Distance (ft)		429	429		409	409		468	528	528	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	140			250			150				150
Storage Blk Time (%)		2		0	0			8		3	
Queuing Penalty (veh)		1		0	0			3		1	

Intersection: 390: REI & SW Bridgeport Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	R	L	TR
Maximum Queue (ft)	59	87	139	65	194	104	146	91	168	121
Average Queue (ft)	19	21	46	22	51	28	68	29	91	55
95th Queue (ft)	50	58	103	55	131	72	124	65	154	102
Link Distance (ft)			924		429	429	485		663	663
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	125	125		170				150		
Storage Blk Time (%)		0	0		0		0	0		
Queuing Penalty (veh)		0	1		0		0	0		

Network Summary

Network wide Queuing Penalty: 3864

Intersection: 63: SW McEwan Rd & SW 65th Ave

Movement	WB	NB	NB	B24	SB	SB
Directions Served	LR	T	TR	T	L	T
Maximum Queue (ft)	473	311	346	186	120	76
Average Queue (ft)	389	142	219	27	77	5
95th Queue (ft)	569	274	360	172	127	40
Link Distance (ft)	439	288	288	793	99	99
Upstream Blk Time (%)	59	1	8		13	1
Queuing Penalty (veh)	0	0	0		49	3
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 98: Lower Boones Ferry Rd & 63rd Ave

Movement	EB	WB	WB	SB
Directions Served	L	T	TR	R
Maximum Queue (ft)	45	3984	4018	70
Average Queue (ft)	8	1881	1928	24
95th Queue (ft)	32	3941	3951	101
Link Distance (ft)		11406	11406	466
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	180			
Storage Blk Time (%)				10
Queuing Penalty (veh)				0

Intersection: 99: I5 NB On Ramp & I5 NB On Ramp Meter

Movement	NB	NB
Directions Served	T	R
Maximum Queue (ft)	165	67
Average Queue (ft)	8	2
95th Queue (ft)	92	48
Link Distance (ft)	505	505
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 108: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	352	190
Average Queue (ft)	73	18
95th Queue (ft)	289	132
Link Distance (ft)	276	276
Upstream Blk Time (%)	1	0
Queuing Penalty (veh)	6	1
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 136: I5 SB On Ramp

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	177	179
Average Queue (ft)	124	129
95th Queue (ft)	173	176
Link Distance (ft)	420	420
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 301: SW 65th Ave & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	TR	L	LTR	LT	R
Maximum Queue (ft)	344	465	492	410	380	726	725	778	166	175	1073	200
Average Queue (ft)	276	379	395	311	269	492	506	740	124	144	406	164
95th Queue (ft)	409	519	525	520	465	751	777	795	157	173	1111	246
Link Distance (ft)		436	436			714	714	714	99	99	2066	
Upstream Blk Time (%)		10	11			2	1	60	49	66		
Queuing Penalty (veh)		88	104			10	8	329	148	199		
Storage Bay Dist (ft)	220			260	280							100
Storage Blk Time (%)	15	34	33	10	14	30					41	25
Queuing Penalty (veh)	82	81	175	54	64	53					144	46

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	R	L	LT	R
Maximum Queue (ft)	301	323	446	453	317	340	364	354	324	562	573	352
Average Queue (ft)	138	111	144	171	178	206	192	208	41	317	359	137
95th Queue (ft)	247	253	373	401	292	318	324	335	187	602	634	294
Link Distance (ft)	447	447	447	447		436	436	436		7145	7145	7145
Upstream Blk Time (%)		0	1	1				0				
Queuing Penalty (veh)		0	3	6				1				
Storage Bay Dist (ft)					210				280			
Storage Blk Time (%)					4	10		3	0			
Queuing Penalty (veh)					18	41		19	1			

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	NB
Directions Served	R
Maximum Queue (ft)	386
Average Queue (ft)	165
95th Queue (ft)	333
Link Distance (ft)	7145
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	R	L	L	T	T	L	LT	R
Maximum Queue (ft)	140	377	358	395	348	413	421	345	360	134	152	153
Average Queue (ft)	99	164	162	194	184	178	178	79	132	79	89	63
95th Queue (ft)	167	294	271	313	333	318	335	222	278	126	148	119
Link Distance (ft)		418	418	418		447	447	447	447	236	236	236
Upstream Blk Time (%)		0	0	0		0	0	0				
Queuing Penalty (veh)		1	2	3		1	1	0				
Storage Bay Dist (ft)	70				300							
Storage Blk Time (%)	7	26		1	1							
Queuing Penalty (veh)	27	95		5	4							

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	135
Average Queue (ft)	54
95th Queue (ft)	107
Link Distance (ft)	236
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	L	T	T	R	L	T	R
Maximum Queue (ft)	160	366	392	321	338	413	401	315	206	90	335	306
Average Queue (ft)	112	189	191	205	226	252	176	132	7	57	311	156
95th Queue (ft)	192	340	359	314	333	374	331	257	88	109	346	301
Link Distance (ft)		409	409			418	418	418			267	267
Upstream Blk Time (%)		1	1			1	0				66	3
Queuing Penalty (veh)		5	4			4	1				267	10
Storage Bay Dist (ft)	100			200	270				250	50		
Storage Blk Time (%)	28	22	4	10	4	7		2		26	86	
Queuing Penalty (veh)	54	27	10	19	13	23		15		67	52	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	NB	SB	SB	SB
Directions Served	R	L	L	TR
Maximum Queue (ft)	308	330	528	544
Average Queue (ft)	149	214	338	411
95th Queue (ft)	288	380	549	595
Link Distance (ft)	267		508	508
Upstream Blk Time (%)	1		3	7
Queuing Penalty (veh)	6		18	36
Storage Bay Dist (ft)		230		
Storage Blk Time (%)		2	28	
Queuing Penalty (veh)		7	79	

Intersection: 340: SW 72nd Ave & Sig Shopping Center Acc

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	78	114	70	49	196	304	311	58	480	320
Average Queue (ft)	31	34	18	19	97	111	130	3	285	245
95th Queue (ft)	68	78	52	47	172	227	246	35	492	363
Link Distance (ft)		439	306	306		508	508		469	
Upstream Blk Time (%)									2	
Queuing Penalty (veh)									21	
Storage Bay Dist (ft)	180				170			150		200
Storage Blk Time (%)		0			0	2			21	18
Queuing Penalty (veh)		0			2	3			117	86

Intersection: 350: SW 72nd Ave & SW Durham Rd

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	240	577	83	490	322	129	588
Average Queue (ft)	104	272	31	264	89	21	269
95th Queue (ft)	257	553	70	447	223	81	498
Link Distance (ft)		4072	495	469	469		3884
Upstream Blk Time (%)				1	0		
Queuing Penalty (veh)				8	0		
Storage Bay Dist (ft)	100					100	
Storage Blk Time (%)	2	51					30
Queuing Penalty (veh)	9	38					8

Intersection: 360: Lower Boones Ferry Rd & Tualatin Transit Center Acc

Movement	WB	NB	NB	SB	SB
Directions Served	R	T	TR	T	T
Maximum Queue (ft)	307	437	80	142	123
Average Queue (ft)	237	364	68	21	19
95th Queue (ft)	404	534	100	133	134
Link Distance (ft)	288	352		267	267
Upstream Blk Time (%)	56	38		1	1
Queuing Penalty (veh)	0	390		3	3
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		43	21	2	
Queuing Penalty (veh)		219	105	0	

Intersection: 370: Lower Boones Ferry Rd & SW Travellers Ln

Movement	EB	WB	NB	NB	B108	SB	SB	SB
Directions Served	LTR	LTR	L	TR	T	L	T	TR
Maximum Queue (ft)	209	367	220	426	11282	239	409	391
Average Queue (ft)	70	180	87	376	5659	108	201	162
95th Queue (ft)	162	359	244	436	11668	225	390	369
Link Distance (ft)	212	344		276	11479		352	352
Upstream Blk Time (%)	1	11		64	8		6	4
Queuing Penalty (veh)	0	0		0	0		31	23
Storage Bay Dist (ft)			120			130		
Storage Blk Time (%)			0	65		4	21	
Queuing Penalty (veh)			0	39		15	26	

Intersection: 380: SW Hazel Fern Rd & SW Bridgeport Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	LT	R
Maximum Queue (ft)	61	217	316	243	289	309	123	250	139	185	76
Average Queue (ft)	21	105	140	93	95	103	40	110	61	86	17
95th Queue (ft)	51	187	244	184	220	232	94	205	120	156	52
Link Distance (ft)		429	429		409	409		468	528	528	
Upstream Blk Time (%)			0		0	0					
Queuing Penalty (veh)			0		0	0					
Storage Bay Dist (ft)	140			250			150				150
Storage Blk Time (%)		3		0	0			6		1	0
Queuing Penalty (veh)		1		0	1			2		0	0

Intersection: 390: REI & SW Bridgeport Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	R	L	TR
Maximum Queue (ft)	57	89	126	90	168	83	144	67	211	145
Average Queue (ft)	21	21	41	21	53	27	71	28	98	55
95th Queue (ft)	51	60	89	60	126	67	121	58	175	110
Link Distance (ft)			924		429	429	485		663	663
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	125	125		170				150		
Storage Blk Time (%)		0	0		0		0			
Queuing Penalty (veh)		0	0		0		0			

Network Summary

Network wide Queuing Penalty: 3743

0 125 250 500 Feet

2035 AM - Bridgeport 950 Space Park and Ride
7:30-8:30 AM

Study Intersection
Build Queue
No-Build Queue

0 250 500 1,000 Feet

2035 PM - Bridgeport 950 Space Park and Ride
4:30-5:30 PM

- Study Intersection
- Build Queue
- No-Build Queue

0 250 500 1,000 Feet

2035 PM - Bridgeport 950 Space Park and Ride Mitigated
4:30-5:30 PM

- Study Intersection
- Build Queue
- No-Build Queue

0 125 250 500 Feet

2035 AM - Bridgeport 700 Space Park and Ride
7:30-8:30 AM

- Study Intersection
- Build Queue
- No-Build Queue

0 250 500 1,000 Feet

2035 PM - Bridgeport 700 Space Park and Ride
4:30-5:30 PM

Study Intersection
Build Queue
No-Build Queue

APPENDIX B54

Segment C – Tigard Subarea 2045 Build Queue Analysis

GREAT PLACES SW Corridor

Intersection: 21: SW 72nd Ave & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	400	854	846	510	359	522	511	495	170	1014	170	412
Average Queue (ft)	398	810	803	117	134	316	329	334	162	826	94	171
95th Queue (ft)	410	848	855	435	274	461	455	447	191	1218	202	389
Link Distance (ft)		787	787			550	550	550		991		1778
Upstream Blk Time (%)		84	36			0	0	0		26		
Queuing Penalty (veh)		0	0			2	1	0		0		
Storage Bay Dist (ft)	340			450	300				110		110	
Storage Blk Time (%)	95	3	12		0	12			64	18	8	
Queuing Penalty (veh)	742	7	12		1	15			282	86	33	

Intersection: 21: SW 72nd Ave & OR99W

Movement	SB
Directions Served	TR
Maximum Queue (ft)	687
Average Queue (ft)	374
95th Queue (ft)	729
Link Distance (ft)	1778
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 22: OR99W & SW 71st Ave

Movement	EB	EB	EB	WB	SB
Directions Served	L	T	T	R	LR
Maximum Queue (ft)	53	130	155	5	604
Average Queue (ft)	11	16	18	0	316
95th Queue (ft)	39	151	160	4	772
Link Distance (ft)		550	550		2009
Upstream Blk Time (%)		0	1		
Queuing Penalty (veh)		3	6		
Storage Bay Dist (ft)	80			150	
Storage Blk Time (%)		2			
Queuing Penalty (veh)		0			

Intersection: 23: SW 68th Pkwy & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	L	T	R	L
Maximum Queue (ft)	166	486	520	260	186	644	661	210	284	250	114	255
Average Queue (ft)	13	225	259	62	26	274	305	196	271	102	31	118
95th Queue (ft)	94	499	539	223	112	568	607	227	282	245	107	233
Link Distance (ft)		429	429			668	668		265	265		1412
Upstream Blk Time (%)		4	6			0	0		66	4		
Queuing Penalty (veh)		37	61			3	4		291	19		
Storage Bay Dist (ft)	270			200	300			150			55	
Storage Blk Time (%)		9	19			15		72	82	45	3	
Queuing Penalty (veh)		3	23			6		164	187	69	7	

Intersection: 23: SW 68th Pkwy & OR99W

Movement	SB
Directions Served	TR
Maximum Queue (ft)	245
Average Queue (ft)	95
95th Queue (ft)	215
Link Distance (ft)	1412
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 24: SW 64th Ave & Pacific Hwy (OR99W) & I-5 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SW	SW	B61
Directions Served	<	T	T	L	T	TR	LTR	R	R>	T
Maximum Queue (ft)	232	580	536	916	948	942	333	529	534	279
Average Queue (ft)	125	191	192	321	824	829	164	394	398	25
95th Queue (ft)	232	467	431	810	1086	1076	296	534	518	143
Link Distance (ft)		391	391		916	916	942	461	461	2355
Upstream Blk Time (%)		6	6	0	17	19		3	2	
Queuing Penalty (veh)		36	39	0	91	102		0	0	
Storage Bay Dist (ft)	200			850						
Storage Blk Time (%)	6	9			31					
Queuing Penalty (veh)	33	12			60					

Intersection: 25: I-5 SB On-Ramp/SW 64th Ave & I-5 NB On-Ramp

Movement	EB	EB	SB	SB
Directions Served	T	TR	L	T
Maximum Queue (ft)	388	267	46	86
Average Queue (ft)	106	115	9	37
95th Queue (ft)	262	233	32	80
Link Distance (ft)	393	393	46	46
Upstream Blk Time (%)			1	22
Queuing Penalty (veh)			2	30
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 26: SW 60th Ave & Pacific Hwy (OR99W)

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	L
Maximum Queue (ft)	794	808	331	1276	1283	85
Average Queue (ft)	308	344	149	612	617	45
95th Queue (ft)	641	679	373	1387	1390	85
Link Distance (ft)	916	916		10150	10150	51
Upstream Blk Time (%)	0	0				20
Queuing Penalty (veh)	0	0				59
Storage Bay Dist (ft)			300			
Storage Blk Time (%)				38		
Queuing Penalty (veh)				27		

Intersection: 27: SW 60th Ave & I-5 Off Ramp/SW Barbur Blvd

Movement	EB	EB	B14	NB	SB
Directions Served	LT	TR	T	TR	LT
Maximum Queue (ft)	367	365	1326	347	59
Average Queue (ft)	321	312	611	166	15
95th Queue (ft)	390	377	1613	306	46
Link Distance (ft)	291	291	2038	2437	51
Upstream Blk Time (%)	25	23	3		2
Queuing Penalty (veh)	0	0	0		5
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 28: SW 68th Pkwy & Park & Ride

Movement	WB	WB	NB	B19	SB	SB
Directions Served	L	R	TR	T	L	T
Maximum Queue (ft)	444	445	492	854	92	108
Average Queue (ft)	375	422	473	827	31	7
95th Queue (ft)	604	498	487	881	84	57
Link Distance (ft)	425	425	409	812		265
Upstream Blk Time (%)	85	95	73	77		
Queuing Penalty (veh)	0	0	0	0		
Storage Bay Dist (ft)					50	
Storage Blk Time (%)					8	
Queuing Penalty (veh)					12	

Intersection: 83: I-5 NB On-Ramp & OR99W

Movement	EB	EB	EB	WB
Directions Served	T	TR	R	T
Maximum Queue (ft)	483	507	100	6
Average Queue (ft)	36	51	7	0
95th Queue (ft)	259	330	53	4
Link Distance (ft)	668	668		391
Upstream Blk Time (%)	1	1		
Queuing Penalty (veh)	10	12		
Storage Bay Dist (ft)			100	
Storage Blk Time (%)		3	0	
Queuing Penalty (veh)		11	1	

Intersection: 170: SW 65th Ave & SW Haines St

Movement	EB	EB	WB	NB
Directions Served	T	R	LT	LR
Maximum Queue (ft)	338	99	215	525
Average Queue (ft)	152	6	104	245
95th Queue (ft)	268	48	174	474
Link Distance (ft)	706	706	996	2587
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 180: SW 68th Ave/SW 68th Pkwy & SW Atlanta St/SW Haines St

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	LT	R	L	T	R	LT	L	TR
Maximum Queue (ft)	186	121	131	399	78	88	70	78
Average Queue (ft)	80	7	60	144	72	43	38	39
95th Queue (ft)	138	59	100	325	80	70	61	65
Link Distance (ft)	713	713	706	706		593		665
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)					50		385	
Storage Blk Time (%)				0	38			
Queuing Penalty (veh)				1	0			

Intersection: 190: SW 68th Ave & SW Dartmouth St/I-5 SB

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	B4
Directions Served	L	T	R	LT	T	R	L	T	R	L	TR	T
Maximum Queue (ft)	293	361	52	267	263	172	198	394	200	190	411	90
Average Queue (ft)	166	176	26	162	156	13	58	163	74	135	211	11
95th Queue (ft)	266	303	53	244	233	97	139	297	177	212	413	106
Link Distance (ft)		1081	1081		3760			2181			553	593
Upstream Blk Time (%)											3	
Queuing Penalty (veh)											14	
Storage Bay Dist (ft)	200			600		200	100		100	90		
Storage Blk Time (%)	4	6			2		1	22	1	36	24	
Queuing Penalty (veh)	11	17			10		7	57	4	120	40	

Network Summary

Network wide Queuing Penalty: 2885

Intersection: 21: SW 72nd Ave & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	400	859	843	510	272	349	363	348	170	1026	170	263
Average Queue (ft)	397	813	794	125	124	174	187	166	158	841	114	135
95th Queue (ft)	413	836	953	462	252	286	316	295	201	1288	215	247
Link Distance (ft)		787	787			550	550	550		991		1778
Upstream Blk Time (%)		84	39							42		
Queuing Penalty (veh)		0	0							0		
Storage Bay Dist (ft)	340			450	300				110		110	
Storage Blk Time (%)	93	7	20		1	0			57	24	21	
Queuing Penalty (veh)	720	16	19		7	0			251	115	84	

Intersection: 21: SW 72nd Ave & OR99W

Movement	SB
Directions Served	TR
Maximum Queue (ft)	582
Average Queue (ft)	317
95th Queue (ft)	547
Link Distance (ft)	1778
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 22: OR99W & SW 71st Ave

Movement	EB	EB	EB	SB
Directions Served	L	T	T	LR
Maximum Queue (ft)	121	534	551	1903
Average Queue (ft)	14	234	263	1369
95th Queue (ft)	66	611	645	2259
Link Distance (ft)		550	550	2009
Upstream Blk Time (%)		2	4	18
Queuing Penalty (veh)		17	43	0
Storage Bay Dist (ft)	80			
Storage Blk Time (%)	0	22		
Queuing Penalty (veh)	1	3		

Intersection: 23: SW 68th Pkwy & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	LT	R	L	TR
Maximum Queue (ft)	268	557	560	260	359	932	924	210	284	115	133	144
Average Queue (ft)	18	478	494	122	41	880	881	191	271	57	46	59
95th Queue (ft)	126	643	645	317	188	983	982	250	282	147	103	125
Link Distance (ft)		436	436			675	675		264		1414	1414
Upstream Blk Time (%)		28	35			47	50		55			
Queuing Penalty (veh)		285	353			459	493		484			
Storage Bay Dist (ft)	270			200	300			150		55		
Storage Blk Time (%)		33	42			47		19	73	2		
Queuing Penalty (veh)		10	51			19		125	281	15		

Intersection: 24: SW 64th Ave & Pacific Hwy (OR99W) & I-5 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SW	SW	B61
Directions Served	<	T	T	L	T	TR	LTR	R	R>	T
Maximum Queue (ft)	233	542	537	918	963	951	371	533	529	872
Average Queue (ft)	99	86	101	421	868	866	197	424	433	175
95th Queue (ft)	197	341	340	1029	1133	1106	379	559	562	667
Link Distance (ft)		391	391		918	918	939	459	459	2355
Upstream Blk Time (%)		3	4	0	29	32		8	9	
Queuing Penalty (veh)		20	23	0	153	168		0	0	
Storage Bay Dist (ft)	200			850						
Storage Blk Time (%)	2	6			45					
Queuing Penalty (veh)	9	8			88					

Intersection: 25: I-5 SB On-Ramp/SW 64th Ave & I-5 NB On-Ramp

Movement	EB	EB	SB	SB
Directions Served	T	TR	L	T
Maximum Queue (ft)	108	140	32	89
Average Queue (ft)	33	31	6	34
95th Queue (ft)	80	95	24	78
Link Distance (ft)	393	393	46	46
Upstream Blk Time (%)			0	19
Queuing Penalty (veh)			0	26
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 26: SW 60th Ave & Pacific Hwy (OR99W)

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	L
Maximum Queue (ft)	789	804	380	4204	4210	92
Average Queue (ft)	319	354	190	1808	1811	46
95th Queue (ft)	575	615	453	4241	4250	94
Link Distance (ft)	918	918		10150	10150	51
Upstream Blk Time (%)	0	0				24
Queuing Penalty (veh)	0	0				71
Storage Bay Dist (ft)			300			
Storage Blk Time (%)				65		
Queuing Penalty (veh)				45		

Intersection: 27: SW 60th Ave & I-5 Off Ramp/SW Barbur Blvd

Movement	EB	EB	B14	NB	SB
Directions Served	LT	TR	T	TR	LT
Maximum Queue (ft)	377	371	1068	278	56
Average Queue (ft)	326	324	454	166	11
95th Queue (ft)	392	384	1089	271	40
Link Distance (ft)	297	297	2038	2440	51
Upstream Blk Time (%)	26	27			1
Queuing Penalty (veh)	0	0			3
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 28: SW 68th Pkwy & Park & Ride

Movement	WB	WB	NB	B19	SB
Directions Served	L	R	TR	T	L
Maximum Queue (ft)	443	444	494	855	61
Average Queue (ft)	410	426	476	818	12
95th Queue (ft)	522	470	484	953	43
Link Distance (ft)	424	424	409	812	
Upstream Blk Time (%)	92	98	68	75	
Queuing Penalty (veh)	0	0	0	0	
Storage Bay Dist (ft)					50
Storage Blk Time (%)					1
Queuing Penalty (veh)					1

Intersection: 83: I-5 NB On-Ramp & OR99W

Movement	EB	EB	EB	WB	WB
Directions Served	T	TR	R	T	T
Maximum Queue (ft)	78	310	49	419	412
Average Queue (ft)	4	12	2	275	287
95th Queue (ft)	46	151	25	495	499
Link Distance (ft)	675	675		391	391
Upstream Blk Time (%)		0		1	2
Queuing Penalty (veh)		0		13	22
Storage Bay Dist (ft)			100		
Storage Blk Time (%)		0	0		
Queuing Penalty (veh)		0	0		

Intersection: 170: SW 65th Ave & SW Haines St

Movement	EB	EB	WB	NB
Directions Served	T	R	LT	LR
Maximum Queue (ft)	404	138	267	465
Average Queue (ft)	164	6	107	219
95th Queue (ft)	316	77	196	420
Link Distance (ft)	706	706	996	2587
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 180: SW 68th Ave/SW 68th Pkwy & SW Atlanta St/SW Haines St

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	LT	R	L	T	R	LT	L	TR
Maximum Queue (ft)	168	142	130	459	80	88	88	78
Average Queue (ft)	81	15	68	155	73	42	42	37
95th Queue (ft)	137	89	113	346	81	71	70	63
Link Distance (ft)	713	713	706	706		593		665
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)					50		385	
Storage Blk Time (%)				0	41			
Queuing Penalty (veh)				1	0			

Intersection: 190: SW 68th Ave & SW Dartmouth St/I-5 SB

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	LT	T	R	L	T	R	L	TR
Maximum Queue (ft)	299	350	68	258	248	111	199	379	200	190	388
Average Queue (ft)	150	173	27	159	148	7	59	166	82	129	182
95th Queue (ft)	253	296	58	246	229	66	138	303	197	207	325
Link Distance (ft)		1081	1081		3760			2181			553
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200			600		200	100		100	90	
Storage Blk Time (%)	4	7			2		2	22	1	29	24
Queuing Penalty (veh)	10	18			8		9	57	4	97	39

Network Summary

Network wide Queuing Penalty: 4749

Intersection: 21: SW 72nd Ave & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	400	847	850	418	273	339	369	371	170	1034	170	347
Average Queue (ft)	398	810	790	79	124	173	187	176	160	957	112	130
95th Queue (ft)	406	834	944	356	225	295	312	307	198	1227	216	233
Link Distance (ft)		787	787			550	550	550		991		1778
Upstream Blk Time (%)		88	28							52		
Queuing Penalty (veh)		0	0							0		
Storage Bay Dist (ft)	340			450	300				110		110	
Storage Blk Time (%)	95	6	12		0	1			62	19	18	
Queuing Penalty (veh)	735	12	11		0	1			276	91	71	

Intersection: 21: SW 72nd Ave & OR99W

Movement	SB
Directions Served	TR
Maximum Queue (ft)	582
Average Queue (ft)	263
95th Queue (ft)	479
Link Distance (ft)	1778
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 22: OR99W & SW 71st Ave

Movement	EB	EB	EB	SB
Directions Served	L	T	T	LR
Maximum Queue (ft)	148	538	554	1996
Average Queue (ft)	15	184	210	1455
95th Queue (ft)	68	537	569	2276
Link Distance (ft)		550	550	2009
Upstream Blk Time (%)		1	4	10
Queuing Penalty (veh)		14	37	0
Storage Bay Dist (ft)	80			
Storage Blk Time (%)	0	18		
Queuing Penalty (veh)	0	3		

Intersection: 23: SW 68th Pkwy & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	LT	R	L	TR
Maximum Queue (ft)	273	557	553	260	360	921	938	210	283	115	148	165
Average Queue (ft)	26	463	483	94	62	879	883	187	271	61	52	54
95th Queue (ft)	162	644	643	276	254	979	972	256	281	152	115	129
Link Distance (ft)		436	436			675	675		264		1414	1414
Upstream Blk Time (%)		26	32			47	50		56			
Queuing Penalty (veh)		261	327			461	496		469			
Storage Bay Dist (ft)	270			200	300			150		55		
Storage Blk Time (%)		31	41			47		17	74	2		
Queuing Penalty (veh)		12	45			21		108	270	15		

Intersection: 24: SW 64th Ave & Pacific Hwy (OR99W) & I-5 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SW	SW	B61
Directions Served	<	T	T	L	T	TR	LTR	R	R>	T
Maximum Queue (ft)	258	608	589	918	964	952	439	529	529	722
Average Queue (ft)	139	106	106	500	876	873	200	440	446	236
95th Queue (ft)	258	370	343	1101	1115	1089	367	564	571	801
Link Distance (ft)		391	391		918	918	939	459	459	2355
Upstream Blk Time (%)		4	4	0	29	33		9	10	
Queuing Penalty (veh)		26	26	0	156	178		0	0	
Storage Bay Dist (ft)	200			850						
Storage Blk Time (%)	13	6			46					
Queuing Penalty (veh)	74	7			98					

Intersection: 25: I-5 SB On-Ramp/SW 64th Ave & I-5 NB On-Ramp

Movement	EB	EB	SB	SB
Directions Served	T	TR	L	T
Maximum Queue (ft)	121	130	43	96
Average Queue (ft)	32	30	7	39
95th Queue (ft)	85	90	28	83
Link Distance (ft)	393	393	46	46
Upstream Blk Time (%)			1	25
Queuing Penalty (veh)			2	38
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 26: SW 60th Ave & Pacific Hwy (OR99W)

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	L
Maximum Queue (ft)	667	711	380	3961	3963	94
Average Queue (ft)	303	337	173	1727	1733	46
95th Queue (ft)	536	585	439	3952	3956	94
Link Distance (ft)	918	918		10150	10150	51
Upstream Blk Time (%)						21
Queuing Penalty (veh)						63
Storage Bay Dist (ft)			300			
Storage Blk Time (%)				64		
Queuing Penalty (veh)				42		

Intersection: 27: SW 60th Ave & I-5 Off Ramp/SW Barbur Blvd

Movement	EB	EB	B14	NB	SB
Directions Served	LT	TR	T	TR	LT
Maximum Queue (ft)	371	392	1084	345	52
Average Queue (ft)	326	326	442	171	12
95th Queue (ft)	393	389	1093	294	41
Link Distance (ft)	297	297	2038	2440	51
Upstream Blk Time (%)	22	23	0		1
Queuing Penalty (veh)	0	0	0		3
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 28: SW 68th Pkwy & Park & Ride

Movement	WB	WB	NB	B19	SB
Directions Served	L	R	TR	T	L
Maximum Queue (ft)	440	444	483	867	56
Average Queue (ft)	423	429	476	767	10
95th Queue (ft)	480	446	479	1042	38
Link Distance (ft)	424	424	409	812	
Upstream Blk Time (%)	99	100	67	60	
Queuing Penalty (veh)	0	0	0	0	
Storage Bay Dist (ft)					50
Storage Blk Time (%)					1
Queuing Penalty (veh)					1

Intersection: 83: I-5 NB On-Ramp & OR99W

Movement	EB	EB	EB	WB	WB
Directions Served	T	TR	R	T	T
Maximum Queue (ft)	383	420	50	410	419
Average Queue (ft)	19	25	2	271	286
95th Queue (ft)	195	236	26	495	513
Link Distance (ft)	675	675		391	391
Upstream Blk Time (%)	1	1		1	3
Queuing Penalty (veh)	8	8		14	25
Storage Bay Dist (ft)			100		
Storage Blk Time (%)		1	0		
Queuing Penalty (veh)		4	0		

Intersection: 170: SW 65th Ave & SW Haines St

Movement	EB	EB	WB	NB
Directions Served	T	R	LT	LR
Maximum Queue (ft)	231	54	239	430
Average Queue (ft)	124	3	104	204
95th Queue (ft)	205	25	181	380
Link Distance (ft)	706	706	996	2587
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 180: SW 68th Ave/SW 68th Pkwy & SW Atlanta St/SW Haines St

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	LT	R	L	T	R	LT	L	TR
Maximum Queue (ft)	148	111	115	414	82	91	70	84
Average Queue (ft)	76	11	62	167	73	45	37	43
95th Queue (ft)	123	73	95	380	81	75	58	69
Link Distance (ft)	713	713	706	706		593		665
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)					50		385	
Storage Blk Time (%)				0	44			
Queuing Penalty (veh)				1	0			

Intersection: 190: SW 68th Ave & SW Dartmouth St/I-5 SB

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	B4
Directions Served	L	T	R	LT	T	R	L	T	R	L	TR	T
Maximum Queue (ft)	298	333	59	276	260	74	198	431	200	190	556	172
Average Queue (ft)	159	169	27	169	161	3	45	184	97	166	332	60
95th Queue (ft)	267	274	57	251	234	37	112	354	213	224	653	295
Link Distance (ft)		1081	1081		3760			2181			553	593
Upstream Blk Time (%)											13	0
Queuing Penalty (veh)											69	2
Storage Bay Dist (ft)	200			600		200	100		100	90		
Storage Blk Time (%)	5	5			3		1	26	2	57	24	
Queuing Penalty (veh)	12	13			14		5	66	8	192	47	

Network Summary

Network wide Queuing Penalty: 4939

Intersection: 21: SW 72nd Ave & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	400	847	850	418	273	339	369	371	170	1034	170	347
Average Queue (ft)	398	810	790	79	124	173	187	176	160	957	112	130
95th Queue (ft)	406	834	944	356	225	295	312	307	198	1227	216	233
Link Distance (ft)		787	787			550	550	550		991		1778
Upstream Blk Time (%)		88	28							52		
Queuing Penalty (veh)		0	0							0		
Storage Bay Dist (ft)	340			450	300				110		110	
Storage Blk Time (%)	95	6	12		0	1			62	19	18	
Queuing Penalty (veh)	735	12	11		0	1			276	91	71	

Intersection: 21: SW 72nd Ave & OR99W

Movement	SB
Directions Served	TR
Maximum Queue (ft)	582
Average Queue (ft)	263
95th Queue (ft)	479
Link Distance (ft)	1778
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 22: OR99W & SW 71st Ave

Movement	EB	EB	EB	SB
Directions Served	L	T	T	LR
Maximum Queue (ft)	148	538	554	1996
Average Queue (ft)	15	184	210	1455
95th Queue (ft)	68	537	569	2276
Link Distance (ft)		550	550	2009
Upstream Blk Time (%)		1	4	10
Queuing Penalty (veh)		14	37	0
Storage Bay Dist (ft)	80			
Storage Blk Time (%)	0	18		
Queuing Penalty (veh)	0	3		

Intersection: 23: SW 68th Pkwy & OR99W

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	LT	R	L	TR
Maximum Queue (ft)	273	557	553	260	360	921	938	210	283	115	148	165
Average Queue (ft)	26	463	483	94	62	879	883	187	271	61	52	54
95th Queue (ft)	162	644	643	276	254	979	972	256	281	152	115	129
Link Distance (ft)		436	436			675	675		264		1414	1414
Upstream Blk Time (%)		26	32			47	50		56			
Queuing Penalty (veh)		261	327			461	496		469			
Storage Bay Dist (ft)	270			200	300			150		55		
Storage Blk Time (%)		31	41			47		17	74	2		
Queuing Penalty (veh)		12	45			21		108	270	15		

Intersection: 24: SW 64th Ave & Pacific Hwy (OR99W) & I-5 SB Off-Ramp

Movement	EB	EB	EB	WB	WB	WB	SB	SW	SW	B61
Directions Served	<	T	T	L	T	TR	LTR	R	R>	T
Maximum Queue (ft)	258	608	589	918	964	952	439	529	529	722
Average Queue (ft)	139	106	106	500	876	873	200	440	446	236
95th Queue (ft)	258	370	343	1101	1115	1089	367	564	571	801
Link Distance (ft)		391	391		918	918	939	459	459	2355
Upstream Blk Time (%)		4	4	0	29	33		9	10	
Queuing Penalty (veh)		26	26	0	156	178		0	0	
Storage Bay Dist (ft)	200			850						
Storage Blk Time (%)	13	6			46					
Queuing Penalty (veh)	74	7			98					

Intersection: 25: I-5 SB On-Ramp/SW 64th Ave & I-5 NB On-Ramp

Movement	EB	EB	SB	SB
Directions Served	T	TR	L	T
Maximum Queue (ft)	121	130	43	96
Average Queue (ft)	32	30	7	39
95th Queue (ft)	85	90	28	83
Link Distance (ft)	393	393	46	46
Upstream Blk Time (%)			1	25
Queuing Penalty (veh)			2	38
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 26: SW 60th Ave & Pacific Hwy (OR99W)

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	L
Maximum Queue (ft)	667	711	380	3961	3963	94
Average Queue (ft)	303	337	173	1727	1733	46
95th Queue (ft)	536	585	439	3952	3956	94
Link Distance (ft)	918	918		10150	10150	51
Upstream Blk Time (%)						21
Queuing Penalty (veh)						63
Storage Bay Dist (ft)			300			
Storage Blk Time (%)				64		
Queuing Penalty (veh)				42		

Intersection: 27: SW 60th Ave & I-5 Off Ramp/SW Barbur Blvd

Movement	EB	EB	B14	NB	SB
Directions Served	LT	TR	T	TR	LT
Maximum Queue (ft)	371	392	1084	345	52
Average Queue (ft)	326	326	442	171	12
95th Queue (ft)	393	389	1093	294	41
Link Distance (ft)	297	297	2038	2440	51
Upstream Blk Time (%)	22	23	0		1
Queuing Penalty (veh)	0	0	0		3
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 28: SW 68th Pkwy & Park & Ride

Movement	WB	WB	NB	B19	SB
Directions Served	L	R	TR	T	L
Maximum Queue (ft)	440	444	483	867	56
Average Queue (ft)	423	429	476	767	10
95th Queue (ft)	480	446	479	1042	38
Link Distance (ft)	424	424	409	812	
Upstream Blk Time (%)	99	100	67	60	
Queuing Penalty (veh)	0	0	0	0	
Storage Bay Dist (ft)					50
Storage Blk Time (%)					1
Queuing Penalty (veh)					1

Intersection: 83: I-5 NB On-Ramp & OR99W

Movement	EB	EB	EB	WB	WB
Directions Served	T	TR	R	T	T
Maximum Queue (ft)	383	420	50	410	419
Average Queue (ft)	19	25	2	271	286
95th Queue (ft)	195	236	26	495	513
Link Distance (ft)	675	675		391	391
Upstream Blk Time (%)	1	1		1	3
Queuing Penalty (veh)	8	8		14	25
Storage Bay Dist (ft)			100		
Storage Blk Time (%)		1	0		
Queuing Penalty (veh)		4	0		

Intersection: 170: SW 65th Ave & SW Haines St

Movement	EB	EB	WB	NB
Directions Served	T	R	LT	LR
Maximum Queue (ft)	231	54	239	430
Average Queue (ft)	124	3	104	204
95th Queue (ft)	205	25	181	380
Link Distance (ft)	706	706	996	2587
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 180: SW 68th Ave/SW 68th Pkwy & SW Atlanta St/SW Haines St

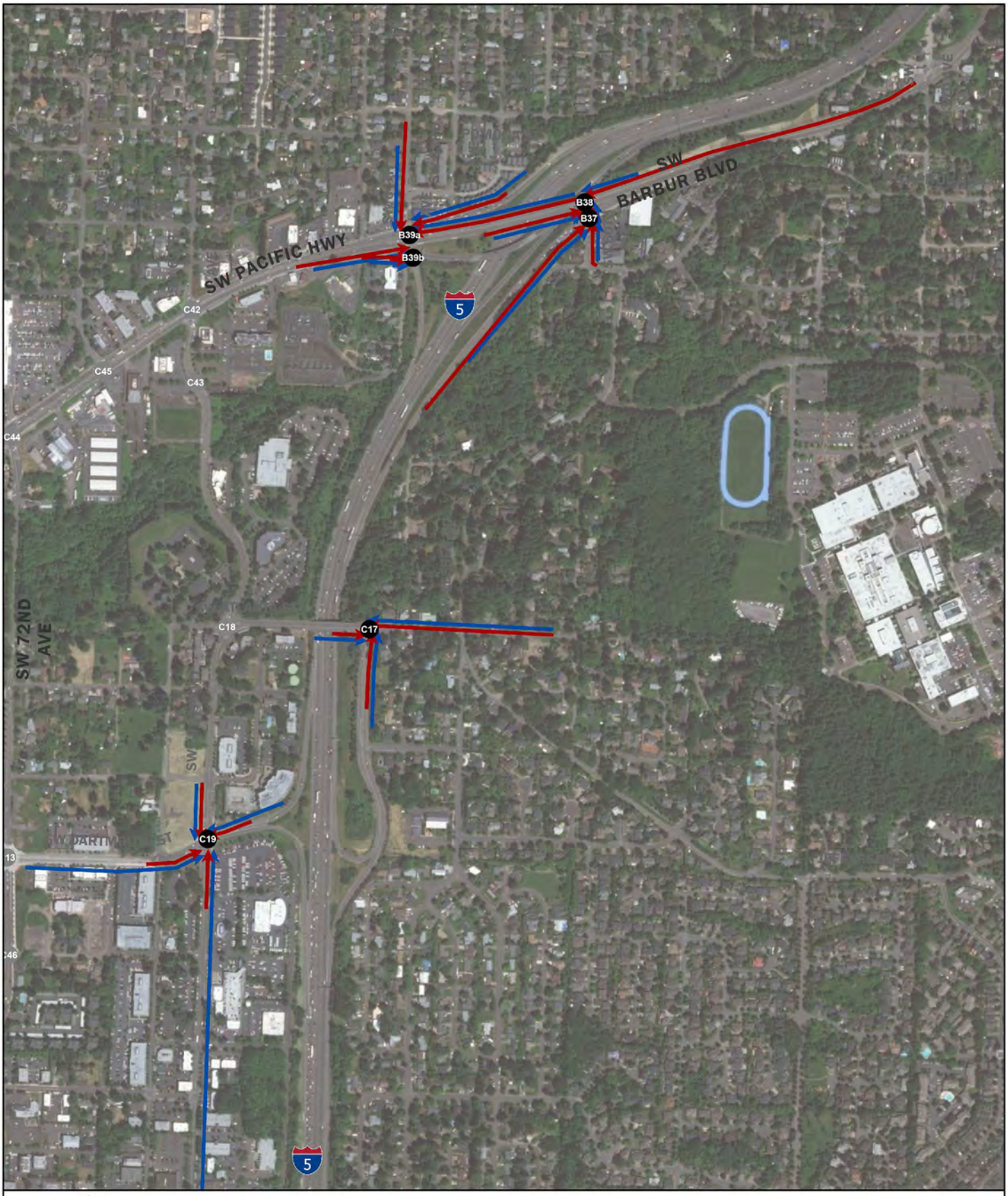
Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	LT	R	L	T	R	LT	L	TR
Maximum Queue (ft)	148	111	115	414	82	91	70	84
Average Queue (ft)	76	11	62	167	73	45	37	43
95th Queue (ft)	123	73	95	380	81	75	58	69
Link Distance (ft)	713	713	706	706		593		665
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)					50		385	
Storage Blk Time (%)				0	44			
Queuing Penalty (veh)				1	0			

Intersection: 190: SW 68th Ave & SW Dartmouth St/I-5 SB

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	B4
Directions Served	L	T	R	LT	T	R	L	T	R	L	TR	T
Maximum Queue (ft)	298	333	59	276	260	74	198	431	200	190	556	172
Average Queue (ft)	159	169	27	169	161	3	45	184	97	166	332	60
95th Queue (ft)	267	274	57	251	234	37	112	354	213	224	653	295
Link Distance (ft)		1081	1081		3760			2181			553	593
Upstream Blk Time (%)											13	0
Queuing Penalty (veh)											69	2
Storage Bay Dist (ft)	200			600		200	100		100	90		
Storage Blk Time (%)	5	5			3		1	26	2	57	24	
Queuing Penalty (veh)	12	13			14		5	66	8	192	47	

Network Summary

Network wide Queuing Penalty: 4939



Study Intersection

Build Queue

No-Build Queue

2045 PM - Tigard
4:30-5:30 PM

APPENDIX B55

Segment C – Bonita Subarea 2045 Build Queue Analysis

GREAT PLACES SW Corridor

2045 No Build and Build have similar queue given limits of SimTraffic to account for train crossings

Intersection: 3: Bend

Movement	SB
Directions Served	T
Maximum Queue (ft)	12
Average Queue (ft)	0
95th Queue (ft)	6
Link Distance (ft)	140
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: I-5 SB On Ramp/I-5 SB Ramps

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	111	117
Average Queue (ft)	54	70
95th Queue (ft)	92	99
Link Distance (ft)	235	235
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 22: I-5 SB Ramps/I-5 NB Ramps

Movement	NB
Directions Served	T
Maximum Queue (ft)	86
Average Queue (ft)	6
95th Queue (ft)	88
Link Distance (ft)	498
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 123: I-5 NB Ramps & SW Upper Boones Ferry Rd/SW Carman Dr

Movement	EB	EB	WB	NB	NB
Directions Served	L	LT	TR	L	TR
Maximum Queue (ft)	554	533	674	313	230
Average Queue (ft)	374	339	347	175	75
95th Queue (ft)	618	590	613	273	157
Link Distance (ft)	628	628	6188	10758	
Upstream Blk Time (%)	1	1			
Queuing Penalty (veh)	4	3			
Storage Bay Dist (ft)					225
Storage Blk Time (%)				4	0
Queuing Penalty (veh)				10	0

Intersection: 124: I-5 SB Ramps & SW Upper Boones Ferry Rd

Movement	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	TR	L	T	LT	R	R
Maximum Queue (ft)	251	272	131	310	256	103	108
Average Queue (ft)	223	236	63	196	135	53	58
95th Queue (ft)	264	256	117	288	220	89	94
Link Distance (ft)	198	198		628	568	568	568
Upstream Blk Time (%)	30	45					
Queuing Penalty (veh)	214	318					
Storage Bay Dist (ft)			300				
Storage Blk Time (%)				0			
Queuing Penalty (veh)				0			

Intersection: 125: Dwy_S/S & SW Upper Boones Ferry Rd

Movement	EB	EB
Directions Served	T	TR
Maximum Queue (ft)	3845	3848
Average Queue (ft)	2238	2273
95th Queue (ft)	3994	3970
Link Distance (ft)	3988	3988
Upstream Blk Time (%)	6	6
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 549

0 125 250 500 Feet

Study Intersection
Build Queue
No-Build Queue

2045 PM - Upper Boones Ferry Road
4:30-5:30 PM

APPENDIX B56

Segment C – Bridgeport Subarea 2045 Build Queue Analysis

APPENDIX B

GREAT PLACES SW Corridor

Intersection: 98: Bend

Movement	EB
Directions Served	T
Maximum Queue (ft)	7
Average Queue (ft)	0
95th Queue (ft)	0
Link Distance (ft)	702
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 99: I5 NB On Ramp & I5 NB On Ramp Meter

Movement	NB
Directions Served	T
Maximum Queue (ft)	235
Average Queue (ft)	10
95th Queue (ft)	91
Link Distance (ft)	505
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 108: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	284	66
Average Queue (ft)	19	2
95th Queue (ft)	149	47
Link Distance (ft)	276	276
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	1	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 136: I5 SB On Ramp

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	203	202
Average Queue (ft)	131	143
95th Queue (ft)	180	189
Link Distance (ft)	420	420
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 301: SW 65th Ave & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B98	B98	B98	NB
Directions Served	L	T	T	R	L	T	T	TR	T	T	T	L
Maximum Queue (ft)	345	428	444	406	380	798	788	816	2576	2626	2678	410
Average Queue (ft)	265	389	394	288	319	695	713	783	1344	1468	1527	264
95th Queue (ft)	421	470	476	488	476	897	889	801	2703	2817	2823	408
Link Distance (ft)		406	406			702	702	702	11452	11452	11452	379
Upstream Blk Time (%)		15	14	1		30	31	81				3
Queuing Penalty (veh)		156	148	0		0	0	0				0
Storage Bay Dist (ft)	220			260	280							
Storage Blk Time (%)	10	43	40	5	17	53						
Queuing Penalty (veh)	58	104	241	30	84	98						

Intersection: 301: SW 65th Ave & Lower Boones Ferry Rd

Movement	NB	B24	SB	SB
Directions Served	LTR	T	LT	R
Maximum Queue (ft)	449	473	584	200
Average Queue (ft)	313	103	230	169
95th Queue (ft)	471	467	462	236
Link Distance (ft)	379	792	2066	
Upstream Blk Time (%)	13	3		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				100
Storage Blk Time (%)			33	27
Queuing Penalty (veh)			117	50

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	R	L	LT	R
Maximum Queue (ft)	294	269	437	452	355	390	396	411	338	3246	3236	3047
Average Queue (ft)	116	83	135	172	206	240	226	252	62	1544	1570	815
95th Queue (ft)	221	191	355	402	332	367	392	418	279	3047	3054	2114
Link Distance (ft)	447	447	447	447		406	406	406		7145	7145	7145
Upstream Blk Time (%)		0	1	1	0	0	1	2	0			
Queuing Penalty (veh)		0	3	4	0	1	7	17	0			
Storage Bay Dist (ft)					210				280			
Storage Blk Time (%)					6	12		11	0			
Queuing Penalty (veh)					26	51		69	0			

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	NB
Directions Served	R
Maximum Queue (ft)	1381
Average Queue (ft)	475
95th Queue (ft)	1126
Link Distance (ft)	7145
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	R	L	L	T	T	L	LT	R
Maximum Queue (ft)	140	304	278	362	340	430	474	480	484	175	185	160
Average Queue (ft)	80	135	148	179	160	211	236	203	257	82	92	64
95th Queue (ft)	155	259	253	294	316	383	440	487	509	134	153	132
Link Distance (ft)		418	418	418		447	447	447	447	236	236	236
Upstream Blk Time (%)		0		0		0	1	5	6	0	0	0
Queuing Penalty (veh)		0		1		1	5	30	39	0	0	0
Storage Bay Dist (ft)	70				300							
Storage Blk Time (%)	6	21		1	1							
Queuing Penalty (veh)	22	82		5	3							

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	160
Average Queue (ft)	52
95th Queue (ft)	118
Link Distance (ft)	236
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	L	T	T	R	L	T	R
Maximum Queue (ft)	160	410	454	325	340	448	438	381	210	90	338	254
Average Queue (ft)	113	212	245	222	300	333	235	176	24	46	316	88
95th Queue (ft)	190	384	440	336	381	500	448	336	168	105	331	211
Link Distance (ft)		409	409			418	418	418			267	267
Upstream Blk Time (%)		1	3			15	4	0			81	0
Queuing Penalty (veh)		2	13			97	27	0			363	2
Storage Bay Dist (ft)	100			200	270				250	50		
Storage Blk Time (%)	29	27	8	18	36	26		5		19	88	
Queuing Penalty (veh)	56	33	21	34	128	94		44		70	62	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	NB	SB	SB	SB
Directions Served	R	L	L	TR
Maximum Queue (ft)	260	330	548	563
Average Queue (ft)	82	192	351	473
95th Queue (ft)	202	345	576	602
Link Distance (ft)	267		508	508
Upstream Blk Time (%)	0		3	14
Queuing Penalty (veh)	1		19	86
Storage Bay Dist (ft)		230		
Storage Blk Time (%)		1	20	
Queuing Penalty (veh)		4	63	

Intersection: 340: SW 72nd Ave & Sig Shopping Center Acc

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	98	93	71	64	196	240	282	121	261	204
Average Queue (ft)	28	30	19	20	81	98	126	5	223	198
95th Queue (ft)	69	74	54	51	153	202	229	51	244	218
Link Distance (ft)		427	305	305		508	508		204	
Upstream Blk Time (%)								0	38	15
Queuing Penalty (veh)								0	0	0
Storage Bay Dist (ft)	180				170			150		200
Storage Blk Time (%)					1	1			25	20
Queuing Penalty (veh)					4	2			157	114

Intersection: 360: Lower Boones Ferry Rd & Tualatin Transit Center Acc

Movement	WB	NB	NB	SB	SB
Directions Served	R	T	TR	T	T
Maximum Queue (ft)	307	456	83	372	375
Average Queue (ft)	259	408	65	131	113
95th Queue (ft)	400	439	104	366	350
Link Distance (ft)	288	352		267	267
Upstream Blk Time (%)	67	62		7	5
Queuing Penalty (veh)	0	726		41	31
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		63	23	22	
Queuing Penalty (veh)		366	135	0	

Intersection: 370: Lower Boones Ferry Rd & SW Travellers Ln

Movement	EB	WB	NB	NB	B108	SB	SB	SB
Directions Served	LTR	LTR	L	TR	T	L	T	TR
Maximum Queue (ft)	208	398	220	412	11530	240	446	443
Average Queue (ft)	75	236	47	382	9124	148	351	289
95th Queue (ft)	172	436	184	395	14933	302	524	521
Link Distance (ft)	212	344		276	11479		352	352
Upstream Blk Time (%)	3	25		83	56		35	16
Queuing Penalty (veh)	0	0		0	0		202	90
Storage Bay Dist (ft)			120			130		
Storage Blk Time (%)			0	81		2	45	
Queuing Penalty (veh)			0	49		11	57	

Intersection: 380: SW Hazel Fern Rd & SW Bridgeport Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	LT	R
Maximum Queue (ft)	99	210	230	221	310	342	163	350	142	212	102
Average Queue (ft)	21	112	152	76	107	134	41	122	55	90	18
95th Queue (ft)	62	200	239	162	239	268	105	262	112	172	58
Link Distance (ft)		211	211		409	409		468	528	528	
Upstream Blk Time (%)		0	4					0			
Queuing Penalty (veh)		0	0					0			
Storage Bay Dist (ft)	140			250			150				150
Storage Blk Time (%)		6		0	1			9		3	0
Queuing Penalty (veh)		2		0	2			4		1	0

Network Summary

Network wide Queuing Penalty: 4666

Intersection: 99: I5 NB On Ramp & I5 NB On Ramp Meter

Movement	NB	NB
Directions Served	T	R
Maximum Queue (ft)	125	101
Average Queue (ft)	7	4
95th Queue (ft)	73	59
Link Distance (ft)	505	505
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 108: Bend

Movement	SB
Directions Served	T
Maximum Queue (ft)	150
Average Queue (ft)	10
95th Queue (ft)	109
Link Distance (ft)	276
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 136: I5 SB On Ramp

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	187	195
Average Queue (ft)	134	141
95th Queue (ft)	175	183
Link Distance (ft)	420	420
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 301: SW 65th Ave & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B98	B98	B98	NB
Directions Served	L	T	T	R	L	T	T	TR	T	T	T	L
Maximum Queue (ft)	345	438	453	406	380	805	790	823	2929	2976	2989	380
Average Queue (ft)	257	400	408	319	313	663	699	783	1371	1492	1550	245
95th Queue (ft)	421	465	472	502	473	926	914	820	2984	3019	3031	388
Link Distance (ft)		406	406			702	702	702	11452	11452	11452	379
Upstream Blk Time (%)		20	18	1		23	29	82				2
Queuing Penalty (veh)		203	188	0		0	0	0				0
Storage Bay Dist (ft)	220			260	280							
Storage Blk Time (%)	8	46	44	6	18	49						
Queuing Penalty (veh)	47	113	268	34	89	90						

Intersection: 301: SW 65th Ave & Lower Boones Ferry Rd

Movement	NB	B24	SB	SB
Directions Served	LTR	T	LT	R
Maximum Queue (ft)	423	252	657	200
Average Queue (ft)	272	42	275	171
95th Queue (ft)	426	253	605	239
Link Distance (ft)	379	792	2066	
Upstream Blk Time (%)	8	0		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				100
Storage Blk Time (%)			35	26
Queuing Penalty (veh)			125	48

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	R	L	LT	R
Maximum Queue (ft)	275	312	422	436	358	381	408	442	376	2686	2663	2146
Average Queue (ft)	116	84	173	203	204	231	222	238	58	1414	1433	828
95th Queue (ft)	211	191	383	415	330	359	377	389	256	2700	2705	1868
Link Distance (ft)	447	447	447	447		406	406	406		7145	7145	7145
Upstream Blk Time (%)	0	0	1	1	0	0	1	2	0			
Queuing Penalty (veh)	0	0	2	4	0	0	7	13	0			
Storage Bay Dist (ft)					210				280			
Storage Blk Time (%)					6	13		9	0			
Queuing Penalty (veh)					28	56		54	1			

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	NB
Directions Served	R
Maximum Queue (ft)	1414
Average Queue (ft)	547
95th Queue (ft)	1210
Link Distance (ft)	7145
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	R	L	L	T	T	L	LT	R
Maximum Queue (ft)	140	308	339	346	342	434	464	482	487	148	156	164
Average Queue (ft)	84	140	143	173	170	229	244	161	207	78	90	59
95th Queue (ft)	161	255	252	296	334	407	439	409	448	132	144	128
Link Distance (ft)		418	418	418		447	447	447	447	236	236	236
Upstream Blk Time (%)		0	0	0		0	1	3	4			0
Queuing Penalty (veh)		0	0	1		2	4	21	25			0
Storage Bay Dist (ft)	70				300							
Storage Blk Time (%)	5	23		0	1							
Queuing Penalty (veh)	21	90		2	4							

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	148
Average Queue (ft)	54
95th Queue (ft)	112
Link Distance (ft)	236
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	L	T	T	R	L	T	R
Maximum Queue (ft)	160	432	454	324	340	446	448	348	140	90	341	303
Average Queue (ft)	124	229	246	229	303	331	213	170	7	52	315	104
95th Queue (ft)	196	418	454	353	388	489	419	299	89	107	337	247
Link Distance (ft)		409	409			418	418	418			267	267
Upstream Blk Time (%)		2	6			9	2	0			78	2
Queuing Penalty (veh)		6	23			62	14	1			375	8
Storage Bay Dist (ft)	100			200	270				250	50		
Storage Blk Time (%)	42	23	8	22	32	21		4		21	86	
Queuing Penalty (veh)	80	28	20	43	119	77		31		79	68	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	NB	SB	SB	SB
Directions Served	R	L	L	TR
Maximum Queue (ft)	292	330	529	558
Average Queue (ft)	95	201	343	475
95th Queue (ft)	235	360	571	610
Link Distance (ft)	267		508	508
Upstream Blk Time (%)	1		2	15
Queuing Penalty (veh)	5		15	94
Storage Bay Dist (ft)		230		
Storage Blk Time (%)		1	22	
Queuing Penalty (veh)		4	68	

Intersection: 340: SW 72nd Ave & Sig Shopping Center Acc

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	107	159	62	59	182	241	255	45	265	204
Average Queue (ft)	29	40	17	16	78	97	117	2	224	198
95th Queue (ft)	75	112	49	44	141	202	215	30	241	216
Link Distance (ft)		427	305	305		508	508		204	
Upstream Blk Time (%)								0	38	15
Queuing Penalty (veh)								0	0	0
Storage Bay Dist (ft)	180				170			150		200
Storage Blk Time (%)	0	1			1	1			23	20
Queuing Penalty (veh)	0	0			4	2			146	113

Intersection: 360: Lower Boones Ferry Rd & Tualatin Transit Center Acc

Movement	WB	NB	NB	SB	SB
Directions Served	R	T	TR	T	T
Maximum Queue (ft)	307	454	77	360	370
Average Queue (ft)	264	398	69	119	100
95th Queue (ft)	395	497	96	341	324
Link Distance (ft)	288	352		267	267
Upstream Blk Time (%)	68	57		7	4
Queuing Penalty (veh)	0	724		39	25
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		60	19	18	
Queuing Penalty (veh)		379	120	0	

Intersection: 370: Lower Boones Ferry Rd & SW Travellers Ln

Movement	EB	WB	NB	NB	B108	SB	SB	SB
Directions Served	LTR	LTR	L	TR	T	L	T	TR
Maximum Queue (ft)	184	385	219	415	11530	240	450	436
Average Queue (ft)	53	202	49	382	9648	149	355	285
95th Queue (ft)	127	384	187	396	14650	300	518	516
Link Distance (ft)	212	344		276	11479		352	352
Upstream Blk Time (%)	1	8		80	60		33	12
Queuing Penalty (veh)	0	0		0	0		194	71
Storage Bay Dist (ft)			120			130		
Storage Blk Time (%)				78		1	43	
Queuing Penalty (veh)				47		4	54	

Intersection: 380: SW Hazel Fern Rd & SW Bridgeport Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	LT	R
Maximum Queue (ft)	99	227	232	242	254	290	188	343	142	190	101
Average Queue (ft)	19	115	159	87	102	129	50	132	60	95	19
95th Queue (ft)	59	213	251	192	219	252	128	273	115	169	59
Link Distance (ft)		211	211		409	409		468	528	528	
Upstream Blk Time (%)		1	7					0			
Queuing Penalty (veh)		0	0					0			
Storage Bay Dist (ft)	140			250			150				150
Storage Blk Time (%)		5		0	0		0	10		3	0
Queuing Penalty (veh)		2		1	1		0	4		1	0

Network Summary

Network wide Queuing Penalty: 4692

Uses seeds 1,6,8,10,11

Intersection: 99: I5 NB On Ramp & I5 NB On Ramp Meter

Movement	NB	NB
Directions Served	T	R
Maximum Queue (ft)	159	132
Average Queue (ft)	16	5
95th Queue (ft)	115	63
Link Distance (ft)	505	505
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 108: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	349	294
Average Queue (ft)	47	15
95th Queue (ft)	229	117
Link Distance (ft)	276	276
Upstream Blk Time (%)	1	0
Queuing Penalty (veh)	6	1
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 136: I5 SB On Ramp

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	201	200
Average Queue (ft)	129	140
95th Queue (ft)	186	197
Link Distance (ft)	420	420
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 301: SW 65th Ave & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B98	B98	B98	NB
Directions Served	L	T	T	R	L	T	T	TR	T	T	T	L
Maximum Queue (ft)	345	439	457	406	380	807	819	828	3029	3053	3043	436
Average Queue (ft)	286	395	400	295	369	745	756	772	1355	1399	1444	291
95th Queue (ft)	424	478	477	501	438	917	892	893	3090	3114	3111	428
Link Distance (ft)		406	406			702	702	702	11452	11452	11452	379
Upstream Blk Time (%)		15	13	1		80	63	62				4
Queuing Penalty (veh)		155	134	0		0	0	0				0
Storage Bay Dist (ft)	220			260	280							
Storage Blk Time (%)	22	36	35	6	88	17						
Queuing Penalty (veh)	130	89	212	35	433	31						

Intersection: 301: SW 65th Ave & Lower Boones Ferry Rd

Movement	NB	B24	SB	SB
Directions Served	LTR	T	LT	R
Maximum Queue (ft)	455	360	718	200
Average Queue (ft)	344	61	363	182
95th Queue (ft)	478	278	717	239
Link Distance (ft)	379	792	2066	
Upstream Blk Time (%)	14			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				100
Storage Blk Time (%)			47	29
Queuing Penalty (veh)			168	54

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	R	L	LT	R
Maximum Queue (ft)	302	330	429	462	378	403	401	420	385	622	628	518
Average Queue (ft)	129	109	213	254	204	233	208	222	78	344	391	206
95th Queue (ft)	238	268	444	485	340	366	343	353	276	552	596	427
Link Distance (ft)	447	447	447	447		406	406	406		7145	7145	7145
Upstream Blk Time (%)	0	0	2	2	0	0	0	0	0			
Queuing Penalty (veh)	0	1	10	11	0	1	1	2	0			
Storage Bay Dist (ft)					210				280			
Storage Blk Time (%)					8	15		3	1			
Queuing Penalty (veh)					37	66		20	4			

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	NB
Directions Served	R
Maximum Queue (ft)	468
Average Queue (ft)	237
95th Queue (ft)	456
Link Distance (ft)	7145
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	R	L	L	T	T	L	LT	R
Maximum Queue (ft)	140	343	377	468	350	415	457	324	374	182	208	137
Average Queue (ft)	92	168	181	226	188	197	204	72	133	98	107	62
95th Queue (ft)	166	314	332	395	370	347	371	191	271	178	192	114
Link Distance (ft)		418	418	418		447	447	447	447	236	236	236
Upstream Blk Time (%)		1	1	1		0	0	0	0	2	2	
Queuing Penalty (veh)		8	5	9		0	1	1	0	0	0	
Storage Bay Dist (ft)	70				300							
Storage Blk Time (%)	5	24		2	2							
Queuing Penalty (veh)	21	94		12	9							

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	SB	B101
Directions Served	R	T
Maximum Queue (ft)	145	16
Average Queue (ft)	56	1
95th Queue (ft)	113	12
Link Distance (ft)	236	172
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	L	T	T	R	L	T	R
Maximum Queue (ft)	160	447	482	325	340	454	411	381	280	90	339	300
Average Queue (ft)	117	278	352	279	269	304	206	178	22	55	312	139
95th Queue (ft)	195	470	547	381	376	441	366	307	160	101	340	285
Link Distance (ft)		409	409			418	418	418			267	267
Upstream Blk Time (%)		3	21			2	0	0			56	2
Queuing Penalty (veh)		13	80			13	1	1			249	9
Storage Bay Dist (ft)	100			200	270				250	50		
Storage Blk Time (%)	30	38	15	51	8	15		4		30	79	
Queuing Penalty (veh)	58	47	37	97	30	52		31		110	55	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	NB	SB	SB	SB
Directions Served	R	L	L	TR
Maximum Queue (ft)	305	330	525	545
Average Queue (ft)	141	214	326	414
95th Queue (ft)	283	376	522	600
Link Distance (ft)	267		508	508
Upstream Blk Time (%)	2		1	4
Queuing Penalty (veh)	7		7	23
Storage Bay Dist (ft)		230		
Storage Blk Time (%)		3	24	
Queuing Penalty (veh)		11	75	

Intersection: 340: SW 72nd Ave & Sig Shopping Center Acc

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	110	74	75	66	189	271	306	86	255	204
Average Queue (ft)	31	23	19	20	94	107	135	3	219	198
95th Queue (ft)	74	60	52	51	166	220	246	42	257	223
Link Distance (ft)		427	305	305		508	508		204	
Upstream Blk Time (%)								0	32	11
Queuing Penalty (veh)								0	0	0
Storage Bay Dist (ft)	180				170			150		200
Storage Blk Time (%)	0				1	1			26	14
Queuing Penalty (veh)	0				6	2			165	83

Intersection: 360: Lower Boones Ferry Rd & Tualatin Transit Center Acc

Movement	WB	NB	NB	SB
Directions Served	R	T	TR	T
Maximum Queue (ft)	307	436	77	7
Average Queue (ft)	280	360	63	0
95th Queue (ft)	384	535	105	5
Link Distance (ft)	288	352		267
Upstream Blk Time (%)	77	32		
Queuing Penalty (veh)	0	370		
Storage Bay Dist (ft)			50	
Storage Blk Time (%)		37	19	
Queuing Penalty (veh)		217	113	

Intersection: 370: Lower Boones Ferry Rd & SW Travellers Ln

Movement	EB	WB	NB	NB	B108	SB	SB	SB
Directions Served	LTR	LTR	L	TR	T	L	T	TR
Maximum Queue (ft)	203	314	220	401	11530	239	386	370
Average Queue (ft)	58	145	79	384	7390	96	184	149
95th Queue (ft)	133	286	231	394	13396	207	330	320
Link Distance (ft)	212	344		276	11479		352	352
Upstream Blk Time (%)	1	2		62	24		0	0
Queuing Penalty (veh)	0	0		0	0		3	1
Storage Bay Dist (ft)			120			130		
Storage Blk Time (%)				60		4	14	
Queuing Penalty (veh)				36		21	18	

Intersection: 380: SW Hazel Fern Rd & SW Bridgeport Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	LT	R
Maximum Queue (ft)	98	219	242	282	330	342	181	442	279	382	151
Average Queue (ft)	26	126	170	105	129	162	71	233	96	167	28
95th Queue (ft)	70	224	257	222	275	301	191	496	250	381	106
Link Distance (ft)		211	211		409	409		468	528	528	
Upstream Blk Time (%)	0	2	8		0	0		17	0	2	
Queuing Penalty (veh)	0	0	0		0	1		0	0	0	
Storage Bay Dist (ft)	140			250			150				150
Storage Blk Time (%)		8		0	2			42		22	0
Queuing Penalty (veh)		2		1	4			17		6	0

Network Summary

Network wide Queuing Penalty: 3831

Intersection: 99: I5 NB On Ramp & I5 NB On Ramp Meter

Movement	NB	NB
Directions Served	T	R
Maximum Queue (ft)	221	70
Average Queue (ft)	14	5
95th Queue (ft)	122	71
Link Distance (ft)	505	505
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 108: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	356	226
Average Queue (ft)	99	12
95th Queue (ft)	338	104
Link Distance (ft)	276	276
Upstream Blk Time (%)	2	0
Queuing Penalty (veh)	12	1
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 136: I5 SB On Ramp

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	189	187
Average Queue (ft)	128	135
95th Queue (ft)	181	188
Link Distance (ft)	420	420
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 301: SW 65th Ave & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B98	B98	B98	NB
Directions Served	L	T	T	R	L	T	T	TR	T	T	T	L
Maximum Queue (ft)	345	439	455	406	380	823	820	812	4169	4207	4194	436
Average Queue (ft)	292	398	397	300	377	753	754	764	1840	1869	1906	288
95th Queue (ft)	418	463	471	497	392	900	896	888	4164	4189	4183	435
Link Distance (ft)		406	406			702	702	702	11452	11452	11452	379
Upstream Blk Time (%)		16	11	1		82	68	59				4
Queuing Penalty (veh)		165	115	0		0	0	0				0
Storage Bay Dist (ft)	220			260	280							
Storage Blk Time (%)	24	36	35	4	92	12						
Queuing Penalty (veh)	145	88	211	26	457	23						

Intersection: 301: SW 65th Ave & Lower Boones Ferry Rd

Movement	NB	B24	SB	SB
Directions Served	LTR	T	LT	R
Maximum Queue (ft)	445	338	733	200
Average Queue (ft)	338	57	331	184
95th Queue (ft)	474	258	638	234
Link Distance (ft)	379	792	2066	
Upstream Blk Time (%)	12			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				100
Storage Blk Time (%)			40	33
Queuing Penalty (veh)			144	62

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	T	T	T	T	R	L	LT	R
Maximum Queue (ft)	354	383	462	483	367	368	371	384	349	863	883	540
Average Queue (ft)	143	113	207	241	205	231	216	240	82	538	572	238
95th Queue (ft)	277	284	427	460	337	353	367	371	297	836	869	468
Link Distance (ft)	447	447	447	447		406	406	406		7145	7145	7145
Upstream Blk Time (%)		0	2	2	0	0	1	1	0			
Queuing Penalty (veh)		2	8	10	0	2	5	4	0			
Storage Bay Dist (ft)					210				280			
Storage Blk Time (%)					9	16		7	1			
Queuing Penalty (veh)					39	69		42	3			

Intersection: 310: I5 NB Off Ramp/I5 NB On Ramp & Lower Boones Ferry Rd

Movement	NB
Directions Served	R
Maximum Queue (ft)	580
Average Queue (ft)	266
95th Queue (ft)	496
Link Distance (ft)	7145
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	T	T	T	T	R	L	L	T	T	L	LT	R
Maximum Queue (ft)	140	360	314	427	349	422	433	378	422	177	182	181
Average Queue (ft)	91	162	165	219	212	198	202	99	151	90	101	74
95th Queue (ft)	164	300	274	378	380	336	351	274	327	144	159	143
Link Distance (ft)		418	418	418		447	447	447	447	236	236	236
Upstream Blk Time (%)		0	0	1		0	0	0	0			0
Queuing Penalty (veh)		1	1	5		0	0	1	2			0
Storage Bay Dist (ft)	70				300							
Storage Blk Time (%)	8	24		1	3							
Queuing Penalty (veh)	33	93		4	13							

Intersection: 320: I5 SB On Ramp/I5 SB Off Ramp & Lower Boones Ferry Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	168
Average Queue (ft)	62
95th Queue (ft)	122
Link Distance (ft)	236
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	L	T	T	R	L	T	R
Maximum Queue (ft)	160	472	480	325	340	437	442	449	276	90	340	315
Average Queue (ft)	128	317	379	295	280	322	216	178	10	55	307	171
95th Queue (ft)	199	497	553	373	377	462	403	319	103	102	359	326
Link Distance (ft)		409	409			418	418	418			267	267
Upstream Blk Time (%)		6	23			6	2	0			47	5
Queuing Penalty (veh)		21	88			40	15	1			227	25
Storage Bay Dist (ft)	100			200	270				250	50		
Storage Blk Time (%)	37	37	21	58	12	20		4		31	76	
Queuing Penalty (veh)	71	46	54	111	46	76		30		116	60	

Intersection: 330: Lower Boones Ferry Rd & SW Bridgeport Rd & SW 72nd Ave

Movement	NB	SB	SB	SB
Directions Served	R	L	L	TR
Maximum Queue (ft)	318	330	525	536
Average Queue (ft)	164	210	345	419
95th Queue (ft)	309	377	542	591
Link Distance (ft)	267		508	508
Upstream Blk Time (%)	3		2	5
Queuing Penalty (veh)	15		13	29
Storage Bay Dist (ft)		230		
Storage Blk Time (%)		2	27	
Queuing Penalty (veh)		6	83	

Intersection: 340: SW 72nd Ave & Sig Shopping Center Acc

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	79	83	69	71	230	304	309	90	253	204
Average Queue (ft)	27	27	18	19	92	119	145	4	223	200
95th Queue (ft)	66	64	50	51	171	246	267	43	237	213
Link Distance (ft)		427	305	305		508	508		204	
Upstream Blk Time (%)								0	35	14
Queuing Penalty (veh)								0	0	0
Storage Bay Dist (ft)	180				170			150		200
Storage Blk Time (%)					1	2			24	20
Queuing Penalty (veh)					3	3			152	113

Intersection: 360: Lower Boones Ferry Rd & Tualatin Transit Center Acc

Movement	WB	NB	NB	SB	SB
Directions Served	R	T	TR	T	T
Maximum Queue (ft)	307	446	76	128	139
Average Queue (ft)	238	351	65	7	5
95th Queue (ft)	385	542	100	70	73
Link Distance (ft)	288	352		267	267
Upstream Blk Time (%)	42	25		0	0
Queuing Penalty (veh)	0	320		1	1
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		27	20	1	
Queuing Penalty (veh)		171	125	0	

Intersection: 370: Lower Boones Ferry Rd & SW Travellers Ln

Movement	EB	WB	NB	NB	B108	SB	SB	SB
Directions Served	LTR	LTR	L	TR	T	L	T	TR
Maximum Queue (ft)	141	287	220	409	11530	239	425	410
Average Queue (ft)	52	140	79	383	8072	111	229	192
95th Queue (ft)	109	266	234	398	14214	239	407	388
Link Distance (ft)	212	344		276	11479		352	352
Upstream Blk Time (%)	0	1		58	38		3	2
Queuing Penalty (veh)	0	0		0	0		16	10
Storage Bay Dist (ft)			120			130		
Storage Blk Time (%)			0	57		4	20	
Queuing Penalty (veh)			0	34		19	25	

Intersection: 380: SW Hazel Fern Rd & SW Bridgeport Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	LT	R
Maximum Queue (ft)	92	229	240	263	285	314	200	367	273	391	175
Average Queue (ft)	20	121	167	101	121	154	50	157	82	127	26
95th Queue (ft)	62	211	256	204	240	276	138	323	183	282	103
Link Distance (ft)		211	211		409	409		468	528	528	
Upstream Blk Time (%)	0	1	10					2		0	
Queuing Penalty (veh)	0	0	0					0		0	
Storage Bay Dist (ft)	140			250			150				150
Storage Blk Time (%)		6		1	1			21		15	0
Queuing Penalty (veh)		2		1	1			8		4	0

Network Summary

Network wide Queuing Penalty: 3973

0 250 500 1,000 Feet

Study Intersection
Build Queue
No-Build Queue

2045 PM - Bridgeport 950 Space Park and Ride
4:30- 5:30 PM

0 250 500 1,000 Feet

Study Intersection

Build Queue

No-Build Queue

2045 PM - Bridgeport 950 Space Park and Ride Mitigated
4:30 - 5:30 PM

0 250 500 1,000 Feet

Study Intersection
Build Queue
No-Build Queue

2045 PM - Bridgeport 700 Space Park and Ride
4:30-5:30 PM

0 250 500 1,000 Feet

2045 PM - Bridgeport 700 Space Park and Ride Mitigated
4:30-5:30 PM

- Study Intersection
- Build Queue
- No-Build Queue