

Timings

36: Route #250 & US 11

8/26/2009

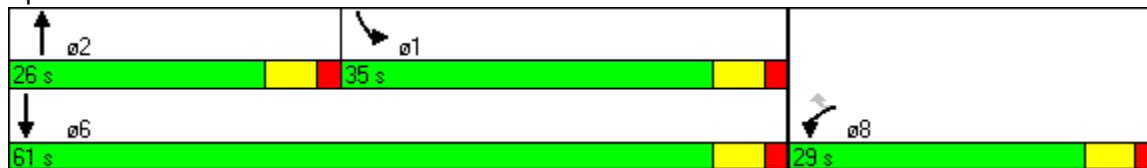


Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↔↔	↔↔	↑↑↑	↔↔	↑↑
Volume (vph)	87	457	362	578	246
Turn Type	Perm		Prot		
Protected Phases	8		2	1	6
Permitted Phases	8				
Detector Phases	8	8	2	1	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	16.0	16.0	16.0	13.0	16.0
Total Split (s)	29.0	29.0	26.0	35.0	61.0
Total Split (%)	32.2%	32.2%	28.9%	38.9%	67.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	C-Max	Min
Act Effct Green (s)	17.0	17.0	15.2	45.8	65.0
Actuated g/C Ratio	0.19	0.19	0.17	0.51	0.72
v/c Ratio	0.15	0.53	0.58	0.36	0.10
Control Delay	11.7	4.2	30.8	15.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.7	4.2	30.8	15.9	4.7
LOS	B	A	C	B	A
Approach Delay	5.4		30.8		12.6
Approach LOS	A		C		B

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 52 (58%), Referenced to phase 1:SBL, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 15.2	Intersection LOS: B
Intersection Capacity Utilization 39.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 36: Route #250 & US 11



Timings

36: Route #250 & US 11

8/24/2009

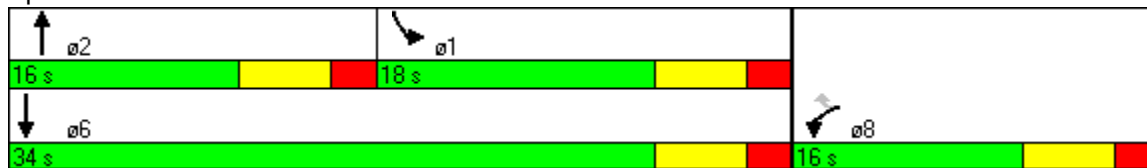


Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↔↔	↔↔	↕↕↕	↔↔	↕↕
Volume (vph)	156	803	399	653	460
Turn Type	Perm		Prot		
Protected Phases	8		2	1	6
Permitted Phases	8				
Detector Phases	8	8	2	1	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	16.0	16.0	16.0	13.0	16.0
Total Split (s)	16.0	16.0	16.0	18.0	34.0
Total Split (%)	32.0%	32.0%	32.0%	36.0%	68.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	C-Max	Min
Act Effct Green (s)	11.4	11.4	11.1	15.6	30.6
Actuated g/C Ratio	0.23	0.23	0.22	0.31	0.61
v/c Ratio	0.22	0.67	0.48	0.66	0.23
Control Delay	15.9	9.3	13.8	19.6	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.9	9.3	13.8	19.6	4.9
LOS	B	A	B	B	A
Approach Delay	10.4		13.8		13.5
Approach LOS	B		B		B

Intersection Summary

Cycle Length: 50	
Actuated Cycle Length: 50	
Offset: 23 (46%), Referenced to phase 1:SBL, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 12.4	Intersection LOS: B
Intersection Capacity Utilization 45.5%	ICU Level of Service A
Analysis Period (min) 15	

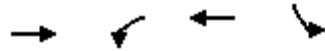
Splits and Phases: 36: Route #250 & US 11



Timings

16: Route #250 & I-81 SB Ramps

8/25/2009



Lane Group	EBT	WBL	WBT	SBL
Lane Configurations	↑↑	↑	↑↑	↑
Volume (vph)	1741	184	1559	300
Turn Type		pm+pt		custom
Protected Phases	4	3	8	
Permitted Phases		8		6
Detector Phases	4	3	8	6
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	16.0	13.0	16.0	16.0
Total Split (s)	61.0	14.0	75.0	25.0
Total Split (%)	61.0%	14.0%	75.0%	25.0%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	C-Min	None	C-Min	None
Act Effct Green (s)	57.5	71.3	71.3	20.7
Actuated g/C Ratio	0.58	0.71	0.71	0.21
v/c Ratio	0.93	0.80	0.67	0.89
Control Delay	20.4	58.1	11.9	65.7
Queue Delay	1.0	0.0	0.0	0.0
Total Delay	21.4	58.1	11.9	65.7
LOS	C	E	B	E
Approach Delay	21.4		16.8	
Approach LOS	C		B	

Intersection Summary

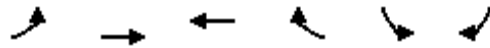
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 94 (94%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 22.8	Intersection LOS: C
Intersection Capacity Utilization 84.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 16: Route #250 & I-81 SB Ramps



HCM Unsignalized Intersection Capacity Analysis
 12: Route #250 & I-81 N Off Ramp

8/26/2009



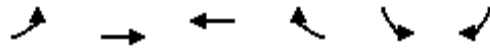
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↓	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1290	854	0	186	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1402	928	0	202	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		1164	846			
pX, platoon unblocked	0.82				0.86	0.82
vC, conflicting volume	928				1629	464
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	697				955	133
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				9	100
cM capacity (veh/h)	736				221	733

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	701	701	464	464	202
Volume Left	0	0	0	0	202
Volume Right	0	0	0	0	0
cSH	1700	1700	1700	1700	221
Volume to Capacity	0.41	0.41	0.27	0.27	0.91
Queue Length 95th (ft)	0	0	0	0	190
Control Delay (s)	0.0	0.0	0.0	0.0	85.8
Lane LOS					F
Approach Delay (s)	0.0		0.0		85.8
Approach LOS					F

Intersection Summary					
Average Delay			6.9		
Intersection Capacity Utilization		52.6%		ICU Level of Service	A
Analysis Period (min)			15		

HCM Unsignalized Intersection Capacity Analysis
 12: Route #250 & I-81 N Off Ramp

8/25/2009



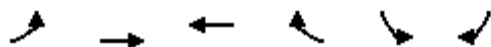
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↓	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	2042	1236	0	180	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	2220	1343	0	196	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		1164	846			
pX, platoon unblocked	0.70				0.62	0.70
vC, conflicting volume	1343				2453	672
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1069				1299	116
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				0	100
cM capacity (veh/h)	457				94	645

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	1110	1110	672	672	196
Volume Left	0	0	0	0	196
Volume Right	0	0	0	0	0
cSH	1700	1700	1700	1700	94
Volume to Capacity	0.65	0.65	0.40	0.40	2.07
Queue Length 95th (ft)	0	0	0	0	425
Control Delay (s)	0.0	0.0	0.0	0.0	591.2
Lane LOS					F
Approach Delay (s)	0.0		0.0		591.2
Approach LOS					F

Intersection Summary			
Average Delay		30.8	
Intersection Capacity Utilization	78.8%		ICU Level of Service D
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 8: Route #250 & I-81 N On Ramp

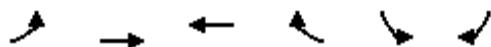
8/26/2009



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑	↗		
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	328	1148	854	246	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	357	1248	928	267	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)			514			
pX, platoon unblocked	0.81				0.81	0.81
vC, conflicting volume	928				2265	464
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	671				2329	96
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	52				100	100
cM capacity (veh/h)	738				13	760
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3
Volume Total	357	624	624	464	464	267
Volume Left	357	0	0	0	0	0
Volume Right	0	0	0	0	0	267
cSH	738	1700	1700	1700	1700	1700
Volume to Capacity	0.48	0.37	0.37	0.27	0.27	0.16
Queue Length 95th (ft)	66	0	0	0	0	0
Control Delay (s)	14.3	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	3.2			0.0		
Approach LOS						
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization		52.6%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 8: Route #250 & I-81 N On Ramp

8/25/2009















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↗↗	↖		
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	686	1535	1236	314	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	746	1668	1343	341	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)			514			
pX, platoon unblocked	0.69				0.69	0.69
vC, conflicting volume	1343				3669	672
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1054				4404	87
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	0				0	100
cM capacity (veh/h)	455				0	662
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3
Volume Total	746	834	834	672	672	341
Volume Left	746	0	0	0	0	0
Volume Right	0	0	0	0	0	341
cSH	455	1700	1700	1700	1700	1700
Volume to Capacity	1.64	0.49	0.49	0.40	0.40	0.20
Queue Length 95th (ft)	1070	0	0	0	0	0
Control Delay (s)	318.6	0.0	0.0	0.0	0.0	0.0
Lane LOS	F					
Approach Delay (s)	98.4			0.0		
Approach LOS						
Intersection Summary						
Average Delay			58.0			
Intersection Capacity Utilization			78.8%		ICU Level of Service	D
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

4: Route #250 & Rowe Rd Xover

8/26/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑	↗		↖	↗		↖	↗
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	33	1045	15	15	956	2	15	0	27	0	0	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	36	1136	16	16	1039	2	16	0	29	0	0	30
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		510										
pX, platoon unblocked				0.79			0.79	0.79	0.79	0.79	0.79	
vC, conflicting volume	1041			1152			1790	2282	568	1741	2296	520
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1041			932			1736	2355	196	1673	2373	520
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			97			58	100	95	100	100	94
cM capacity (veh/h)	664			579			39	26	645	44	25	501
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2	SB 1	SB 2	
Volume Total	414	757	16	16	520	520	2	16	29	0	30	
Volume Left	36	0	0	16	0	0	0	16	0	0	0	
Volume Right	0	0	16	0	0	0	2	0	29	0	30	
cSH	664	1700	1700	579	1700	1700	1700	39	645	1700	501	
Volume to Capacity	0.05	0.45	0.01	0.03	0.31	0.31	0.00	0.42	0.05	0.00	0.06	
Queue Length 95th (ft)	4	0	0	2	0	0	0	36	4	0	5	
Control Delay (s)	1.6	0.0	0.0	11.4	0.0	0.0	0.0	151.0	10.8	0.0	12.6	
Lane LOS	A			B				F	B	A	B	
Approach Delay (s)	0.6			0.2				60.9		12.6		
Approach LOS								F		B		
Intersection Summary												
Average Delay			1.7									
Intersection Capacity Utilization			62.8%		ICU Level of Service				B			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

4: Route #250 & Rowe Rd Xover

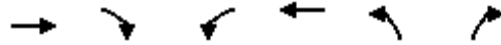
8/25/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑	↑		↑	↑		↑	↑
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	51	1235	28	29	1290	0	32	0	36	0	1	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	55	1342	30	32	1402	0	35	0	39	0	1	37
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		510										
pX, platoon unblocked				0.72			0.72	0.72	0.72	0.72	0.72	0.72
vC, conflicting volume	1402			1373			2255	2918	671	2286	2949	701
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1402			1134			2352	3268	165	2396	3310	701
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			93			0	100	94	100	78	90
cM capacity (veh/h)	483			443			9	5	616	10	5	381
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2	SB 1	SB 2	
Volume Total	503	895	30	32	701	701	0	35	39	1	37	
Volume Left	55	0	0	32	0	0	0	35	0	0	0	
Volume Right	0	0	30	0	0	0	0	0	39	0	37	
cSH	483	1700	1700	443	1700	1700	1700	9	616	5	381	
Volume to Capacity	0.11	0.53	0.02	0.07	0.41	0.41	0.00	3.89	0.06	0.22	0.10	
Queue Length 95th (ft)	10	0	0	6	0	0	0	Err	5	11	8	
Control Delay (s)	3.3	0.0	0.0	13.7	0.0	0.0	0.0	Err	11.2	878.9	15.5	
Lane LOS	A			B				F	B	F	C	
Approach Delay (s)	1.2			0.3				4711.4		40.1		
Approach LOS								F		E		
Intersection Summary												
Average Delay				118.3								
Intersection Capacity Utilization			86.6%		ICU Level of Service				E			
Analysis Period (min)			15									

Timings

5: Route #250 & Desper Hollow

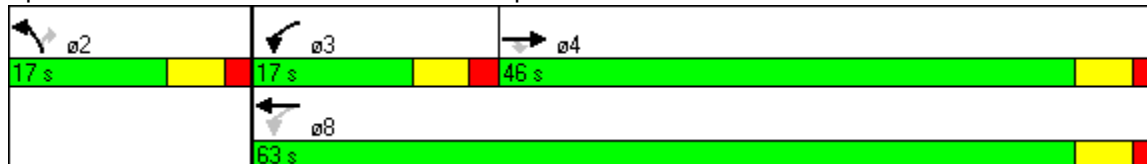
8/25/2009



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Volume (vph)	1192	68	46	1162	64	39
Turn Type	Perm pm+pt			Perm		
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Detector Phases	4	4	3	8	2	2
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	16.0	16.0	13.0	16.0	13.0	13.0
Total Split (s)	46.0	46.0	17.0	63.0	17.0	17.0
Total Split (%)	57.5%	57.5%	21.3%	78.8%	21.3%	21.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Min	Min
Act Effct Green (s)	28.6	28.6	34.3	34.5	10.5	10.5
Actuated g/C Ratio	0.53	0.53	0.58	0.64	0.19	0.19
v/c Ratio	0.69	0.09	0.15	0.56	0.20	0.12
Control Delay	12.5	2.7	4.2	5.8	26.2	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	2.7	4.2	5.8	26.2	10.6
LOS	B	A	A	A	C	B
Approach Delay	11.9			5.7	20.3	
Approach LOS	B			A	C	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 54.2	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 9.4	Intersection LOS: A
Intersection Capacity Utilization 48.4%	ICU Level of Service A
Analysis Period (min) 15	

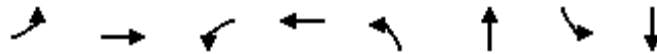
Splits and Phases: 5: Route #250 & Desper Hollow



Timings

30: Route #250 & Statler

8/26/2009

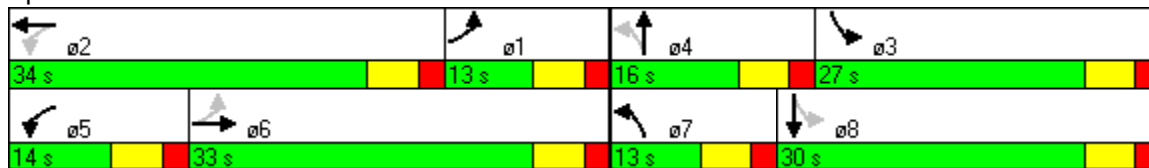


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Volume (vph)	32	728	182	574	21	174	383	155
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt	
Protected Phases	1	6	5	2	7	4	3	8
Permitted Phases	6		2		4		8	
Detector Phases	1	6	5	2	7	4	3	8
Minimum Initial (s)	1.0	4.0	1.0	4.0	1.0	4.0	1.0	4.0
Minimum Split (s)	13.0	16.0	13.0	16.0	13.0	16.0	13.0	16.0
Total Split (s)	13.0	33.0	14.0	34.0	13.0	16.0	27.0	30.0
Total Split (%)	14.4%	36.7%	15.6%	37.8%	14.4%	17.8%	30.0%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	Min	None	Min
Act Effct Green (s)	39.0	39.0	45.1	45.1	11.0	11.0	23.9	23.9
Actuated g/C Ratio	0.43	0.43	0.50	0.50	0.12	0.12	0.27	0.27
v/c Ratio	0.12	0.54	0.58	0.56	0.10	0.70	0.84	0.22
Control Delay	10.0	12.1	20.7	5.5	35.5	23.4	47.6	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.0	12.1	20.7	5.5	35.5	23.4	47.6	22.1
LOS	A	B	C	A	D	C	D	C
Approach Delay		12.0		8.1		24.0		39.2
Approach LOS		B		A		C		D

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 29 (32%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 17.6	Intersection LOS: B
Intersection Capacity Utilization 77.3%	ICU Level of Service D
Analysis Period (min) 15	

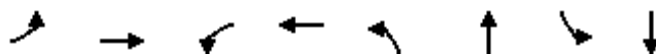
Splits and Phases: 30: Route #250 & Statler



Timings

30: Route #250 & Statler

8/24/2009



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↕	↖	↕	↖	↕	↖	↕
Volume (vph)	33	828	338	941	49	257	442	353
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt	
Protected Phases	1	6	5	2	7	4	3	8
Permitted Phases	6		2		4		8	
Detector Phases	1	6	5	2	7	4	3	8
Minimum Initial (s)	1.0	4.0	1.0	4.0	1.0	4.0	1.0	4.0
Minimum Split (s)	13.0	16.0	13.0	16.0	13.0	16.0	13.0	16.0
Total Split (s)	13.0	37.0	21.0	45.0	13.0	16.0	26.0	29.0
Total Split (%)	13.0%	37.0%	21.0%	45.0%	13.0%	16.0%	26.0%	29.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	C-Max	None	C-Max	None	Min	None	Min
Act Effct Green (s)	41.3	33.0	54.0	46.3	20.6	12.0	38.0	27.7
Actuated g/C Ratio	0.41	0.33	0.54	0.46	0.21	0.12	0.38	0.28
v/c Ratio	0.16	0.82	0.98	0.91	0.20	0.99	1.03	0.43
Control Delay	6.5	26.1	66.2	15.5	23.4	63.8	79.5	31.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.5	26.1	66.2	15.5	23.4	63.8	79.5	31.7
LOS	A	C	E	B	C	E	E	C
Approach Delay		25.4		25.7		60.5		57.1
Approach LOS		C		C		E		E

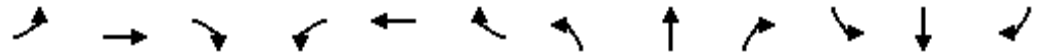
Intersection Summary

Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 22 (22%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.03	
Intersection Signal Delay: 37.2	Intersection LOS: D
Intersection Capacity Utilization 96.9%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 30: Route #250 & Statler

HCM Unsignalized Intersection Capacity Analysis
 18: Route #250 & Med Break E of Statler

8/26/2009



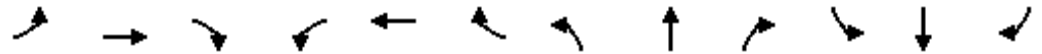
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕		↙	↕↕			↕↕			↕↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	6	1308	2	5	1081	13	0	0	1	9	0	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	1422	2	5	1175	14	0	0	1	10	0	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		202										
pX, platoon unblocked				0.82			0.82	0.82	0.82	0.82	0.82	
vC, conflicting volume	1189			1424			2044	2636	712	1918	2630	595
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1189			1296			2054	2777	426	1900	2770	595
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			100	100	100	71	100	98
cM capacity (veh/h)	583			434			25	15	472	34	15	448

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	717	713	5	783	406	1	20
Volume Left	7	0	5	0	0	0	10
Volume Right	0	2	0	0	14	1	10
cSH	583	1700	434	1700	1700	472	63
Volume to Capacity	0.01	0.42	0.01	0.46	0.24	0.00	0.31
Queue Length 95th (ft)	1	0	1	0	0	0	28
Control Delay (s)	0.3	0.0	13.4	0.0	0.0	12.6	86.4
Lane LOS	A		B			B	F
Approach Delay (s)	0.2		0.1			12.6	86.4
Approach LOS						B	F

Intersection Summary			
Average Delay		0.8	
Intersection Capacity Utilization	54.8%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 18: Route #250 & Med Break E of Statler

8/26/2009



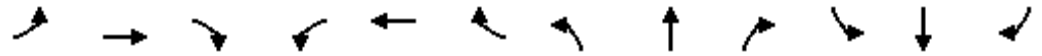
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕		↖	↕↕			↕↕			↕↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	1546	1	0	1669	3	0	0	2	8	0	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	1680	1	0	1814	3	0	0	2	9	0	21
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None				None	
Median storage veh												
Upstream signal (ft)		202										
pX, platoon unblocked				0.75			0.75	0.75	0.75	0.75	0.75	
vC, conflicting volume	1817			1682			2613	3503	841	2662	3502	909
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1817			1575			2818	4004	454	2884	4003	909
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	99	0	100	93
cM capacity (veh/h)	334			311			6	2	415	5	2	278

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	842	841	0	1209	608	2	29
Volume Left	2	0	0	0	0	0	9
Volume Right	0	1	0	0	3	2	21
cSH	334	1700	1700	1700	1700	415	17
Volume to Capacity	0.01	0.49	0.00	0.71	0.36	0.01	1.68
Queue Length 95th (ft)	0	0	0	0	0	0	104
Control Delay (s)	0.2	0.0	0.0	0.0	0.0	13.7	786.3
Lane LOS	A					B	F
Approach Delay (s)	0.1		0.0			13.7	786.3
Approach LOS						B	F

Intersection Summary			
Average Delay		6.6	
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 57: Route #250 & Young

8/26/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗		↕			↕			↕	
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Volume (veh/h)	8	1320	13	10	1104	6	3	0	4	2	0	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	1435	14	11	1200	7	3	0	4	2	0	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)	625											
pX, platoon unblocked				0.83			0.83			0.83		
vC, conflicting volume	1207			1449			2077			2680		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1207			1333			2093			2824		
tC, single (s)	4.1			4.1			7.5			6.5		
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5			4.0		
p0 queue free %	98			97			86			100		
cM capacity (veh/h)	574			424			24			14		

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	NB 1	SB 1
Volume Total	9	717	717	14	611	607	8	5
Volume Left	9	0	0	0	11	0	3	2
Volume Right	0	0	0	14	0	7	4	3
cSH	574	1700	1700	1700	424	1700	52	69
Volume to Capacity	0.02	0.42	0.42	0.01	0.03	0.36	0.15	0.08
Queue Length 95th (ft)	1	0	0	0	2	0	12	6
Control Delay (s)	11.4	0.0	0.0	0.0	0.8	0.0	85.7	62.0
Lane LOS	B				A		F	
Approach Delay (s)	0.1				0.4		85.7	
Approach LOS							F	

Intersection Summary		
Average Delay	0.6	
Intersection Capacity Utilization	47.7%	ICU Level of Service A
Analysis Period (min)	15	

HCM Unsignalized Intersection Capacity Analysis

57: Route #250 & Young

8/26/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕			↕			↕			↕	
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Volume (veh/h)	9	1580	4	2	1645	2	8	0	10	7	0	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	1717	4	2	1788	2	9	0	11	8	0	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)	625											
pX, platoon unblocked				0.75			0.75			0.75		
vC, conflicting volume	1790			1722			2645	3534	861	2683	3535	895
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1790			1631			2856	4034	489	2905	4036	895
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			0	100	97	0	100	97
cM capacity (veh/h)	342			297			5	2	396	5	2	284

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	10	1145	577	896	896	20	15
Volume Left	10	0	0	2	0	9	8
Volume Right	0	0	4	0	2	11	8
cSH	342	1700	1700	297	1700	12	10
Volume to Capacity	0.03	0.67	0.34	0.01	0.53	1.61	1.55
Queue Length 95th (ft)	2	0	0	1	0	80	69
Control Delay (s)	15.8	0.0	0.0	0.3	0.0	924.2	1012.9
Lane LOS	C			A			F
Approach Delay (s)	0.1			0.2			924.2 1012.9
Approach LOS						F	F

Intersection Summary

Average Delay	9.5	
Intersection Capacity Utilization	56.9%	ICU Level of Service B
Analysis Period (min)	15	

Timings

47: Route #250 & National

8/26/2009

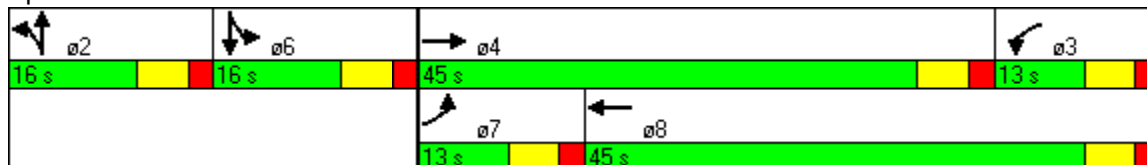


Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Configurations	↖	↗	↖	↗	↔	↔
Volume (vph)	41	1275	18	1097	0	0
Turn Type	Prot		Prot			
Protected Phases	7	4	3	8	2	6
Permitted Phases						
Detector Phases	7	4	3	8	2	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	13.0	16.0	13.0	16.0	16.0	16.0
Total Split (s)	13.0	45.0	13.0	45.0	16.0	16.0
Total Split (%)	14.4%	50.0%	14.4%	50.0%	17.8%	17.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Max	None	C-Max	Min	Min
Act Effct Green (s)	9.8	56.3	8.3	52.5	8.1	8.4
Actuated g/C Ratio	0.11	0.63	0.09	0.58	0.09	0.09
v/c Ratio	0.23	0.63	0.12	0.60	0.09	0.14
Control Delay	45.7	9.4	19.4	1.8	27.7	26.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	9.4	19.4	1.8	27.7	26.7
LOS	D	A	B	A	C	C
Approach Delay		10.5		2.1	27.7	26.7
Approach LOS		B		A	C	C

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 64 (71%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 6.9	Intersection LOS: A
Intersection Capacity Utilization 45.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 47: Route #250 & National



Timings

47: Route #250 & National

8/25/2009

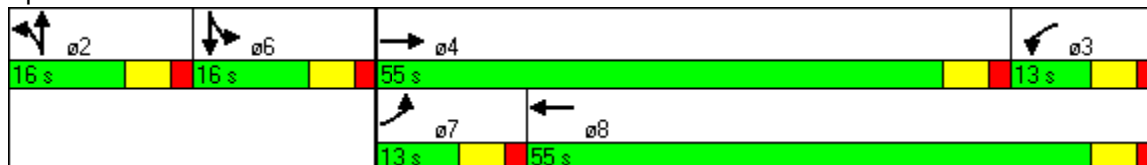


Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Configurations	↖	↕	↖	↕	↕	↕
Volume (vph)	32	1533	13	1608	1	0
Turn Type	Prot		Prot			
Protected Phases	7	4	3	8	2	6
Permitted Phases						
Detector Phases	7	4	3	8	2	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	13.0	16.0	13.0	16.0	16.0	16.0
Total Split (s)	13.0	55.0	13.0	55.0	16.0	16.0
Total Split (%)	13.0%	55.0%	13.0%	55.0%	16.0%	16.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Max	None	C-Max	Min	Min
Act Effct Green (s)	9.0	67.0	8.2	61.4	8.6	9.8
Actuated g/C Ratio	0.09	0.67	0.08	0.61	0.09	0.10
v/c Ratio	0.22	0.71	0.10	0.82	0.21	0.32
Control Delay	57.2	9.6	26.7	9.2	25.5	31.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	9.6	26.7	9.2	25.5	31.2
LOS	E	A	C	A	C	C
Approach Delay		10.6		9.3	25.5	31.2
Approach LOS		B		A	C	C

Intersection Summary

Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 67 (67%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 57.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 47: Route #250 & National



HCM Unsignalized Intersection Capacity Analysis

22: Route #250 & Bell

8/26/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕		↙	↕↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	6	1286	2	4	1144	10	1	0	1	3	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	1398	2	4	1243	11	1	0	1	3	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)		496			573							
pX, platoon unblocked	0.75			0.71			0.84	0.84	0.71	0.84	0.84	0.75
vC, conflicting volume	1254			1400			2042	2675	700	1971	2671	627
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1008			1159			1161	1916	178	1075	1911	173
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			99	100	100	98	100	100
cM capacity (veh/h)	513			427			124	55	595	143	55	631

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	705	701	4	829	425	2	3
Volume Left	7	0	4	0	0	1	3
Volume Right	0	2	0	0	11	1	0
cSH	513	1700	427	1700	1700	205	143
Volume to Capacity	0.01	0.41	0.01	0.49	0.25	0.01	0.02
Queue Length 95th (ft)	1	0	1	0	0	1	2
Control Delay (s)	0.4	0.0	13.5	0.0	0.0	22.8	30.8
Lane LOS	A		B			C	D
Approach Delay (s)	0.2		0.0			22.8	30.8
Approach LOS						C	D

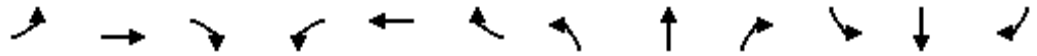
Intersection Summary

Average Delay	0.2
Intersection Capacity Utilization	49.8%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

22: Route #250 & Bell

8/25/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕		↕	↕↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	1	1584	1	3	1640	6	2	0	7	13	0	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1722	1	3	1783	7	2	0	8	14	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)		496			573							
pX, platoon unblocked	0.58			0.63			0.77	0.77	0.63	0.77	0.77	0.58
vC, conflicting volume	1789			1723			2627	3520	861	2663	3517	895
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1637			1561			1372	2540	195	1419	2536	96
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			97	100	99	80	100	99
cM capacity (veh/h)	228			265			79	20	513	72	20	547

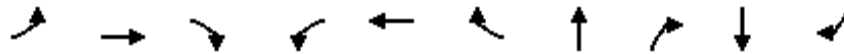
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	862	862	3	1188	601	10	18
Volume Left	1	0	3	0	0	2	14
Volume Right	0	1	0	0	7	8	4
cSH	228	1700	265	1700	1700	230	90
Volume to Capacity	0.00	0.51	0.01	0.70	0.35	0.04	0.20
Queue Length 95th (ft)	0	0	1	0	0	3	18
Control Delay (s)	0.2	0.0	18.8	0.0	0.0	21.3	54.7
Lane LOS	A		C			C	F
Approach Delay (s)	0.1		0.0			21.3	54.7
Approach LOS						C	F

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization	55.5%		ICU Level of Service B
Analysis Period (min)		15	

Timings

27: Route #250 & Community

8/26/2009

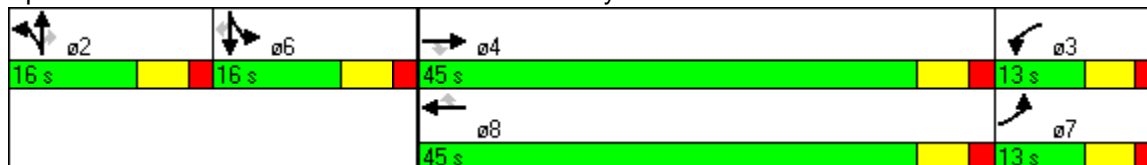


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↘
Volume (vph)	41	1051	38	41	1139	24	1	30	1	18
Turn Type	Prot		Perm	Prot		Perm		Perm		Perm
Protected Phases	7	4		3	8		2		6	
Permitted Phases			4			8		2		6
Detector Phases	7	4	4	3	8	8	2	2	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	13.0	16.0	16.0	13.0	16.0	16.0	16.0	16.0	16.0	16.0
Total Split (s)	13.0	45.0	45.0	13.0	45.0	45.0	16.0	16.0	16.0	16.0
Total Split (%)	14.4%	50.0%	50.0%	14.4%	50.0%	50.0%	17.8%	17.8%	17.8%	17.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	Min	Min	Min	Min
Act Effct Green (s)	8.6	51.9	51.9	8.6	51.9	51.9	9.5	9.5	8.9	8.9
Actuated g/C Ratio	0.10	0.58	0.58	0.10	0.58	0.58	0.11	0.11	0.10	0.10
v/c Ratio	0.26	0.56	0.04	0.26	0.61	0.03	0.21	0.17	0.15	0.11
Control Delay	28.3	12.6	7.8	44.4	7.6	1.1	38.8	14.8	38.5	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.3	12.6	7.8	44.4	7.6	1.1	38.8	14.8	38.5	17.1
LOS	C	B	A	D	A	A	D	B	D	B
Approach Delay		13.1			8.7		27.8		29.2	
Approach LOS		B			A		C		C	

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 48 (53%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 11.6	Intersection LOS: B
Intersection Capacity Utilization 49.4%	ICU Level of Service A
Analysis Period (min) 15	

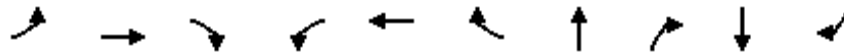
Splits and Phases: 27: Route #250 & Community



Timings

27: Route #250 & Community

8/25/2009

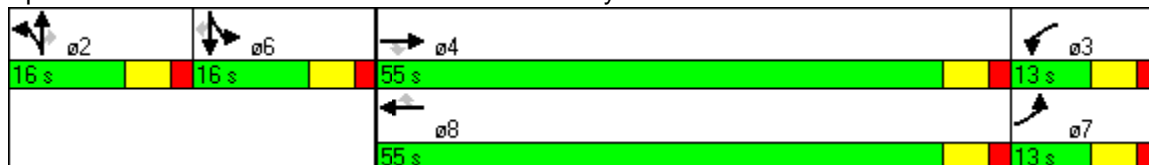


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↖	↘
Volume (vph)	82	1530	87	87	1492	28	8	87	8	79
Turn Type	Prot		Perm	Prot		Perm		Perm		Perm
Protected Phases	7	4		3	8		2		6	
Permitted Phases			4			8		2		6
Detector Phases	7	4	4	3	8	8	2	2	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	13.0	16.0	16.0	13.0	16.0	16.0	16.0	16.0	16.0	16.0
Total Split (s)	13.0	55.0	55.0	13.0	55.0	55.0	16.0	16.0	16.0	16.0
Total Split (%)	13.0%	55.0%	55.0%	13.0%	55.0%	55.0%	16.0%	16.0%	16.0%	16.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	Min	Min	Min	Min
Act Effct Green (s)	8.9	54.7	54.7	8.9	54.7	54.7	11.3	11.3	11.5	11.5
Actuated g/C Ratio	0.09	0.55	0.55	0.09	0.55	0.55	0.11	0.11	0.12	0.12
v/c Ratio	0.57	0.86	0.11	0.60	0.84	0.03	0.55	0.36	0.60	0.33
Control Delay	45.6	18.3	6.1	43.5	22.1	10.1	52.5	12.8	54.5	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.6	18.3	6.1	43.5	22.1	10.1	52.5	12.8	54.5	12.8
LOS	D	B	A	D	C	B	D	B	D	B
Approach Delay		19.0			23.1		34.2		37.2	
Approach LOS		B			C		C		D	

Intersection Summary

Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 53 (53%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 22.5	Intersection LOS: C
Intersection Capacity Utilization 70.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 27: Route #250 & Community



Timings

24: Route #250 & Frontier

8/26/2009

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	44	895	93	239	1161	45	92	212	220	43	117	35
Turn Type	Prot		Perm	Prot		Perm	Split		Perm	Split		Perm
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases			6			2			4			8
Detector Phases	1	6	6	5	2	2	4	4	4	8	8	8
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	13.0	16.0	16.0	13.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Total Split (s)	13.0	34.0	34.0	24.0	45.0	45.0	16.0	16.0	16.0	16.0	16.0	16.0
Total Split (%)	14.4%	37.8%	37.8%	26.7%	50.0%	50.0%	17.8%	17.8%	17.8%	17.8%	17.8%	17.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	2.0	2.0	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	8.4	33.8	33.8	17.3	47.3	47.3	11.6	11.6	11.6	11.3	11.3	11.3
Actuated g/C Ratio	0.09	0.38	0.38	0.19	0.53	0.53	0.13	0.13	0.13	0.13	0.13	0.13
v/c Ratio	0.29	0.73	0.15	0.76	0.68	0.06	0.44	0.51	0.58	0.21	0.54	0.16
Control Delay	63.7	12.5	1.4	56.5	8.9	2.1	42.6	40.6	11.3	37.5	45.8	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	12.5	1.4	56.5	8.9	2.1	42.6	40.6	11.3	37.5	45.8	13.5
LOS	E	B	A	E	A	A	D	D	B	D	D	B
Approach Delay		13.7			16.6			28.6			38.2	
Approach LOS		B			B			C			D	

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 18 (20%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 18.9	Intersection LOS: B
Intersection Capacity Utilization 62.6%	ICU Level of Service B
Analysis Period (min) 15	

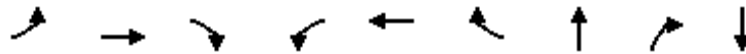
Splits and Phases: 24: Route #250 & Frontier



Timings

23: Route #250 & Lowes

8/25/2009

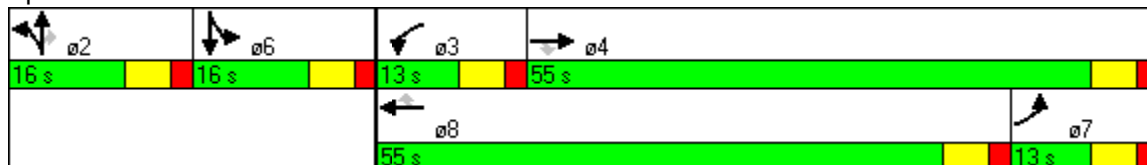


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Configurations	↖	↗↗	↖	↖	↗↗	↖	↖	↖	↖↗
Volume (vph)	26	1536	203	113	1549	3	0	121	0
Turn Type	Prot		Perm	Prot		Perm		Perm	
Protected Phases	7	4		3	8		2		6
Permitted Phases			4			8		2	
Detector Phases	7	4	4	3	8	8	2	2	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	13.0	16.0	16.0	13.0	16.0	16.0	16.0	16.0	16.0
Total Split (s)	13.0	55.0	55.0	13.0	55.0	55.0	16.0	16.0	16.0
Total Split (%)	13.0%	55.0%	55.0%	13.0%	55.0%	55.0%	16.0%	16.0%	16.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	Min	Min	Min
Act Effct Green (s)	8.5	51.6	51.6	12.4	62.8	62.8	12.0	12.0	8.0
Actuated g/C Ratio	0.08	0.52	0.52	0.12	0.63	0.63	0.12	0.12	0.08
v/c Ratio	0.19	0.91	0.25	0.56	0.76	0.00	0.92	0.43	0.05
Control Delay	27.2	12.8	0.7	63.7	4.8	1.7	89.2	12.0	43.0
Queue Delay	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
Total Delay	27.2	12.8	0.7	63.7	6.1	1.7	89.2	12.0	43.0
LOS	C	B	A	E	A	A	F	B	D
Approach Delay		11.6			10.0		58.0		43.0
Approach LOS		B			A		E		D

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 70 (70%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 14.7
 Intersection LOS: B
 Intersection Capacity Utilization 68.0%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 23: Route #250 & Lowes



Timings

24: Route #250 & Frontier

8/26/2009

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	44	895	93	239	1161	45	92	212	220	43	117	35
Turn Type	Prot		Perm	Prot		Perm	Split		Perm	Split		Perm
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases			6			2			4			8
Detector Phases	1	6	6	5	2	2	4	4	4	8	8	8
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	13.0	16.0	16.0	13.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Total Split (s)	13.0	34.0	34.0	24.0	45.0	45.0	16.0	16.0	16.0	16.0	16.0	16.0
Total Split (%)	14.4%	37.8%	37.8%	26.7%	50.0%	50.0%	17.8%	17.8%	17.8%	17.8%	17.8%	17.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	2.0	2.0	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	8.4	33.8	33.8	17.3	47.3	47.3	11.6	11.6	11.6	11.3	11.3	11.3
Actuated g/C Ratio	0.09	0.38	0.38	0.19	0.53	0.53	0.13	0.13	0.13	0.13	0.13	0.13
v/c Ratio	0.29	0.73	0.15	0.76	0.68	0.06	0.44	0.51	0.58	0.21	0.54	0.16
Control Delay	63.7	12.5	1.4	56.5	8.9	2.1	42.6	40.6	11.3	37.5	45.8	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	12.5	1.4	56.5	8.9	2.1	42.6	40.6	11.3	37.5	45.8	13.5
LOS	E	B	A	E	A	A	D	D	B	D	D	B
Approach Delay		13.7			16.6			28.6			38.2	
Approach LOS		B			B			C			D	

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 18 (20%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 18.9	Intersection LOS: B
Intersection Capacity Utilization 62.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 24: Route #250 & Frontier



HCM Unsignalized Intersection Capacity Analysis

57: Route #250 & Young

8/26/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↘		↔				↘			↘
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Volume (veh/h)	4	1320	6	5	1104	3	0	0	2	0	0	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	1435	7	5	1200	3	0	0	2	0	0	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)	625				562							
pX, platoon unblocked	0.88			0.80			0.86	0.86	0.80	0.86	0.86	0.88
vC, conflicting volume	1203			1441			2058	2658	717	1941	2662	602
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1097			1303			1658	2356	401	1523	2361	416
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			100	100	100	100	100	99
cM capacity (veh/h)	558			423			54	30	480	68	29	517

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	NB 1	SB 1
Volume Total	4	717	717	7	605	603	2	3
Volume Left	4	0	0	0	5	0	0	0
Volume Right	0	0	0	7	0	3	2	3
cSH	558	1700	1700	1700	423	1700	480	517
Volume to Capacity	0.01	0.42	0.42	0.00	0.01	0.35	0.00	0.01
Queue Length 95th (ft)	1	0	0	0	1	0	0	0
Control Delay (s)	11.5	0.0	0.0	0.0	0.4	0.0	12.5	12.0
Lane LOS	B				A		B	B
Approach Delay (s)	0.0				0.2		12.5	12.0
Approach LOS							B	B

Intersection Summary

Average Delay	0.1
Intersection Capacity Utilization	46.5%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

57: Route #250 & Young

8/26/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑			↕			↕			↕	
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Volume (veh/h)	4	1580	2	1	1645	1	0	0	7	0	0	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	1717	2	1	1788	1	0	0	8	0	0	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)	625				562							
pX, platoon unblocked	0.74			0.74			0.87	0.87	0.74	0.87	0.87	0.74
vC, conflicting volume	1789			1720			2629	3518	860	2666	3519	895
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1714			1620			1822	2848	457	1864	2848	499
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			100	100	98	100	100	99
cM capacity (veh/h)	270			294			41	14	407	38	14	381

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	4	1145	575	895	895	8	5
Volume Left	4	0	0	1	0	0	0
Volume Right	0	0	2	0	1	8	5
cSH	270	1700	1700	294	1700	407	381
Volume to Capacity	0.02	0.67	0.34	0.00	0.53	0.02	0.01
Queue Length 95th (ft)	1	0	0	0	0	1	1
Control Delay (s)	18.6	0.0	0.0	0.2	0.0	14.0	14.6
Lane LOS	C			A		B	B
Approach Delay (s)	0.0			0.1		14.0	14.6
Approach LOS						B	B





















Intersection Summary

Average Delay	0.1
Intersection Capacity Utilization	56.2%
ICU Level of Service	B
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

47: Route #250 & National

8/26/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Sign Control	Free		Free				Stop				Stop	
Grade	0%		0%				0%				0%	
Volume (veh/h)	20	1275	13	9	1097	31	0	0	7	0	0	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	1386	14	10	1192	34	0	0	8	0	0	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)	984				1069							
pX, platoon unblocked	0.76			0.85			0.83	0.83	0.85	0.83	0.83	0.76
vC, conflicting volume	1226			1400			2064	2682	700	1973	2672	613
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	979			1297			1548	2292	477	1438	2280	169
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			98			100	100	98	100	100	98
cM capacity (veh/h)	531			452			60	30	456	73	31	640
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	22	924	476	10	795	431	8	12				
Volume Left	22	0	0	10	0	0	0	0				
Volume Right	0	0	14	0	0	34	8	12				
cSH	531	1700	1700	452	1700	1700	456	640				
Volume to Capacity	0.04	0.54	0.28	0.02	0.47	0.25	0.02	0.02				
Queue Length 95th (ft)	3	0	0	2	0	0	1	1				
Control Delay (s)	12.1	0.0	0.0	13.1	0.0	0.0	13.0	10.7				
Lane LOS	B			B			B	B				
Approach Delay (s)	0.2			0.1			13.0	10.7				
Approach LOS							B	B				
Intersection Summary												
Average Delay			0.2									
Intersection Capacity Utilization			45.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

47: Route #250 & National

8/26/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗				↖			↖
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Volume (veh/h)	16	1533	8	6	1608	24	0	0	21	0	0	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	1666	9	7	1748	26	0	0	23	0	0	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)	984			1069								
pX, platoon unblocked	0.63			0.77			0.74	0.74	0.77	0.74	0.74	0.63
vC, conflicting volume	1774			1675			2605	3492	838	2665	3484	887
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1640			1576			1876	3067	485	1955	3056	228
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			98			100	100	94	100	100	97
cM capacity (veh/h)	246			317			30	8	405	25	8	487













Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	17	1111	564	7	1165	609	23	13
Volume Left	17	0	0	7	0	0	0	0
Volume Right	0	0	9	0	0	26	23	13
cSH	246	1700	1700	317	1700	1700	405	487
Volume to Capacity	0.07	0.65	0.33	0.02	0.69	0.36	0.06	0.03
Queue Length 95th (ft)	6	0	0	2	0	0	4	2
Control Delay (s)	20.8	0.0	0.0	16.6	0.0	0.0	14.4	12.6
Lane LOS	C			C			B	B
Approach Delay (s)	0.2			0.1			14.4	12.6
Approach LOS							B	B

Intersection Summary

Average Delay	0.3
Intersection Capacity Utilization	55.2%
ICU Level of Service	B
Analysis Period (min)	15













HCM Unsignalized Intersection Capacity Analysis
 42: Route #250 & Sanger

8/26/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗						↗
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	1088	60	0	1006	36	0	0	0	0	0	106
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1183	65	0	1093	39	0	0	0	0	0	115
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		514			510							
pX, platoon unblocked	0.79						0.79	0.79		0.79	0.79	0.79
vC, conflicting volume	1133			1248			1845	2315	591	1685	2341	547
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	900			1248			1803	2400	591	1600	2433	157
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	83
cM capacity (veh/h)	592			554			33	26	450	56	25	679
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1					
Volume Total	591	591	65	547	547	39	115					
Volume Left	0	0	0	0	0	0	0					
Volume Right	0	0	65	0	0	39	115					
cSH	1700	1700	1700	1700	1700	1700	679					
Volume to Capacity	0.35	0.35	0.04	0.32	0.32	0.02	0.17					
Queue Length 95th (ft)	0	0	0	0	0	0	15					
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	11.4					
Lane LOS							B					
Approach Delay (s)	0.0			0.0			11.4					
Approach LOS							B					
Intersection Summary												
Average Delay			0.5									
Intersection Capacity Utilization		41.0%		ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
42: Route #250 & Sanger

8/26/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗						↗
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	1374	161	0	1382	41	0	0	0	0	0	168
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1493	175	0	1502	45	0	0	0	0	0	183
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None				None	
Median storage veh												
Upstream signal (ft)		514			510							
pX, platoon unblocked	0.76						0.76	0.76		0.76	0.76	0.76
vC, conflicting volume	1547			1668			2427	3040	747	2249	3171	751
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1403			1668			2563	3371	747	2328	3543	354
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	63
cM capacity (veh/h)	366			381			6	6	356	15	4	487
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1					
Volume Total	747	747	175	751	751	45	183					
Volume Left	0	0	0	0	0	0	0					
Volume Right	0	0	175	0	0	45	183					
cSH	1700	1700	1700	1700	1700	1700	487					
Volume to Capacity	0.44	0.44	0.10	0.44	0.44	0.03	0.37					
Queue Length 95th (ft)	0	0	0	0	0	0	43					
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	16.7					
Lane LOS							C					
Approach Delay (s)	0.0			0.0			16.7					
Approach LOS							C					
Intersection Summary												
Average Delay			0.9									
Intersection Capacity Utilization			55.3%			ICU Level of Service				B		
Analysis Period (min)			15									

Timings

4: Route #250 & Rowe Rd Xover

8/26/2009

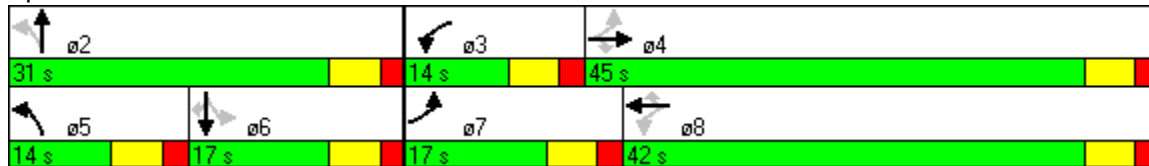


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↕	↗	↖	↕	↗	↖	↕	↗	↖	↗
Volume (vph)	146	927	15	28	956	2	58	2	69	7	28
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm		Perm
Protected Phases	7	4		3	8		5	2		6	
Permitted Phases	4		4	8		8	2		6		6
Detector Phases	7	4	4	3	8	8	5	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	13.0	16.0	16.0	13.0	16.0	16.0	13.0	16.0	16.0	16.0	16.0
Total Split (s)	17.0	45.0	45.0	14.0	42.0	42.0	14.0	31.0	17.0	17.0	17.0
Total Split (%)	18.9%	50.0%	50.0%	15.6%	46.7%	46.7%	15.6%	34.4%	18.9%	18.9%	18.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	61.4	55.1	55.1	54.4	46.6	46.6	22.8	22.8		11.5	11.5
Actuated g/C Ratio	0.68	0.61	0.61	0.60	0.52	0.52	0.25	0.25		0.13	0.13
v/c Ratio	0.45	0.47	0.02	0.09	0.57	0.00	0.19	0.07		0.48	0.13
Control Delay	17.3	11.1	7.1	5.7	11.8	6.5	24.4	9.4		45.7	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	17.3	11.1	7.1	5.7	11.8	6.5	24.4	9.4		45.7	13.9
LOS	B	B	A	A	B	A	C	A		D	B
Approach Delay		11.8			11.7			19.5		37.3	
Approach LOS		B			B			B		D	

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 13.2	Intersection LOS: B
Intersection Capacity Utilization 55.4%	ICU Level of Service B
Analysis Period (min) 15	

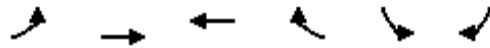
Splits and Phases: 4: Route #250 & Rowe Rd Xover



Timings

68: Route #250 & Horizon Ridge

8/26/2009

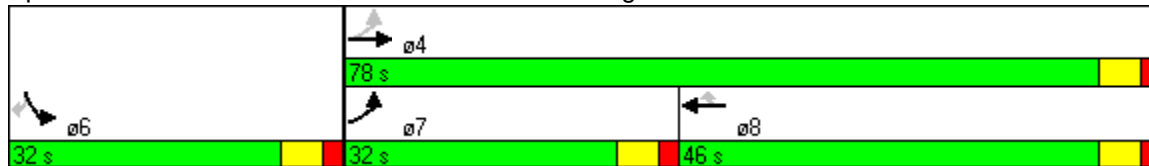


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↗	↕	↕	↖	↖↗	↖
Volume (vph)	641	711	915	279	360	385
Turn Type	pm+pt			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases	4			8		6
Detector Phases	7	4	8	8	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	13.0	16.0	16.0	16.0	16.0	16.0
Total Split (s)	32.0	78.0	46.0	46.0	32.0	32.0
Total Split (%)	29.1%	70.9%	41.8%	41.8%	29.1%	29.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
Act Effct Green (s)	81.5	81.5	54.4	54.4	20.5	20.5
Actuated g/C Ratio	0.74	0.74	0.49	0.49	0.19	0.19
v/c Ratio	0.74	0.29	0.57	0.32	0.61	0.66
Control Delay	39.4	6.2	20.5	4.2	44.8	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.4	6.2	20.5	4.2	44.8	8.9
LOS	D	A	C	A	D	A
Approach Delay		22.0	16.7		26.3	
Approach LOS		C	B		C	

Intersection Summary

Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 2 (2%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 21.0	Intersection LOS: C
Intersection Capacity Utilization 63.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 68: Route #250 & Horizon Ridge



Timings

30: Route #250 & Statler

8/26/2009



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↕↘	↘	↕↕	↘	↘	↕↕	↘	↘↘	↕↘
Volume (vph)	33	828	338	941	409	49	257	280	442	353
Turn Type	pm+pt		Prot		Perm	pm+pt		Perm	Prot	
Protected Phases	1	6	5	2		7	4		3	8
Permitted Phases	6				2	4		4		
Detector Phases	1	6	5	2	2	7	4	4	3	8
Minimum Initial (s)	1.0	4.0	1.0	4.0	4.0	1.0	4.0	4.0	1.0	4.0
Minimum Split (s)	13.0	16.0	13.0	16.0	16.0	13.0	16.0	16.0	13.0	16.0
Total Split (s)	13.0	37.0	31.0	55.0	55.0	17.0	18.0	18.0	24.0	25.0
Total Split (%)	11.8%	33.6%	28.2%	50.0%	50.0%	15.5%	16.4%	16.4%	21.8%	22.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?										
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min
Act Effct Green (s)	42.8	34.5	26.4	57.4	57.4	23.3	13.6	13.6	19.5	25.7
Actuated g/C Ratio	0.39	0.31	0.24	0.52	0.52	0.21	0.12	0.12	0.18	0.23
v/c Ratio	0.13	0.89	0.90	0.57	0.44	0.20	0.64	0.66	0.79	0.51
Control Delay	9.4	39.3	65.2	7.2	1.7	27.3	53.0	12.5	53.7	39.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.4	39.3	65.2	7.2	1.7	27.3	53.0	12.5	53.7	39.4
LOS	A	D	E	A	A	C	D	B	D	D
Approach Delay		38.3		17.5			31.5			47.0
Approach LOS		D		B			C			D

Intersection Summary

Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 46 (42%), Referenced to phase 2:WBT and 6:EBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 30.3	Intersection LOS: C
Intersection Capacity Utilization 76.1%	ICU Level of Service D
Analysis Period (min) 15	

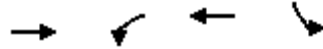
Splits and Phases: 30: Route #250 & Statler



Timings

16: Route #250 & I-81 SB Ramps

8/26/2009



Lane Group	EBT	WBL	WBT	SBL
Lane Configurations	↑↑	↙	↑↑	↙↘
Volume (vph)	1741	184	1559	300
Turn Type		pm+pt		custom
Protected Phases	4	3	8	
Permitted Phases		8		6
Detector Phases	4	3	8	6
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	16.0	13.0	16.0	16.0
Total Split (s)	71.0	19.0	90.0	20.0
Total Split (%)	64.5%	17.3%	81.8%	18.2%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	C-Min	None	C-Min	None
Act Effct Green (s)	67.8	86.6	86.6	15.4
Actuated g/C Ratio	0.62	0.79	0.79	0.14
v/c Ratio	0.87	0.66	0.61	0.68
Control Delay	10.4	33.0	2.0	52.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	10.4	33.0	2.0	52.5
LOS	B	C	A	D
Approach Delay	10.4		5.3	
Approach LOS	B		A	

Intersection Summary

Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 24 (22%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 11.4	Intersection LOS: B
Intersection Capacity Utilization 76.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 16: Route #250 & I-81 SB Ramps



Timings

12: Route #250 & I-81 N Off Ramp

8/26/2009



Lane Group	EBT	WBT	SBL
Lane Configurations	↑↑	↑↑	↘
Volume (vph)	2042	1236	180
Turn Type			
Protected Phases	4	8	6
Permitted Phases			
Detector Phases	4	8	6
Minimum Initial (s)	4.0	4.0	4.0
Minimum Split (s)	16.0	16.0	16.0
Total Split (s)	85.0	85.0	25.0
Total Split (%)	77.3%	77.3%	22.7%
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	C-Min	C-Min	None
Act Effct Green (s)	83.9	83.9	18.1
Actuated g/C Ratio	0.76	0.76	0.16
v/c Ratio	0.82	0.50	0.67
Control Delay	2.4	2.6	54.6
Queue Delay	0.6	0.7	0.0
Total Delay	3.0	3.2	54.6
LOS	A	A	D
Approach Delay	3.0	3.3	54.6
Approach LOS	A	A	D

Intersection Summary

Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 28 (25%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 5.8	Intersection LOS: A
Intersection Capacity Utilization 73.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 12: Route #250 & I-81 N Off Ramp



Timings

8: Route #250 & I-81 N On Ramp

8/26/2009

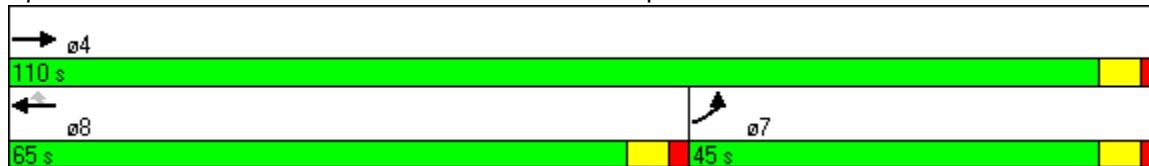


Lane Group	EBL	EBT	WBT	WBR
Lane Configurations	↕↕	↑↑	↑↑	↕
Volume (vph)	686	1535	1236	314
Turn Type	Prot			Perm
Protected Phases	7	4	8	
Permitted Phases				8
Detector Phases	7	4	8	8
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	13.0	16.0	16.0	16.0
Total Split (s)	45.0	110.0	65.0	65.0
Total Split (%)	40.9%	100.0%	59.1%	59.1%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag	Lag		Lead	Lead
Lead-Lag Optimize?	Yes		Yes	Yes
Recall Mode	None	C-Min	C-Min	C-Min
Act Effct Green (s)	39.8	110.0	62.2	62.2
Actuated g/C Ratio	0.36	1.00	0.57	0.57
v/c Ratio	0.60	0.47	0.67	0.37
Control Delay	25.0	0.3	6.6	3.0
Queue Delay	6.7	0.0	0.2	0.0
Total Delay	31.7	0.3	6.8	3.0
LOS	C	A	A	A
Approach Delay		10.0	6.0	
Approach LOS		A	A	

Intersection Summary

Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 15 (14%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 8.3	Intersection LOS: A
Intersection Capacity Utilization 73.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Route #250 & I-81 N On Ramp



HCM Unsignalized Intersection Capacity Analysis

4: Route #250 & Rowe Rd Xover

8/26/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Volume (veh/h)	51	1235	28	29	1290	0	32	0	36	0	1	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	55	1342	30	32	1402	0	35	0	39	0	1	37
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage veh)												
Upstream signal (ft)	510											
pX, platoon unblocked				0.75			0.75			0.75		
vC, conflicting volume	1402			1373			2255	2918	671	2286	2949	701
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1402			1159			2342	3232	217	2384	3273	701
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			93			0	100	93	100	80	90
cM capacity (veh/h)	483			446			10	6	587	11	5	381
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2	SB 1	SB 2
Volume Total	55	671	671	30	32	701	701	0	35	39	1	37
Volume Left	55	0	0	0	32	0	0	0	35	0	0	0
Volume Right	0	0	0	30	0	0	0	0	0	39	0	37
cSH	483	1700	1700	1700	446	1700	1700	1700	10	587	5	381
Volume to Capacity	0.11	0.39	0.39	0.02	0.07	0.41	0.41	0.00	3.65	0.07	0.20	0.10
Queue Length 95th (ft)	10	0	0	0	6	0	0	0	Err	5	11	8
Control Delay (s)	13.4	0.0	0.0	0.0	13.7	0.0	0.0	0.0	Err	11.6	798.2	15.5
Lane LOS	B				B				F	B	F	C
Approach Delay (s)	0.5			0.3			4711.5			37.8		
Approach LOS							F			E		
Intersection Summary												
Average Delay	118.0											
Intersection Capacity Utilization	57.4%			ICU Level of Service			B					
Analysis Period (min)	15											

Arterial Level of Service: EB #250

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Statler	II	38	67.5	46.7	114.2	0.72	22.6	C
	II	40	25.9	2.8	28.7	0.22	28.2	B
Community	II	40	37.3	27.8	65.1	0.39	21.5	D
Lowes	II	40	25.5	20.1	45.6	0.23	18.3	D
Frontier	II	45	13.6	9.2	22.8	0.12	19.7	D
Ave of Trees	II	45	15.6	7.2	22.8	0.14	22.6	C
W St	II	45	23.6	2.3	25.9	0.22	30.1	B
I-81 SB Ramps	II	45	15.3	10.4	25.7	0.14	19.7	D
I-81 N Off Ramp	II	45	24.0	2.4	26.4	0.22	30.1	B
I-81 N On Ramp	II	45	6.9	0.3	7.2	0.06	31.4	B
Rowe Rd Xover	II	47	21.1	16.8	37.9	0.19	18.4	D
Horizon Ridge	II	55	14.8	6.8	21.6	0.15	25.4	C
Desper Hollow	II	59	46.0	9.8	55.8	0.76	48.9	A
Total	II		337.1	162.6	499.7	3.58	25.8	C

Arterial Level of Service: WB #250

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Desper Hollow	II	60	16.1	4.9	21.0	0.17	28.4	B
Horizon Ridge	II	59	46.0	28.4	74.4	0.76	36.7	A
Rowe Rd Xover	II	55	14.8	4.9	19.7	0.15	27.8	C
I-81 N On Ramp	II	47	21.1	16.2	37.3	0.19	18.7	D
I-81 N Off Ramp	II	45	6.9	4.0	10.9	0.06	20.8	D
I-81 SB Ramps	II	45	24.0	2.0	26.0	0.22	30.5	B
W St	II	45	15.3	7.1	22.4	0.14	22.6	C
Ave of Trees	II	45	23.6	6.7	30.3	0.22	25.7	C
Frontier	II	45	15.6	19.7	35.3	0.14	14.6	E
Lowes	II	45	13.6	3.6	17.2	0.12	26.1	C
Community	II	40	25.5	11.2	36.7	0.23	22.8	C
New Signal	II	40	37.3	9.2	46.5	0.39	30.1	B
Statler	II	40	25.9	21.0	46.9	0.22	17.3	D
US 11	II	38	67.5	15.0	82.5	0.72	31.3	B
Total	II		353.2	153.9	507.1	3.74	26.6	C

Arterial Level of Service: EB #250

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Statler	II	38	67.3	47.1	114.4	0.72	22.5	C
Total	II		67.3	47.1	114.4	0.72	22.5	C

Arterial Level of Service: WB #250

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Statler	II	40	33.4	21.0	54.4	0.34	22.3	C
Total	II		33.4	21.0	54.4	0.34	22.3	C