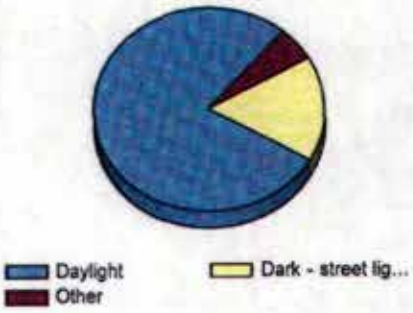
City of Philadelphia Streets Department

Crash Report (Summary View)

On N 07TH ST At MARKET ST

Year(s) = 2011,2010,2009,2008,2007

Reportable Crashes - By Lighting Conditions		
Lighting	# Crashes	Percent
Daylight	14	77.78%
Dark - street lights	3	16.67%
Other	1	5.56%
Dark - no street lights	0	0.00%
Dawn	0	0.00%
Dark - Unknown Roadway Lighting	0	0.00%
Dusk	0	0.00%
Not Coded	0	0.00%
Not Stated	0	0.00%
Total	18	100%



Reportable Crashes - By Type		
Type	# Crashes	Percent
HTPED - Hit Pedestrian	8	44.44%
ANGLE - Angle	4	22.22%
RERND - Rear End	2	11.11%
SSSD - Sideswipe (Same Direction)	2	11.11%
HEDON - Head On	1	5.56%
HTFOB - Hit Fixed Object	1	5.56%
ANIML - Collision of motor vehicle with animal	0	0.00%
BICYC - Collision of motor vehicle with bickelist	0	0.00%
BKBK - Collision of bicycle with bicycle	0	0.00%
BKPED - Collision of bicycle with pedestrian	0	0.00%
FXDOB - Collision of motor vehicle with fixed object	0	0.00%

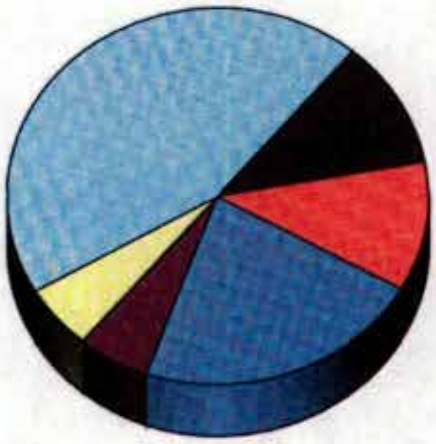
City of Philadelphia Streets Department

Crash Report (Summary View)

On N 07TH ST At MARKET ST

Year(s) = 2011,2010,2009,2008,2007

Reportable Crashes - By Type		
Type	# Crashes	Percent
HCART - Collision of motor vehicle with animal-drawn vehicle	0	0.00%
MOVMV - Collision of motor vehicle with moving motor vehicle	0	0.00%
NC - Not Coded	0	0.00%
NOCOL - Other non-collision	0	0.00%
NONCOL - Non-Collision	0	0.00%
NS - Not Stated	0	0.00%
OFFRD - Motor vehicle ran off road	0	0.00%
OTHOB - Collision of motor vehicle with other object	0	0.00%
OTUKN - Other/Unknown	0	0.00%
OTURN - Motor vehicle overturned	0	0.00%
PEDES - Collision of motor vehicle with pedestrian	0	0.00%
PKDMV - Collision of motor vehicle with parked motor vehicle	0	0.00%
RRTRN - Collision of motor vehicle with railroad trian	0	0.00%
RRTRR - Rear to Rear (Backing)	0	0.00%
SSOP - Sideswipe (Opposite Direction)	0	0.00%
TROLY - Collision of motor vehicle with troley car	0	0.00%
UNBK - Collision of motor vehicle with unattended bicycle	0	0.00%
Total	18	100%



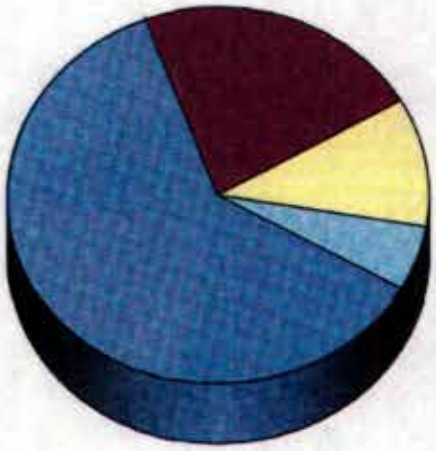
City of Philadelphia Streets Department

Crash Report (Summary View)

On N 07TH ST At MARKET ST

Year(s) = 2011,2010,2009,2008,2007

Reportable Crashes - By Analysis		
Analysis	# Crashes	Percent
4WINT - 4 Way Intersection	11	61.11%
MDBLK - Midblock	4	22.22%
OTH - Other	2	11.11%
TINTR - T Intersection	1	5.56%
ALLOTHERS - All Others	0	0.00%
CIRC - Traffic Circle/Round About	0	0.00%
CURVEOFFRD - On Curve - Left roadway	0	0.00%
FELLOFFVEH - Fell off vehicle	0	0.00%
INT-1BKUP - Intersection - One backing up	0	0.00%
INT-1STOPD - Intersection - Same direction, one stopped	0	0.00%
INT-ANGLE - Intersection - Angle	0	0.00%
INT-FXDOBJ - Intersection - Collision with fixed object	0	0.00%
INT-NOTVEH - Intersection - Collision with bicycle, carriage, trolley, railroad train	0	0.00%
INT-OFFRD - Intersection - Left roadway	0	0.00%
INTOPP-L/S - Intersection - Opposite direction, one left turn, one straight	0	0.00%
INTOPP-R/S - Intersection - Opposite direction, one right turn, one straight	0	0.00%
INTOPP-S/S - Intersection - Opposite direction, both going straight	0	0.00%
INTOPP-T/S - Intersection - Opposite direction, one turning, one straight	0	0.00%
INTOPP-T/T - Intersection - Opposite direction, all turning	0	0.00%
INT-OVTURN - Intersection - Overturned	0	0.00%
INTSAM-S/S - Intersection - Same direction, both going straight	0	0.00%
INTSAM-T/S - Intersection - Same direction, one turning, one straight	0	0.00%
INTSAM-T/T - Intersection - Same direction, both turning	0	0.00%
INT-UTURN - Intersection - Illegal or careless U-Turn	0	0.00%
MBL-1BKUP - Midblock - one backing up	0	0.00%



City of Philadelphia Streets Department

Crash Report (Summary View)

On N 07TH ST At MARKET ST

Year(s) = 2011,2010,2009,2008,2007

Reportable Crashes - By Analysis		
Analysis	# Crashes	Percent
MBL-1DEPARK - Midblock - one vehicle leaving parked position	0	0.00%
MBL-1PARKED - Midblock - one vehicle parked	0	0.00%
MBL-1PARKNG - Midblock -- one vehicle entering parked position	0	0.00%
MBL-1STOPD - Midblock - one vehicle stopped in traffic	0	0.00%
MBL-ANGLE - Midblock - Angle	0	0.00%
MBL-ENTDWY - Midblock - One car entering driveway access	0	0.00%
MBL-FXOBJ - Midblock - Collision with fixed object	0	0.00%
MBL-LV-DWY - Midblock - One car leaving driveway access	0	0.00%
MBL-NOTVEH - Midblock - Collision with bicycle, carriage, trolley, ealroad train	0	0.00%
MBLOPP2MGV - Midblock - Opposite direction, bith moving	0	0.00%
MBLOPP2MVG - MBLOPP2MVG	0	0.00%
MBL-OTHERS - Midblock - Others	0	0.00%
MBL-OVTURN - Midblock - Overturned	0	0.00%
MBLSAM2MVG - Midblock - Same direction, both moving	0	0.00%
MBL-UTURN - Midblock - U-Turn	0	0.00%
MERGE - Collision while merging in traffic	0	0.00%
MLINT - Multi-Leg Intersection	0	0.00%
NC - Not Coded	0	0.00%
OFRMP - Off Ramp	0	0.00%
ONRMP - On Ramp	0	0.00%
PED-DEPARK - Pedestrian Accident - Car leaving parked position	0	0.00%
PED-ENTDWY - Pedestrian Accident - Car entering driveway	0	0.00%
PED-LV-DWY - Pedestrian Accident - Car lleaving driveway	0	0.00%
PED-OTHERS - Pedestrian Accident - All other	0	0.00%
PED-PARKNG - Pedestrian Accident - Car entering parked position	0	0.00%

City of Philadelphia Streets Department

Crash Report (Summary View)

On N 07TH ST At MARKET ST

Year(s) = 2011,2010,2009,2008,2007

Reportable Crashes - By Analysis		
Analysis	# Crashes	Percent
PED-UTURN - Pedestrian Accident - Car making U-Turn	0	0.00%
PEDVEHBCKG - Pedestrian Accident - Car backing up	0	0.00%
PED-VEH-LT - Pedestrian Accident - Car turning left	0	0.00%
PED-VEH-RT - Pedestrian Accident - Car turning right	0	0.00%
PED-VEHSTR - Pedestrian Accident - Car going straight	0	0.00%
RRX - Railroad Crossing	0	0.00%
STR-OFFRD - Straight Road - Left roadway	0	0.00%
XOVER - Crossover	0	0.00%
YINTR - Y Intersection	0	0.00%
Total	18	100%

APPENDIX H

Synchro Capacity Analysis Worksheets
No-Build

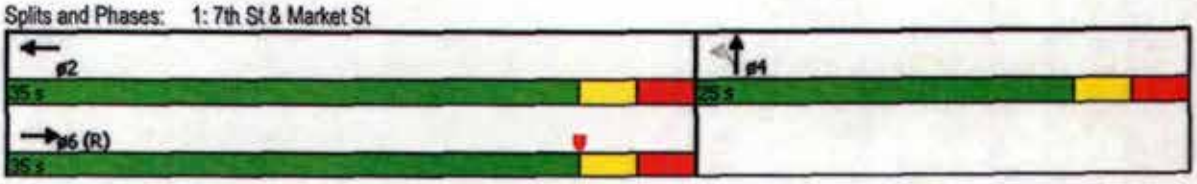
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↱			↰↑↱				
Volume (vph)	0	902	0	0	263	77	48	591	80	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	9	9	9	10	10	10
Lane Util. Factor	1.00	*0.60	1.00	1.00	0.95	*0.60	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor					0.98			0.98				
Frt					0.966			0.983				
Flt Protected								0.997				
Satd. Flow (prot)	0	3129	0	0	3140	0	0	3087	0	0	0	0
Flt Permitted								0.997				
Satd. Flow (perm)	0	3129	0	0	3140	0	0	3068	0	0	0	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		450			379			565			375	
Travel Time (s)		10.2			8.6			12.8			8.5	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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
Parking (#/hr)							0					
Adj. Flow (vph)	0	980	0	0	286	84	52	642	87	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	980	0	0	370	0	0	781	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.14	1.14	1.14	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA			NA		Perm	NA				
Protected Phases		6			2			4				
Permitted Phases							4					
Minimum Split (s)		30.0			20.0		20.0	20.0				
Total Split (s)		35.0			35.0		25.0	25.0				
Total Split (%)		58.3%			58.3%		41.7%	41.7%				
Maximum Green (s)		29.0			29.0		19.0	19.0				
Yellow Time (s)		3.0			3.0		3.0	3.0				
All-Red Time (s)		3.0			3.0		3.0	3.0				
Lost Time Adjust (s)		-1.0			-1.0			-1.0				
Total Lost Time (s)		5.0			5.0			5.0				
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		30.0			30.0			20.0				
Actuated g/C Ratio		0.50			0.50			0.33				
v/c Ratio		0.63			0.24			0.76				
Control Delay		17.5			9.0			25.1				
Queue Delay		0.0			0.0			0.0				
Total Delay		17.5			9.0			25.1				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		B			A			C				
Approach Delay		17.5			9.0			25.1				
Approach LOS		B			A			C				
Queue Length 50th (ft)		213			36			137				
Queue Length 95th (ft)		277			58			196				
Internal Link Dist (ft)		370			299			485			295	
Turn Bay Length (ft)												
Base Capacity (vph)		1564			1570			1022				
Starvation Cap Reductn		0			0			0				
Spillback Cap Reductn		0			0			0				
Storage Cap Reductn		0			0			0				
Reduced v/c Ratio		0.63			0.24			0.76				

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 34 (57%), Referenced to phase 6:EBT, Start of Yellow
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 18.8 — Intersection LOS: B
Intersection Capacity Utilization 46.7% — ICU Level of Service A
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 1: 7th St & Market St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	902	0	0	263	77	48	591	80	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.94	1.00		0.91			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00			
Adj Sat Flow veh/h/ln	0.0	186.3	0.0	0.0	186.3	186.3	178.8	178.8	178.8			
Lanes	0	3	0	0	2	0	0	2	0			
Cap, veh/h	0	1676	0	0	1337	383	69	895	127			
Arrive On Green	0.00	0.17	0.00	0.00	0.50	0.50	0.11	0.11	0.11			
Sat Flow, veh/h	0	4843	0	0	2768	765	208	2685	382			
Grp Volume(v), veh/h	0	980	0	0	187	183	399	0	382			
Grp Sat Flow(s),veh/h/ln	0	1118	0	0	1770	1670	1599	0	1676			
Q Serve(g_s), s	0.0	16.2	0.0	0.0	3.5	3.7	14.5	0.0	13.1			
Cycle Q Clear(g_c), s	0.0	16.2	0.0	0.0	3.5	3.7	14.5	0.0	13.1			
Prop In Lane	0.00		0.00	0.00		0.46	0.13		0.23			
Lane Grp Cap(c), veh/h	0	1676	0	0	885	835	533	0	559			
V/C Ratio(X)	0.00	0.58	0.00	0.00	0.21	0.22	0.75	0.00	0.68			
Avail Cap(c_a), veh/h	0	1676	0	0	885	835	533	0	559			
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	19.3	0.0	0.0	8.4	8.4	24.3	0.0	23.7			
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.5	0.6	9.3	0.0	6.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile Back of Q (95%), veh/ln	0.0	8.7	0.0	0.0	2.6	2.5	12.0	0.0	11.2			
Lane Grp Delay (d), s/veh	0.0	20.8	0.0	0.0	8.9	9.0	33.6	0.0	30.3			
Lane Grp LOS		C			A	A	C		C			
Approach Vol, veh/h		980			370			781				
Approach Delay, s/veh		20.8			9.0			32.0				
Approach LOS		C			A			C				

Timer				
Assigned Phs		6		2		4		
Phs Duration (G+Y+Rc), s		35.0		35.0		25.0		
Change Period (Y+Rc), s		6.0		6.0		6.0		
Max Green Setting (Gmax), s		29.0		29.0		19.0		
Max Q Clear Time (g_c+I1), s		18.2		5.7		16.5		
Green Ext Time (p_c), s		6.4		10.2		1.2		

Intersection Summary	
HCM 2010 Ctrl Delay	22.8
HCM 2010 LOS	C

Notes

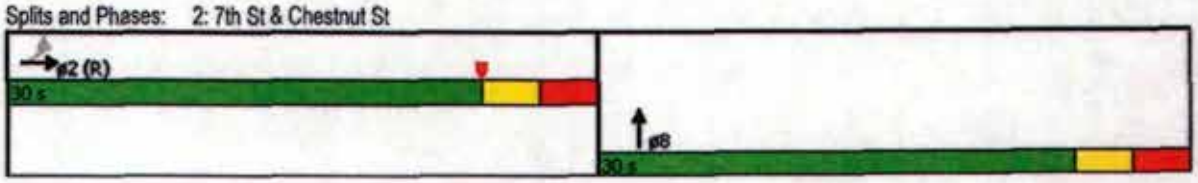
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	179	328	0	0	0	0	0	376	132	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.60	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		0.97						0.98				
Frt								0.961				
Flt Protected		0.983										
Satd. Flow (prot)	0	2051	0	0	0	0	0	3107	0	0	0	0
Flt Permitted		0.983										
Satd. Flow (perm)	0	1999	0	0	0	0	0	3107	0	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		450			393			327			565	
Travel Time (s)		10.2			8.9			7.4			12.8	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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
Parking (#/hr)	0						0					
Adj. Flow (vph)	195	357	0	0	0	0	0	411	143	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	552	0	0	0	0	0	554	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA						NA				
Protected Phases		2						8				
Permitted Phases	2											
Minimum Split (s)	23.0	23.0						23.0				
Total Split (s)	30.0	30.0						30.0				
Total Split (%)	50.0%	50.0%						50.0%				
Maximum Green (s)	24.0	24.0						24.0				
Yellow Time (s)	3.0	3.0						3.0				
All-Red Time (s)	3.0	3.0						3.0				
Lost Time Adjust (s)		-1.0						-1.0				
Total Lost Time (s)		5.0						5.0				
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		25.0						25.0				
Actuated g/C Ratio		0.42						0.42				
v/c Ratio		0.66						0.43				
Control Delay		16.7						13.7				
Queue Delay		0.0						0.0				
Total Delay		16.7						13.7				
LOS		B						B				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		16.7						13.7				
Approach LOS		B						B				
Queue Length 50th (ft)		96						71				
Queue Length 95th (ft)		138						108				
Internal Link Dist (ft)		370			313			247			485	
Turn Bay Length (ft)												
Base Capacity (vph)		832						1294				
Starvation Cap Reductn		0						0				
Spillback Cap Reductn		0						0				
Storage Cap Reductn		0						0				
Reduced v/c Ratio		0.66						0.43				

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 15.2 Intersection LOS: B
Intersection Capacity Utilization 42.1% ICU Level of Service A
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 2: 7th St & Chestnut St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	179	328	0	0	0	0	0	378	132	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.93			
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow veh/h/ln	186.3	186.3	0.0				0.0	186.3	186.3			
Lanes	0	2	0				0	2	0			
Cap, veh/h	120	424	0				0	1055	361			
Arrive On Green	0.14	0.14	0.00				0.00	0.42	0.42			
Sat Flow, veh/h	0	1695	0				0	2626	867			
Grp Volume(v), veh/h	195	357	0				0	285	269			
Grp Sat Flow(s),veh/h/ln	0	1017	0				0	1770	1631			
Q Serve(g_s), s	0.0	20.5	0.0				0.0	6.7	6.9			
Cycle Q Clear(g_c), s	25.0	20.5	0.0				0.0	6.7	6.9			
Prop In Lane	1.00		0.00				0.00		0.53			
Lane Grp Cap(c), veh/h	120	424	0				0	737	679			
V/C Ratio(X)	1.62	0.84	0.00				0.00	0.39	0.40			
Avail Cap(c_a), veh/h	120	424	0				0	737	679			
HCM Platoon Ratio	0.00	0.00	0.00				0.00	0.00	0.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	38.4	24.0	0.0				0.0	12.2	12.2			
Incr Delay (d2), s/veh	316.0	18.1	0.0				0.0	1.5	1.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile Back of Q (95%), veh/ln	22.4	11.9	0.0				0.0	5.3	5.0			
Lane Grp Delay (d), s/veh	354.3	42.0	0.0				0.0	13.7	13.9			
Lane Grp LOS	F	D						B	B			
Approach Vol, veh/h		552						554				
Approach Delay, s/veh		152.4						13.8				
Approach LOS		F						B				

Timer	
Assigned Phs	2
Phs Duration (G+Y+Rc), s	30.0
Change Period (Y+Rc), s	6.0
Max Green Setting (Gmax), s	24.0
Max Q Clear Time (g_c+I1), s	27.0
Green Ext Time (p_c), s	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	83.0
HCM 2010 LOS	F

Notes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	876	146	0	527	0	0	0	0	63	410	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	10	10	10	9	9	9
Lane Util. Factor	1.00	0.91	*0.60	1.00	*0.60	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor		0.99									0.98	
Frt		0.979									0.986	
Flt Protected											0.994	
Satd. Flow (prot)	0	4594	0	0	2086	0	0	0	0	0	3097	0
Flt Permitted											0.994	
Satd. Flow (perm)	0	4594	0	0	2086	0	0	0	0	0	3069	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		450			450			565			386	
Travel Time (s)		10.2			10.2			12.8			8.8	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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
Parking (#/hr)												0
Adj. Flow (vph)	0	952	159	0	573	0	0	0	0	68	446	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1111	0	0	573	0	0	0	0	0	566	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA			NA					Perm	NA	
Protected Phases		6			2						8	
Permitted Phases										8		
Minimum Split (s)		10.0			10.0					10.0	10.0	
Total Split (s)		31.0			31.0					29.0	29.0	
Total Split (%)		51.7%			51.7%					48.3%	48.3%	
Maximum Green (s)		25.0			25.0					23.0	23.0	
Yellow Time (s)		3.5			3.5					3.5	3.5	
All-Red Time (s)		2.5			2.5					2.5	2.5	
Lost Time Adjust (s)		-1.0			-1.0						-1.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		26.0			26.0						24.0	
Actuated g/C Ratio		0.43			0.43						0.40	
v/c Ratio		0.56			0.63						0.46	
Control Delay		8.5			19.8						14.8	
Queue Delay		0.0			0.0						0.0	
Total Delay		8.5			19.8						14.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		A			B						B	
Approach Delay		8.5			19.8						14.8	
Approach LOS		A			B						B	
Queue Length 50th (ft)		42			155						76	
Queue Length 95th (ft)		83			m236						115	
Internal Link Dist (ft)		370			370			485			306	
Turn Bay Length (ft)												
Base Capacity (vph)		1990			903						1227	
Starvation Cap Reductn		0			0						0	
Spillback Cap Reductn		0			0						0	
Storage Cap Reductn		0			0						0	
Reduced v/c Ratio		0.56			0.63						0.46	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 40
Control Type: Pretimed
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 12.9 — Intersection LOS: B
Intersection Capacity Utilization 46.7% — ICU Level of Service A
Analysis Period (min) 15
* User Entered Value
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: 8th St & Market St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	876	146	0	527	0	0	0	0	63	410	48
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00				1.00		0.93
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	0.90
Adj Sat Flow veh/h/ln	0.0	186.3	186.3	0.0	186.3	0.0				178.8	178.8	178.8
Lanes	0	3	0	0	2	0				0	2	0
Cap, veh/h	0	1881	313	0	969	0				152	1038	127
Arrive On Green	0.00	0.87	0.87	0.00	0.43	0.00				0.40	0.40	0.40
Sat Flow, veh/h	0	4508	722	0	3725	0				380	2595	317
Grp Volume(v), veh/h	0	743	368	0	573	0				316	0	250
Grp Sat Flow(s),veh/h/ln	0	1695	1672	0	1118	0				1769	0	1523
Q Serve(g_s), s	0.0	3.1	3.2	0.0	11.7	0.0				7.8	0.0	7.1
Cycle Q Clear(g_c), s	0.0	3.1	3.2	0.0	11.7	0.0				7.8	0.0	7.1
Prop In Lane	0.00		0.43	0.00		0.00				0.21		0.21
Lane Grp Cap(c), veh/h	0	1469	725	0	969	0				708	0	609
V/C Ratio(X)	0.00	0.51	0.51	0.00	0.59	0.00				0.45	0.00	0.41
Avail Cap(c_a), veh/h	0	1469	725	0	969	0				708	0	609
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	2.5	2.5	0.0	13.0	0.0				13.2	0.0	12.9
Incr Delay (d2), s/veh	0.0	1.2	2.5	0.0	2.7	0.0				2.0	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile Back of Q (95%), veh/ln	0.0	1.7	2.1	0.0	5.8	0.0				6.3	0.0	4.9
Lane Grp Delay (d), s/veh	0.0	3.7	5.0	0.0	15.6	0.0				15.2	0.0	15.0
Lane Grp LOS		A	A		B					B		B
Approach Vol, veh/h		1111			573						566	
Approach Delay, s/veh		4.1			15.6						15.1	
Approach LOS		A			B						B	
Timer												
Assigned Phs		6			2						8	
Phs Duration (G+Y+Rc), s		31.0			31.0						29.0	
Change Period (Y+Rc), s		6.0			6.0						6.0	
Max Green Setting (Gmax), s		25.0			25.0						23.0	
Max Q Clear Time (g_c+I1), s		0.0			0.0						9.8	
Green Ext Time (p_c), s		0.0			0.0						0.0	
Intersection Summary												
HCM 2010 Ctrl Delay			9.8									
HCM 2010 LOS			A									
Notes												

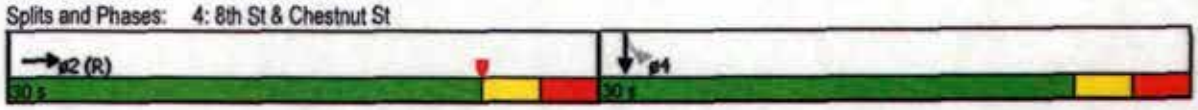
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	368	102	0	0	0	0	0	0	107	447	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	*0.60	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		0.98									0.99	
Frt		0.967										
Flt Protected											0.990	
Satd. Flow (prot)	0	3137	0	0	0	0	0	0	0	0	3270	0
Flt Permitted											0.990	
Satd. Flow (perm)	0	3137	0	0	0	0	0	0	0	0	3225	0
Right Turn on Red			No			No			No	No		No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		450			450			329			565	
Travel Time (s)		10.2			10.2			7.5			12.8	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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
Parking (#/hr)	0											0
Adj. Flow (vph)	0	400	111	0	0	0	0	0	0	116	486	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	511	0	0	0	0	0	0	0	0	602	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA								Perm	NA	
Protected Phases		2									4	
Permitted Phases										4		
Minimum Split (s)		24.0								24.0	24.0	
Total Split (s)		30.0								30.0	30.0	
Total Split (%)		50.0%								50.0%	50.0%	
Maximum Green (s)		24.0								24.0	24.0	
Yellow Time (s)		3.0								3.0	3.0	
All-Red Time (s)		3.0								3.0	3.0	
Lost Time Adjust (s)		-1.0									-1.0	
Total Lost Time (s)		5.0									5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		25.0									25.0	
Actuated g/C Ratio		0.42									0.42	
v/c Ratio		0.39									0.45	
Control Delay		9.4									8.0	
Queue Delay		0.0									0.0	
Total Delay		9.4									8.0	
LOS		A									A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		9.4									8.0	
Approach LOS		A									A	
Queue Length 50th (ft)		41									38	
Queue Length 95th (ft)		71									62	
Internal Link Dist (ft)		370			370			249			485	
Turn Bay Length (ft)												
Base Capacity (vph)		1307									1343	
Starvation Cap Reductn		0									0	
Spillback Cap Reductn		0									0	
Storage Cap Reductn		0									0	
Reduced v/c Ratio		0.39									0.45	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.45
Intersection Signal Delay: 8.6 — Intersection LOS: A
Intersection Capacity Utilization 41.8% — ICU Level of Service A
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 4: 8th St & Chestnut St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	368	102	0	0	0	0	0	0	107	447	0
Number	5	2	12							7	4	14
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93							1.00		1.00
Parking Bus Adj	1.00	1.00	1.00							1.00	1.00	1.00
Adj Sat Flow veh/h/ln	0.0	186.3	186.3							186.3	186.3	0.0
Lanes	0	2	0							0	2	0
Cap, veh/h	0	1124	307							120	671	0
Arrive On Green	0.00	0.14	0.14							0.42	0.42	0.00
Sat Flow, veh/h	0	2791	737							0	1695	0
Grp Volume(v), veh/h	0	260	251							116	486	0
Grp Sat Flow(s),veh/h/ln	0	1770	1665							0	1610	0
Q Serve(g_s), s	0.0	8.0	8.2							0.0	15.1	0.0
Cycle Q Clear(g_c), s	0.0	8.0	8.2							25.0	15.1	0.0
Prop In Lane	0.00		0.44							1.00		0.00
Lane Grp Cap(c), veh/h	0	737	694							120	671	0
V/C Ratio(X)	0.00	0.35	0.36							0.97	0.72	0.00
Avail Cap(c_a), veh/h	0	737	694							120	671	0
HCM Platoon Ratio	0.00	0.00	0.00							0.00	0.00	0.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	18.5	18.6							30.0	14.6	0.0
Incr Delay (d2), s/veh	0.0	1.3	1.5							73.6	6.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile Back of Q (95%), veh/ln	0.0	7.2	7.0							7.4	10.7	0.0
Lane Grp Delay (d), s/veh	0.0	19.9	20.1							103.6	21.3	0.0
Lane Grp LOS		B	C							F	C	
Approach Vol, veh/h		511									602	
Approach Delay, s/veh		20.0									37.2	
Approach LOS		B									D	

Timer												
Assigned Phs		2									4	
Phs Duration (G+Y+Rc), s		30.0									30.0	
Change Period (Y+Rc), s		6.0									6.0	
Max Green Setting (Gmax), s		24.0									24.0	
Max Q Clear Time (g_c+I1), s		10.2									27.0	
Green Ext Time (p_c), s		0.0									0.0	

Intersection Summary			
HCM 2010 Ctrl Delay			29.3
HCM 2010 LOS			C

Notes

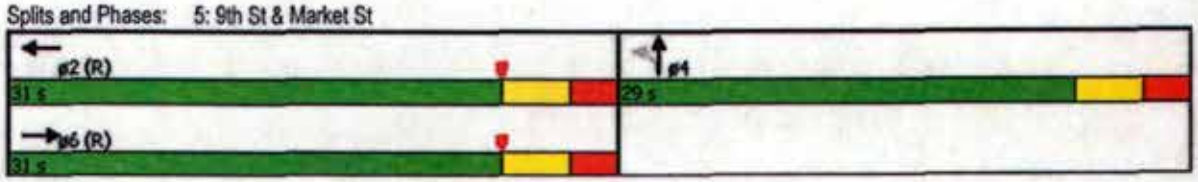
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	842	0	0	456	51	71	328	131	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	9	9	9	10	10	10
Lane Util. Factor	1.00	*0.60	1.00	1.00	*0.60	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor					0.99			0.97				
Frt					0.985			0.963				
Flt Protected								0.993				
Satd. Flow (prot)	0	3129	0	0	2039	0	0	2982	0	0	0	0
Flt Permitted								0.993				
Satd. Flow (perm)	0	3129	0	0	2039	0	0	2952	0	0	0	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		378			450			565			377	
Travel Time (s)		8.6			10.2			12.8			8.6	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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
Parking (#/hr)									0			
Adj. Flow (vph)	0	915	0	0	496	55	77	357	142	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	915	0	0	551	0	0	576	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.14	1.14	1.14	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA			NA		Perm	NA				
Protected Phases		6			2			4				
Permitted Phases							4					
Minimum Split (s)		30.0			20.0		20.0	20.0				
Total Split (s)		31.0			31.0		29.0	29.0				
Total Split (%)		51.7%			51.7%		48.3%	48.3%				
Maximum Green (s)		25.0			25.0		23.0	23.0				
Yellow Time (s)		3.5			3.5		3.5	3.5				
All-Red Time (s)		2.5			2.5		2.5	2.5				
Lost Time Adjust (s)		-1.0			-1.0			-1.0				
Total Lost Time (s)		5.0			5.0			5.0				
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		26.0			26.0			24.0				
Actuated g/C Ratio		0.43			0.43			0.40				
v/c Ratio		0.68			0.62			0.49				
Control Delay		16.7			9.8			10.1				
Queue Delay		0.0			0.0			0.0				
Total Delay		16.7			9.8			10.1				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		B			A			B				
Approach Delay		16.7			9.8			10.1				
Approach LOS		B			A			B				
Queue Length 50th (ft)		140			36			44				
Queue Length 95th (ft)		202			100			72				
Internal Link Dist (ft)		298			370			485			297	
Turn Bay Length (ft)												
Base Capacity (vph)		1355			883			1180				
Starvation Cap Reductn		0			0			0				
Spillback Cap Reductn		0			0			0				
Storage Cap Reductn		0			0			0				
Reduced v/c Ratio		0.68			0.62			0.49				

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 13.0 — Intersection LOS: B
Intersection Capacity Utilization 44.7% — ICU Level of Service A
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 5: 9th St & Market St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	842	0	0	456	51	71	328	131	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.93	1.00		0.93			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90			
Adj Sat Flow veh/h/ln	0.0	186.3	0.0	0.0	186.3	186.3	178.8	178.8	178.8			
Lanes	0	3	0	0	2	0	0	2	0			
Cap, veh/h	0	1453	0	0	1133	125	164	775	325			
Arrive On Green	0.00	0.43	0.00	0.00	0.87	0.87	0.13	0.13	0.13			
Sat Flow, veh/h	0	4843	0	0	3360	289	409	1936	811			
Grp Volume(v), veh/h	0	915	0	0	211	340	333	0	243			
Grp Sat Flow(s),veh/h/ln	0	1118	0	0	1118	1786	1768	0	1389			
Q Serve(g_s), s	0.0	12.8	0.0	0.0	2.4	2.5	10.5	0.0	9.7			
Cycle Q Clear(g_c), s	0.0	12.8	0.0	0.0	2.4	2.5	10.5	0.0	9.7			
Prop In Lane	0.00		0.00	0.00		0.16	0.23		0.58			
Lane Grp Cap(c), veh/h	0	1453	0	0	484	774	707	0	556			
V/C Ratio(X)	0.00	0.63	0.00	0.00	0.44	0.44	0.47	0.00	0.44			
Avail Cap(c_a), veh/h	0	1453	0	0	484	774	707	0	556			
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	13.2	0.0	0.0	2.4	2.4	20.2	0.0	19.8			
Incr Delay (d2), s/veh	0.0	2.1	0.0	0.0	2.8	1.8	2.2	0.0	2.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile Back of Q (95%), veh/ln	0.0	6.1	0.0	0.0	1.4	1.8	9.1	0.0	7.1			
Lane Grp Delay (d), s/veh	0.0	15.3	0.0	0.0	5.3	4.2	22.4	0.0	22.3			
Lane Grp LOS		B			A	A	C		C			
Approach Vol, veh/h		915			551			576				
Approach Delay, s/veh		15.3			4.6			22.4				
Approach LOS		B			A			C				
Timer												
Assigned Phs		6			2			4				
Phs Duration (G+Y+Rc), s		31.0			31.0			29.0				
Change Period (Y+Rc), s		6.0			6.0			6.0				
Max Green Setting (Gmax), s		25.0			25.0			23.0				
Max Q Clear Time (g_c+I1), s		0.0			0.0			12.5				
Green Ext Time (p_c), s		0.0			0.0			0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			14.4									
HCM 2010 LOS			B									
Notes												

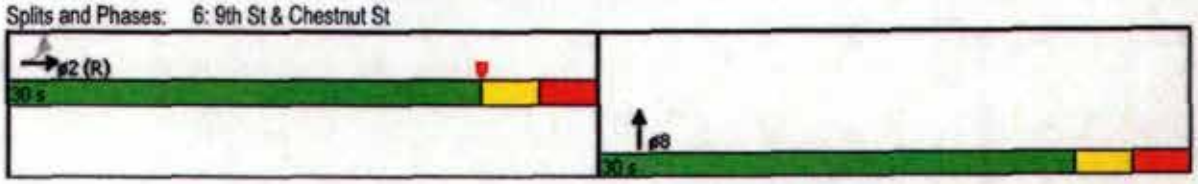
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	345	0	0	0	0	0	410	132	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.60	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		0.99						0.98				
Frt								0.964				
Flt Protected		0.990										
Satd. Flow (prot)	0	2065	0	0	0	0	0	3121	0	0	0	0
Flt Permitted		0.990										
Satd. Flow (perm)	0	2035	0	0	0	0	0	3121	0	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		442			450			343			565	
Travel Time (s)		10.0			10.2			7.8			12.8	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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
Parking (#/hr)	0								0			
Adj. Flow (vph)	98	375	0	0	0	0	0	446	143	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	473	0	0	0	0	0	589	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA						NA				
Protected Phases		2						6				
Permitted Phases	2											
Minimum Split (s)	23.0	23.0						23.0				
Total Split (s)	30.0	30.0						30.0				
Total Split (%)	50.0%	50.0%						50.0%				
Maximum Green (s)	24.0	24.0						24.0				
Yellow Time (s)	3.0	3.0						3.0				
All-Red Time (s)	3.0	3.0						3.0				
Lost Time Adjust (s)		-1.0						-1.0				
Total Lost Time (s)		5.0						5.0				
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		25.0						25.0				
Actuated g/C Ratio		0.42						0.42				
v/c Ratio		0.56						0.45				
Control Delay		16.5						14.0				
Queue Delay		0.0						0.0				
Total Delay		16.5						14.0				
LOS		B						B				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		16.5						14.0				
Approach LOS		B						B				
Queue Length 50th (ft)		103						76				
Queue Length 95th (ft)		170						115				
Internal Link Dist (ft)		362			370			263			485	
Turn Bay Length (ft)												
Base Capacity (vph)		847						1300				
Starvation Cap Reductn		0						0				
Spillback Cap Reductn		0						0				
Storage Cap Reductn		0						0				
Reduced v/c Ratio		0.56						0.45				

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 15.1 — Intersection LOS: B
Intersection Capacity Utilization 40.8% — ICU Level of Service A
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 6: 9th St & Chestnut St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	90	345	0	0	0	0	0	410	132	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.93			
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	0.90			
Adj Sat Flow veh/h/ln	186.3	186.3	0.0				0.0	186.3	186.3			
Lanes	0	2	0				0	2	0			
Cap, veh/h	120	424	0				0	1025	324			
Arrive On Green	0.42	0.42	0.00				0.00	0.42	0.42			
Sat Flow, veh/h	0	1695	0				0	2553	778			
Grp Volume(v), veh/h	98	375	0				0	319	270			
Grp Sat Flow(s),veh/h/ln	0	1017	0				0	1770	1468			
Q Serve(g_s), s	0.0	20.4	0.0				0.0	7.7	7.9			
Cycle Q Clear(g_c), s	25.0	20.4	0.0				0.0	7.7	7.9			
Prop In Lane	1.00		0.00				0.00		0.53			
Lane Grp Cap(c), veh/h	120	424	0				0	737	612			
V/C Ratio(X)	0.82	0.88	0.00				0.00	0.43	0.44			
Avail Cap(c_a), veh/h	120	424	0				0	737	612			
HCM Platoon Ratio	0.00	0.00	0.00				0.00	0.00	0.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	30.0	16.2	0.0				0.0	12.5	12.5			
Incr Delay (d2), s/veh	43.7	22.7	0.0				0.0	1.8	2.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile Back of Q (95%), veh/ln	5.2	10.4	0.0				0.0	6.1	5.3			
Lane Grp Delay (d), s/veh	73.7	38.9	0.0				0.0	14.3	14.8			
Lane Grp LOS	E	D						B	B			
Approach Vol, veh/h		473						589				
Approach Delay, s/veh		46.1						14.5				
Approach LOS		D						B				
Timer												
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		30.0						30.0				
Change Period (Y+Rc), s		6.0						6.0				
Max Green Setting (Gmax), s		24.0						24.0				
Max Q Clear Time (g_c+I1), s		27.0						9.9				
Green Ext Time (p_c), s		0.0						0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			28.6									
HCM 2010 LOS			C									
Notes												

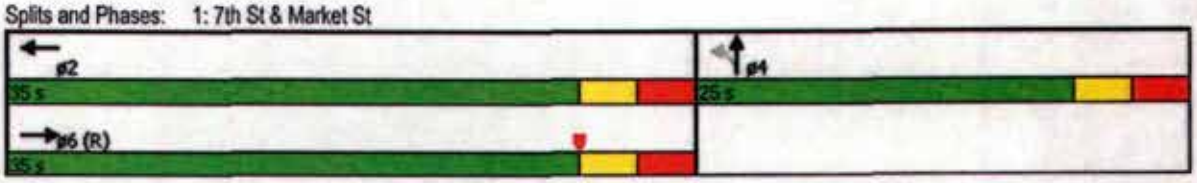
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	700	0	0	279	69	86	235	124	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	9	9	9	10	10	10
Lane Util. Factor	1.00	*0.60	1.00	1.00	0.95	*0.60	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor					0.99			0.96				
Frt					0.970			0.958				
Flt Protected								0.990				
Satd. Flow (prot)	0	3129	0	0	3159	0	0	2936	0	0	0	0
Flt Permitted								0.990				
Satd. Flow (perm)	0	3129	0	0	3159	0	0	2886	0	0	0	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		450			379			565			375	
Travel Time (s)		10.2			8.6			12.8			8.5	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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
Parking (#/hr)							0					
Adj. Flow (vph)	0	761	0	0	303	75	93	255	135	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	761	0	0	378	0	0	483	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.14	1.14	1.14	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA			NA		Perm	NA				
Protected Phases		6			2			4				
Permitted Phases							4					
Minimum Split (s)		30.0			20.0		20.0	20.0				
Total Split (s)		35.0			35.0		25.0	25.0				
Total Split (%)		58.3%			58.3%		41.7%	41.7%				
Maximum Green (s)		29.0			29.0		19.0	19.0				
Yellow Time (s)		3.0			3.0		3.0	3.0				
All-Red Time (s)		3.0			3.0		3.0	3.0				
Lost Time Adjust (s)		-1.0			-1.0			-1.0				
Total Lost Time (s)		5.0			5.0			5.0				
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		30.0			30.0			20.0				
Actuated g/C Ratio		0.50			0.50			0.33				
v/c Ratio		0.49			0.24			0.50				
Control Delay		14.6			9.0			19.8				
Queue Delay		0.0			0.0			0.0				
Total Delay		14.6			9.0			19.8				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		B			A			B				
Approach Delay		14.6			9.0			19.8				
Approach LOS		B			A			B				
Queue Length 50th (ft)		161			37			85				
Queue Length 95th (ft)		213			60			125				
Internal Link Dist (ft)		370			299			485			295	
Turn Bay Length (ft)												
Base Capacity (vph)		1564			1579			962				
Starvation Cap Reductn		0			0			0				
Spillback Cap Reductn		0			0			0				
Storage Cap Reductn		0			0			0				
Reduced v/c Ratio		0.49			0.24			0.50				

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 34 (57%), Referenced to phase 6:EBT, Start of Yellow
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 14.8 — Intersection LOS: B
Intersection Capacity Utilization 37.9% — ICU Level of Service A
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 1: 7th St & Market St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	700	0	0	279	69	86	235	124	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.94	1.00		0.91			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00			
Adj Sat Flow veh/h/ln	0.0	186.3	0.0	0.0	186.3	186.3	178.8	178.8	178.8			
Lanes	0	3	0	0	2	0	0	2	0			
Cap, veh/h	0	1676	0	0	1394	338	194	543	299			
Arrive On Green	0.00	0.17	0.00	0.00	0.50	0.50	0.11	0.11	0.11			
Sat Flow, veh/h	0	4843	0	0	2881	675	581	1630	896			
Grp Volume(v), veh/h	0	761	0	0	190	188	253	0	230			
Grp Sat Flow(s),veh/h/ln	0	1118	0	0	1770	1693	1580	0	1526			
Q Serve(g_s), s	0.0	12.3	0.0	0.0	3.6	3.7	9.0	0.0	8.5			
Cycle Q Clear(g_c), s	0.0	12.3	0.0	0.0	3.6	3.7	9.0	0.0	8.5			
Prop In Lane	0.00		0.00	0.00		0.40	0.37		0.59			
Lane Grp Cap(c), veh/h	0	1676	0	0	885	846	527	0	509			
V/C Ratio(X)	0.00	0.45	0.00	0.00	0.21	0.22	0.48	0.00	0.45			
Avail Cap(c_a), veh/h	0	1676	0	0	885	846	527	0	509			
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	17.7	0.0	0.0	8.4	8.4	21.8	0.0	21.6			
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.6	0.6	3.1	0.0	2.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile Back of Q (95%), veh/ln	0.0	6.8	0.0	0.0	2.6	2.6	7.6	0.0	6.9			
Lane Grp Delay (d), s/veh	0.0	18.5	0.0	0.0	9.0	9.0	24.9	0.0	24.5			
Lane Grp LOS		B			A	A	C		C			
Approach Vol, veh/h		761			378			483				
Approach Delay, s/veh		18.5			9.0			24.7				
Approach LOS		B			A			C				
Timer												
Assigned Phs		6			2			4				
Phs Duration (G+Y+Rc), s		35.0			35.0			25.0				
Change Period (Y+Rc), s		6.0			6.0			6.0				
Max Green Setting (Gmax), s		29.0			29.0			19.0				
Max Q Clear Time (g_c+I1), s		14.3			5.7			11.0				
Green Ext Time (p_c), s		6.6			8.3			1.9				
Intersection Summary												
HCM 2010 Ctrl Delay			18.2									
HCM 2010 LOS			B									
Notes												

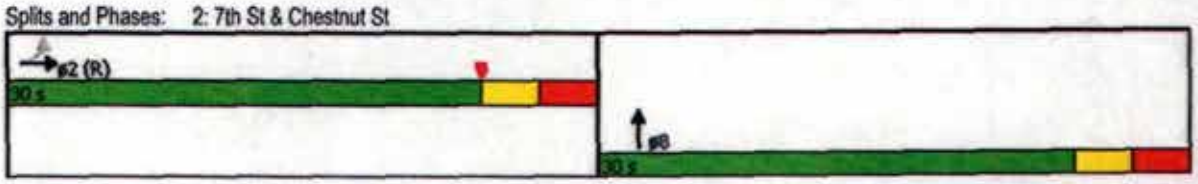
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	106	294	0	0	0	0	0	284	83	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.60	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		0.98						0.98				
Frt								0.966				
Flt Protected		0.987										
Satd. Flow (prot)	0	2059	0	0	0	0	0	3132	0	0	0	0
Flt Permitted		0.987										
Satd. Flow (perm)	0	2020	0	0	0	0	0	3132	0	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		450			393			327			565	
Travel Time (s)		10.2			8.9			7.4			12.8	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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
Parking (#/hr)	0						0					
Adj. Flow (vph)	115	320	0	0	0	0	0	309	90	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	435	0	0	0	0	0	399	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA						NA				
Protected Phases		2						8				
Permitted Phases	2											
Minimum Split (s)	23.0	23.0						23.0				
Total Split (s)	30.0	30.0						30.0				
Total Split (%)	50.0%	50.0%						50.0%				
Maximum Green (s)	24.0	24.0						24.0				
Yellow Time (s)	3.0	3.0						3.0				
All-Red Time (s)	3.0	3.0						3.0				
Lost Time Adjust (s)		-1.0						-1.0				
Total Lost Time (s)		5.0						5.0				
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		25.0						25.0				
Actuated g/C Ratio		0.42						0.42				
v/c Ratio		0.52						0.31				
Control Delay		14.4						12.5				
Queue Delay		0.0						0.0				
Total Delay		14.4						12.5				
LOS		B						B				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		14.4						12.5				
Approach LOS		B						B				
Queue Length 50th (ft)		73						48				
Queue Length 95th (ft)		128						76				
Internal Link Dist (ft)		370			313			247			485	
Turn Bay Length (ft)												
Base Capacity (vph)		841						1305				
Starvation Cap Reductn		0						0				
Spillback Cap Reductn		0						0				
Storage Cap Reductn		0						0				
Reduced v/c Ratio		0.52						0.31				

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 13.5 Intersection LOS: B
Intersection Capacity Utilization 34.7% ICU Level of Service A
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 2: 7th St & Chestnut St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	106	294	0	0	0	0	0	284	83	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.93			
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow veh/h/ln	186.3	186.3	0.0				0.0	186.3	186.3			
Lanes	0	2	0				0	2	0			
Cap, veh/h	120	424	0				0	1113	316			
Arrive On Green	0.14	0.14	0.00				0.00	0.42	0.42			
Sat Flow, veh/h	0	1695	0				0	2764	758			
Grp Volume(v), veh/h	115	320	0				0	202	197			
Grp Sat Flow(s),veh/h/ln	0	1017	0				0	1770	1660			
Q Serve(g_s), s	0.0	18.2	0.0				0.0	4.5	4.7			
Cycle Q Clear(g_c), s	25.0	18.2	0.0				0.0	4.5	4.7			
Prop In Lane	1.00		0.00				0.00		0.46			
Lane Grp Cap(c), veh/h	120	424	0				0	737	692			
V/C Ratio(X)	0.96	0.76	0.00				0.00	0.27	0.28			
Avail Cap(c_a), veh/h	120	424	0				0	737	692			
HCM Platoon Ratio	0.00	0.00	0.00				0.00	0.00	0.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	38.4	22.9	0.0				0.0	11.5	11.6			
Incr Delay (d2), s/veh	71.6	11.8	0.0				0.0	0.9	1.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile Back of Q (95%), veh/ln	7.6	10.1	0.0				0.0	3.5	3.4			
Lane Grp Delay (d), s/veh	110.0	34.8	0.0				0.0	12.4	12.6			
Lane Grp LOS	F	C						B	B			
Approach Vol, veh/h		435						399				
Approach Delay, s/veh		54.6						12.5				
Approach LOS		D						B				
Timer												
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		30.0						30.0				
Change Period (Y+Rc), s		6.0						6.0				
Max Green Setting (Gmax), s		24.0						24.0				
Max Q Clear Time (g_c+I1), s		27.0						6.7				
Green Ext Time (p_c), s		0.0						2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			34.5									
HCM 2010 LOS			C									
Notes												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	625	101	0	397	0	0	0	0	57	385	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	10	10	10	9	9	9
Lane Util. Factor	1.00	0.91	*0.60	1.00	*0.60	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor		0.99									0.98	
Frt		0.979									0.986	
Flt Protected											0.994	
Satd. Flow (prot)	0	4595	0	0	2086	0	0	0	0	0	3096	0
Flt Permitted											0.994	
Satd. Flow (perm)	0	4595	0	0	2086	0	0	0	0	0	3069	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		450			450			565			386	
Travel Time (s)		10.2			10.2			12.8			8.8	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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
Parking (#/hr)												0
Adj. Flow (vph)	0	679	110	0	432	0	0	0	0	62	418	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	789	0	0	432	0	0	0	0	0	531	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA			NA					Perm	NA	
Protected Phases		6			2						8	
Permitted Phases										8		
Minimum Split (s)		10.0			10.0					10.0	10.0	
Total Split (s)		31.0			31.0					29.0	29.0	
Total Split (%)		51.7%			51.7%					48.3%	48.3%	
Maximum Green (s)		25.0			25.0					23.0	23.0	
Yellow Time (s)		3.5			3.5					3.5	3.5	
All-Red Time (s)		2.5			2.5					2.5	2.5	
Lost Time Adjust (s)		-1.0			-1.0						-1.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		26.0			26.0						24.0	
Actuated g/C Ratio		0.43			0.43						0.40	
v/c Ratio		0.40			0.48						0.43	
Control Delay		6.3			15.8						14.5	
Queue Delay		0.0			0.0						0.0	
Total Delay		6.3			15.8						14.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		A			B						B	
Approach Delay		6.3			15.8						14.5	
Approach LOS		A			B						B	
Queue Length 50th (ft)		26			103						70	
Queue Length 95th (ft)		36			172						107	
Internal Link Dist (ft)		370			370			485			306	
Turn Bay Length (ft)												
Base Capacity (vph)		1991			903						1227	
Starvation Cap Reductn		0			0						0	
Spillback Cap Reductn		0			0						0	
Storage Cap Reductn		0			0						0	
Reduced v/c Ratio		0.40			0.48						0.43	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 40
Control Type: Pretimed
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 11.1 — Intersection LOS: B
Intersection Capacity Utilization 37.9% — ICU Level of Service A
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 3: 8th St & Market St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	625	101	0	397	0	0	0	0	57	385	47
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00				1.00		0.93
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	0.90
Adj Sat Flow veh/h/ln	0.0	186.3	186.3	0.0	186.3	0.0				178.8	178.8	178.8
Lanes	0	3	0	0	2	0				0	2	0
Cap, veh/h	0	1895	302	0	969	0				148	1035	132
Arrive On Green	0.00	0.87	0.87	0.00	0.43	0.00				0.40	0.40	0.40
Sat Flow, veh/h	0	4540	697	0	3725	0				370	2589	331
Grp Volume(v), veh/h	0	524	265	0	432	0				297	0	234
Grp Sat Flow(s),veh/h/ln	0	1695	1679	0	1118	0				1770	0	1519
Q Serve(g_s), s	0.0	1.8	1.8	0.0	8.1	0.0				7.3	0.0	6.6
Cycle Q Clear(g_c), s	0.0	1.8	1.8	0.0	8.1	0.0				7.3	0.0	6.6
Prop In Lane	0.00		0.42	0.00		0.00				0.21		0.22
Lane Grp Cap(c), veh/h	0	1469	727	0	969	0				708	0	608
V/C Ratio(X)	0.00	0.36	0.36	0.00	0.45	0.00				0.42	0.00	0.39
Avail Cap(c_a), veh/h	0	1469	727	0	969	0				708	0	608
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	2.4	2.4	0.0	11.9	0.0				13.0	0.0	12.8
Incr Delay (d2), s/veh	0.0	0.7	1.4	0.0	1.5	0.0				1.8	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile Back of Q (95%), veh/ln	0.0	1.1	1.4	0.0	3.9	0.0				5.7	0.0	4.5
Lane Grp Delay (d), s/veh	0.0	3.1	3.8	0.0	13.4	0.0				14.8	0.0	14.6
Lane Grp LOS		A	A		B					B		B
Approach Vol, veh/h		789			432						531	
Approach Delay, s/veh		3.3			13.4						14.7	
Approach LOS		A			B						B	

Timer			
Assigned Phs	6	2	8
Phs Duration (G+Y+Rc), s	31.0	31.0	29.0
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	25.0	25.0	23.0
Max Q Clear Time (g_c+I1), s	0.0	0.0	9.3
Green Ext Time (p_c), s	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	9.3
HCM 2010 LOS	A

Notes

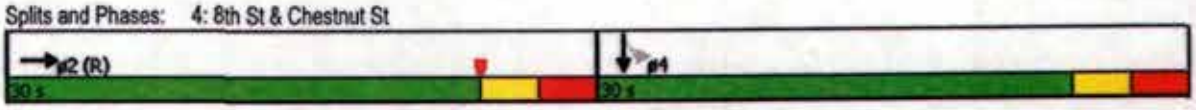
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	304	54	0	0	0	0	0	0	107	370	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	*0.60	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		0.99									0.98	
Frt		0.977										
Flt Protected											0.989	
Satd. Flow (prot)	0	3187	0	0	0	0	0	0	0	0	3267	0
Flt Permitted											0.989	
Satd. Flow (perm)	0	3187	0	0	0	0	0	0	0	0	3214	0
Right Turn on Red			No			No			No	No		No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		450			450			329			565	
Travel Time (s)		10.2			10.2			7.5			12.8	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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*
Parking (#/hr)	0											0
Adj. Flow (vph)	0	330	59	0	0	0	0	0	0	116	402	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	389	0	0	0	0	0	0	0	0	518	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA								Perm	NA	
Protected Phases		2									4	
Permitted Phases										4		
Minimum Split (s)		24.0								24.0	24.0	
Total Split (s)		30.0								30.0	30.0	
Total Split (%)		50.0%								50.0%	50.0%	
Maximum Green (s)		24.0								24.0	24.0	
Yellow Time (s)		3.0								3.0	3.0	
All-Red Time (s)		3.0								3.0	3.0	
Lost Time Adjust (s)		-1.0									-1.0	
Total Lost Time (s)		5.0									5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		25.0									25.0	
Actuated g/C Ratio		0.42									0.42	
v/c Ratio		0.29									0.39	
Control Delay		7.7									7.3	
Queue Delay		0.0									0.0	
Total Delay		7.7									7.3	
LOS		A									A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		7.7									7.3	
Approach LOS		A									A	
Queue Length 50th (ft)		27									31	
Queue Length 95th (ft)		41									43	
Internal Link Dist (ft)		370			370			249			485	
Turn Bay Length (ft)												
Base Capacity (vph)		1327									1339	
Starvation Cap Reductn		0									0	
Spillback Cap Reductn		0									0	
Storage Cap Reductn		0									0	
Reduced v/c Ratio		0.29									0.39	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.39
Intersection Signal Delay: 7.5 Intersection LOS: A
Intersection Capacity Utilization 36.0% ICU Level of Service A
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 4: 8th St & Chestnut St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	304	54	0	0	0	0	0	0	107	370	0
Number	5	2	12							7	4	14
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93							1.00		1.00
Parking Bus Adj	1.00	1.00	1.00							1.00	1.00	1.00
Adj Sat Flow veh/h/ln	0.0	186.3	186.3							186.3	186.3	0.0
Lanes	0	2	0							0	2	0
Cap, veh/h	0	1238	218							120	671	0
Arrive On Green	0.00	0.14	0.14							0.42	0.42	0.00
Sat Flow, veh/h	0	3063	522							0	1695	0
Grp Volume(v), veh/h	0	194	195							116	402	0
Grp Sat Flow(s),veh/h/ln	0	1770	1723							0	1610	0
Q Serve(g_s), s	0.0	5.9	6.1							0.0	11.6	0.0
Cycle Q Clear(g_c), s	0.0	5.9	6.1							25.0	11.6	0.0
Prop In Lane	0.00		0.30							1.00		0.00
Lane Grp Cap(c), veh/h	0	737	718							120	671	0
V/C Ratio(X)	0.00	0.26	0.27							0.97	0.60	0.00
Avail Cap(c_a), veh/h	0	737	718							120	671	0
HCM Platoon Ratio	0.00	0.00	0.00							0.00	0.00	0.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	17.6	17.7							30.0	13.6	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.9							73.6	3.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile Back of Q (95%), veh/ln	0.0	5.1	5.1							7.4	8.3	0.0
Lane Grp Delay (d), s/veh	0.0	18.5	18.6							103.6	17.5	0.0
Lane Grp LOS		B	B							F	B	
Approach Vol, veh/h		389									518	
Approach Delay, s/veh		18.6									36.8	
Approach LOS		B									D	

Timer	
Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	30.0	30.0
Change Period (Y+Rc), s	6.0	6.0
Max Green Setting (Gmax), s	24.0	24.0
Max Q Clear Time (g_c+I1), s	8.1	27.0
Green Ext Time (p_c), s	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	29.0
HCM 2010 LOS	C

Notes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	683	0	0	455	56	57	328	105	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	9	9	9	10	10	10
Lane Util. Factor	1.00	*0.60	1.00	1.00	*0.60	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor					0.99			0.97				
Frt					0.984			0.968				
Flt Protected								0.994				
Satd. Flow (prot)	0	3129	0	0	2035	0	0	3009	0	0	0	0
Flt Permitted								0.994				
Satd. Flow (perm)	0	3129	0	0	2035	0	0	2983	0	0	0	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		378			450			565			377	
Travel Time (s)		8.6			10.2			12.8			8.6	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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
Parking (#/hr)									0			
Adj. Flow (vph)	0	742	0	0	495	61	62	357	114	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	742	0	0	556	0	0	533	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.14	1.14	1.14	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA			NA		Perm	NA				
Protected Phases		6			2			4				
Permitted Phases							4					
Minimum Split (s)		30.0			20.0		20.0	20.0				
Total Split (s)		31.0			31.0		29.0	29.0				
Total Split (%)		51.7%			51.7%		48.3%	48.3%				
Maximum Green (s)		25.0			25.0		23.0	23.0				
Yellow Time (s)		3.5			3.5		3.5	3.5				
All-Red Time (s)		2.5			2.5		2.5	2.5				
Lost Time Adjust (s)		-1.0			-1.0			-1.0				
Total Lost Time (s)		5.0			5.0			5.0				
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		26.0			26.0			24.0				
Actuated g/C Ratio		0.43			0.43			0.40				
v/c Ratio		0.55			0.63			0.45				
Control Delay		14.5			11.0			9.2				
Queue Delay		0.0			0.0			0.0				
Total Delay		14.5			11.0			9.2				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		B			B			A				
Approach Delay		14.5			11.0			9.2				
Approach LOS		B			B			A				
Queue Length 50th (ft)		105			59			38				
Queue Length 95th (ft)		154			77			54				
Internal Link Dist (ft)		298			370			485			297	
Turn Bay Length (ft)												
Base Capacity (vph)		1355			881			1193				
Starvation Cap Reductn		0			0			0				
Spillback Cap Reductn		0			0			0				
Storage Cap Reductn		0			0			0				
Reduced v/c Ratio		0.55			0.63			0.45				

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 11.9 — Intersection LOS: B
Intersection Capacity Utilization 42.0% — ICU Level of Service A
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 5: 9th St & Market St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	683	0	0	455	56	57	328	105	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.93	1.00		0.93			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90			
Adj Sat Flow veh/h/ln	0.0	186.3	0.0	0.0	186.3	186.3	178.8	178.8	178.8			
Lanes	0	3	0	0	2	0	0	2	0			
Cap, veh/h	0	1453	0	0	1118	137	144	847	284			
Arrive On Green	0.00	0.43	0.00	0.00	0.87	0.87	0.13	0.13	0.13			
Sat Flow, veh/h	0	4843	0	0	3325	317	359	2118	710			
Grp Volume(v), veh/h	0	742	0	0	213	343	305	0	228			
Grp Sat Flow(s),veh/h/ln	0	1118	0	0	1118	1779	1770	0	1416			
Q Serve(g_s), s	0.0	9.7	0.0	0.0	2.5	2.5	9.5	0.0	8.8			
Cycle Q Clear(g_c), s	0.0	9.7	0.0	0.0	2.5	2.5	9.5	0.0	8.8			
Prop In Lane	0.00		0.00	0.00		0.18	0.20		0.50			
Lane Grp Cap(c), veh/h	0	1453	0	0	484	771	708	0	567			
V/C Ratio(X)	0.00	0.51	0.00	0.00	0.44	0.44	0.43	0.00	0.40			
Avail Cap(c_a), veh/h	0	1453	0	0	484	771	708	0	567			
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	12.4	0.0	0.0	2.4	2.4	19.8	0.0	19.5			
Incr Delay (d2), s/veh	0.0	1.3	0.0	0.0	2.9	1.9	1.9	0.0	2.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile Back of Q (95%), veh/ln	0.0	4.5	0.0	0.0	1.4	1.8	8.5	0.0	6.6			
Lane Grp Delay (d), s/veh	0.0	13.7	0.0	0.0	5.3	4.3	21.7	0.0	21.6			
Lane Grp LOS		B			A	A	C		C			
Approach Vol, veh/h		742			556			533				
Approach Delay, s/veh		13.7			4.7			21.6				
Approach LOS		B			A			C				
Timer												
Assigned Phs		6			2			4				
Phs Duration (G+Y+Rc), s		31.0			31.0			29.0				
Change Period (Y+Rc), s		6.0			6.0			6.0				
Max Green Setting (Gmax), s		25.0			25.0			23.0				
Max Q Clear Time (g_c+I1), s		0.0			0.0			11.5				
Green Ext Time (p_c), s		0.0			0.0			0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			13.3									
HCM 2010 LOS			B									
Notes												

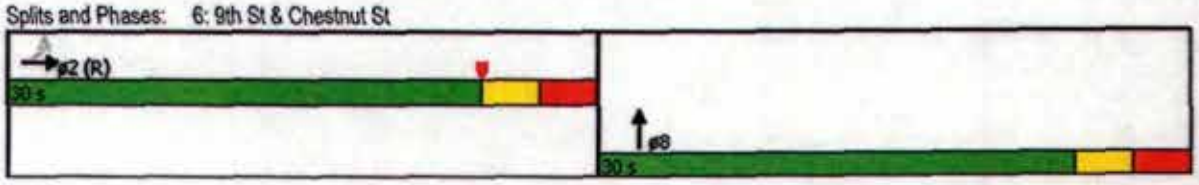
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	298	0	0	0	0	0	395	86	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.60	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		0.99						0.99				
Frt								0.973				
Flt Protected		0.992										
Satd. Flow (prot)	0	2070	0	0	0	0	0	3167	0	0	0	0
Flt Permitted		0.992										
Satd. Flow (perm)	0	2045	0	0	0	0	0	3167	0	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		442			450			343			565	
Travel Time (s)		10.0			10.2			7.8			12.8	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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
Parking (#/hr)	0								0			
Adj. Flow (vph)	65	324	0	0	0	0	0	429	93	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	389	0	0	0	0	0	522	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA						NA				
Protected Phases		2						8				
Permitted Phases	2											
Minimum Split (s)	23.0	23.0						23.0				
Total Split (s)	30.0	30.0						30.0				
Total Split (%)	50.0%	50.0%						50.0%				
Maximum Green (s)	24.0	24.0						24.0				
Yellow Time (s)	3.0	3.0						3.0				
All-Red Time (s)	3.0	3.0						3.0				
Lost Time Adjust (s)		-1.0						-1.0				
Total Lost Time (s)		5.0						5.0				
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		25.0						25.0				
Actuated g/C Ratio		0.42						0.42				
v/c Ratio		0.46						0.40				
Control Delay		14.8						13.4				
Queue Delay		0.0						0.0				
Total Delay		14.8						13.4				
LOS		B						B				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		14.8						13.4				
Approach LOS		B						B				
Queue Length 50th (ft)		80						66				
Queue Length 95th (ft)		135						101				
Internal Link Dist (ft)		362			370			263			485	
Turn Bay Length (ft)												
Base Capacity (vph)		852						1319				
Starvation Cap Reductn		0						0				
Spillback Cap Reductn		0						0				
Storage Cap Reductn		0						0				
Reduced v/c Ratio		0.46						0.40				

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.46
Intersection Signal Delay: 14.0 — Intersection LOS: B
Intersection Capacity Utilization 36.3% — ICU Level of Service A
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 6: 9th St & Chestnut St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	60	298	0	0	0	0	0	395	86	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.93			
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	0.90			
Adj Sat Flow veh/h/ln	186.3	186.3	0.0				0.0	186.3	186.3			
Lanes	0	2	0				0	2	0			
Cap, veh/h	106	444	0				0	1129	242			
Arrive On Green	0.42	0.42	0.00				0.00	0.42	0.42			
Sat Flow, veh/h	0	1742	0				0	2804	580			
Grp Volume(v), veh/h	86	303	0				0	278	244			
Grp Sat Flow(s),veh/h/ln	47	1017	0				0	1770	1521			
Q Serve(g_s), s	0.0	14.9	0.0				0.0	6.5	6.7			
Cycle Q Clear(g_c), s	25.0	14.9	0.0				0.0	6.5	6.7			
Prop In Lane	0.76		0.00				0.00		0.38			
Lane Grp Cap(c), veh/h	125	424	0				0	737	634			
V/C Ratio(X)	0.68	0.72	0.00				0.00	0.38	0.38			
Avail Cap(c_a), veh/h	125	424	0				0	737	634			
HCM Platoon Ratio	0.00	0.00	0.00				0.00	0.00	0.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	24.3	14.5	0.0				0.0	12.1	12.2			
Incr Delay (d2), s/veh	26.2	9.9	0.0				0.0	1.5	1.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile Back of Q (95%), veh/ln	3.9	7.3	0.0				0.0	5.1	4.6			
Lane Grp Delay (d), s/veh	50.6	24.5	0.0				0.0	13.6	13.9			
Lane Grp LOS	D	C						B	B			
Approach Vol, veh/h		389						522				
Approach Delay, s/veh		30.2						13.7				
Approach LOS		C						B				

Timer	
Assigned Phs	2 8
Phs Duration (G+Y+Rc), s	30.0 30.0
Change Period (Y+Rc), s	6.0 6.0
Max Green Setting (Gmax), s	24.0 24.0
Max Q Clear Time (g_c+I1), s	27.0 8.7
Green Ext Time (p_c), s	0.0 0.0

Intersection Summary	
HCM 2010 Ctrl Delay	20.8
HCM 2010 LOS	C

Notes

APPENDIX I

Synchro Capacity Analysis Worksheets
Build

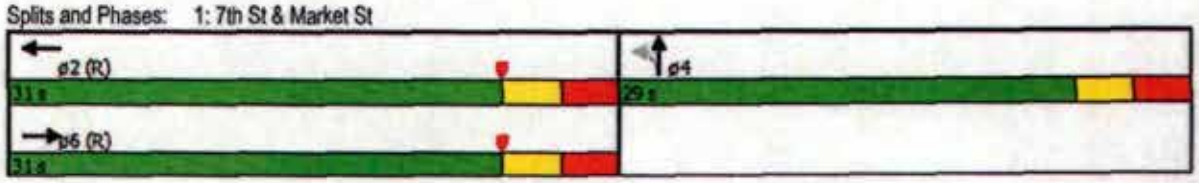
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	921	0	0	263	77	67	672	80	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	9	9	9	10	10	10
Lane Util. Factor	1.00	*0.60	1.00	1.00	0.95	*0.60	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor					0.98			0.99				
Frt					0.966			0.985				
Flt Protected								0.996				
Satd. Flow (prot)	0	3129	0	0	3133	0	0	3099	0	0	0	0
Flt Permitted								0.996				
Satd. Flow (perm)	0	3129	0	0	3133	0	0	3080	0	0	0	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		450			379			565			375	
Travel Time (s)		10.2			8.6			12.8			8.5	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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
Parking (#/hr)							0					
Adj. Flow (vph)	0	1001	0	0	286	84	73	730	87	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1001	0	0	370	0	0	890	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.14	1.14	1.14	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA			NA		Perm	NA				
Protected Phases		6			2			4				
Permitted Phases							4					
Minimum Split (s)		20.0			20.0		25.0	25.0				
Total Split (s)		31.0			31.0		29.0	29.0				
Total Split (%)		51.7%			51.7%		48.3%	48.3%				
Maximum Green (s)		25.0			25.0		23.0	23.0				
Yellow Time (s)		3.0			3.0		3.0	3.0				
All-Red Time (s)		3.0			3.0		3.0	3.0				
Lost Time Adjust (s)		-1.0			-1.0			-1.0				
Total Lost Time (s)		5.0			5.0			5.0				
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		26.0			26.0			24.0				
Actuated g/C Ratio		0.43			0.43			0.40				
v/c Ratio		0.74			0.27			0.72				
Control Delay		15.3			11.6			13.9				
Queue Delay		0.0			0.0			0.0				
Total Delay		15.3			11.6			13.9				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		B			B			B				
Approach Delay		15.3			11.6			13.9				
Approach LOS		B			B			B				
Queue Length 50th (ft)		103			43			90				
Queue Length 95th (ft)		104			68			152				
Internal Link Dist (ft)		370			299			485			295	
Turn Bay Length (ft)												
Base Capacity (vph)		1355			1357			1232				
Starvation Cap Reductn		0			0			0				
Spillback Cap Reductn		0			0			0				
Storage Cap Reductn		0			0			0				
Reduced v/c Ratio		0.74			0.27			0.72				

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 55
Control Type: Pretimed
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 14.2 — Intersection LOS: B
Intersection Capacity Utilization 57.3% — ICU Level of Service B
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 1: 7th St & Market St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	921	0	0	263	77	67	672	80	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.93	1.00		0.93			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00			
Adj Sat Flow veh/h/ln	0.0	186.3	0.0	0.0	186.3	186.3	178.8	178.8	178.8			
Lanes	0	3	0	0	2	0	0	2	0			
Cap, veh/h	0	1453	0	0	1156	330	103	1079	135			
Arrive On Green	0.00	0.87	0.00	0.00	0.43	0.43	0.13	0.13	0.13			
Sat Flow, veh/h	0	4843	0	0	2762	762	258	2698	337			
Grp Volume(v), veh/h	0	1001	0	0	187	183	452	0	438			
Grp Sat Flow(s),veh/h/ln	0	1118	0	0	1770	1662	1597	0	1697			
Q Serve(g_s), s	0.0	5.9	0.0	0.0	4.0	4.2	16.3	0.0	14.7			
Cycle Q Clear(g_c), s	0.0	5.9	0.0	0.0	4.0	4.2	16.3	0.0	14.7			
Prop In Lane	0.00		0.00	0.00		0.46	0.16		0.20			
Lane Grp Cap(c), veh/h	0	1453	0	0	767	720	639	0	679			
V/C Ratio(X)	0.00	0.69	0.00	0.00	0.24	0.25	0.71	0.00	0.64			
Avail Cap(c_a), veh/h	0	1453	0	0	767	720	639	0	679			
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	2.7	0.0	0.0	10.8	10.8	22.7	0.0	22.0			
Incr Delay (d2), s/veh	0.0	2.7	0.0	0.0	0.8	0.9	6.5	0.0	4.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile Back of Q (95%), veh/ln	0.0	1.8	0.0	0.0	3.1	3.1	12.7	0.0	12.0			
Lane Grp Delay (d), s/veh	0.0	5.4	0.0	0.0	11.5	11.7	29.2	0.0	26.7			
Lane Grp LOS		A			B	B	C		C			
Approach Vol, veh/h		1001			370			890				
Approach Delay, s/veh		5.4			11.6			28.0				
Approach LOS		A			B			C				
Timer												
Assigned Phs		6			2			4				
Phs Duration (G+Y+Rc), s		31.0			31.0			29.0				
Change Period (Y+Rc), s		6.0			6.0			6.0				
Max Green Setting (Gmax), s		25.0			25.0			23.0				
Max Q Clear Time (g_c+I1), s		0.0			6.2			18.3				
Green Ext Time (p_c), s		0.0			0.0			0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			15.3									
HCM 2010 LOS			B									
Notes												

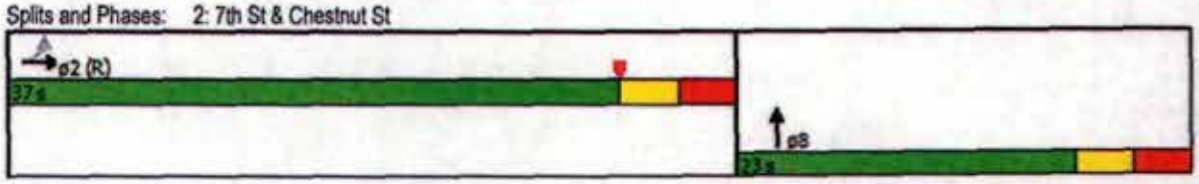
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	279	357	0	0	0	0	0	378	132	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.60	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		0.98						0.97				
Frt								0.961				
Flt Protected		0.979										
Satd. Flow (prot)	0	2042	0	0	0	0	0	3084	0	0	0	0
Flt Permitted		0.979										
Satd. Flow (perm)	0	1992	0	0	0	0	0	3084	0	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		450			393			327			565	
Travel Time (s)		10.2			8.9			7.4			12.8	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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
Parking (#/hr)	0						0					
Adj. Flow (vph)	303	388	0	0	0	0	0	411	143	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	691	0	0	0	0	0	554	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA						NA				
Protected Phases		2						8				
Permitted Phases	2											
Minimum Split (s)	23.0	23.0						23.0				
Total Split (s)	37.0	37.0						23.0				
Total Split (%)	61.7%	61.7%						38.3%				
Maximum Green (s)	31.0	31.0						17.0				
Yellow Time (s)	3.0	3.0						3.0				
All-Red Time (s)	3.0	3.0						3.0				
Lost Time Adjust (s)		-1.0						-1.0				
Total Lost Time (s)		5.0						5.0				
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		32.0						18.0				
Actuated g/C Ratio		0.53						0.30				
v/c Ratio		0.65						0.60				
Control Delay		10.8						21.2				
Queue Delay		0.0						0.0				
Total Delay		10.8						21.2				
LOS		B						C				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		10.8						21.2				
Approach LOS		B						C				
Queue Length 50th (ft)		92						88				
Queue Length 95th (ft)		180						134				
Internal Link Dist (ft)		370			313			247			485	
Turn Bay Length (ft)												
Base Capacity (vph)		1062						925				
Starvation Cap Reductn		0						0				
Spillback Cap Reductn		0						0				
Storage Cap Reductn		0						0				
Reduced v/c Ratio		0.65						0.60				

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow
Natural Cycle: 55
Control Type: Pretimed
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 15.4 — Intersection LOS: B
Intersection Capacity Utilization 46.7% — ICU Level of Service A
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 2: 7th St & Chestnut St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	279	357	0	0	0	0	0	378	132	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.90			
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow veh/h/ln	186.3	186.3	0.0				0.0	186.3	186.3			
Lanes	0	2	0				0	2	0			
Cap, veh/h	120	542	0				0	753	257			
Arrive On Green	0.18	0.18	0.00				0.00	0.30	0.30			
Sat Flow, veh/h	0	1695	0				0	2604	858			
Grp Volume(v), veh/h	303	388	0				0	287	267			
Grp Sat Flow(s),veh/h/ln	0	1017	0				0	1770	1599			
Q Serve(g_s), s	0.0	21.6	0.0				0.0	8.1	8.4			
Cycle Q Clear(g_c), s	32.0	21.6	0.0				0.0	8.1	8.4			
Prop In Lane	1.00		0.00				0.00		0.54			
Lane Grp Cap(c), veh/h	120	542	0				0	531	480			
V/C Ratio(X)	2.52	0.72	0.00				0.00	0.54	0.56			
Avail Cap(c_a), veh/h	120	542	0				0	531	480			
HCM Platoon Ratio	0.00	0.00	0.00				0.00	0.00	0.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	40.7	20.4	0.0				0.0	17.5	17.6			
Incr Delay (d2), s/veh	710.2	7.9	0.0				0.0	3.9	4.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile Back of Q (95%), veh/ln	46.1	10.9	0.0				0.0	6.9	6.7			
Lane Grp Delay (d), s/veh	751.0	28.3	0.0				0.0	21.5	22.2			
Lane Grp LOS	F	C						C	C			
Approach Vol, veh/h		691						554				
Approach Delay, s/veh		345.2						21.8				
Approach LOS		F						C				

Timer	
Assigned Phs	2
Phs Duration (G+Y+Rc), s	37.0
Change Period (Y+Rc), s	6.0
Max Green Setting (Gmax), s	31.0
Max Q Clear Time (g_c+I1), s	34.0
Green Ext Time (p_c), s	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	201.3
HCM 2010 LOS	F

Notes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	895	320	0	546	0	0	0	0	63	695	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	10	10	10	9	9	9
Lane Util. Factor	1.00	0.91	*0.60	1.00	*0.60	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor		0.98									0.99	
Frt		0.960									0.991	
Flt Protected											0.996	
Satd. Flow (prot)	0	4461	0	0	2086	0	0	0	0	0	3128	0
Flt Permitted											0.996	
Satd. Flow (perm)	0	4461	0	0	2086	0	0	0	0	0	3110	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		450			450			190			386	
Travel Time (s)		10.2			10.2			4.3			8.8	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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
Parking (#/hr)												0
Adj. Flow (vph)	0	973	348	0	593	0	0	0	0	68	755	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1321	0	0	593	0	0	0	0	0	875	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA			NA					Perm	NA	
Protected Phases		6			2						8	
Permitted Phases										8		
Minimum Split (s)		10.0			10.0					10.0	10.0	
Total Split (s)		31.0			31.0					29.0	29.0	
Total Split (%)		51.7%			51.7%					48.3%	48.3%	
Maximum Green (s)		25.0			25.0					23.0	23.0	
Yellow Time (s)		3.5			3.5					3.5	3.5	
All-Red Time (s)		2.5			2.5					2.5	2.5	
Lost Time Adjust (s)		-1.0			-1.0						-1.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		26.0			26.0						24.0	
Actuated g/C Ratio		0.43			0.43						0.40	
v/c Ratio		0.68			0.66						0.70	
Control Delay		11.1			13.3						18.8	
Queue Delay		0.0			0.0						0.0	
Total Delay		11.1			13.3						18.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		B			B						B	
Approach Delay		11.1			13.3						18.8	
Approach LOS		B			B						B	
Queue Length 50th (ft)		72			87						133	
Queue Length 95th (ft)		m129			129						193	
Internal Link Dist (ft)		370			370			110			306	
Turn Bay Length (ft)												
Base Capacity (vph)		1933			903						1244	
Starvation Cap Reductn		0			0						0	
Spillback Cap Reductn		0			0						0	
Storage Cap Reductn		0			0						0	
Reduced v/c Ratio		0.68			0.66						0.70	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 14.0 — Intersection LOS: B
Intersection Capacity Utilization 57.3% — ICU Level of Service B
Analysis Period (min) 15
* User Entered Value
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: 8th St & Market St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	895	320	0	546	0	0	0	0	63	695	48
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00				1.00		0.93
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	0.90
Adj Sat Flow veh/h/ln	0.0	186.3	186.3	0.0	186.3	0.0				178.8	178.8	178.8
Lanes	0	3	0	0	2	0				0	2	0
Cap, veh/h	0	1568	560	0	969	0				99	1149	83
Arrive On Green	0.00	0.87	0.87	0.00	0.87	0.00				0.40	0.40	0.40
Sat Flow, veh/h	0	3787	1292	0	3725	0				248	2873	208
Grp Volume(v), veh/h	0	911	410	0	593	0				487	0	388
Grp Sat Flow(s),veh/h/ln	0	1695	1522	0	1118	0				1776	0	1553
Q Serve(g_s), s	0.0	4.7	4.7	0.0	4.5	0.0				13.6	0.0	12.0
Cycle Q Clear(g_c), s	0.0	4.7	4.7	0.0	4.5	0.0				13.6	0.0	12.0
Prop In Lane	0.00		0.85	0.00		0.00				0.14		0.13
Lane Grp Cap(c), veh/h	0	1469	659	0	969	0				710	0	621
V/C Ratio(X)	0.00	0.62	0.62	0.00	0.61	0.00				0.69	0.00	0.62
Avail Cap(c_a), veh/h	0	1469	659	0	969	0				710	0	621
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	2.6	2.6	0.0	2.6	0.0				14.9	0.0	14.4
Incr Delay (d2), s/veh	0.0	2.0	4.4	0.0	2.9	0.0				5.3	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile Back of Q (95%), veh/ln	0.0	2.2	2.8	0.0	1.7	0.0				10.5	0.0	8.5
Lane Grp Delay (d), s/veh	0.0	4.6	6.9	0.0	5.5	0.0				20.2	0.0	19.1
Lane Grp LOS		A	A		A					C		B
Approach Vol, veh/h		1321			593						875	
Approach Delay, s/veh		5.3			5.5						19.7	
Approach LOS		A			A						B	

Timer												
Assigned Phs		6			2						8	
Phs Duration (G+Y+Rc), s		31.0			31.0						29.0	
Change Period (Y+Rc), s		6.0			6.0						6.0	
Max Green Setting (Gmax), s		25.0			25.0						23.0	
Max Q Clear Time (g_c+I1), s		0.0			0.0						15.6	
Green Ext Time (p_c), s		0.0			0.0						0.0	

Intersection Summary		
HCM 2010 Ctrl Delay		9.9
HCM 2010 LOS		A

Notes

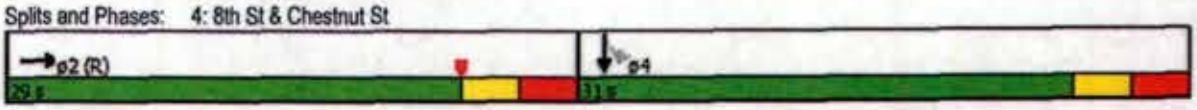
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	368	102	0	0	0	0	0	0	236	471	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	*0.60	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		0.98									0.98	
Frt		0.967										
Flt Protected											0.984	
Satd. Flow (prot)	0	3135	0	0	0	0	0	0	0	0	3250	0
Flt Permitted											0.984	
Satd. Flow (perm)	0	3135	0	0	0	0	0	0	0	0	3175	0
Right Turn on Red			No			No			No	No		No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		450			450			329			253	
Travel Time (s)		10.2			10.2			7.5			5.8	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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
Parking (#/hr)	0											0
Adj. Flow (vph)	0	400	111	0	0	0	0	0	0	257	512	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	511	0	0	0	0	0	0	0	0	769	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA								Perm	NA	
Protected Phases		2									4	
Permitted Phases										4		
Minimum Split (s)		24.0								24.0	24.0	
Total Split (s)		29.0								31.0	31.0	
Total Split (%)		48.3%								51.7%	51.7%	
Maximum Green (s)		23.0								25.0	25.0	
Yellow Time (s)		3.0								3.0	3.0	
All-Red Time (s)		3.0								3.0	3.0	
Lost Time Adjust (s)		-1.0									-1.0	
Total Lost Time (s)		5.0									5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		24.0									26.0	
Actuated g/C Ratio		0.40									0.43	
v/c Ratio		0.41									0.56	
Control Delay		9.2									12.1	
Queue Delay		0.0									0.0	
Total Delay		9.2									12.1	
LOS		A									B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		9.2									12.1	
Approach LOS		A									B	
Queue Length 50th (ft)		43									72	
Queue Length 95th (ft)		61									133	
Internal Link Dist (ft)		370			370			249			173	
Turn Bay Length (ft)												
Base Capacity (vph)		1254									1375	
Starvation Cap Reductn		0									0	
Spillback Cap Reductn		0									0	
Storage Cap Reductn		0									0	
Reduced v/c Ratio		0.41									0.56	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 10.9 — Intersection LOS: B
Intersection Capacity Utilization 46.2% — ICU Level of Service A
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 4: 8th St & Chestnut St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	368	102	0	0	0	0	0	0	236	471	0
Number	5	2	12							7	4	14
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93							1.00		1.00
Parking Bus Adj	1.00	1.00	1.00							1.00	1.00	1.00
Adj Sat Flow veh/h/ln	0.0	186.3	186.3							186.3	186.3	0.0
Lanes	0	2	0							0	2	0
Cap, veh/h	0	1078	294							120	698	0
Arrive On Green	0.00	0.13	0.13							0.43	0.43	0.00
Sat Flow, veh/h	0	2789	736							0	1695	0
Grp Volume(v), veh/h	0	260	251							257	512	0
Grp Sat Flow(s),veh/h/ln	0	1770	1663							0	1610	0
Q Serve(g_s), s	0.0	8.1	8.3							0.0	15.8	0.0
Cycle Q Clear(g_c), s	0.0	8.1	8.3							26.0	15.8	0.0
Prop In Lane	0.00		0.44							1.00		0.00
Lane Grp Cap(c), veh/h	0	708	665							120	698	0
V/C Ratio(X)	0.00	0.37	0.38							2.14	0.73	0.00
Avail Cap(c_a), veh/h	0	708	665							120	698	0
HCM Platoon Ratio	0.00	0.00	0.00							0.00	0.00	0.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	19.1	19.2							30.0	14.1	0.0
Incr Delay (d2), s/veh	0.0	1.5	1.6							540.5	6.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile Back of Q (95%), veh/ln	0.0	7.3	7.1							35.5	11.0	0.0
Lane Grp Delay (d), s/veh	0.0	20.6	20.8							570.5	20.9	0.0
Lane Grp LOS		C	C							F	C	
Approach Vol, veh/h		511									769	
Approach Delay, s/veh		20.7									204.5	
Approach LOS		C									F	

Timer	
Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	29.0	31.0
Change Period (Y+Rc), s	6.0	6.0
Max Green Setting (Gmax), s	23.0	25.0
Max Q Clear Time (g_c+I1), s	10.3	28.0
Green Ext Time (p_c), s	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	131.2
HCM 2010 LOS	F

Notes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	919	0	0	475	51	138	566	247	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	9	9	9	10	10	10
Lane Util. Factor	1.00	*0.60	1.00	1.00	*0.60	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor					0.99			0.97				
Frt					0.986			0.961				
Flt Protected								0.993				
Satd. Flow (prot)	0	3129	0	0	2041	0	0	2975	0	0	0	0
Flt Permitted								0.993				
Satd. Flow (perm)	0	3129	0	0	2041	0	0	2943	0	0	0	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		378			450			190			377	
Travel Time (s)		8.6			10.2			4.3			8.6	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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
Parking (#/hr)									0			
Adj. Flow (vph)	0	999	0	0	516	55	150	615	268	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	999	0	0	571	0	0	1033	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.14	1.14	1.14	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA			NA		Perm	NA				
Protected Phases		6			2			4				
Permitted Phases							4					
Minimum Split (s)		30.0			20.0		20.0	20.0				
Total Split (s)		30.0			30.0		30.0	30.0				
Total Split (%)		50.0%			50.0%		50.0%	50.0%				
Maximum Green (s)		24.0			24.0		24.0	24.0				
Yellow Time (s)		3.5			3.5		3.5	3.5				
All-Red Time (s)		2.5			2.5		2.5	2.5				
Lost Time Adjust (s)		-1.0			-1.0			-1.0				
Total Lost Time (s)		5.0			5.0			5.0				
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		25.0			25.0			25.0				
Actuated g/C Ratio		0.42			0.42			0.42				
v/c Ratio		0.77			0.67			0.84				
Control Delay		19.9			11.3			18.9				
Queue Delay		0.0			0.0			0.0				
Total Delay		19.9			11.3			18.9				

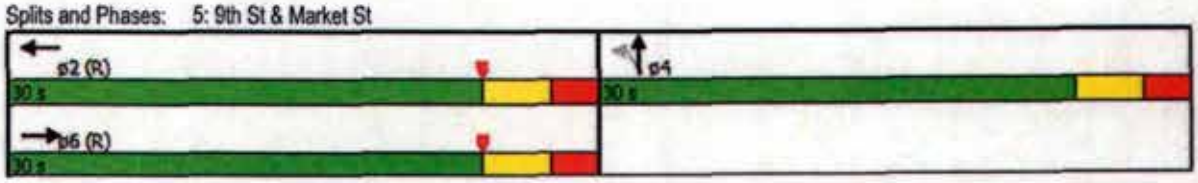
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		B			B			B				
Approach Delay		19.9			11.3			18.9				
Approach LOS		B			B			B				
Queue Length 50th (ft)		164			45			101				
Queue Length 95th (ft)		236			107			#175				
Internal Link Dist (ft)		298			370			110			297	
Turn Bay Length (ft)												
Base Capacity (vph)		1303			850			1226				
Starvation Cap Reductn		0			0			0				
Spillback Cap Reductn		0			0			0				
Storage Cap Reductn		0			0			0				
Reduced v/c Ratio		0.77			0.67			0.84				

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 60
Control Type: Pretimed
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 17.6 Intersection LOS: B
Intersection Capacity Utilization 58.5% ICU Level of Service B
Analysis Period (min) 15

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

Splits and Phases: 5: 9th St & Market St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	919	0	0	475	51	138	566	247	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.93	1.00		0.93			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90			
Adj Sat Flow veh/h/ln	0.0	186.3	0.0	0.0	186.3	186.3	178.8	178.8	178.8			
Lanes	0	3	0	0	2	0	0	2	0			
Cap, veh/h	0	1397	0	0	1094	116	183	769	359			
Arrive On Green	0.00	0.42	0.00	0.00	0.83	0.83	0.14	0.14	0.14			
Sat Flow, veh/h	0	4843	0	0	3372	279	439	1845	861			
Grp Volume(v), veh/h	0	999	0	0	219	352	604	0	429			
Grp Sat Flow(s),veh/h/ln	0	1118	0	0	1118	1788	1766	0	1379			
Q Serve(g_s), s	0.0	14.9	0.0	0.0	3.2	3.3	19.9	0.0	18.0			
Cycle Q Clear(g_c), s	0.0	14.9	0.0	0.0	3.2	3.3	19.9	0.0	18.0			
Prop In Lane	0.00		0.00	0.00		0.16	0.25		0.62			
Lane Grp Cap(c), veh/h	0	1397	0	0	466	745	736	0	575			
V/C Ratio(X)	0.00	0.72	0.00	0.00	0.47	0.47	0.82	0.00	0.75			
Avail Cap(c_a), veh/h	0	1397	0	0	466	745	736	0	575			
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	14.5	0.0	0.0	3.2	3.2	23.7	0.0	22.8			
Incr Delay (d2), s/veh	0.0	3.2	0.0	0.0	3.4	2.1	10.0	0.0	8.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile Back of Q (95%), veh/ln	0.0	7.2	0.0	0.0	1.7	2.3	16.9	0.0	12.6			
Lane Grp Delay (d), s/veh	0.0	17.7	0.0	0.0	6.6	5.3	33.6	0.0	31.4			
Lane Grp LOS		B			A	A	C		C			
Approach Vol, veh/h		999			571			1033				
Approach Delay, s/veh		17.7			5.8			32.7				
Approach LOS		B			A			C				
Timer												
Assigned Phs		6			2			4				
Phs Duration (G+Y+Rc), s		30.0			30.0			30.0				
Change Period (Y+Rc), s		6.0			6.0			6.0				
Max Green Setting (Gmax), s		24.0			24.0			24.0				
Max Q Clear Time (g_c+I1), s		0.0			0.0			21.9				
Green Ext Time (p_c), s		0.0			0.0			0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			21.1									
HCM 2010 LOS			C									
Notes												

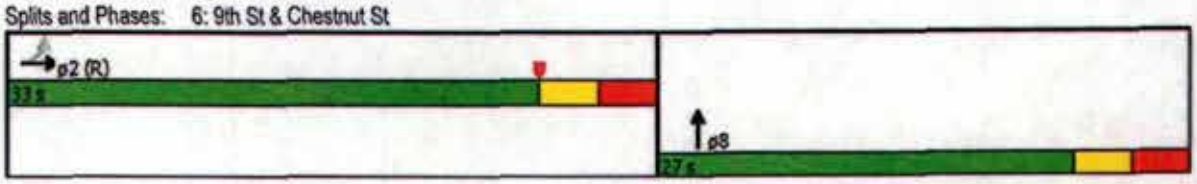
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	111	345	0	0	0	0	0	453	132	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.60	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		0.98						0.98				
Frt								0.966				
Flt Protected		0.988										
Satd. Flow (prot)	0	2061	0	0	0	0	0	3125	0	0	0	0
Flt Permitted		0.988										
Satd. Flow (perm)	0	2029	0	0	0	0	0	3125	0	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		442			450			343			375	
Travel Time (s)		10.0			10.2			7.8			8.5	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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
Parking (#/hr)	0								0			
Adj. Flow (vph)	121	375	0	0	0	0	0	492	143	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	496	0	0	0	0	0	635	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA						NA				
Protected Phases		2						8				
Permitted Phases	2											
Minimum Split (s)	23.0	23.0						23.0				
Total Split (s)	33.0	33.0						27.0				
Total Split (%)	55.0%	55.0%						45.0%				
Maximum Green (s)	27.0	27.0						21.0				
Yellow Time (s)	3.0	3.0						3.0				
All-Red Time (s)	3.0	3.0						3.0				
Lost Time Adjust (s)		-1.0						-1.0				
Total Lost Time (s)		5.0						5.0				
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		28.0						22.0				
Actuated g/C Ratio		0.47						0.37				
v/c Ratio		0.52						0.55				
Control Delay		13.8						17.4				
Queue Delay		0.0						0.0				
Total Delay		13.8						17.4				
LOS		B						B				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		13.8						17.4				
Approach LOS		B						B				
Queue Length 50th (ft)		99						93				
Queue Length 95th (ft)		161						138				
Internal Link Dist (ft)		362			370			263			295	
Turn Bay Length (ft)												
Base Capacity (vph)		946						1145				
Starvation Cap Reductn		0						0				
Spillback Cap Reductn		0						0				
Storage Cap Reductn		0						0				
Reduced v/c Ratio		0.52						0.55				

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 15.8 Intersection LOS: B
Intersection Capacity Utilization 44.4% ICU Level of Service A
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 6: 9th St & Chestnut St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	111	345	0	0	0	0	0	453	132	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.92			
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	0.90			
Adj Sat Flow veh/h/ln	186.3	186.3	0.0				0.0	186.3	186.3			
Lanes	0	2	0				0	2	0			
Cap, veh/h	120	475	0				0	923	266			
Arrive On Green	0.47	0.47	0.00				0.00	0.37	0.37			
Sat Flow, veh/h	0	1695	0				0	2611	724			
Grp Volume(v), veh/h	121	375	0				0	344	291			
Grp Sat Flow(s),veh/h/ln	0	1017	0				0	1770	1473			
Q Serve(g_s), s	0.0	18.7	0.0				0.0	9.2	9.3			
Cycle Q Clear(g_c), s	28.0	18.7	0.0				0.0	9.2	9.3			
Prop In Lane	1.00		0.00				0.00		0.49			
Lane Grp Cap(c), veh/h	120	475	0				0	649	540			
V/C Ratio(X)	1.01	0.79	0.00				0.00	0.53	0.54			
Avail Cap(c_a), veh/h	120	475	0				0	649	540			
HCM Platoon Ratio	0.00	0.00	0.00				0.00	0.00	0.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	30.0	13.5	0.0				0.0	14.9	15.0			
Incr Delay (d2), s/veh	84.4	12.6	0.0				0.0	3.1	3.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile Back of Q (95%), veh/ln	8.1	8.7	0.0				0.0	7.5	6.6			
Lane Grp Delay (d), s/veh	114.4	26.1	0.0				0.0	18.0	18.8			
Lane Grp LOS	F	C						B	B			
Approach Vol, veh/h		496						635				
Approach Delay, s/veh		47.6						18.4				
Approach LOS		D						B				
Timer												
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		33.0						27.0				
Change Period (Y+Rc), s		6.0						6.0				
Max Green Setting (Gmax), s		27.0						21.0				
Max Q Clear Time (g_c+I1), s		30.0						11.3				
Green Ext Time (p_c), s		0.0						0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			31.2									
HCM 2010 LOS			C									
Notes												

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	0	696	319
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt					0.953	
Flt Protected						
Satd. Flow (prot)	0	0	0	0	3148	0
Flt Permitted						
Satd. Flow (perm)	0	0	0	0	3148	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	446			122	190	
Travel Time (s)	10.1			2.8	4.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	757	347
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	1104	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 32.8%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	358	564	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	1.00
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1504	3303	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1504	3303	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	448		375			190
Travel Time (s)	10.1		8.5			4.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	389	613	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	389	613	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.4%		ICU Level of Service A	
Analysis Period (min) 15			

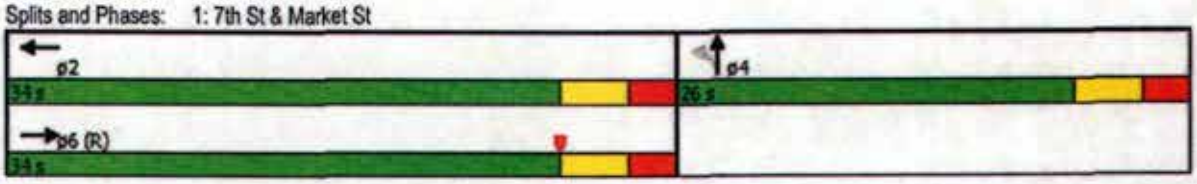
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	215	0	0	0	154	542
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt						
Flt Protected	0.950					0.989
Satd. Flow (prot)	1652	0	0	0	0	3267
Flt Permitted	0.950					0.989
Satd. Flow (perm)	1652	0	0	0	0	3267
Link Speed (mph)	30		30			30
Link Distance (ft)	354		253			122
Travel Time (s)	8.0		5.8			2.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	234	0	0	0	167	589
Shared Lane Traffic (%)						
Lane Group Flow (vph)	234	0	0	0	0	756
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	10		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 38.0%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	718	0	0	279	69	104	312	124	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	9	9	9	10	10	10
Lane Util. Factor	1.00	*0.60	1.00	1.00	0.95	*0.60	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor					0.99			0.96				
Frt					0.970			0.966				
Flt Protected								0.990				
Satd. Flow (prot)	0	3129	0	0	3158	0	0	2979	0	0	0	0
Flt Permitted								0.990				
Satd. Flow (perm)	0	3129	0	0	3158	0	0	2930	0	0	0	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		450			379			565			375	
Travel Time (s)		10.2			8.6			12.8			8.5	
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
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
Parking (#/hr)							0					
Adj. Flow (vph)	0	780	0	0	303	75	113	339	135	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	780	0	0	378	0	0	587	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.14	1.14	1.14	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA			NA		Perm	NA				
Protected Phases		6			2			4				
Permitted Phases							4					
Minimum Split (s)		30.0			20.0		20.0	20.0				
Total Split (s)		34.0			34.0		26.0	26.0				
Total Split (%)		56.7%			56.7%		43.3%	43.3%				
Maximum Green (s)		28.0			28.0		20.0	20.0				
Yellow Time (s)		3.5			3.5		3.5	3.5				
All-Red Time (s)		2.5			2.5		2.5	2.5				
Lost Time Adjust (s)		-1.0			-1.0			-1.0				
Total Lost Time (s)		5.0			5.0			5.0				
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		29.0			29.0			21.0				
Actuated g/C Ratio		0.48			0.48			0.35				
v/c Ratio		0.52			0.25			0.57				
Control Delay		15.5			9.6			20.1				
Queue Delay		0.0			0.0			0.0				
Total Delay		15.5			9.6			20.1				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		B			A			C				
Approach Delay		15.5			9.6			20.1				
Approach LOS		B			A			C				
Queue Length 50th (ft)		166			39			95				
Queue Length 95th (ft)		221			62			135				
Internal Link Dist (ft)		370			299			485			295	
Turn Bay Length (ft)												
Base Capacity (vph)		1512			1526			1025				
Starvation Cap Reductn		0			0			0				
Spillback Cap Reductn		0			0			0				
Storage Cap Reductn		0			0			0				
Reduced v/c Ratio		0.52			0.25			0.57				

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 34 (57%), Referenced to phase 6:EBT, Start of Yellow
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 15.8 Intersection LOS: B
Intersection Capacity Utilization 53.6% ICU Level of Service A
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 1: 7th St & Market St