



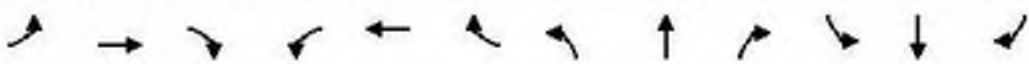
Everett Link Extension

ATTACHMENT B

No Build and Build Conditions Traffic Data – Synchro Files Part 2

601: Evergreen Way & Casino Rd
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions AM Peak Hour
 Everett Link Extension Project - EGN-A

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔		↔	↔↔		↔	↔↔↔		↔	↔↔↔	↔
Traffic Volume (vph)	460	130	95	80	120	185	75	740	35	220	865	465
Future Volume (vph)	460	130	95	80	120	185	75	740	35	220	865	465
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	10	10	10	11	11	11	11	11	11
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	5.0		4.5	5.0	4.5
Lane Util. Factor	0.97	1.00		0.91	0.91		1.00	*0.77		1.00	*0.82	1.00
Frpb, ped/bikes	1.00	0.95		1.00	1.00		1.00	1.00		1.00	1.00	0.90
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.91		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	2887	1396		1345	2577		1516	3656		1531	3963	1227
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	2887	1396		1345	2577		1516	3656		1531	3963	1227
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	479	135	99	83	125	193	78	771	36	229	901	484
RTOR Reduction (vph)	0	18	0	0	177	0	0	2	0	0	0	100
Lane Group Flow (vph)	479	216	0	75	149	0	78	805	0	229	901	384
Confl. Peds. (#/hr)			54	54			70		5	5		70
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	8%	8%	8%	5%	5%	5%	6%	6%	6%	5%	5%	5%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	4	4		3	3		5	2		1	6	4
Permitted Phases												6
Actuated Green, G (s)	32.0	32.0		13.1	13.1		12.3	68.3		28.1	84.1	116.1
Effective Green, g (s)	32.0	32.0		13.1	13.1		12.3	68.3		28.1	84.1	116.1
Actuated g/C Ratio	0.20	0.20		0.08	0.08		0.08	0.43		0.18	0.53	0.73
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	5.0		4.5	5.0	4.5
Vehicle Extension (s)	1.5	1.5		1.5	1.5		2.0	6.0		2.0	5.0	1.5
Lane Grp Cap (vph)	577	279		110	210		116	1560		268	2083	890
v/s Ratio Prot	c0.17	0.15		0.06	c0.06		0.05	c0.22		c0.15	0.23	0.09
v/s Ratio Perm												0.23
v/c Ratio	0.83	0.78		0.68	0.71		0.67	0.52		0.85	0.43	0.43
Uniform Delay, d1	61.4	60.6		71.4	71.6		71.9	33.7		64.0	23.3	8.8
Progression Factor	1.00	1.00		1.00	1.00		0.89	0.95		0.83	1.05	2.09
Incremental Delay, d2	9.4	11.6		13.0	8.6		11.2	1.2		20.1	0.6	0.1
Delay (s)	70.8	72.2		84.4	80.2		75.3	33.2		73.0	25.0	18.4
Level of Service	E	E		F	F		E	C		E	C	B
Approach Delay (s)		71.3			81.0			36.9			29.8	
Approach LOS		E			F			D			C	
Intersection Summary												
HCM 2000 Control Delay			45.4			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)			18.5			
Intersection Capacity Utilization			77.0%			ICU Level of Service			D			
Analysis Period (min)			15									

c Critical Lane Group

602: Evergreen Way & Boeing Fwy EB Off Ramp 2045 Future Flow Volume Conditions AM Peak Hour
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project - EGN-A

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations	↰	↰	↰					↑↑↑		↰↰	↑↑↑	
Traffic Volume (vph)	135	0	100	0	0	0	0	875	500	445	1450	0
Future Volume (vph)	135	0	100	0	0	0	0	875	500	445	1450	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	14	14	14	12	12	12	11	11	11	11	11	11
Total Lost time (s)	4.5	4.5	4.5					5.0		4.5	5.0	
Lane Util. Factor	0.95	0.95	1.00					*0.77		0.97	*0.82	
Frpb, ped/bikes	1.00	1.00	1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					0.95		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1574	1574	1483					3452		2969	3963	
Flt Permitted	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1574	1574	1483					3452		2969	3963	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	141	0	104	0	0	0	0	911	521	464	1510	0
RTOR Reduction (vph)	0	0	93	0	0	0	0	51	0	0	0	0
Lane Group Flow (vph)	70	71	11	0	0	0	0	1381	0	464	1510	0
Confl. Peds. (#/hr)									5	5		
Heavy Vehicles (%)	7%	7%	7%	0%	0%	0%	6%	6%	6%	5%	5%	5%
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		8						2		1	6	
Permitted Phases	8		8									
Actuated Green, G (s)	11.6	11.6	11.6					104.9		29.5	138.9	
Effective Green, g (s)	11.6	11.6	11.6					104.9		29.5	138.9	
Actuated g/C Ratio	0.07	0.07	0.07					0.66		0.18	0.87	
Clearance Time (s)	4.5	4.5	4.5					5.0		4.5	5.0	
Vehicle Extension (s)	2.0	2.0	2.0					2.0		2.0	2.0	
Lane Grp Cap (vph)	114	114	107					2263		547	3440	
v/s Ratio Prot								c0.40		c0.16	0.38	
v/s Ratio Perm	0.04	0.05	0.01									
v/c Ratio	0.61	0.62	0.11					0.61		0.85	0.44	
Uniform Delay, d1	72.0	72.1	69.3					15.8		63.1	2.2	
Progression Factor	1.00	1.00	1.00					0.40		0.73	1.27	
Incremental Delay, d2	6.7	7.4	0.2					1.0		10.1	0.4	
Delay (s)	78.7	79.5	69.5					7.3		55.9	3.2	
Level of Service	E	E	E					A		E	A	
Approach Delay (s)		75.0			0.0			7.3			15.6	
Approach LOS		E			A			A			B	
Intersection Summary												
HCM 2000 Control Delay			16.3									
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			160.0							14.0		
Intersection Capacity Utilization			82.6%								E	
Analysis Period (min)			15									
c Critical Lane Group												

603: Evergreen Way & Boeing Fwy WB On Ramp Signalized Intersection Capacity Analysis
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project - EGN-A

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰	↱	↰	↰	↰	↰		↰	↰
Traffic Volume (vph)	0	0	0	670	5	500	80	930	0	0	1225	195
Future Volume (vph)	0	0	0	670	5	500	80	930	0	0	1225	195
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	11	11	11	12	12	12	11	11	11
Total Lost time (s)				4.5	4.5	4.5	4.5	5.0			5.0	
Lane Util. Factor				0.95	0.95	0.88	1.00	*0.77			*0.82	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	1.00	0.85	1.00	1.00			0.98	
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1468	1473	2433	1568	3814			6470	
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1468	1473	2433	1568	3814			6470	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	705	5	526	84	979	0	0	1289	205
RTOR Reduction (vph)	0	0	0	0	0	330	0	0	0	0	13	0
Lane Group Flow (vph)	0	0	0	352	358	196	84	979	0	0	1481	0
Confl. Peds. (#/hr)									5	5		
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	6%	6%	6%	5%	5%	5%
Turn Type				Split	NA	custom	Prot	NA			NA	
Protected Phases				8	8	4	5	2			6	
Permitted Phases												
Actuated Green, G (s)				49.3	49.3	38.2	13.0	101.2			83.7	
Effective Green, g (s)				49.3	49.3	38.2	13.0	101.2			83.7	
Actuated g/C Ratio				0.31	0.31	0.24	0.08	0.63			0.52	
Clearance Time (s)				4.5	4.5	4.5	4.5	5.0			5.0	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			3.0	
Lane Grp Cap (vph)				452	453	580	127	2412			3384	
v/s Ratio Prot				0.24	c0.24	0.08	c0.05	0.26			c0.23	
v/s Ratio Perm												
v/c Ratio				0.78	0.79	0.34	0.66	0.41			0.44	
Uniform Delay, d1				50.4	50.6	50.4	71.4	14.5			23.6	
Progression Factor				1.00	1.00	1.00	1.01	1.30			0.69	
Incremental Delay, d2				7.6	8.5	0.1	7.9	0.4			0.4	
Delay (s)				57.9	59.1	50.6	79.9	19.3			16.7	
Level of Service				E	E	D	E	B			B	
Approach Delay (s)		0.0			55.1			24.0			16.7	
Approach LOS		A			E			C			B	
Intersection Summary												
HCM 2000 Control Delay			31.3									
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			160.0									
Intersection Capacity Utilization			82.6%									
Analysis Period (min)			15									
c Critical Lane Group												

604: Evergreen Way & 79th PI/79th PI
HCM 6th Signalized Intersection Summary

2046 Future Improved Conditions AM Peak Hour
Everett Link Extension Project - EGN-A

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	10	385	20	10	20	220	1125	0	15	1005	45
Future Volume (veh/h)	70	10	385	20	10	20	220	1125	0	15	1005	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.98		0.95	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1777	1777	1777	1559	1559	1559	1682	1682	1682	1668	1668	1668
Adj Flow Rate, veh/h	74	11	405	21	11	21	232	1184	0	16	1058	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	14	14	14	5	5	5	6	6	6
Cap, veh/h	210	28	497	72	37	51	247	1528	0	527	2398	106
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.31	0.79	0.00	0.33	0.57	0.57
Sat Flow, veh/h	913	154	1435	218	203	276	1602	4272	0	1589	4179	185
Grp Volume(v), veh/h	85	0	405	53	0	0	232	1184	0	16	692	413
Grp Sat Flow(s),veh/h/ln	1067	0	1435	697	0	0	1602	1295	0	1589	1368	1629
Q Serve(g_s), s	0.0	0.0	29.5	3.2	0.0	0.0	22.6	26.7	0.0	1.1	23.1	23.1
Cycle Q Clear(g_c), s	14.8	0.0	29.5	18.0	0.0	0.0	22.6	26.7	0.0	1.1	23.1	23.1
Prop In Lane	0.87		1.00	0.40		0.40	1.00		0.00	1.00		0.11
Lane Grp Cap(c), veh/h	239	0	497	160	0	0	247	1528	0	527	1570	935
V/C Ratio(X)	0.36	0.00	0.81	0.33	0.00	0.00	0.94	0.78	0.00	0.03	0.44	0.44
Avail Cap(c_a), veh/h	239	0	497	160	0	0	285	2574	0	527	1570	935
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.1	0.0	48.7	59.8	0.0	0.0	54.6	13.2	0.0	36.1	19.5	19.5
Incr Delay (d2), s/veh	0.3	0.0	9.4	0.9	0.0	0.0	33.2	3.9	0.0	0.0	0.9	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	16.3	2.1	0.0	0.0	10.3	4.3	0.0	0.4	7.5	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.4	0.0	58.1	60.7	0.0	0.0	87.8	17.1	0.0	36.1	20.4	21.0
LnGrp LOS	E	A	E	E	A	A	F	B	A	D	C	C
Approach Vol, veh/h	490			53			1416			1121		
Approach Delay, s/veh	58.3			60.7			28.7			20.8		
Approach LOS	E			E			C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	58.1	67.9		34.0	29.2	96.8		34.0				
Change Period (Y+Rc), s	5.0	* 5		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	10.5	* 1.1E2		29.5	28.5	88.0		29.5				
Max Q Clear Time (g_c+I1), s	3.1	28.7		20.0	24.6	25.1		31.5				
Green Ext Time (p_c), s	0.0	34.2		0.1	0.1	27.7		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	31.1											
HCM 6th LOS	C											
Notes												

605: EGN-D Station Access/EGN-B Station Access/EGN-C Station Access/Improved Conditions AM Peak Hour
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project - EGN-A

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰
Traffic Volume (vph)	20	605	25	15	570	15	25	10	35	25	5	15
Future Volume (vph)	20	605	25	15	570	15	25	10	35	25	5	15
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	9	9	9	15	15	15
Total Lost time (s)	4.0	5.0		4.0	5.0			4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.97	
Satd. Flow (prot)	1487	2954		1511	3018			1507	1339		1553	
Flt Permitted	0.42	1.00		0.40	1.00			0.83	1.00		0.81	
Satd. Flow (perm)	655	2954		636	3018			1295	1339		1289	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	21	637	26	16	600	16	26	11	37	26	5	16
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	34	0	15	0
Lane Group Flow (vph)	21	662	0	16	615	0	0	37	3	0	32	0
Confl. Peds. (#/hr)	3		24	24		3	21					21
Confl. Bikes (#/hr)			2			9						
Heavy Vehicles (%)	8%	8%	8%	6%	6%	6%	0%	0%	0%	14%	14%	14%
Turn Type	custom	NA		custom	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	7	4 10		3	8 11			2			6	
Permitted Phases	8			4			2		2	6		
Actuated Green, G (s)	35.3	40.5		32.0	40.5			4.1	4.1		4.1	
Effective Green, g (s)	35.3	37.0		32.0	37.0			4.1	4.1		4.1	
Actuated g/C Ratio	0.60	0.63		0.55	0.63			0.07	0.07		0.07	
Clearance Time (s)	4.0			4.0				4.5	4.5		4.5	
Vehicle Extension (s)	1.5			1.5				2.0	2.0		2.0	
Lane Grp Cap (vph)	402	1861		355	1902			90	93		90	
v/s Ratio Prot	c0.00	c0.22		0.00	c0.20							
v/s Ratio Perm	0.03			0.02				c0.03	0.00		0.02	
v/c Ratio	0.05	0.36		0.05	0.32			0.41	0.03		0.36	
Uniform Delay, d1	4.7	5.2		6.1	5.0			26.1	25.4		26.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.1		0.0	0.1			1.1	0.0		0.9	
Delay (s)	4.8	5.3		6.2	5.1			27.3	25.5		26.9	
Level of Service	A	A		A	A			C	C		C	
Approach Delay (s)		5.2			5.1			26.4			26.9	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM 2000 Control Delay			7.0			HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio			0.34									
Actuated Cycle Length (s)			58.7			Sum of lost time (s)			17.0			
Intersection Capacity Utilization			48.7%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

Intersection													
Int Delay, s/veh	1.1												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	5	25	320	15	10	325	10	10	0	10	10	0	30
Future Vol, veh/h	5	25	320	15	10	325	10	10	0	10	10	0	30
Conflicting Peds, #/hr	0	0	0	34	34	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	6	6	6	6	5	5	5	0	0	0	8	8	8
Mvmt Flow	5	26	337	16	11	342	11	11	0	11	11	0	32
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	353	0	0	387	0	0	818	816	379	773	819	349
Stage 1	-	-	-	-	-	-	-	431	441	-	370	370	-
Stage 2	-	-	-	-	-	-	-	387	375	-	403	449	-
Critical Hdwy	-	4.16	-	-	4.15	-	-	7.1	6.5	6.2	7.18	6.58	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.1	5.5	-	6.18	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.1	5.5	-	6.18	5.58	-
Follow-up Hdwy	-	2.254	-	-	2.245	-	-	3.5	4	3.3	3.572	4.072	3.372
Pot Cap-1 Maneuver	-	1184	-	-	1155	-	-	297	314	672	309	303	681
Stage 1	-	-	-	-	-	-	-	607	580	-	638	610	-
Stage 2	-	-	-	-	-	-	-	641	621	-	612	562	-
Platoon blocked, %			-	-	-	-	-						
Mov Cap-1 Maneuver	-6	-6	-	-	1105	-	-	268	297	643	302	287	680
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	268	297	-	302	287	-
Stage 1	-	-	-	-	-	-	-	607	555	-	638	604	-
Stage 2	-	-	-	-	-	-	-	604	615	-	602	538	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s				0.2			15.1			12.6			
HCM LOS							C			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	378	+	-	-	1105	-	-	518					
HCM Lane V/C Ratio	0.056	-	-	-	0.01	-	-	0.081					
HCM Control Delay (s)	15.1	-	-	-	8.3	-	-	12.6					
HCM Lane LOS	C	-	-	-	A	-	-	B					
HCM 95th %tile Q(veh)	0.2	-	-	-	0	-	-	0.3					
Notes													
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon													

Intersection						
Int Delay, s/veh	2.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	↑	
Traffic Vol, veh/h	370	10	70	175	10	65
Future Vol, veh/h	370	10	70	175	10	65
Conflicting Peds, #/hr	0	7	7	0	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	6	6	4	4
Mvmt Flow	389	11	74	184	11	68
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	407	0	735	402
Stage 1	-	-	-	-	402	-
Stage 2	-	-	-	-	333	-
Critical Hdwy	-	-	4.16	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.254	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1130	-	384	644
Stage 1	-	-	-	-	671	-
Stage 2	-	-	-	-	722	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1122	-	356	640
Mov Cap-2 Maneuver	-	-	-	-	356	-
Stage 1	-	-	-	-	666	-
Stage 2	-	-	-	-	674	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	2.4	12.2			
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	578	-	-	1122	-	
HCM Lane V/C Ratio	0.137	-	-	0.066	-	
HCM Control Delay (s)	12.2	-	-	8.4	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	0.5	-	-	0.2	-	

608: 5th Ave W & Casino Rd
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions AM Peak Hour
 Everett Link Extension Project - EGN-A

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱		↰	↰		↰	↰	
Traffic Volume (vph)	105	280	80	220	355	65	75	215	245	55	295	170
Future Volume (vph)	105	280	80	220	355	65	75	215	245	55	295	170
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	12	12	12	11	11	11
Total Lost time (s)	4.5	5.0		4.5	4.0		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.98		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	0.97	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.92		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1500	2911		1435	2745		1568	1502		1516	1484	
Flt Permitted	0.50	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	783	2911		1435	2745		1568	1502		1516	1484	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	111	295	84	232	374	68	79	226	258	58	311	179
RTOR Reduction (vph)	0	18	0	0	11	0	0	31	0	0	16	0
Lane Group Flow (vph)	111	361	0	232	431	0	79	453	0	58	474	0
Confl. Peds. (#/hr)	37		29	29		37	26		5	5		26
Confl. Bikes (#/hr)			4			3			3			
Heavy Vehicles (%)	4%	4%	4%	12%	12%	12%	6%	6%	6%	6%	6%	6%
Turn Type	custom	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	10 6		7	4		3	8	
Permitted Phases	6											
Actuated Green, G (s)	31.4	20.4		24.2	35.5		7.5	42.2		6.7	41.4	
Effective Green, g (s)	31.4	20.4		24.2	35.5		7.5	42.2		6.7	41.4	
Actuated g/C Ratio	0.28	0.18		0.22	0.32		0.07	0.38		0.06	0.37	
Clearance Time (s)	4.5	5.0		4.5			4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	1.5		3.5			3.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	277	530		310	870		105	565		90	548	
v/s Ratio Prot	0.03	c0.12		c0.16	c0.16		c0.05	0.30		0.04	c0.32	
v/s Ratio Perm	0.08											
v/c Ratio	0.40	0.68		0.75	0.50		0.75	0.80		0.64	0.87	
Uniform Delay, d1	31.3	42.8		41.1	31.0		51.3	31.2		51.5	32.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	2.9		9.8	0.2		25.8	7.6		11.2	13.0	
Delay (s)	31.7	45.6		50.8	31.2		77.1	38.8		62.7	45.7	
Level of Service	C	D		D	C		E	D		E	D	
Approach Delay (s)		42.5			37.9			44.2			47.5	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			42.8			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			112.0			Sum of lost time (s)			22.5			
Intersection Capacity Utilization			75.9%			ICU Level of Service			D			
Analysis Period (min)			15									

c Critical Lane Group

609: Evergreen Way & Driveway
HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions AM Peak Hour
Everett Link Extension Project - EGN-A

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		↰	↱		↰		↰	↱		↰	↱	
Traffic Volume (vph)	10	0	5	95	0	5	5	745	60	30	860	30
Future Volume (vph)	10	0	5	95	0	5	5	745	60	30	860	30
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	15	15	15	11	11	11	11	11	11
Total Lost time (s)		4.5	4.5		4.5		4.5	5.0		4.0	5.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	*0.77		1.00	*0.82	
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.97	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.99	
Flt Protected		0.95	1.00		0.95		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		965	891		1821		1544	3686		1500	3865	
Flt Permitted		0.80	1.00		0.73		0.26	1.00		0.27	1.00	
Satd. Flow (perm)		813	891		1390		428	3686		433	3865	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	11	0	5	100	0	5	5	784	63	32	905	32
RTOR Reduction (vph)	0	0	5	0	58	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	11	0	0	47	0	5	844	0	32	936	0
Confl. Peds. (#/hr)	20					20	23		23	23		23
Heavy Vehicles (%)	67%	67%	67%	0%	0%	0%	4%	4%	4%	7%	7%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	0	0
Turn Type	custom	NA	custom	Perm	NA		custom	NA		custom	NA	
Protected Phases		4 11			8		5	2 10		1	6 12	
Permitted Phases	4		4	8			6			2		
Actuated Green, G (s)		24.5	6.0		24.5		107.8	117.6		108.3	120.5	
Effective Green, g (s)		21.0	6.0		24.5		107.8	114.1		108.3	117.0	
Actuated g/C Ratio		0.13	0.04		0.15		0.67	0.71		0.68	0.73	
Clearance Time (s)			4.5		4.5			4.5			4.0	
Vehicle Extension (s)			2.0		2.0			2.0			2.0	
Lane Grp Cap (vph)		106	33		212		295	2628		322	2826	
v/s Ratio Prot							0.00	0.23		c0.00	c0.24	
v/s Ratio Perm		0.01	0.00		c0.03		0.01			0.06		
v/c Ratio		0.10	0.01		0.22		0.02	0.32		0.10	0.33	
Uniform Delay, d1		61.2	74.1		59.4		8.5	8.5		8.5	7.6	
Progression Factor		1.00	1.00		1.00		1.00	1.00		0.40	0.29	
Incremental Delay, d2		0.2	0.0		0.2		0.0	0.1		0.0	0.0	
Delay (s)		61.4	74.2		59.6		8.6	8.6		3.5	2.2	
Level of Service		E	E		E		A	A		A	A	
Approach Delay (s)		65.4			59.6			8.6			2.3	
Approach LOS		E			E			A			A	
Intersection Summary												
HCM 2000 Control Delay			8.7									
HCM 2000 Volume to Capacity ratio			0.32									
Actuated Cycle Length (s)			160.0									
Intersection Capacity Utilization			46.6%									
Analysis Period (min)			15									
c Critical Lane Group												

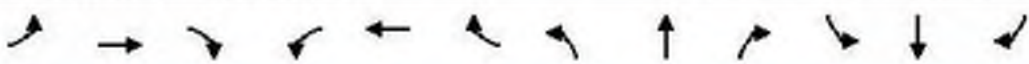
610: 7th Ave SE & Casino Rd
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions AM Peak Hour
 Everett Link Extension Project - EGN-A

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	90	250	250	100	230	240
Future Volume (vph)	90	250	250	100	230	240
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	11	11	12	12	11	11
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1611	1369	1541	1636	1560	1361
Flt Permitted	1.00	1.00	0.70	1.00	0.95	1.00
Satd. Flow (perm)	1611	1369	1128	1636	1560	1361
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	95	263	263	105	242	253
RTOR Reduction (vph)	0	193	0	0	0	186
Lane Group Flow (vph)	95	70	263	105	242	67
Confl. Peds. (#/hr)		17	17			2
Heavy Vehicles (%)	5%	5%	7%	7%	3%	3%
Turn Type	NA	Over	custom	NA	Prot	Perm
Protected Phases	1 8	2	7	1 9	2	
Permitted Phases			8			2
Actuated Green, G (s)	31.8	25.9	36.6	62.6	25.9	25.9
Effective Green, g (s)	31.8	25.9	36.6	62.6	25.9	25.9
Actuated g/C Ratio	0.33	0.27	0.38	0.64	0.27	0.27
Clearance Time (s)		4.5	4.5		4.5	4.5
Vehicle Extension (s)		2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	525	363	532	1050	414	361
v/s Ratio Prot	c0.06	0.05	c0.13	c0.06	c0.16	
v/s Ratio Perm			c0.05			0.05
v/c Ratio	0.18	0.19	0.49	0.10	0.58	0.19
Uniform Delay, d1	23.5	27.7	23.1	6.7	31.1	27.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.91
Incremental Delay, d2	0.2	0.1	0.3	0.0	1.3	0.1
Delay (s)	23.7	27.8	23.4	6.7	32.5	53.0
Level of Service	C	C	C	A	C	D
Approach Delay (s)	26.7			18.6	43.0	
Approach LOS	C			B	D	
Intersection Summary						
HCM 2000 Control Delay			30.9		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.48			
Actuated Cycle Length (s)			97.5		Sum of lost time (s)	21.5
Intersection Capacity Utilization			43.2%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

611: 7th Ave SE & Holly Dr/84th St SE
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions AM Peak Hour
 Everett Link Extension Project - EGN-A

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↘		↗	↘	
Traffic Volume (vph)	50	25	35	20	25	120	10	290	10	75	350	65
Future Volume (vph)	50	25	35	20	25	120	10	290	10	75	350	65
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	14	14	14	11	11	11	11	11	11	11	11	11
Total Lost time (s)		4.5			4.5		4.5	4.5		4.0	4.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		0.99	1.00		1.00	1.00	
Frt		0.96			0.90		1.00	0.99		1.00	0.98	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1583			1470		1545	1619		1511	1536	
Flt Permitted		0.66			0.96		0.42	1.00		0.57	1.00	
Satd. Flow (perm)		1072			1419		677	1619		904	1536	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	26	37	21	26	126	11	305	11	79	368	68
RTOR Reduction (vph)	0	12	0	0	68	0	0	1	0	0	8	0
Lane Group Flow (vph)	0	104	0	0	105	0	11	315	0	79	428	0
Confl. Peds. (#/hr)			6	6			9		4	4		9
Heavy Vehicles (%)	9%	9%	9%	3%	3%	3%	3%	3%	3%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	2	0
Turn Type	Perm	NA		Perm	NA		custom	NA		custom	NA	
Protected Phases		1			1			2 4 5		3	2 3 4 5	
Permitted Phases	1			1			2 4			4 5		
Actuated Green, G (s)		16.5			16.5		47.0	53.4		37.1	72.0	
Effective Green, g (s)		16.5			16.5		42.0	44.9		33.6	59.5	
Actuated g/C Ratio		0.17			0.17		0.43	0.46		0.34	0.61	
Clearance Time (s)		4.5			4.5					4.0		
Vehicle Extension (s)		3.0			3.0					2.0		
Lane Grp Cap (vph)		181			240		291	745		402	937	
v/s Ratio Prot								0.19		0.03	c0.28	
v/s Ratio Perm		c0.10			0.07		0.02			0.04		
v/c Ratio		0.58			0.44		0.04	0.42		0.20	0.46	
Uniform Delay, d1		37.3			36.3		16.1	17.6		22.1	10.3	
Progression Factor		1.00			1.00		1.00	1.00		0.69	0.34	
Incremental Delay, d2		4.4			1.3		0.0	0.1		0.1	0.1	
Delay (s)		41.7			37.6		16.1	17.8		15.4	3.6	
Level of Service		D			D		B	B		B	A	
Approach Delay (s)		41.7			37.6			17.7			5.4	
Approach LOS		D			D			B			A	
Intersection Summary												
HCM 2000 Control Delay			17.6			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.47									
Actuated Cycle Length (s)			97.5			Sum of lost time (s)			21.5			
Intersection Capacity Utilization			59.1%			ICU Level of Service			B			
Analysis Period (min)			15									

c Critical Lane Group

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	45	0	1430	1375	35
Future Vol, veh/h	0	45	0	1430	1375	35
Conflicting Peds, #/hr	0	53	0	0	0	53
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	6	6	6	6
Mvmt Flow	0	47	0	1505	1447	37
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	848	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	262	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	236	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	24	0	0			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	236	-	-		
HCM Lane V/C Ratio	-	0.201	-	-		
HCM Control Delay (s)	-	24	-	-		
HCM Lane LOS	-	C	-	-		
HCM 95th %tile Q(veh)	-	0.7	-	-		

601: Evergreen Way & Casino Rd
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions PM Peak Hour
 Everett Link Extension Project - EGN-A

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↱	↱		↰↱	↰↱		↰↱	↰↱↱		↰	↰↱↱	↰
Traffic Volume (vph)	550	215	140	85	135	165	105	1425	110	230	1190	495
Future Volume (vph)	550	215	140	85	135	165	105	1425	110	230	1190	495
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	10	10	10	11	11	11	11	11	11
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	5.0		4.5	5.0	4.5
Lane Util. Factor	0.97	1.00		0.91	0.91		1.00	*0.90		1.00	*0.74	1.00
Frpb, ped/bikes	1.00	0.94		1.00	1.00		1.00	1.00		1.00	1.00	0.90
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.92		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3027	1453		1384	2677		1560	4373		1560	3646	1255
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3027	1453		1384	2677		1560	4373		1560	3646	1255
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	561	219	143	87	138	168	107	1454	112	235	1214	505
RTOR Reduction (vph)	0	18	0	0	155	0	0	7	0	0	0	73
Lane Group Flow (vph)	561	344	0	78	160	0	107	1559	0	235	1214	432
Confl. Peds. (#/hr)			91	91			94		9	9		94
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	4	4		3	3		5	2		1	6	4
Permitted Phases												6
Actuated Green, G (s)	30.5	30.5		10.4	10.4		16.0	50.1		20.5	54.6	85.1
Effective Green, g (s)	30.5	30.5		10.4	10.4		16.0	50.1		20.5	54.6	85.1
Actuated g/C Ratio	0.23	0.23		0.08	0.08		0.12	0.39		0.16	0.42	0.65
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	5.0		4.5	5.0	4.5
Vehicle Extension (s)	1.5	1.5		1.5	1.5		2.0	6.0		2.0	5.0	1.5
Lane Grp Cap (vph)	710	340		110	214		192	1685		246	1531	864
v/s Ratio Prot	0.19	c0.24		0.06	c0.06		0.07	c0.36		c0.15	0.33	0.12
v/s Ratio Perm												0.23
v/c Ratio	0.79	1.01		0.71	0.75		0.56	0.93		0.96	0.79	0.50
Uniform Delay, d1	46.7	49.8		58.3	58.5		53.7	38.2		54.3	32.8	11.5
Progression Factor	1.00	1.00		1.00	1.00		0.77	1.02		0.93	0.61	0.50
Incremental Delay, d2	5.6	51.5		15.7	11.9		1.6	8.5		37.0	3.2	0.1
Delay (s)	52.3	101.3		74.2	70.3		42.9	47.5		87.7	23.2	5.9
Level of Service	D	F		E	E		D	D		F	C	A
Approach Delay (s)		71.5			71.0			47.2			26.5	
Approach LOS		E			E			D			C	
Intersection Summary												
HCM 2000 Control Delay			45.5									
HCM 2000 Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			130.0									
Intersection Capacity Utilization			94.0%									
Analysis Period (min)			15									
c Critical Lane Group												

602: Evergreen Way & Boeing Fwy EB Off Ramp Future Flyover Conditions PM Peak Hour
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project - EGN-A

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↰					↑↑↑		↰↰	↑↑↑	
Traffic Volume (vph)	530	35	255	0	0	0	0	1560	630	455	1660	0
Future Volume (vph)	530	35	255	0	0	0	0	1560	630	455	1660	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	14	14	14	12	12	12	11	11	11	11	11	11
Total Lost time (s)	4.5	4.5	4.5					5.0		4.5	5.0	
Lane Util. Factor	0.95	0.95	1.00					*0.90		0.97	*0.74	
Frpb, ped/bikes	1.00	1.00	1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					0.96		1.00	1.00	
Flt Protected	0.95	0.96	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1668	1682	1571					4217		3027	3646	
Flt Permitted	0.95	0.96	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1668	1682	1571					4217		3027	3646	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	558	37	268	0	0	0	0	1642	663	479	1747	0
RTOR Reduction (vph)	0	0	48	0	0	0	0	56	0	0	0	0
Lane Group Flow (vph)	296	299	220	0	0	0	0	2249	0	479	1747	0
Confl. Peds. (#/hr)							1		6	6		1
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	3%	3%	3%	3%	3%	3%
Turn Type	Split	NA	Perm					NA		Prot	NA	
Protected Phases	8	8						2		1	6	
Permitted Phases			8									
Actuated Green, G (s)	25.1	25.1	25.1					70.6		20.3	95.4	
Effective Green, g (s)	25.1	25.1	25.1					70.6		20.3	95.4	
Actuated g/C Ratio	0.19	0.19	0.19					0.54		0.16	0.73	
Clearance Time (s)	4.5	4.5	4.5					5.0		4.5	5.0	
Vehicle Extension (s)	3.0	3.0	3.0					2.0		3.0	3.0	
Lane Grp Cap (vph)	322	324	303					2290		472	2675	
v/s Ratio Prot	0.18	c0.18						c0.53		c0.16	0.48	
v/s Ratio Perm			0.14									
v/c Ratio	0.92	0.92	0.73					0.98		1.01	0.65	
Uniform Delay, d1	51.5	51.5	49.2					29.1		54.9	8.8	
Progression Factor	1.00	1.00	1.00					0.21		1.03	0.99	
Incremental Delay, d2	29.9	30.7	8.4					10.1		42.0	1.1	
Delay (s)	81.3	82.2	57.7					16.1		98.2	9.8	
Level of Service	F	F	E					B		F	A	
Approach Delay (s)		74.3			0.0			16.1			28.8	
Approach LOS		E			A			B			C	
Intersection Summary												
HCM 2000 Control Delay			30.6									
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			130.0							14.0		
Intersection Capacity Utilization			126.6%									
Analysis Period (min)			15									
c Critical Lane Group												

603: Evergreen Way & Boeing Fwy WB On Ramp Signalized Intersection Capacity Analysis
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project - EGN-A

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰	↱	↰↱	↰	↱			↰↱	
Traffic Volume (vph)	0	0	0	595	5	855	75	2015	0	0	1520	205
Future Volume (vph)	0	0	0	595	5	855	75	2015	0	0	1520	205
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	11	11	11	12	12	12	11	11	11
Total Lost time (s)				4.5	4.5	4.5	4.5	5.0			5.0	
Lane Util. Factor				0.95	0.95	0.88	1.00	*0.90			*0.74	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	1.00	0.85	1.00	1.00			0.98	
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1497	1502	2481	1630	4632			6017	
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1497	1502	2481	1630	4632			6017	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	626	5	900	79	2121	0	0	1600	216
RTOR Reduction (vph)	0	0	0	0	0	522	0	0	0	0	14	0
Lane Group Flow (vph)	0	0	0	313	318	378	79	2121	0	0	1802	0
Confl. Peds. (#/hr)							4		11	11		4
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type				Split	NA	custom	Prot	NA			NA	
Protected Phases				8	8	4	5	2			6	
Permitted Phases												
Actuated Green, G (s)				37.9	37.9	26.8	10.0	82.6			68.1	
Effective Green, g (s)				37.9	37.9	26.8	10.0	82.6			68.1	
Actuated g/C Ratio				0.29	0.29	0.21	0.08	0.64			0.52	
Clearance Time (s)				4.5	4.5	4.5	4.5	5.0			5.0	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			3.0	
Lane Grp Cap (vph)				436	437	511	125	2943			3151	
v/s Ratio Prot				0.21	c0.21	0.15	0.05	c0.46			0.30	
v/s Ratio Perm												
v/c Ratio				0.72	0.73	0.74	0.63	0.72			0.57	
Uniform Delay, d1				41.3	41.4	48.3	58.2	15.9			21.0	
Progression Factor				1.00	1.00	1.00	0.80	0.53			0.57	
Incremental Delay, d2				4.7	5.1	4.8	2.3	0.5			0.5	
Delay (s)				45.9	46.5	53.1	48.7	9.0			12.5	
Level of Service				D	D	D	D	A			B	
Approach Delay (s)		0.0			50.3			10.4			12.5	
Approach LOS		A			D			B			B	
Intersection Summary												
HCM 2000 Control Delay			22.1									
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			130.0									
Intersection Capacity Utilization			126.6%									
Analysis Period (min)			15									
c Critical Lane Group												

604: Evergreen Way & 79th PI/79th PI
HCM 6th Signalized Intersection Summary

2046 Future Improved Conditions PM Peak Hour
Everett Link Extension Project - EGN-A

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (veh/h)	110	15	395	45	20	45	355	2400	25	30	1205	65
Future Volume (veh/h)	110	15	395	45	20	45	355	2400	25	30	1205	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	0.98		0.94	1.00		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1777	1777	1777	1736	1736	1736	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	116	16	416	47	21	47	374	2526	26	32	1268	68
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	1	1	1	2	2	2	2	2	2
Cap, veh/h	218	27	757	78	38	53	473	3082	32	39	1517	81
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.58	1.00	1.00	0.02	0.38	0.38
Sat Flow, veh/h	725	116	1410	169	166	231	1641	4764	49	1641	4005	215
Grp Volume(v), veh/h	132	0	416	115	0	0	374	1642	910	32	807	529
Grp Sat Flow(s), veh/h/ln	841	0	1410	566	0	0	1641	1550	1712	1641	1275	1670
Q Serve(g_s), s	0.0	0.0	0.0	8.5	0.0	0.0	23.1	0.0	0.0	2.5	37.4	37.4
Cycle Q Clear(g_c), s	19.5	0.0	0.0	28.0	0.0	0.0	23.1	0.0	0.0	2.5	37.4	37.4
Prop In Lane	0.88		1.00	0.41		0.41	1.00		0.03	1.00		0.13
Lane Grp Cap(c), veh/h	245	0	757	169	0	0	473	2006	1107	39	966	633
V/C Ratio(X)	0.54	0.00	0.55	0.68	0.00	0.00	0.79	0.82	0.82	0.82	0.84	0.84
Avail Cap(c_a), veh/h	253	0	765	175	0	0	473	2006	1107	133	1000	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	0.0	20.9	52.3	0.0	0.0	24.5	0.0	0.0	63.2	36.7	36.7
Incr Delay (d2), s/veh	1.0	0.0	0.5	7.9	0.0	0.0	8.2	3.9	6.9	14.0	8.5	12.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	4.0	0.0	8.6	4.1	0.0	0.0	7.3	1.1	2.1	1.2	12.6	17.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.0	0.0	21.4	60.2	0.0	0.0	32.7	3.9	6.9	77.2	45.2	49.1
LnGrp LOS	D	A	C	E	A	A	C	A	A	E	D	D
Approach Vol, veh/h		548			115			2926			1368	
Approach Delay, s/veh		27.6			60.2			8.5			47.5	
Approach LOS		C			E			A			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	89.1		33.3	42.5	54.2		33.3				
Change Period (Y+Rc), s	4.5	5.0		3.5	5.0	* 5		3.5				
Max Green Setting (Gmax), s	10.5	76.0		30.5	35.5	* 51		30.5				
Max Q Clear Time (g_c+I1), s	4.5	2.0		21.5	25.1	39.4		30.0				
Green Ext Time (p_c), s	0.0	71.0		1.1	0.4	9.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			22.6									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

605: Fred Meyer/Casino Square & Casino Rd 2046 Future Improved Conditions PM Peak Hour
 HCM 6th Signalized Intersection Summary

Everett Link Extension Project - EGN-A

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↷	↷	↰	↷	↷		↷	↷		↷	↷
Traffic Volume (veh/h)	50	735	50	30	565	45	85	15	70	100	10	45
Future Volume (veh/h)	50	735	50	30	565	45	85	15	70	100	10	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.94	0.98		0.97	0.98		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1709	1709	1709	1695	1695	1695	1667	1667	1667	1777	1777	1777
Adj Flow Rate, veh/h	52	758	52	31	582	46	88	15	72	103	10	46
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	4	4	4	1	1	1	3	3	3
Cap, veh/h	67	1237	85	45	1233	97	439	63	381	314	45	97
Arrive On Green	0.04	0.40	0.40	0.03	0.41	0.41	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1628	3069	210	1615	3009	237	1100	229	1374	701	162	351
Grp Volume(v), veh/h	52	401	409	31	311	317	103	0	72	159	0	0
Grp Sat Flow(s), veh/h/ln	1628	1624	1656	1615	1611	1636	1329	0	1374	1214	0	0
Q Serve(g_s), s	1.6	9.7	9.7	0.9	7.0	7.0	0.0	0.0	2.0	3.6	0.0	0.0
Cycle Q Clear(g_c), s	1.6	9.7	9.7	0.9	7.0	7.0	2.9	0.0	2.0	6.5	0.0	0.0
Prop In Lane	1.00		0.13	1.00		0.15	0.85		1.00	0.65		0.29
Lane Grp Cap(c), veh/h	67	654	667	45	660	670	503	0	381	456	0	0
V/C Ratio(X)	0.77	0.61	0.61	0.68	0.47	0.47	0.20	0.00	0.19	0.35	0.00	0.00
Avail Cap(c_a), veh/h	328	1995	2035	325	1979	2010	816	0	706	782	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.6	11.8	11.8	23.9	10.7	10.7	14.0	0.0	13.7	15.6	0.0	0.0
Incr Delay (d2), s/veh	6.9	0.7	0.7	6.6	0.4	0.4	0.1	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.7	2.9	2.9	0.4	2.0	2.0	0.8	0.0	0.5	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.5	12.4	12.4	30.5	11.1	11.1	14.1	0.0	13.8	15.8	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	B	A	B	B	A	A
Approach Vol, veh/h		862			659			175			159	
Approach Delay, s/veh		13.5			12.0			14.0			15.8	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		18.3	6.4	25.0		18.3	6.0	25.3				
Change Period (Y+Rc), s		4.5	5.0	* 5		4.5	4.0	5.0				
Max Green Setting (Gmax), s		25.5	10.0	* 61		25.5	10.0	61.0				
Max Q Clear Time (g_c+I1), s		4.9	2.9	11.7		8.5	3.6	9.0				
Green Ext Time (p_c), s		0.5	0.0	4.5		0.6	0.0	3.3				
Intersection Summary												
HCM 6th Ctrl Delay			13.2									
HCM 6th LOS			B									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection													
Int Delay, s/veh	1												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	10	15	505	15	5	325	5	10	5	10	10	0	20
Future Vol, veh/h	10	15	505	15	5	325	5	10	5	10	10	0	20
Conflicting Peds, #/hr	0	1	0	46	46	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	0	0	0	0	0	0
Mvmt Flow	10	16	526	16	5	339	5	10	5	10	10	0	21
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	345	0	0	588	0	0	974	987	580	927	993	343
Stage 1	-	-	-	-	-	-	-	612	632	-	353	353	-
Stage 2	-	-	-	-	-	-	-	362	355	-	574	640	-
Critical Hdwy	-	4.12	-	-	4.12	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	-	2.218	-	-	2.218	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	-	1214	-	-	987	-	-	233	249	518	251	247	704
Stage 1	-	-	-	-	-	-	-	484	477	-	668	634	-
Stage 2	-	-	-	-	-	-	-	661	633	-	507	473	-
Platoon blocked, %			-	-	-	-	-						
Mov Cap-1 Maneuver	~ -3	~ -3	-	-	929	-	-	212	233	488	240	231	703
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	212	233	-	240	231	-
Stage 1	-	-	-	-	-	-	-	484	449	-	668	630	-
Stage 2	-	-	-	-	-	-	-	638	629	-	490	446	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s				0.1			19.1			14.1			
HCM LOS							C			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	281	+	-	-	929	-	-	428					
HCM Lane V/C Ratio	0.093	-	-	-	0.006	-	-	0.073					
HCM Control Delay (s)	19.1	-	-	-	8.9	-	-	14.1					
HCM Lane LOS	C	-	-	-	A	-	-	B					
HCM 95th %tile Q(veh)	0.3	-	-	-	0	-	-	0.2					
Notes													
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon													

Intersection							
Int Delay, s/veh	1.6						
Movement	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↗	↖	
Traffic Vol, veh/h	360	15	5	60	430	10	110
Future Vol, veh/h	360	15	5	60	430	10	110
Conflicting Peds, #/hr	0	12	0	12	0	0	3
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	-	75	-	0	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95	95
Heavy Vehicles, %	4	4	1	1	1	4	4
Mvmt Flow	379	16	5	63	453	11	116
Major/Minor	Major1	Major2	Minor1				
Conflicting Flow All	0	0	-	407	0	978	402
Stage 1	-	-	-	-	-	399	-
Stage 2	-	-	-	-	-	579	-
Critical Hdwy	-	-	-	4.11	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	-	2.209	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	-	1157	-	275	644
Stage 1	-	-	-	-	-	673	-
Stage 2	-	-	-	-	-	557	-
Platoon blocked, %	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-13	-13	-	272	635
Mov Cap-2 Maneuver	-	-	-	-	-	272	-
Stage 1	-	-	-	-	-	666	-
Stage 2	-	-	-	-	-	557	-
Approach	EB	WB			NB		
HCM Control Delay, s	0				13.1		
HCM LOS					B		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT		
Capacity (veh/h)	571	-	-	+	-		
HCM Lane V/C Ratio	0.221	-	-	-	-		
HCM Control Delay (s)	13.1	-	-	-	-		
HCM Lane LOS	B	-	-	-	-		
HCM 95th %tile Q(veh)	0.8	-	-	-	-		
Notes							
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon							

608: 5th Ave W & Casino Rd
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions PM Peak Hour
 Everett Link Extension Project - EGN-A

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱		↰	↱		↰	↱	
Traffic Volume (vph)	145	300	95	330	490	90	100	350	205	140	395	125
Future Volume (vph)	145	300	95	330	490	90	100	350	205	140	395	125
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	12	12	12	11	11	11
Total Lost time (s)	4.5	5.0		4.5	5.0		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.96		1.00	0.99		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	0.94		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1524	2866		1545	2975		1599	1574		1545	1540	
Flt Permitted	0.42	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	675	2866		1545	2975		1599	1574		1545	1540	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	153	316	100	347	516	95	105	368	216	147	416	132
RTOR Reduction (vph)	0	21	0	0	10	0	0	14	0	0	7	0
Lane Group Flow (vph)	153	395	0	347	601	0	105	570	0	147	541	0
Confl. Peds. (#/hr)	45		35	35		45	39		8	8		39
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	custom	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6 10		7	4		3	8	
Permitted Phases	6											
Actuated Green, G (s)	40.4	23.9		34.5	47.5		12.5	54.1		13.6	55.2	
Effective Green, g (s)	40.4	23.9		34.5	43.5		12.5	54.1		13.6	55.2	
Actuated g/C Ratio	0.28	0.17		0.24	0.30		0.09	0.37		0.09	0.38	
Clearance Time (s)	4.5	5.0		4.5			4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	1.5		3.5			3.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	252	473		368	894		138	588		145	587	
v/s Ratio Prot	0.05	c0.14		c0.22	0.20		0.07	c0.36		c0.10	0.35	
v/s Ratio Perm	0.12											
v/c Ratio	0.61	0.84		0.94	0.67		0.76	0.97		1.01	0.92	
Uniform Delay, d1	41.8	58.4		54.1	44.3		64.6	44.4		65.5	42.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.8	11.6		32.6	1.6		21.6	29.1		78.4	19.7	
Delay (s)	44.6	70.0		86.7	45.9		86.2	73.5		143.9	62.3	
Level of Service	D	E		F	D		F	E		F	E	
Approach Delay (s)		63.2			60.7			75.4			79.6	
Approach LOS		E			E			E			E	
Intersection Summary												
HCM 2000 Control Delay			69.2			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			144.6			Sum of lost time (s)			22.5			
Intersection Capacity Utilization			92.0%			ICU Level of Service			F			
Analysis Period (min)			15									

c Critical Lane Group

609: Evergreen Way & Driveway
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions PM Peak Hour
 Everett Link Extension Project - EGN-A

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		↰	↱		↰		↰	↱		↰	↱	
Traffic Volume (vph)	70	15	55	110	10	5	35	1545	150	50	1250	30
Future Volume (vph)	70	15	55	110	10	5	35	1545	150	50	1250	30
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	15	15	15	11	11	11	11	11	11
Total Lost time (s)		4.5	4.5		4.5		4.5	5.0		4.0	5.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	*0.90		1.00	*0.74	
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.98	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	1.00	
Flt Protected		0.96	1.00		0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1572	1417		1761		1575	4381		1560	3630	
Flt Permitted		0.76	1.00		0.66		0.13	1.00		0.10	1.00	
Satd. Flow (perm)		1244	1417		1212		208	4381		159	3630	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	74	16	58	116	11	5	37	1626	158	53	1316	32
RTOR Reduction (vph)	0	0	54	0	2	0	0	7	0	0	1	0
Lane Group Flow (vph)	0	90	4	0	130	0	37	1777	0	53	1347	0
Confl. Peds. (#/hr)	19					19	23		18	18		23
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	2%	2%	2%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	0	0
Turn Type	custom	NA	custom	Perm	NA		custom	NA		custom	NA	
Protected Phases		8 11		4			5	2 10		1	6 12	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)		26.4	8.5		26.4		75.9	84.9		79.8	85.0	
Effective Green, g (s)		22.9	8.5		26.4		75.9	81.4		79.8	81.5	
Actuated g/C Ratio		0.18	0.07		0.20		0.58	0.63		0.61	0.63	
Clearance Time (s)			4.5		4.5		4.5			4.0		
Vehicle Extension (s)			2.0		2.0		2.0			2.0		
Lane Grp Cap (vph)		219	92		246		169	2743		153	2275	
v/s Ratio Prot							0.01	c0.41		c0.01	c0.37	
v/s Ratio Perm		0.07	0.00		c0.11		0.12			0.20		
v/c Ratio		0.41	0.04		0.53		0.22	0.65		0.35	0.59	
Uniform Delay, d1		47.6	56.9		46.3		11.7	15.3		10.9	14.4	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.59	2.39	
Incremental Delay, d2		0.5	0.1		1.1		0.2	0.5		0.3	0.3	
Delay (s)		48.0	57.0		47.4		11.9	15.8		17.7	34.6	
Level of Service		D	E		D		B	B		B	C	
Approach Delay (s)		51.5			47.4			15.7			33.9	
Approach LOS		D			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			25.7									
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			130.0							21.0		
Intersection Capacity Utilization			65.0%									
Analysis Period (min)			15									
c Critical Lane Group												

610: 7th Ave SE & Casino Rd
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions PM Peak Hour
 Everett Link Extension Project - EGN-A

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	200	315	305	100	220	435
Future Volume (vph)	200	315	305	100	220	435
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	11	11	12	12	11	11
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1658	1410	1596	1699	1576	1369
Flt Permitted	1.00	1.00	0.63	1.00	0.95	1.00
Satd. Flow (perm)	1658	1410	1052	1699	1576	1369
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	211	332	321	105	232	458
RTOR Reduction (vph)	0	230	0	0	0	317
Lane Group Flow (vph)	211	102	321	105	232	141
Confl. Peds. (#/hr)		28	28			3
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type	NA	Over	custom	NA	Prot	Perm
Protected Phases	1 8	2	7	1 9	2	
Permitted Phases			8			2
Actuated Green, G (s)	35.7	35.0	39.5	69.0	35.0	35.0
Effective Green, g (s)	35.7	35.0	39.5	69.0	35.0	35.0
Actuated g/C Ratio	0.31	0.31	0.35	0.61	0.31	0.31
Clearance Time (s)		4.5	4.5		4.5	4.5
Vehicle Extension (s)		2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	521	434	504	1032	485	422
v/s Ratio Prot	c0.13	0.07	c0.16	0.06	c0.15	
v/s Ratio Perm			c0.06			0.10
v/c Ratio	0.40	0.24	0.64	0.10	0.48	0.33
Uniform Delay, d1	30.6	29.3	30.4	9.3	31.8	30.3
Progression Factor	1.00	1.00	1.00	1.00	0.91	2.22
Incremental Delay, d2	0.5	0.1	1.9	0.0	0.2	0.2
Delay (s)	31.1	29.4	32.3	9.3	29.1	67.3
Level of Service	C	C	C	A	C	E
Approach Delay (s)	30.0			26.7	54.5	
Approach LOS	C			C	D	
Intersection Summary						
HCM 2000 Control Delay			39.3		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.55			
Actuated Cycle Length (s)			113.5		Sum of lost time (s)	21.5
Intersection Capacity Utilization			54.5%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

611: 7th Ave SE & Holly Dr/84th St SE
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions PM Peak Hour
 Everett Link Extension Project - EGN-A

	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Movement												
Lane Configurations		↔				↔		↗	↘		↗	↘
Traffic Volume (vph)	100	20	30	5	15	20	70	10	485	20	70	470
Future Volume (vph)	100	20	30	5	15	20	70	10	485	20	70	470
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	14	14	14	12	11	11	11	11	11	11	11	11
Total Lost time (s)		4.5				4.5		4.5	4.5		4.0	4.5
Lane Util. Factor		1.00				1.00		1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.99				1.00		1.00	1.00		1.00	0.99
Flpb, ped/bikes		1.00				1.00		0.99	1.00		0.99	1.00
Frt		0.97				0.91		1.00	0.99		1.00	0.98
Flt Protected		0.97				0.99		0.95	1.00		0.95	1.00
Satd. Flow (prot)		1740				1527		1558	1632		1549	1580
Flt Permitted		0.66				0.94		0.31	1.00		0.47	1.00
Satd. Flow (perm)		1182				1445		506	1632		760	1580
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	105	21	32	5	16	21	74	11	511	21	74	495
RTOR Reduction (vph)	0	7	0	0	0	45	0	0	2	0	0	7
Lane Group Flow (vph)	0	151	0	0	0	71	0	11	530	0	74	572
Confl. Peds. (#/hr)			10		10			14		12	12	
Confl. Bikes (#/hr)												
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	2%	2%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Perm	NA		Perm	Perm	NA		custom	NA		custom	NA
Protected Phases		1				1			2 4 5		3	2 3 4 5
Permitted Phases	1			1	1			2 4			4	
Actuated Green, G (s)		20.5				20.5		54.9	65.1		29.8	84.0
Effective Green, g (s)		20.5				20.5		49.9	56.6		29.8	71.5
Actuated g/C Ratio		0.18				0.18		0.44	0.50		0.26	0.63
Clearance Time (s)		4.5				4.5					4.0	
Vehicle Extension (s)		3.0				3.0					2.0	
Lane Grp Cap (vph)		213				260		222	813		303	995
v/s Ratio Prot									c0.33		0.03	c0.36
v/s Ratio Perm		c0.13				0.05		0.02			0.03	
v/c Ratio		0.71				0.27		0.05	0.65		0.24	0.58
Uniform Delay, d1		43.7				40.1		18.2	21.1		32.4	12.2
Progression Factor		1.00				1.00		1.00	1.00		0.78	0.37
Incremental Delay, d2		10.6				0.6		0.0	1.4		0.1	0.4
Delay (s)		54.4				40.6		18.2	22.6		25.4	4.9
Level of Service		D				D		B	C		C	A
Approach Delay (s)		54.4				40.6			22.5			7.2
Approach LOS		D				D			C			A
Intersection Summary												
HCM 2000 Control Delay		20.6										
HCM 2000 Volume to Capacity ratio		0.64										
Actuated Cycle Length (s)		113.5							21.5			
Intersection Capacity Utilization		64.6%										
Analysis Period (min)		15										
c Critical Lane Group												



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	80
Future Volume (vph)	80
Ideal Flow (vphpl)	1750
Lane Width	11
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	84
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	14
Confl. Bikes (#/hr)	1
Heavy Vehicles (%)	3%
Bus Blockages (#/hr)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	45	0	2870	1680	30
Future Vol, veh/h	0	45	0	2870	1680	30
Conflicting Peds, #/hr	0	48	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	0	47	0	3021	1768	32
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	948	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.16	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.93	-	-	-	-
Pot Cap-1 Maneuver	0	223	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	213	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	26.7	0	0			
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	-	213	-	-		
HCM Lane V/C Ratio	-	0.222	-	-		
HCM Control Delay (s)	-	26.7	-	-		
HCM Lane LOS	-	D	-	-		
HCM 95th %tile Q(veh)	-	0.8	-	-		

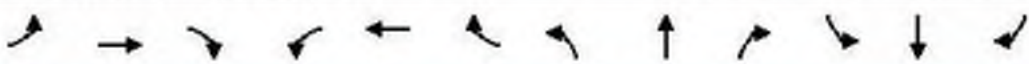
601: Evergreen Way & Casino Rd
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions AM Peak Hour
 Everett Link Extension Project - EGN-B

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	→	↱	↰	↰↱	↱	↰	↰↱	↱	↰	↰↱	↱
Traffic Volume (vph)	475	135	110	80	115	180	90	720	35	210	840	450
Future Volume (vph)	475	135	110	80	115	180	90	720	35	210	840	450
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	10	10	10	11	11	11	11	11	11
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	5.0		4.5	5.0	4.5
Lane Util. Factor	0.97	1.00		0.91	0.91		1.00	*0.77		1.00	*0.82	1.00
Frpb, ped/bikes	1.00	0.95		1.00	1.00		1.00	1.00		1.00	1.00	0.90
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.93		1.00	0.91		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	2887	1386		1345	2575		1516	3655		1531	3963	1229
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	2887	1386		1345	2575		1516	3655		1531	3963	1229
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	495	141	115	83	120	188	94	750	36	219	875	469
RTOR Reduction (vph)	0	19	0	0	173	0	0	2	0	0	0	95
Lane Group Flow (vph)	495	237	0	75	143	0	94	784	0	219	875	374
Confl. Peds. (#/hr)			54	54			70		5	5		70
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	8%	8%	8%	5%	5%	5%	6%	6%	6%	5%	5%	5%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	4	4		3	3		5	2		1	6	4
Permitted Phases												6
Actuated Green, G (s)	32.9	32.9		12.9	12.9		13.4	68.5		27.2	82.3	115.2
Effective Green, g (s)	32.9	32.9		12.9	12.9		13.4	68.5		27.2	82.3	115.2
Actuated g/C Ratio	0.21	0.21		0.08	0.08		0.08	0.43		0.17	0.51	0.72
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	5.0		4.5	5.0	4.5
Vehicle Extension (s)	1.5	1.5		1.5	1.5		2.0	6.0		2.0	5.0	1.5
Lane Grp Cap (vph)	593	284		108	207		126	1564		260	2038	884
v/s Ratio Prot	c0.17	0.17		c0.06	0.06		0.06	c0.21		c0.14	0.22	0.09
v/s Ratio Perm												0.22
v/c Ratio	0.83	0.83		0.69	0.69		0.75	0.50		0.84	0.43	0.42
Uniform Delay, d1	60.9	60.9		71.6	71.6		71.6	33.3		64.3	24.2	9.0
Progression Factor	1.00	1.00		1.00	1.00		0.89	0.95		0.73	1.06	2.28
Incremental Delay, d2	9.4	17.9		14.5	7.8		18.4	1.1		19.1	0.6	0.1
Delay (s)	70.4	78.8		86.1	79.4		82.2	32.8		66.2	26.2	20.7
Level of Service	E	E		F	E		F	C		E	C	C
Approach Delay (s)		73.3			80.7			38.1			30.2	
Approach LOS		E			F			D			C	
Intersection Summary												
HCM 2000 Control Delay			46.6			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)				18.5		
Intersection Capacity Utilization			76.4%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

602: Evergreen Way & Boeing Fwy EB Off Ramp 2045 Future Flow Volume Conditions AM Peak Hour
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project - EGN-B

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↰					↑↑↑		↰↰	↑↑↑	
Traffic Volume (vph)	135	0	80	0	0	0	0	860	505	440	1420	0
Future Volume (vph)	135	0	80	0	0	0	0	860	505	440	1420	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	14	14	14	12	12	12	11	11	11	11	11	11
Total Lost time (s)	4.5	4.5	4.5					5.0		4.5	5.0	
Lane Util. Factor	0.95	0.95	1.00					*0.77		0.97	*0.82	
Frpb, ped/bikes	1.00	1.00	1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					0.94		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1574	1574	1483					3448		2969	3963	
Flt Permitted	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1574	1574	1483					3448		2969	3963	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	141	0	83	0	0	0	0	896	526	458	1479	0
RTOR Reduction (vph)	0	0	77	0	0	0	0	52	0	0	0	0
Lane Group Flow (vph)	70	71	6	0	0	0	0	1370	0	458	1479	0
Confl. Peds. (#/hr)									5	5		
Heavy Vehicles (%)	7%	7%	7%	0%	0%	0%	6%	6%	6%	5%	5%	5%
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		8						2		1	6	
Permitted Phases	8		8									
Actuated Green, G (s)	11.6	11.6	11.6					105.3		29.1	138.9	
Effective Green, g (s)	11.6	11.6	11.6					105.3		29.1	138.9	
Actuated g/C Ratio	0.07	0.07	0.07					0.66		0.18	0.87	
Clearance Time (s)	4.5	4.5	4.5					5.0		4.5	5.0	
Vehicle Extension (s)	2.0	2.0	2.0					2.0		2.0	2.0	
Lane Grp Cap (vph)	114	114	107					2269		539	3440	
v/s Ratio Prot								c0.40		c0.15	0.37	
v/s Ratio Perm	0.04	0.05	0.00									
v/c Ratio	0.61	0.62	0.06					0.60		0.85	0.43	
Uniform Delay, d1	72.0	72.1	69.1					15.5		63.3	2.2	
Progression Factor	1.00	1.00	1.00					0.38		0.65	0.88	
Incremental Delay, d2	6.7	7.4	0.1					1.0		10.3	0.3	
Delay (s)	78.7	79.5	69.2					6.9		51.2	2.3	
Level of Service	E	E	E					A		D	A	
Approach Delay (s)		75.4			0.0			6.9			13.9	
Approach LOS		E			A			A			B	
Intersection Summary												
HCM 2000 Control Delay			15.0									
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			160.0							14.0		
Intersection Capacity Utilization			86.2%								E	
Analysis Period (min)			15									
c Critical Lane Group												

603: Evergreen Way & Boeing Fwy WB On Ramp Signalized Intersection Capacity Analysis
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project - EGN-B

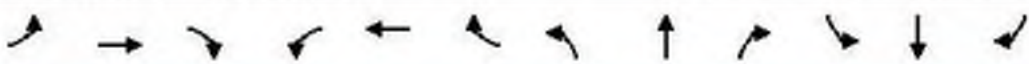
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰	↱	↰↱	↰	↱			↰↱	
Traffic Volume (vph)	0	0	0	675	5	495	80	915	0	0	1185	195
Future Volume (vph)	0	0	0	675	5	495	80	915	0	0	1185	195
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	11	11	11	12	12	12	11	11	11
Total Lost time (s)				4.5	4.5	4.5	4.5	5.0			5.0	
Lane Util. Factor				0.95	0.95	0.88	1.00	*0.77			*0.82	
Frpb, ped/bikes				1.00	1.00	0.95	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	1.00	0.85	1.00	1.00			0.98	
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1468	1473	2319	1568	3814			6466	
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1468	1473	2319	1568	3814			6466	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	711	5	521	84	963	0	0	1247	205
RTOR Reduction (vph)	0	0	0	0	0	127	0	0	0	0	13	0
Lane Group Flow (vph)	0	0	0	355	361	394	84	963	0	0	1439	0
Confl. Peds. (#/hr)						26			5	5		
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	6%	6%	6%	5%	5%	5%
Turn Type				Split	NA	Perm	Prot	NA			NA	
Protected Phases				4	4		5	2			6	
Permitted Phases						4						
Actuated Green, G (s)				46.9	46.9	46.9	13.0	103.6			86.1	
Effective Green, g (s)				46.9	46.9	46.9	13.0	103.6			86.1	
Actuated g/C Ratio				0.29	0.29	0.29	0.08	0.65			0.54	
Clearance Time (s)				4.5	4.5	4.5	4.5	5.0			5.0	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			3.0	
Lane Grp Cap (vph)				430	431	679	127	2469			3479	
v/s Ratio Prot				0.24	c0.25		c0.05	0.25			c0.22	
v/s Ratio Perm						0.17						
v/c Ratio				0.83	0.84	0.58	0.66	0.39			0.41	
Uniform Delay, d1				52.7	53.0	48.2	71.4	13.3			22.0	
Progression Factor				1.00	1.00	1.00	1.02	1.31			0.72	
Incremental Delay, d2				11.7	12.7	0.8	7.9	0.4			0.3	
Delay (s)				64.4	65.7	49.0	81.0	17.8			16.1	
Level of Service				E	E	D	F	B			B	
Approach Delay (s)		0.0			58.3			22.9			16.1	
Approach LOS		A			E			C			B	
Intersection Summary												
HCM 2000 Control Delay			32.0									
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			160.0									
Intersection Capacity Utilization			86.2%									
Analysis Period (min)			15									
c Critical Lane Group												

604: Evergreen Way & 79th PI/79th PI
HCM 6th Signalized Intersection Summary

2046 Future Improved Conditions AM Peak Hour
Everett Link Extension Project - EGN-B

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↱		↰	↱	
Traffic Volume (veh/h)	40	10	380	20	10	20	180	1140	0	15	980	45
Future Volume (veh/h)	40	10	380	20	10	20	180	1140	0	15	980	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1777	1777	1777	1559	1559	1559	1682	1682	1682	1668	1668	1668
Adj Flow Rate, veh/h	42	11	400	21	11	21	189	1200	0	16	1032	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	14	14	14	5	5	5	6	6	6
Cap, veh/h	238	58	470	97	51	76	205	1543	0	521	2504	114
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.26	0.79	0.00	0.33	0.60	0.60
Sat Flow, veh/h	1072	312	1499	355	276	414	1602	4272	0	1589	4174	190
Grp Volume(v), veh/h	53	0	400	53	0	0	189	1200	0	16	676	403
Grp Sat Flow(s), veh/h/ln	1385	0	1499	1045	0	0	1602	1295	0	1589	1368	1629
Q Serve(g_s), s	0.0	0.0	29.5	2.6	0.0	0.0	18.4	26.6	0.0	1.1	21.0	21.1
Cycle Q Clear(g_c), s	6.1	0.0	29.5	8.8	0.0	0.0	18.4	26.6	0.0	1.1	21.0	21.1
Prop In Lane	0.79		1.00	0.40		0.40	1.00		0.00	1.00		0.12
Lane Grp Cap(c), veh/h	296	0	470	224	0	0	205	1543	0	521	1641	977
V/C Ratio(X)	0.18	0.00	0.85	0.24	0.00	0.00	0.92	0.78	0.00	0.03	0.41	0.41
Avail Cap(c_a), veh/h	296	0	470	224	0	0	285	2574	0	521	1641	977
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.87	0.87	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.6	0.0	51.5	56.4	0.0	0.0	58.7	12.6	0.0	36.5	17.0	17.0
Incr Delay (d2), s/veh	0.1	0.0	13.3	0.4	0.0	0.0	21.0	3.4	0.0	0.0	0.8	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	1.9	0.0	16.9	1.9	0.0	0.0	7.8	4.1	0.0	0.4	6.8	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	55.7	0.0	64.9	56.8	0.0	0.0	79.6	16.1	0.0	36.5	17.8	18.3
LnGrp LOS	E	A	E	E	A	A	E	B	A	D	B	B
Approach Vol, veh/h		453			53			1389			1095	
Approach Delay, s/veh		63.8			56.8			24.7			18.3	
Approach LOS		E			E			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	57.4	68.6		34.0	25.0	101.0		34.0				
Change Period (Y+Rc), s	5.0	* 5		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	10.5	* 1.1E2		29.5	28.5	88.0		29.5				
Max Q Clear Time (g_c+I1), s	3.1	28.6		10.8	20.4	23.1		31.5				
Green Ext Time (p_c), s	0.0	35.0		0.2	0.2	27.1		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			28.8									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

605: EGN-B Station Access & Casino Rd 2046 Future Improved Conditions AM Peak Hour
 HCM Signalized Intersection Capacity Analysis Everett Link Extension Project - EGN-B

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱		↰	↱		↰	↱	
Traffic Volume (vph)	10	615	25	15	575	70	25	0	35	70	0	10
Future Volume (vph)	10	615	25	15	575	70	25	0	35	70	0	10
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	4.0	5.0		4.0	5.0		4.5	3.5		4.5	3.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1487	2954		1511	2974		1578	1438		1560	1354	
Flt Permitted	0.39	1.00		0.40	1.00		0.78	1.00		0.73	1.00	
Satd. Flow (perm)	616	2954		629	2974		1303	1438		1204	1354	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	11	647	26	16	605	74	26	0	37	74	0	11
RTOR Reduction (vph)	0	2	0	0	6	0	0	33	0	0	9	0
Lane Group Flow (vph)	11	671	0	16	673	0	26	4	0	74	2	0
Confl. Peds. (#/hr)	3		24	24		3	21					21
Confl. Bikes (#/hr)			2			7						
Heavy Vehicles (%)	8%	8%	8%	6%	6%	6%	0%	0%	0%	3%	3%	3%
Turn Type	custom	NA		custom	NA		custom	NA		custom	NA	
Protected Phases	7	4 10		3	8 11			1 2			5 6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	37.9	42.5		35.3	43.2		5.1	8.1		8.3	14.5	
Effective Green, g (s)	37.9	39.0		35.3	39.7		5.1	8.1		8.3	14.5	
Actuated g/C Ratio	0.53	0.54		0.49	0.55		0.07	0.11		0.12	0.20	
Clearance Time (s)	4.0			4.0			4.5			4.5		
Vehicle Extension (s)	1.5			1.5			2.0			2.0		
Lane Grp Cap (vph)	331	1597		323	1637		92	161		138	272	
v/s Ratio Prot	0.00	c0.23		c0.00	c0.23			c0.00			0.00	
v/s Ratio Perm	0.02			0.02			0.02			c0.06		
v/c Ratio	0.03	0.42		0.05	0.41		0.28	0.03		0.54	0.01	
Uniform Delay, d1	8.2	9.8		9.5	9.4		31.8	28.5		30.1	23.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.1		0.0	0.1		0.6	0.0		2.0	0.0	
Delay (s)	8.2	10.0		9.5	9.5		32.4	28.5		32.1	23.1	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		9.9			9.5			30.1			30.9	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM 2000 Control Delay			11.8			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.41									
Actuated Cycle Length (s)			72.1			Sum of lost time (s)			20.5			
Intersection Capacity Utilization			43.1%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

Intersection														
Int Delay, s/veh	1.1													
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	5	25	315	15	10	315	10	10	0	10	5	5	0	30
Future Vol, veh/h	5	25	315	15	10	315	10	10	0	10	5	5	0	30
Conflicting Peds, #/hr	0	0	0	34	34	0	0	1	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	50	-	-	50	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	84	95	95	95
Heavy Vehicles, %	6	6	6	6	5	5	5	0	0	0	8	8	8	8
Mvmt Flow	5	26	332	16	11	332	11	11	0	11	6	5	0	32
Major/Minor	Major1				Major2			Minor1			Minor2			
Conflicting Flow All	-	343	0	0	382	0	0	803	801	374	0	758	804	339
Stage 1	-	-	-	-	-	-	-	426	436	-	0	360	360	-
Stage 2	-	-	-	-	-	-	-	377	365	-	0	398	444	-
Critical Hdwy	-	4.16	-	-	4.15	-	-	7.1	6.5	6.2	-	7.18	6.58	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.1	5.5	-	-	6.18	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.1	5.5	-	-	6.18	5.58	-
Follow-up Hdwy	-	2.254	-	-	2.245	-	-	3.5	4	3.3	-	3.572	4.072	3.372
Pot Cap-1 Maneuver	-	1194	-	-	1160	-	-	304	320	677	0	316	310	690
Stage 1	-	-	-	-	-	-	-	610	583	-	0	646	616	-
Stage 2	-	-	-	-	-	-	-	649	627	-	0	616	565	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	~ -6	~ -6	-	-	1110	-	-	275	303	648	0	308	294	689
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	275	303	-	0	308	294	-
Stage 1	-	-	-	-	-	-	-	610	558	-	0	646	610	-
Stage 2	-	-	-	-	-	-	-	612	621	-	0	606	541	-
Approach	EB				WB			NB			SB			
HCM Control Delay, s					0.2			14.9			11.6			
HCM LOS								B			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	386	+	-	-	1110	-	-	586						
HCM Lane V/C Ratio	0.055	-	-	-	0.009	-	-	0.063						
HCM Control Delay (s)	14.9	-	-	-	8.3	-	-	11.6						
HCM Lane LOS	B	-	-	-	A	-	-	B						
HCM 95th %tile Q(veh)	0.2	-	-	-	0	-	-	0.2						
Notes														
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon														

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	↑	
Traffic Vol, veh/h	375	5	30	180	5	35
Future Vol, veh/h	375	5	30	180	5	35
Conflicting Peds, #/hr	0	8	8	0	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	6	6	4	4
Mvmt Flow	395	5	32	189	5	37

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	408
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.16
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.254
Pot Cap-1 Maneuver	-	-	1129
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1120
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	595	-	-	1120	-
HCM Lane V/C Ratio	0.071	-	-	0.028	-
HCM Control Delay (s)	11.5	-	-	8.3	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

608: 5th Ave W & Casino Rd
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions AM Peak Hour
 Everett Link Extension Project - EGN-B

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↷		↰	↷		↰	↷		↰	↷	
Traffic Volume (vph)	105	280	80	220	355	65	75	215	245	55	295	170
Future Volume (vph)	105	280	80	220	355	65	75	215	245	55	295	170
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	12	12	12	11	11	11
Total Lost time (s)	4.5	5.0		4.5	4.0		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.98		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	0.97	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.92		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1500	2911		1435	2745		1568	1502		1516	1484	
Flt Permitted	0.50	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	783	2911		1435	2745		1568	1502		1516	1484	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	111	295	84	232	374	68	79	226	258	58	311	179
RTOR Reduction (vph)	0	18	0	0	11	0	0	31	0	0	16	0
Lane Group Flow (vph)	111	361	0	232	431	0	79	453	0	58	474	0
Confl. Peds. (#/hr)	37		29	29		37	26		5	5		26
Confl. Bikes (#/hr)			4			3			3			
Heavy Vehicles (%)	4%	4%	4%	12%	12%	12%	6%	6%	6%	6%	6%	6%
Turn Type	custom	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	10 6		7	4		3	8	
Permitted Phases	6											
Actuated Green, G (s)	31.7	20.7		24.2	35.8		7.5	42.2		6.7	41.4	
Effective Green, g (s)	31.7	20.7		24.2	35.8		7.5	42.2		6.7	41.4	
Actuated g/C Ratio	0.28	0.18		0.22	0.32		0.07	0.38		0.06	0.37	
Clearance Time (s)	4.5	5.0		4.5			4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	1.5		3.5			3.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	279	536		309	875		104	564		90	547	
v/s Ratio Prot	0.03	c0.12		c0.16	c0.16		c0.05	0.30		0.04	c0.32	
v/s Ratio Perm	0.08											
v/c Ratio	0.40	0.67		0.75	0.49		0.76	0.80		0.64	0.87	
Uniform Delay, d1	31.2	42.7		41.2	30.9		51.5	31.3		51.6	32.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	2.6		10.1	0.2		26.7	7.7		11.2	13.1	
Delay (s)	31.6	45.3		51.4	31.1		78.3	39.1		62.9	46.0	
Level of Service	C	D		D	C		E	D		E	D	
Approach Delay (s)		42.2			38.1			44.6			47.8	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			42.9			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			112.3			Sum of lost time (s)			22.5			
Intersection Capacity Utilization			75.9%			ICU Level of Service			D			
Analysis Period (min)			15									

c Critical Lane Group

609: Evergreen Way & Driveway
HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions AM Peak Hour
Everett Link Extension Project - EGN-B

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰		↱	↰	↱	↰	↱	
Traffic Volume (vph)	10	0	5	95	0	5	5	740	60	30	855	30
Future Volume (vph)	10	0	5	95	0	5	5	740	60	30	855	30
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	15	15	15	11	11	11	11	11	11
Total Lost time (s)		4.5	4.5		4.5		4.5	5.0		4.0	5.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	*0.77		1.00	*0.82	
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.97	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.99	
Flt Protected		0.95	1.00		0.95		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		965	891		1821		1544	3686		1500	3865	
Flt Permitted		0.80	1.00		0.73		0.26	1.00		0.28	1.00	
Satd. Flow (perm)		813	891		1390		430	3686		435	3865	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	11	0	5	100	0	5	5	779	63	32	900	32
RTOR Reduction (vph)	0	0	5	0	58	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	11	0	0	47	0	5	839	0	32	931	0
Confl. Peds. (#/hr)	20					20	23		21	21		23
Heavy Vehicles (%)	67%	67%	67%	0%	0%	0%	4%	4%	4%	7%	7%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	0	0
Turn Type	custom	NA	custom	Perm	NA		custom	NA		custom	NA	
Protected Phases		4 11			8		5	2 10		1	6 12	
Permitted Phases	4		4	8			6			2		
Actuated Green, G (s)		24.5	6.0		24.5		107.8	117.6		108.3	120.5	
Effective Green, g (s)		21.0	6.0		24.5		107.8	114.1		108.3	117.0	
Actuated g/C Ratio		0.13	0.04		0.15		0.67	0.71		0.68	0.73	
Clearance Time (s)			4.5		4.5			4.5			4.0	
Vehicle Extension (s)			2.0		2.0			2.0			2.0	
Lane Grp Cap (vph)		106	33		212		296	2628		323	2826	
v/s Ratio Prot							0.00	0.23		c0.00	c0.24	
v/s Ratio Perm		0.01	0.00		c0.03		0.01			0.06		
v/c Ratio		0.10	0.01		0.22		0.02	0.32		0.10	0.33	
Uniform Delay, d1		61.2	74.1		59.4		8.5	8.5		8.5	7.6	
Progression Factor		1.00	1.00		1.00		1.00	1.00		0.40	0.30	
Incremental Delay, d2		0.2	0.0		0.2		0.0	0.1		0.0	0.0	
Delay (s)		61.4	74.2		59.6		8.6	8.6		3.5	2.4	
Level of Service		E	E		E		A	A		A	A	
Approach Delay (s)		65.4			59.6			8.6			2.4	
Approach LOS		E			E			A			A	
Intersection Summary												
HCM 2000 Control Delay			8.7									
HCM 2000 Volume to Capacity ratio			0.32									
Actuated Cycle Length (s)			160.0									
Intersection Capacity Utilization			46.5%									
Analysis Period (min)			15									
c Critical Lane Group												

610: 7th Ave SE & Casino Rd
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions AM Peak Hour
 Everett Link Extension Project - EGN-B

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	85	245	250	90	220	240
Future Volume (vph)	85	245	250	90	220	240
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	11	11	12	12	11	11
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1611	1369	1541	1636	1560	1361
Flt Permitted	1.00	1.00	0.70	1.00	0.95	1.00
Satd. Flow (perm)	1611	1369	1134	1636	1560	1361
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	89	258	263	95	232	253
RTOR Reduction (vph)	0	191	0	0	0	187
Lane Group Flow (vph)	89	67	263	95	232	66
Confl. Peds. (#/hr)		17	17			2
Heavy Vehicles (%)	5%	5%	7%	7%	3%	3%
Turn Type	NA	Over	custom	NA	Prot	Perm
Protected Phases	1 8	2	7	1 9	2	
Permitted Phases			8			2
Actuated Green, G (s)	31.8	25.4	36.8	62.8	25.4	25.4
Effective Green, g (s)	31.8	25.4	36.8	62.8	25.4	25.4
Actuated g/C Ratio	0.33	0.26	0.38	0.65	0.26	0.26
Clearance Time (s)		4.5	4.5		4.5	4.5
Vehicle Extension (s)		2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	527	357	538	1057	407	355
v/s Ratio Prot	c0.06	0.05	c0.13	c0.06	c0.15	
v/s Ratio Perm			c0.05			0.05
v/c Ratio	0.17	0.19	0.49	0.09	0.57	0.19
Uniform Delay, d1	23.3	27.9	22.8	6.5	31.2	27.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.94
Incremental Delay, d2	0.2	0.1	0.3	0.0	1.1	0.1
Delay (s)	23.4	28.0	23.1	6.5	32.3	54.2
Level of Service	C	C	C	A	C	D
Approach Delay (s)	26.8			18.7	43.7	
Approach LOS	C			B	D	
Intersection Summary						
HCM 2000 Control Delay			31.3		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.47			
Actuated Cycle Length (s)			97.2		Sum of lost time (s)	21.5
Intersection Capacity Utilization			42.6%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

611: 7th Ave SE & Holly Dr/84th St SE
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions AM Peak Hour
 Everett Link Extension Project - EGN-B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↘		↗	↘	
Traffic Volume (vph)	50	25	35	20	25	120	10	290	10	75	355	65
Future Volume (vph)	50	25	35	20	25	120	10	290	10	75	355	65
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	14	14	14	11	11	11	11	11	11	11	11	11
Total Lost time (s)		4.5			4.5		4.5	4.5		4.0	4.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		0.99	1.00		1.00	1.00	
Frt		0.96			0.90		1.00	0.99		1.00	0.98	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1583			1470		1545	1619		1511	1536	
Flt Permitted		0.66			0.96		0.41	1.00		0.57	1.00	
Satd. Flow (perm)		1075			1419		668	1619		904	1536	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	26	37	21	26	126	11	305	11	79	374	68
RTOR Reduction (vph)	0	12	0	0	68	0	0	1	0	0	8	0
Lane Group Flow (vph)	0	104	0	0	105	0	11	315	0	79	434	0
Confl. Peds. (#/hr)			6	6			9		4	4		9
Heavy Vehicles (%)	9%	9%	9%	3%	3%	3%	3%	3%	3%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	2	0
Turn Type	Perm	NA		Perm	NA		custom	NA		custom	NA	
Protected Phases		1			1			2 4 5		3	2 3 4 5	
Permitted Phases	1			1			2 4			4 5		
Actuated Green, G (s)		16.5			16.5		46.5	52.9		37.3	71.7	
Effective Green, g (s)		16.5			16.5		41.5	44.4		33.8	59.2	
Actuated g/C Ratio		0.17			0.17		0.43	0.46		0.35	0.61	
Clearance Time (s)		4.5			4.5					4.0		
Vehicle Extension (s)		3.0			3.0					2.0		
Lane Grp Cap (vph)		182			240		285	739		406	935	
v/s Ratio Prot								0.19		0.03	c0.28	
v/s Ratio Perm		c0.10			0.07		0.02			0.04		
v/c Ratio		0.57			0.44		0.04	0.43		0.19	0.46	
Uniform Delay, d1		37.1			36.2		16.2	17.8		21.8	10.4	
Progression Factor		1.00			1.00		1.00	1.00		0.69	0.34	
Incremental Delay, d2		4.3			1.3		0.0	0.1		0.1	0.1	
Delay (s)		41.4			37.5		16.2	18.0		15.2	3.6	
Level of Service		D			D		B	B		B	A	
Approach Delay (s)		41.4			37.5			17.9			5.4	
Approach LOS		D			D			B			A	
Intersection Summary												
HCM 2000 Control Delay			17.5			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			97.2			Sum of lost time (s)			21.5			
Intersection Capacity Utilization			59.4%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

601: Evergreen Way & Casino Rd
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions PM Peak Hour
 Everett Link Extension Project - EGN-B

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↱	↱		↰↱	↰↱		↰↱	↰↱↰↱		↰↱	↰↱↰↱	↰↱
Traffic Volume (vph)	550	210	155	85	125	160	115	1405	110	220	1170	460
Future Volume (vph)	550	210	155	85	125	160	115	1405	110	220	1170	460
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	10	10	10	11	11	11	11	11	11
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	5.0		4.5	5.0	4.5
Lane Util. Factor	0.97	1.00		0.91	0.91		1.00	*0.90		1.00	*0.74	1.00
Frpb, ped/bikes	1.00	0.94		1.00	1.00		1.00	1.00		1.00	1.00	0.90
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.92		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3027	1439		1384	2673		1560	4372		1560	3646	1256
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3027	1439		1384	2673		1560	4372		1560	3646	1256
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	561	214	158	87	128	163	117	1434	112	224	1194	469
RTOR Reduction (vph)	0	21	0	0	150	0	0	7	0	0	0	72
Lane Group Flow (vph)	561	351	0	78	150	0	117	1539	0	224	1194	397
Confl. Peds. (#/hr)			91	91			94		9	9		94
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	4	4		3	3		5	2		1	6	4
Permitted Phases												6
Actuated Green, G (s)	30.5	30.5		10.3	10.3		16.3	50.8		19.9	54.4	84.9
Effective Green, g (s)	30.5	30.5		10.3	10.3		16.3	50.8		19.9	54.4	84.9
Actuated g/C Ratio	0.23	0.23		0.08	0.08		0.13	0.39		0.15	0.42	0.65
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	5.0		4.5	5.0	4.5
Vehicle Extension (s)	1.5	1.5		1.5	1.5		2.0	6.0		2.0	5.0	1.5
Lane Grp Cap (vph)	710	337		109	211		195	1708		238	1525	863
v/s Ratio Prot	0.19	c0.24		c0.06	0.06		0.07	c0.35		c0.14	0.33	0.11
v/s Ratio Perm												0.21
v/c Ratio	0.79	1.04		0.72	0.71		0.60	0.90		0.94	0.78	0.46
Uniform Delay, d1	46.7	49.8		58.4	58.4		53.8	37.2		54.5	32.7	11.2
Progression Factor	1.00	1.00		1.01	1.01		1.34	1.21		0.88	1.13	1.76
Incremental Delay, d2	5.6	60.5		16.9	9.0		2.7	6.8		35.3	3.2	0.1
Delay (s)	52.3	110.3		75.7	67.8		74.9	51.8		83.5	40.3	19.8
Level of Service	D	F		E	E		E	D		F	D	B
Approach Delay (s)		75.4			69.4			53.5			40.3	
Approach LOS		E			E			D			D	
Intersection Summary												
HCM 2000 Control Delay			53.8				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			130.0				Sum of lost time (s)			18.5		
Intersection Capacity Utilization			93.6%				ICU Level of Service			F		
Analysis Period (min)			15									

c Critical Lane Group

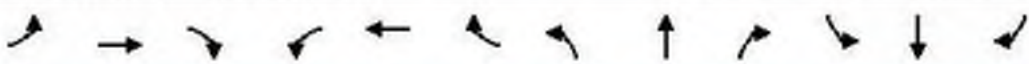
602: Evergreen Way & Boeing Fwy EB Off Ramp Future Flyover Conditions PM Peak Hour
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project - EGN-B

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations	↰	↰	↰					↑↑↑		↰↰	↑↑↑	
Traffic Volume (vph)	530	35	245	0	0	0	0	1530	635	450	1605	0
Future Volume (vph)	530	35	245	0	0	0	0	1530	635	450	1605	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	14	14	14	12	12	12	11	11	11	11	11	11
Total Lost time (s)	4.5	4.5	4.5					5.0		4.5	5.0	
Lane Util. Factor	0.95	0.95	1.00					*0.90		0.97	*0.74	
Frpb, ped/bikes	1.00	1.00	1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					0.96		1.00	1.00	
Flt Protected	0.95	0.96	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1668	1682	1571					4207		3027	3646	
Flt Permitted	0.95	0.96	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1668	1682	1571					4207		3027	3646	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	558	37	258	0	0	0	0	1611	668	474	1689	0
RTOR Reduction (vph)	0	0	48	0	0	0	0	57	0	0	0	0
Lane Group Flow (vph)	296	299	210	0	0	0	0	2222	0	474	1689	0
Confl. Peds. (#/hr)							1		6	6		1
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	3%	3%	3%	3%	3%	3%
Turn Type	Split	NA	Perm					NA		Prot	NA	
Protected Phases	8	8						2		1	6	
Permitted Phases			8									
Actuated Green, G (s)	24.9	24.9	24.9					71.6		19.5	95.6	
Effective Green, g (s)	24.9	24.9	24.9					71.6		19.5	95.6	
Actuated g/C Ratio	0.19	0.19	0.19					0.55		0.15	0.74	
Clearance Time (s)	4.5	4.5	4.5					5.0		4.5	5.0	
Vehicle Extension (s)	2.0	2.0	2.0					2.0		2.0	2.0	
Lane Grp Cap (vph)	319	322	300					2317		454	2681	
v/s Ratio Prot	0.18	c0.18						c0.53		c0.16	0.46	
v/s Ratio Perm			0.13									
v/c Ratio	0.93	0.93	0.70					0.96		1.04	0.63	
Uniform Delay, d1	51.7	51.7	49.1					27.8		55.2	8.5	
Progression Factor	1.00	1.00	1.00					0.26		0.78	0.97	
Incremental Delay, d2	31.5	31.4	5.9					7.2		49.9	0.9	
Delay (s)	83.2	83.1	55.0					14.3		92.9	9.1	
Level of Service	F	F	E					B		F	A	
Approach Delay (s)		74.6			0.0			14.3			27.5	
Approach LOS		E			A			B			C	
Intersection Summary												
HCM 2000 Control Delay			29.4									
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			130.0							14.0		
Intersection Capacity Utilization			124.8%									
Analysis Period (min)			15									
c Critical Lane Group												

603: Evergreen Way & Boeing Fwy WB On Ramp Signalized Intersection Capacity Analysis
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project - EGN-B

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰	↱	↰	↰	↰			↰	↰
Traffic Volume (vph)	0	0	0	600	5	850	75	1985	0	0	1455	200
Future Volume (vph)	0	0	0	600	5	850	75	1985	0	0	1455	200
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	11	11	11	12	12	12	11	11	11
Total Lost time (s)				4.5	4.5	4.5	4.5	5.0			5.0	
Lane Util. Factor				0.95	0.95	0.88	1.00	*0.90			*0.74	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	1.00	0.85	1.00	1.00			0.98	
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1497	1502	2481	1630	4632			6015	
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1497	1502	2481	1630	4632			6015	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	632	5	895	79	2089	0	0	1532	211
RTOR Reduction (vph)	0	0	0	0	0	41	0	0	0	0	17	0
Lane Group Flow (vph)	0	0	0	316	321	854	79	2089	0	0	1726	0
Confl. Peds. (#/hr)							4		11	11		4
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type				Split	NA	Prot	Prot	NA			NA	
Protected Phases				4	4	4	5	2			6	
Permitted Phases												
Actuated Green, G (s)				40.5	40.5	40.5	9.5	80.0			66.0	
Effective Green, g (s)				40.5	40.5	40.5	9.5	80.0			66.0	
Actuated g/C Ratio				0.31	0.31	0.31	0.07	0.62			0.51	
Clearance Time (s)				4.5	4.5	4.5	4.5	5.0			5.0	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			3.0	
Lane Grp Cap (vph)				466	467	772	119	2850			3053	
v/s Ratio Prot				0.21	0.21	c0.34	0.05	c0.45			0.29	
v/s Ratio Perm												
v/c Ratio				0.68	0.69	1.11	0.66	0.73			0.57	
Uniform Delay, d1				39.1	39.2	44.8	58.7	17.5			22.1	
Progression Factor				1.00	1.00	1.00	1.10	1.32			0.70	
Incremental Delay, d2				3.1	3.3	65.7	3.6	0.6			0.5	
Delay (s)				42.1	42.5	110.4	68.1	23.7			16.1	
Level of Service				D	D	F	E	C			B	
Approach Delay (s)		0.0			82.1			25.3			16.1	
Approach LOS		A			F			C			B	
Intersection Summary												
HCM 2000 Control Delay			38.3									
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			130.0									
Intersection Capacity Utilization			124.8%									
Analysis Period (min)			15									
c Critical Lane Group												

604: Evergreen Way & 79th PI/79th PI
HCM 6th Signalized Intersection Summary

2046 Future Improved Conditions PM Peak Hour
Everett Link Extension Project - EGN-B

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		↰	↱		↰	↱	↰	↱		↰	↱	
Traffic Volume (veh/h)	85	15	385	45	20	45	320	2395	25	30	1165	65
Future Volume (veh/h)	85	15	385	45	20	45	320	2395	25	30	1165	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.93	0.98		0.93	1.00		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1777	1777	1777	1736	1736	1736	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	89	16	405	47	21	47	337	2521	26	32	1226	68
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	1	1	1	2	2	2	2	2	2
Cap, veh/h	209	33	752	86	42	62	495	3126	32	39	1498	83
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.60	1.00	1.00	0.02	0.37	0.37
Sat Flow, veh/h	744	157	1402	223	197	290	1641	4764	49	1641	3996	222
Grp Volume(v), veh/h	105	0	405	115	0	0	337	1639	908	32	782	512
Grp Sat Flow(s), veh/h/ln	900	0	1402	710	0	0	1641	1550	1712	1641	1275	1668
Q Serve(g_s), s	0.0	0.0	0.0	8.3	0.0	0.0	18.0	0.0	0.0	2.5	36.0	36.0
Cycle Q Clear(g_c), s	15.0	0.0	0.0	23.3	0.0	0.0	18.0	0.0	0.0	2.5	36.0	36.0
Prop In Lane	0.85		1.00	0.41		0.41	1.00		0.03	1.00		0.13
Lane Grp Cap(c), veh/h	242	0	752	190	0	0	495	2035	1124	39	955	625
V/C Ratio(X)	0.43	0.00	0.54	0.61	0.00	0.00	0.68	0.81	0.81	0.82	0.82	0.82
Avail Cap(c_a), veh/h	263	0	772	207	0	0	495	2035	1124	133	1000	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.42	0.42	0.42	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.1	0.0	21.0	51.4	0.0	0.0	21.6	0.0	0.0	63.2	36.7	36.7
Incr Delay (d2), s/veh	0.9	0.0	0.6	2.6	0.0	0.0	1.3	1.5	2.7	14.0	7.8	11.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	3.2	0.0	8.4	3.8	0.0	0.0	5.0	0.4	0.9	1.2	12.0	16.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.0	0.0	21.6	54.0	0.0	0.0	22.9	1.5	2.7	77.2	44.4	48.1
LnGrp LOS	D	A	C	D	A	A	C	A	A	E	D	D
Approach Vol, veh/h		510			115			2884			1326	
Approach Delay, s/veh		26.8			54.0			4.4			46.6	
Approach LOS		C			D			A			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	90.3		32.1	44.2	53.7		32.1				
Change Period (Y+Rc), s	4.5	5.0		4.5	5.0	* 5		4.5				
Max Green Setting (Gmax), s	10.5	76.0		29.5	35.5	* 51		29.5				
Max Q Clear Time (g_c+I1), s	4.5	2.0		17.0	20.0	38.0		25.3				
Green Ext Time (p_c), s	0.0	71.0		1.5	0.4	10.7		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			19.5									
HCM 6th LOS			B									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

605: EGN-B Station Access & Casino Rd 2046 Future Improved Conditions PM Peak Hour
 HCM Signalized Intersection Capacity Analysis Everett Link Extension Project - EGN-B

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱		↰	↱		↰	↱	
Traffic Volume (vph)	10	775	50	30	610	65	85	0	70	65	0	10
Future Volume (vph)	10	775	50	30	610	65	85	0	70	65	0	10
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	4.0	5.0		4.0	5.0		4.5	3.5		4.5	3.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	0.96	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1552	3073		1545	3036		1557	1424		1560	1342	
Flt Permitted	0.95	1.00		0.95	1.00		0.75	1.00		0.71	1.00	
Satd. Flow (perm)	1552	3073		1545	3036		1231	1424		1166	1342	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	799	52	31	629	67	88	0	72	67	0	10
RTOR Reduction (vph)	0	3	0	0	5	0	0	52	0	0	8	0
Lane Group Flow (vph)	10	848	0	31	691	0	88	20	0	67	2	0
Confl. Peds. (#/hr)	8		46	46		8	25					25
Confl. Bikes (#/hr)												6
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	1%	1%	1%	3%	3%	3%
Turn Type	Prot	NA		Prot	NA		custom	NA		custom	NA	
Protected Phases	7	4		3	8			12			56	
Permitted Phases							2			6		
Actuated Green, G (s)	0.8	34.3		2.6	36.1		11.2	19.5		9.4	15.9	
Effective Green, g (s)	0.8	34.3		2.6	36.1		11.2	19.5		9.4	15.9	
Actuated g/C Ratio	0.01	0.48		0.04	0.50		0.16	0.27		0.13	0.22	
Clearance Time (s)	4.0	5.0		4.0	5.0		4.5			4.5		
Vehicle Extension (s)	1.5	2.5		1.5	2.5		2.0			2.0		
Lane Grp Cap (vph)	17	1472		56	1530		192	387		153	298	
v/s Ratio Prot	0.01	c0.28		0.02	c0.23			c0.01			0.00	
v/s Ratio Perm							c0.07			0.06		
v/c Ratio	0.59	0.58		0.55	0.45		0.46	0.05		0.44	0.01	
Uniform Delay, d1	35.2	13.4		33.9	11.4		27.4	19.2		28.7	21.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	29.3	0.5		6.6	0.2		0.6	0.0		0.7	0.0	
Delay (s)	64.5	13.9		40.5	11.5		28.1	19.2		29.4	21.7	
Level of Service	E	B		D	B		C	B		C	C	
Approach Delay (s)		14.5			12.8			24.1			28.4	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			15.2			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			71.6			Sum of lost time (s)			17.0			
Intersection Capacity Utilization			50.9%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

606: Franz Bakery/Dunn Lumber & Casino Rd2046 Future Improved Conditions PM Peak Hour
 HCM 6th TWSC

Everett Link Extension Project - EGN-B

Intersection													
Int Delay, s/veh	1												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔			↔			↔	
Traffic Vol, veh/h	10	15	490	15	5	305	5	10	5	10	10	0	20
Future Vol, veh/h	10	15	490	15	5	305	5	10	5	10	10	0	20
Conflicting Peds, #/hr	0	1	0	46	46	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	0	0	0	0	0	0
Mvmt Flow	10	16	510	16	5	318	5	10	5	10	10	0	21

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	324	0	0	572	0	0	937	950	564	890	956	322
Stage 1	-	-	-	-	-	-	-	596	616	-	332	332	-
Stage 2	-	-	-	-	-	-	-	341	334	-	558	624	-
Critical Hdwy	-	4.12	-	-	4.12	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	-	2.218	-	-	2.218	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	-	1236	-	-	1001	-	-	247	262	529	266	260	724
Stage 1	-	-	-	-	-	-	-	494	485	-	686	648	-
Stage 2	-	-	-	-	-	-	-	678	647	-	518	481	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-3	-3	-	-	943	-	-	225	245	498	255	243	723
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	225	245	-	255	243	-
Stage 1	-	-	-	-	-	-	-	494	457	-	686	644	-
Stage 2	-	-	-	-	-	-	-	655	643	-	501	453	-

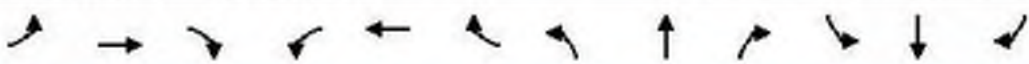
Approach	EB			WB			NB			SB			
HCM Control Delay, s				0.1			18.4			13.6			
HCM LOS							C			B			

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	294	+	-	-	943	-	-	449
HCM Lane V/C Ratio	0.089	-	-	-	0.006	-	-	0.07
HCM Control Delay (s)	18.4	-	-	-	8.8	-	-	13.6
HCM Lane LOS	C	-	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0	-	-	0.2

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

Intersection							
Int Delay, s/veh	1.2						
Movement	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔	
Traffic Vol, veh/h	350	10	5	20	435	5	85
Future Vol, veh/h	350	10	5	20	435	5	85
Conflicting Peds, #/hr	0	12	0	12	0	0	3
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	-	75	-	0	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95	95
Heavy Vehicles, %	4	4	1	1	1	4	4
Mvmt Flow	368	11	5	21	458	5	89
Major/Minor	Major1	Major2	Minor1				
Conflicting Flow All	0	0	-	391	0	886	389
Stage 1	-	-	-	-	-	386	-
Stage 2	-	-	-	-	-	500	-
Critical Hdwy	-	-	-	4.11	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	-	2.209	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	-	1173	-	312	655
Stage 1	-	-	-	-	-	683	-
Stage 2	-	-	-	-	-	605	-
Platoon blocked, %	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-5	-5	-	309	646
Mov Cap-2 Maneuver	-	-	-	-	-	309	-
Stage 1	-	-	-	-	-	675	-
Stage 2	-	-	-	-	-	605	-
Approach	EB	WB	NB				
HCM Control Delay, s	0					12	
HCM LOS						B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT		
Capacity (veh/h)	609	-	-	+	-		
HCM Lane V/C Ratio	0.156	-	-	-	-		
HCM Control Delay (s)	12	-	-	-	-		
HCM Lane LOS	B	-	-	-	-		
HCM 95th %tile Q(veh)	0.5	-	-	-	-		
Notes							
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon							

HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱		↰	↱		↰	↱	
Traffic Volume (vph)	145	300	95	330	490	90	100	350	205	140	395	125
Future Volume (vph)	145	300	95	330	490	90	100	350	205	140	395	125
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	12	12	12	11	11	11
Total Lost time (s)	4.5	5.0		4.5	5.0		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.96		1.00	0.99		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	0.94		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1524	2866		1545	2975		1599	1574		1545	1540	
Flt Permitted	0.42	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	675	2866		1545	2975		1599	1574		1545	1540	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	153	316	100	347	516	95	105	368	216	147	416	132
RTOR Reduction (vph)	0	21	0	0	10	0	0	14	0	0	7	0
Lane Group Flow (vph)	153	395	0	347	601	0	105	570	0	147	541	0
Confl. Peds. (#/hr)	45		35	35		45	39		8	8		39
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	custom	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6 10		7	4		3	8	
Permitted Phases	6											
Actuated Green, G (s)	40.4	23.9		34.5	47.5		12.5	54.1		13.6	55.2	
Effective Green, g (s)	40.4	23.9		34.5	43.5		12.5	54.1		13.6	55.2	
Actuated g/C Ratio	0.28	0.17		0.24	0.30		0.09	0.37		0.09	0.38	
Clearance Time (s)	4.5	5.0		4.5			4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	1.5		3.5			3.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	252	473		368	894		138	588		145	587	
v/s Ratio Prot	0.05	c0.14		c0.22	0.20		0.07	c0.36		c0.10	0.35	
v/s Ratio Perm	0.12											
v/c Ratio	0.61	0.84		0.94	0.67		0.76	0.97		1.01	0.92	
Uniform Delay, d1	41.8	58.4		54.1	44.3		64.6	44.4		65.5	42.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.8	11.6		32.6	1.6		21.6	29.1		78.4	19.7	
Delay (s)	44.6	70.0		86.7	45.9		86.2	73.5		143.9	62.3	
Level of Service	D	E		F	D		F	E		F	E	
Approach Delay (s)		63.2			60.7			75.4			79.6	
Approach LOS		E			E			E			E	
Intersection Summary												
HCM 2000 Control Delay			69.2			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			144.6			Sum of lost time (s)			22.5			
Intersection Capacity Utilization			92.0%			ICU Level of Service			F			
Analysis Period (min)			15									

c Critical Lane Group

609: Evergreen Way & Driveway
HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions PM Peak Hour
Everett Link Extension Project - EGN-B

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		↰	↱		↰		↰	↱		↰	↱	
Traffic Volume (vph)	70	15	55	110	10	5	35	1535	150	50	1245	30
Future Volume (vph)	70	15	55	110	10	5	35	1535	150	50	1245	30
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	15	15	15	11	11	11	11	11	11
Total Lost time (s)		4.5	4.5		4.5		4.5	5.0		4.0	5.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	*0.90		1.00	*0.74	
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.98	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	1.00	
Flt Protected		0.96	1.00		0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1572	1417		1761		1575	4381		1560	3630	
Flt Permitted		0.76	1.00		0.66		0.13	1.00		0.10	1.00	
Satd. Flow (perm)		1244	1417		1212		210	4381		162	3630	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	74	16	58	116	11	5	37	1616	158	53	1311	32
RTOR Reduction (vph)	0	0	54	0	2	0	0	7	0	0	1	0
Lane Group Flow (vph)	0	90	4	0	130	0	37	1767	0	53	1342	0
Confl. Peds. (#/hr)	19					19	23		18	18		23
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	2%	2%	2%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	0	0
Turn Type	custom	NA	custom	Perm	NA		custom	NA		custom	NA	
Protected Phases		8 11		4			5	2 10		1	6 12	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)		26.4	8.5		26.4		75.9	84.9		79.8	85.0	
Effective Green, g (s)		22.9	8.5		26.4		75.9	81.4		79.8	81.5	
Actuated g/C Ratio		0.18	0.07		0.20		0.58	0.63		0.61	0.63	
Clearance Time (s)			4.5		4.5			4.5			4.0	
Vehicle Extension (s)			2.0		2.0			2.0			2.0	
Lane Grp Cap (vph)		219	92		246		170	2743		155	2275	
v/s Ratio Prot							0.01	c0.40		c0.01	c0.37	
v/s Ratio Perm		0.07	0.00		c0.11		0.12			0.20		
v/c Ratio		0.41	0.04		0.53		0.22	0.64		0.34	0.59	
Uniform Delay, d1		47.6	56.9		46.3		11.7	15.2		10.9	14.4	
Progression Factor		1.00	1.00		1.00		1.00	1.00		0.95	0.24	
Incremental Delay, d2		0.5	0.1		1.1		0.2	0.5		0.3	0.2	
Delay (s)		48.0	57.0		47.4		11.9	15.8		10.6	3.7	
Level of Service		D	E		D		B	B		B	A	
Approach Delay (s)		51.5			47.4			15.7			4.0	
Approach LOS		D			D			B			A	
Intersection Summary												
HCM 2000 Control Delay			13.7									
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			130.0							21.0		
Intersection Capacity Utilization			64.8%									
Analysis Period (min)			15									
c Critical Lane Group												

610: 7th Ave SE & Casino Rd
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions PM Peak Hour
 Everett Link Extension Project - EGN-B

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	195	305	305	85	220	435
Future Volume (vph)	195	305	305	85	220	435
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	11	11	12	12	11	11
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1658	1410	1596	1699	1576	1369
Flt Permitted	1.00	1.00	0.63	1.00	0.95	1.00
Satd. Flow (perm)	1658	1410	1057	1699	1576	1369
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	205	321	321	89	232	458
RTOR Reduction (vph)	0	222	0	0	0	316
Lane Group Flow (vph)	205	99	321	89	232	142
Confl. Peds. (#/hr)		28	28			3
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type	NA	Over	custom	NA	Prot	Perm
Protected Phases	1 8	2	7	1 9	2	
Permitted Phases			8			2
Actuated Green, G (s)	35.4	34.9	39.3	68.5	34.9	34.9
Effective Green, g (s)	35.4	34.9	39.3	68.5	34.9	34.9
Actuated g/C Ratio	0.31	0.31	0.35	0.61	0.31	0.31
Clearance Time (s)		4.5	4.5		4.5	4.5
Vehicle Extension (s)		2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	519	435	504	1030	487	423
v/s Ratio Prot	c0.12	0.07	c0.16	0.05	c0.15	
v/s Ratio Perm			c0.06			0.10
v/c Ratio	0.39	0.23	0.64	0.09	0.48	0.33
Uniform Delay, d1	30.4	29.0	30.2	9.2	31.6	30.1
Progression Factor	1.00	1.00	1.00	1.00	0.91	2.21
Incremental Delay, d2	0.5	0.1	1.9	0.0	0.2	0.2
Delay (s)	30.9	29.1	32.2	9.2	28.9	66.7
Level of Service	C	C	C	A	C	E
Approach Delay (s)	29.8			27.2	54.0	
Approach LOS	C			C	D	
Intersection Summary						
HCM 2000 Control Delay			39.4		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.55			
Actuated Cycle Length (s)			112.9		Sum of lost time (s)	21.5
Intersection Capacity Utilization			54.2%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

611: 7th Ave SE & Holly Dr/84th St SE
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions PM Peak Hour
 Everett Link Extension Project - EGN-B

	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Movement												
Lane Configurations		↔				↔		↗	↘		↗	↘
Traffic Volume (vph)	100	20	30	5	15	20	70	10	485	20	70	460
Future Volume (vph)	100	20	30	5	15	20	70	10	485	20	70	460
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	14	14	14	12	11	11	11	11	11	11	11	11
Total Lost time (s)		4.5				4.5		4.5	4.5		4.0	4.5
Lane Util. Factor		1.00				1.00		1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.99				1.00		1.00	1.00		1.00	0.99
Flpb, ped/bikes		1.00				1.00		0.99	1.00		0.99	1.00
Frt		0.97				0.91		1.00	0.99		1.00	0.98
Flt Protected		0.97				0.99		0.95	1.00		0.95	1.00
Satd. Flow (prot)		1740				1527		1557	1632		1549	1579
Flt Permitted		0.66				0.94		0.32	1.00		0.47	1.00
Satd. Flow (perm)		1181				1445		520	1632		760	1579
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	105	21	32	5	16	21	74	11	511	21	74	484
RTOR Reduction (vph)	0	7	0	0	0	45	0	0	2	0	0	7
Lane Group Flow (vph)	0	151	0	0	0	71	0	11	530	0	74	561
Confl. Peds. (#/hr)			10		10			14		12	12	
Confl. Bikes (#/hr)												
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	2%	2%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Perm	NA		Perm	Perm	NA		custom	NA		custom	NA
Protected Phases		1				1			2 4 5		3	2 3 4 5
Permitted Phases	1			1	1			2 4			4	
Actuated Green, G (s)		20.2				20.2		54.7	64.9		29.6	83.7
Effective Green, g (s)		20.2				20.2		49.7	56.4		29.6	71.2
Actuated g/C Ratio		0.18				0.18		0.44	0.50		0.26	0.63
Clearance Time (s)		4.5				4.5					4.0	
Vehicle Extension (s)		3.0				3.0					2.0	
Lane Grp Cap (vph)		211				258		228	815		302	995
v/s Ratio Prot									c0.33		0.03	c0.36
v/s Ratio Perm		c0.13				0.05		0.02			0.03	
v/c Ratio		0.72				0.27		0.05	0.65		0.25	0.56
Uniform Delay, d1		43.7				40.0		18.1	20.9		32.3	12.0
Progression Factor		1.00				1.00		1.00	1.00		0.77	0.35
Incremental Delay, d2		11.1				0.6		0.0	1.4		0.1	0.4
Delay (s)		54.7				40.6		18.1	22.4		25.1	4.6
Level of Service		D				D		B	C		C	A
Approach Delay (s)		54.7				40.6			22.3			7.0
Approach LOS		D				D			C			A
Intersection Summary												
HCM 2000 Control Delay		20.5										
HCM 2000 Volume to Capacity ratio		0.64										
Actuated Cycle Length (s)		112.9							21.5			
Intersection Capacity Utilization		64.0%										
Analysis Period (min)		15										
c Critical Lane Group												



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	80
Future Volume (vph)	80
Ideal Flow (vphpl)	1750
Lane Width	11
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	84
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	14
Confl. Bikes (#/hr)	1
Heavy Vehicles (%)	3%
Bus Blockages (#/hr)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

601: Evergreen Way & Casino Rd
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions AM Peak Hour
 Everett Link Extension Project - EGN-E

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↱	↱		↰↱	↰↱		↰↱	↰↱↱		↰↱	↰↱↱	↰↱
Traffic Volume (vph)	450	135	95	80	125	215	75	720	50	245	845	455
Future Volume (vph)	450	135	95	80	125	215	75	720	50	245	845	455
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	10	10	10	11	11	11	11	11	11
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	5.0		4.5	5.0	4.5
Lane Util. Factor	0.97	1.00		0.91	0.91		1.00	*0.77		1.00	*0.82	1.00
Frpb, ped/bikes	1.00	0.95		1.00	1.00		1.00	0.99		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.91		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	2887	1394		1345	2565		1516	3601		1531	3963	1312
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	2887	1394		1345	2565		1516	3601		1531	3963	1312
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	469	141	99	83	130	224	78	750	52	255	880	474
RTOR Reduction (vph)	0	17	0	0	197	0	0	4	0	0	0	99
Lane Group Flow (vph)	469	223	0	75	165	0	78	798	0	255	880	375
Confl. Peds. (#/hr)			60	60			24		58	58		24
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	8%	8%	8%	5%	5%	5%	6%	6%	6%	5%	5%	5%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	4	4		3	3		5	2		1	6	4
Permitted Phases												6
Actuated Green, G (s)	31.7	31.7		13.9	13.9		12.3	65.7		30.2	83.6	115.3
Effective Green, g (s)	31.7	31.7		13.9	13.9		12.3	65.7		30.2	83.6	115.3
Actuated g/C Ratio	0.20	0.20		0.09	0.09		0.08	0.41		0.19	0.52	0.72
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	5.0		4.5	5.0	4.5
Vehicle Extension (s)	1.5	1.5		1.5	1.5		2.0	6.0		2.0	5.0	1.5
Lane Grp Cap (vph)	571	276		116	222		116	1478		288	2070	945
v/s Ratio Prot	c0.16	0.16		0.06	c0.06		0.05	c0.22		c0.17	0.22	0.08
v/s Ratio Perm												0.21
v/c Ratio	0.82	0.81		0.65	0.74		0.67	0.54		0.89	0.43	0.40
Uniform Delay, d1	61.4	61.3		70.7	71.3		71.9	35.7		63.2	23.4	8.7
Progression Factor	1.00	1.00		1.00	1.00		0.90	0.93		0.73	1.07	2.14
Incremental Delay, d2	8.8	15.0		8.9	11.1		11.2	1.4		23.7	0.6	0.1
Delay (s)	70.3	76.3		79.6	82.4		75.9	34.5		69.7	25.6	18.8
Level of Service	E	E		E	F		E	C		E	C	B
Approach Delay (s)		72.3			81.9			38.2			30.6	
Approach LOS		E			F			D			C	
Intersection Summary												
HCM 2000 Control Delay			46.8			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)				18.5		
Intersection Capacity Utilization			79.5%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

602: Evergreen Way & Boeing Fwy EB Off Ramp Future Flyover Conditions AM Peak Hour
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project - EGN-E

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations	↰	↰	↰					↑↑↑		↰↰	↑↑↑	
Traffic Volume (vph)	135	0	95	0	0	0	0	875	500	440	1450	0
Future Volume (vph)	135	0	95	0	0	0	0	875	500	440	1450	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	14	14	14	12	12	12	11	11	11	11	11	11
Total Lost time (s)	4.5	4.5	4.5					5.0		4.5	5.0	
Lane Util. Factor	0.95	0.95	1.00					*0.77		0.97	*0.82	
Frpb, ped/bikes	1.00	1.00	1.00					0.93		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					0.95		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1574	1574	1483					3254		2969	3963	
Flt Permitted	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1574	1574	1483					3254		2969	3963	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	141	0	99	0	0	0	0	911	521	458	1510	0
RTOR Reduction (vph)	0	0	92	0	0	0	0	50	0	0	0	0
Lane Group Flow (vph)	70	71	7	0	0	0	0	1382	0	458	1510	0
Confl. Peds. (#/hr)									58	58		
Heavy Vehicles (%)	7%	7%	7%	0%	0%	0%	6%	6%	6%	5%	5%	5%
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		8						2		1	6	
Permitted Phases	8		8									
Actuated Green, G (s)	11.6	11.6	11.6					105.3		29.1	138.9	
Effective Green, g (s)	11.6	11.6	11.6					105.3		29.1	138.9	
Actuated g/C Ratio	0.07	0.07	0.07					0.66		0.18	0.87	
Clearance Time (s)	4.5	4.5	4.5					5.0		4.5	5.0	
Vehicle Extension (s)	2.0	2.0	2.0					2.0		2.0	2.0	
Lane Grp Cap (vph)	114	114	107					2141		539	3440	
v/s Ratio Prot								c0.42		c0.15	0.38	
v/s Ratio Perm	0.04	0.05	0.00									
v/c Ratio	0.61	0.62	0.07					0.65		0.85	0.44	
Uniform Delay, d1	72.0	72.1	69.2					16.3		63.3	2.2	
Progression Factor	1.00	1.00	1.00					0.45		0.64	0.72	
Incremental Delay, d2	6.7	7.4	0.1					1.2		10.3	0.4	
Delay (s)	78.7	79.5	69.3					8.5		50.7	2.0	
Level of Service	E	E	E					A		D	A	
Approach Delay (s)		75.0			0.0			8.5			13.3	
Approach LOS		E			A			A			B	
Intersection Summary												
HCM 2000 Control Delay			15.5									
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			160.0							14.0		
Intersection Capacity Utilization			83.6%								E	
Analysis Period (min)			15									
c Critical Lane Group												

603: Evergreen Way & Boeing Fwy WB On Ramp Signalized Intersection Capacity Analysis
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project - EGN-E

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰	↱	↰	↰	↰	↰		↰	↰
Traffic Volume (vph)	0	0	0	675	5	495	85	925	0	0	1215	190
Future Volume (vph)	0	0	0	675	5	495	85	925	0	0	1215	190
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	11	11	11	12	12	12	11	11	11
Total Lost time (s)				4.5	4.5	4.5	4.5	5.0			5.0	
Lane Util. Factor				0.95	0.95	0.88	1.00	*0.77			*0.82	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	1.00	0.85	1.00	1.00			0.98	
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1468	1473	2433	1568	3814			6472	
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1468	1473	2433	1568	3814			6472	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	711	5	521	89	974	0	0	1279	200
RTOR Reduction (vph)	0	0	0	0	0	94	0	0	0	0	13	0
Lane Group Flow (vph)	0	0	0	355	361	427	89	974	0	0	1466	0
Confl. Peds. (#/hr)									58	58		
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	6%	6%	6%	5%	5%	5%
Turn Type				Split	NA	Prot	Prot	NA			NA	
Protected Phases				4	4	4	5	2			6	
Permitted Phases												
Actuated Green, G (s)				46.9	46.9	46.9	13.5	103.6			85.6	
Effective Green, g (s)				46.9	46.9	46.9	13.5	103.6			85.6	
Actuated g/C Ratio				0.29	0.29	0.29	0.08	0.65			0.53	
Clearance Time (s)				4.5	4.5	4.5	4.5	5.0			5.0	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			3.0	
Lane Grp Cap (vph)				430	431	713	132	2469			3462	
v/s Ratio Prot				0.24	c0.25	0.18	c0.06	0.26			c0.23	
v/s Ratio Perm												
v/c Ratio				0.83	0.84	0.60	0.67	0.39			0.42	
Uniform Delay, d1				52.7	53.0	48.5	71.1	13.4			22.4	
Progression Factor				1.00	1.00	1.00	1.03	1.33			0.71	
Incremental Delay, d2				11.7	12.7	0.9	8.1	0.4			0.3	
Delay (s)				64.4	65.7	49.4	81.0	18.2			16.3	
Level of Service				E	E	D	F	B			B	
Approach Delay (s)		0.0			58.5			23.4			16.3	
Approach LOS		A			E			C			B	
Intersection Summary												
HCM 2000 Control Delay			32.1									
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			160.0									
Intersection Capacity Utilization			83.6%									
Analysis Period (min)			15									
c Critical Lane Group												

604: Evergreen Way & 79th PI/79th PI
HCM 6th Signalized Intersection Summary

2046 Future Improved Conditions AM Peak Hour
Everett Link Extension Project - EGN-E

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		↰	↱		↰	↱	↰	↱		↰	↱	
Traffic Volume (veh/h)	40	10	390	20	10	20	180	1155	0	15	1000	45
Future Volume (veh/h)	40	10	390	20	10	20	180	1155	0	15	1000	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.98		0.95	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1777	1777	1777	1559	1559	1559	1682	1682	1682	1668	1668	1668
Adj Flow Rate, veh/h	42	11	411	21	11	21	189	1216	0	16	1053	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	14	14	14	5	5	5	6	6	6
Cap, veh/h	231	56	457	94	49	73	205	1558	0	515	2506	112
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.26	0.80	0.00	0.32	0.60	0.60
Sat Flow, veh/h	1033	302	1433	339	266	397	1602	4272	0	1589	4179	186
Grp Volume(v), veh/h	53	0	411	53	0	0	189	1216	0	16	689	411
Grp Sat Flow(s), veh/h/ln	1335	0	1433	1002	0	0	1602	1295	0	1589	1368	1629
Q Serve(g_s), s	0.0	0.0	29.5	2.8	0.0	0.0	18.4	26.5	0.0	1.1	21.6	21.6
Cycle Q Clear(g_c), s	6.5	0.0	29.5	9.3	0.0	0.0	18.4	26.5	0.0	1.1	21.6	21.6
Prop In Lane	0.79		1.00	0.40		0.40	1.00		0.00	1.00		0.11
Lane Grp Cap(c), veh/h	287	0	457	216	0	0	205	1558	0	515	1641	977
V/C Ratio(X)	0.18	0.00	0.90	0.25	0.00	0.00	0.92	0.78	0.00	0.03	0.42	0.42
Avail Cap(c_a), veh/h	287	0	457	216	0	0	285	2574	0	515	1641	977
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.87	0.87	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	0.0	52.9	56.6	0.0	0.0	58.7	12.1	0.0	36.9	17.1	17.1
Incr Delay (d2), s/veh	0.1	0.0	19.8	0.4	0.0	0.0	21.0	3.4	0.0	0.0	0.8	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	1.9	0.0	18.5	1.9	0.0	0.0	7.8	4.0	0.0	0.4	6.9	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	55.8	0.0	72.7	57.0	0.0	0.0	79.6	15.5	0.0	37.0	17.9	18.5
LnGrp LOS	E	A	E	E	A	A	E	B	A	D	B	B
Approach Vol, veh/h		464			53			1405			1116	
Approach Delay, s/veh		70.7			57.0			24.2			18.4	
Approach LOS		E			E			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	56.8	69.2		34.0	25.0	101.0		34.0				
Change Period (Y+Rc), s	5.0	* 5		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	10.5	* 1.1E2		29.5	28.5	88.0		29.5				
Max Q Clear Time (g_c+I1), s	3.1	28.5		11.3	20.4	23.6		31.5				
Green Ext Time (p_c), s	0.0	35.7		0.2	0.2	27.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			29.7									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection													
Int Delay, s/veh	0.7												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	5	25	330	70	0	365	10	0	0	10	10	0	30
Future Vol, veh/h	5	25	330	70	0	365	10	0	0	10	10	0	30
Conflicting Peds, #/hr	0	0	0	27	27	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	6	6	6	6	5	5	5	3	3	3	8	8	8
Mvmt Flow	5	26	347	74	0	384	11	0	0	11	11	0	32
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	395	0	0	448	0	0	870	868	411	832	900	391
Stage 1	-	-	-	-	-	-	-	463	473	-	390	390	-
Stage 2	-	-	-	-	-	-	-	407	395	-	442	510	-
Critical Hdwy	-	4.16	-	-	4.15	-	-	7.13	6.53	6.23	7.18	6.58	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.13	5.53	-	6.18	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.13	5.53	-	6.18	5.58	-
Follow-up Hdwy	-	2.254	-	-	2.245	-	-	3.527	4.027	3.327	3.572	4.072	3.372
Pot Cap-1 Maneuver	-	1142	-	-	1097	-	-	271	289	639	282	272	645
Stage 1	-	-	-	-	-	-	-	577	557	-	622	597	-
Stage 2	-	-	-	-	-	-	-	619	603	-	583	528	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-6	-6	-	-	1059	-	-	249	279	617	277	263	644
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	249	279	-	277	263	-
Stage 1	-	-	-	-	-	-	-	577	538	-	622	597	-
Stage 2	-	-	-	-	-	-	-	588	603	-	573	510	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s				0			10.9			13.1			
HCM LOS							B			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	617	+	-	-	1059	-	-	484					
HCM Lane V/C Ratio	0.017	-	-	-	-	-	-	0.087					
HCM Control Delay (s)	10.9	-	-	-	0	-	-	13.1					
HCM Lane LOS	B	-	-	-	A	-	-	B					
HCM 95th %tile Q(veh)	0.1	-	-	-	0	-	-	0.3					
Notes													
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon													

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	↑	↑
Traffic Vol, veh/h	375	5	30	180	5	35
Future Vol, veh/h	375	5	30	180	5	35
Conflicting Peds, #/hr	0	7	7	0	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	6	6	4	4
Mvmt Flow	395	5	32	189	5	37

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	407
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.16
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.254
Pot Cap-1 Maneuver	-	-	1130
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1122
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	596	-	-	1122	-
HCM Lane V/C Ratio	0.071	-	-	0.028	-
HCM Control Delay (s)	11.5	-	-	8.3	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

608: 5th Ave W & Casino Rd
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions AM Peak Hour
 Everett Link Extension Project - EGN-E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↶↷		↰	↶↷		↰	↶		↰	↶	
Traffic Volume (vph)	105	280	80	220	355	65	75	215	245	55	295	170
Future Volume (vph)	105	280	80	220	355	65	75	215	245	55	295	170
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	12	12	12	11	11	11
Total Lost time (s)	4.5	5.0		4.5	4.0		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.98		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	0.97	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.92		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1500	2910		1435	2745		1568	1502		1516	1484	
Flt Permitted	0.50	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	783	2910		1435	2745		1568	1502		1516	1484	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	111	295	84	232	374	68	79	226	258	58	311	179
RTOR Reduction (vph)	0	18	0	0	11	0	0	31	0	0	16	0
Lane Group Flow (vph)	111	361	0	232	431	0	79	453	0	58	474	0
Confl. Peds. (#/hr)	37		29	29		37	26		5	5		26
Confl. Bikes (#/hr)			5			3			3			
Heavy Vehicles (%)	4%	4%	4%	12%	12%	12%	6%	6%	6%	6%	6%	6%
Turn Type	custom	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	10 6		7	4		3	8	
Permitted Phases	6											
Actuated Green, G (s)	31.4	20.4		24.2	35.5		7.5	42.2		6.7	41.4	
Effective Green, g (s)	31.4	20.4		24.2	35.5		7.5	42.2		6.7	41.4	
Actuated g/C Ratio	0.28	0.18		0.22	0.32		0.07	0.38		0.06	0.37	
Clearance Time (s)	4.5	5.0		4.5			4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	1.5		3.5			3.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	277	530		310	870		105	565		90	548	
v/s Ratio Prot	0.03	c0.12		c0.16	c0.16		c0.05	0.30		0.04	c0.32	
v/s Ratio Perm	0.08											
v/c Ratio	0.40	0.68		0.75	0.50		0.75	0.80		0.64	0.87	
Uniform Delay, d1	31.3	42.8		41.1	31.0		51.3	31.2		51.5	32.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	2.9		9.8	0.2		25.8	7.6		11.2	13.0	
Delay (s)	31.7	45.6		50.8	31.2		77.1	38.8		62.7	45.7	
Level of Service	C	D		D	C		E	D		E	D	
Approach Delay (s)		42.5			37.9			44.2			47.5	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			42.8			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			112.0			Sum of lost time (s)			22.5			
Intersection Capacity Utilization			75.9%			ICU Level of Service			D			
Analysis Period (min)			15									

c Critical Lane Group

609: Evergreen Way & Driveway
HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions AM Peak Hour
Everett Link Extension Project - EGN-E

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰		↱	↰	↱	↰	↱	
Traffic Volume (vph)	10	0	5	115	0	5	5	740	60	30	840	30
Future Volume (vph)	10	0	5	115	0	5	5	740	60	30	840	30
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	15	15	15	11	11	11	11	11	11
Total Lost time (s)		4.5	4.5		4.5		4.5	5.0		4.0	5.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	*0.77		1.00	*0.82	
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.97	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.99	
Flt Protected		0.95	1.00		0.95		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		968	891		1823		1544	3686		1500	3864	
Flt Permitted		0.82	1.00		0.73		0.27	1.00		0.28	1.00	
Satd. Flow (perm)		835	891		1389		438	3686		435	3864	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	11	0	5	121	0	5	5	779	63	32	884	32
RTOR Reduction (vph)	0	0	5	0	57	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	11	0	0	69	0	5	839	0	32	915	0
Confl. Peds. (#/hr)	20					20	23		21	21		23
Heavy Vehicles (%)	67%	67%	67%	0%	0%	0%	4%	4%	4%	7%	7%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	0	0
Turn Type	custom	NA	custom	Perm	NA		custom	NA		custom	NA	
Protected Phases		4 11			8		5	2 10		1	6 12	
Permitted Phases	4		4	8			6			2		
Actuated Green, G (s)		24.9	6.4		24.9		107.4	117.1		107.9	120.1	
Effective Green, g (s)		21.4	6.4		24.9		107.4	113.6		107.9	116.6	
Actuated g/C Ratio		0.13	0.04		0.16		0.67	0.71		0.67	0.73	
Clearance Time (s)			4.5		4.5			4.5			4.0	
Vehicle Extension (s)			2.0		2.0			2.0			2.0	
Lane Grp Cap (vph)		111	35		216		300	2617		323	2815	
v/s Ratio Prot							0.00	0.23		0.00	0.24	
v/s Ratio Perm		0.01	0.00		0.05		0.01			0.06		
v/c Ratio		0.10	0.01		0.32		0.02	0.32		0.10	0.32	
Uniform Delay, d1		60.8	73.7		60.0		8.7	8.7		8.7	7.7	
Progression Factor		1.00	1.00		1.00		1.00	1.00		0.40	0.29	
Incremental Delay, d2		0.1	0.0		0.3		0.0	0.1		0.0	0.0	
Delay (s)		61.0	73.8		60.3		8.7	8.8		3.5	2.3	
Level of Service		E	E		E		A	A		A	A	
Approach Delay (s)		65.0			60.3			8.8			2.3	
Approach LOS		E			E			A			A	
Intersection Summary												
HCM 2000 Control Delay			9.4									
HCM 2000 Volume to Capacity ratio			0.33									
Actuated Cycle Length (s)			160.0									
Intersection Capacity Utilization			47.4%									
Analysis Period (min)			15									
c Critical Lane Group												

610: 7th Ave SE & Casino Rd
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions AM Peak Hour
 Everett Link Extension Project - EGN-E

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	110	240	260	105	270	240
Future Volume (vph)	110	240	260	105	270	240
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	11	11	12	12	11	11
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1611	1369	1541	1636	1560	1360
Flt Permitted	1.00	1.00	0.68	1.00	0.95	1.00
Satd. Flow (perm)	1611	1369	1107	1636	1560	1360
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	116	253	274	111	284	253
RTOR Reduction (vph)	0	186	0	0	0	186
Lane Group Flow (vph)	116	67	274	111	284	67
Confl. Peds. (#/hr)		17	17			2
Heavy Vehicles (%)	5%	5%	7%	7%	3%	3%
Turn Type	NA	Over	custom	NA	Prot	Perm
Protected Phases	1 8	2	7	1 9	2	
Permitted Phases			8			2
Actuated Green, G (s)	38.0	28.6	38.3	71.0	28.6	28.6
Effective Green, g (s)	38.0	28.6	38.3	71.0	28.6	28.6
Actuated g/C Ratio	0.35	0.26	0.35	0.65	0.26	0.26
Clearance Time (s)		4.5	4.5		4.5	4.5
Vehicle Extension (s)		2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	563	360	502	1069	410	358
v/s Ratio Prot	c0.07	0.05	c0.14	0.07	c0.18	
v/s Ratio Perm			c0.05			0.05
v/c Ratio	0.21	0.19	0.55	0.10	0.69	0.19
Uniform Delay, d1	24.7	31.0	27.6	7.0	36.0	31.0
Progression Factor	1.00	1.00	1.00	1.00	1.08	2.41
Incremental Delay, d2	0.2	0.1	0.7	0.0	3.7	0.1
Delay (s)	24.9	31.1	28.3	7.0	42.6	74.8
Level of Service	C	C	C	A	D	E
Approach Delay (s)	29.1			22.2	57.8	
Approach LOS	C			C	E	
Intersection Summary						
HCM 2000 Control Delay			39.0		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.53			
Actuated Cycle Length (s)			108.6		Sum of lost time (s)	21.5
Intersection Capacity Utilization			46.0%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

611: 7th Ave SE & Holly Dr/84th St SE
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions AM Peak Hour
 Everett Link Extension Project - EGN-E

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↘		↗	↘	
Traffic Volume (vph)	100	25	35	20	25	120	15	290	10	75	355	70
Future Volume (vph)	100	25	35	20	25	120	15	290	10	75	355	70
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	14	14	14	11	11	11	11	11	11	11	11	11
Total Lost time (s)		4.5			4.5		4.5	4.5		4.0	4.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		0.99	1.00		1.00	1.00	
Frt		0.97			0.90		1.00	0.99		1.00	0.98	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1599			1470		1545	1619		1510	1532	
Flt Permitted		0.58			0.96		0.39	1.00		0.57	1.00	
Satd. Flow (perm)		959			1415		627	1619		904	1532	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	105	26	37	21	26	126	16	305	11	79	374	74
RTOR Reduction (vph)	0	7	0	0	64	0	0	1	0	0	9	0
Lane Group Flow (vph)	0	161	0	0	109	0	16	315	0	79	439	0
Confl. Peds. (#/hr)			6	6			9		4	4		9
Heavy Vehicles (%)	9%	9%	9%	3%	3%	3%	3%	3%	3%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	2	0
Turn Type	Perm	NA		Perm	NA		custom	NA		custom	NA	
Protected Phases		1			1			2 4 5		3	2 3 4 5	
Permitted Phases	1			1			2 4			4 5		
Actuated Green, G (s)		23.2			23.2		49.0	55.7		38.8	76.4	
Effective Green, g (s)		23.2			23.2		44.0	47.2		35.3	63.9	
Actuated g/C Ratio		0.21			0.21		0.41	0.43		0.33	0.59	
Clearance Time (s)		4.5			4.5					4.0		
Vehicle Extension (s)		3.0			3.0					2.0		
Lane Grp Cap (vph)		204			302		254	703		387	901	
v/s Ratio Prot								0.19		0.03	c0.29	
v/s Ratio Perm		c0.17			0.08		0.03			0.03		
v/c Ratio		0.79			0.36		0.06	0.45		0.20	0.49	
Uniform Delay, d1		40.4			36.4		19.7	21.6		26.1	12.9	
Progression Factor		1.00			1.00		1.00	1.00		0.66	0.33	
Incremental Delay, d2		18.1			0.7		0.0	0.2		0.1	0.1	
Delay (s)		58.4			37.1		19.8	21.7		17.3	4.4	
Level of Service		E			D		B	C		B	A	
Approach Delay (s)		58.4			37.1			21.6			6.4	
Approach LOS		E			D			C			A	
Intersection Summary												
HCM 2000 Control Delay			22.3			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			108.6			Sum of lost time (s)			21.5			
Intersection Capacity Utilization			65.6%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	90	100	10	50	20
Future Vol, veh/h	0	90	100	10	50	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	95	105	11	53	21
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	105	0	-	0	206	111
Stage 1	-	-	-	-	111	-
Stage 2	-	-	-	-	95	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1480	-	-	-	780	940
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	926	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1480	-	-	-	780	940
Mov Cap-2 Maneuver	-	-	-	-	780	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	926	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9.8		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1480	-	-	-	820	
HCM Lane V/C Ratio	-	-	-	-	0.09	
HCM Control Delay (s)	0	-	-	-	9.8	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.3	

601: Evergreen Way & Casino Rd
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions PM Peak Hour
 Everett Link Extension Project - EGN-E

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↱	↱		↰↱	↰↱		↰↱	↰↱↱		↰	↰↱↱	↰
Traffic Volume (vph)	545	220	140	85	140	190	105	1405	125	250	1175	485
Future Volume (vph)	545	220	140	85	140	190	105	1405	125	250	1175	485
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	10	10	10	11	11	11	11	11	11
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	5.0		4.5	5.0	4.5
Lane Util. Factor	0.97	1.00		0.91	0.91		1.00	*0.90		1.00	*0.74	1.00
Frpb, ped/bikes	1.00	0.94		1.00	1.00		1.00	0.99		1.00	1.00	0.94
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.92		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3027	1448		1384	2666		1560	4318		1560	3646	1313
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3027	1448		1384	2666		1560	4318		1560	3646	1313
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	556	224	143	87	143	194	107	1434	128	255	1199	495
RTOR Reduction (vph)	0	18	0	0	178	0	0	7	0	0	0	72
Lane Group Flow (vph)	556	349	0	78	168	0	107	1555	0	255	1199	423
Confl. Peds. (#/hr)			99	99			52		57	57		52
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	4	4		3	3		5	2		1	6	4
Permitted Phases												6
Actuated Green, G (s)	30.5	30.5		10.6	10.6		16.5	49.9		20.5	53.9	84.4
Effective Green, g (s)	30.5	30.5		10.6	10.6		16.5	49.9		20.5	53.9	84.4
Actuated g/C Ratio	0.23	0.23		0.08	0.08		0.13	0.38		0.16	0.41	0.65
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	5.0		4.5	5.0	4.5
Vehicle Extension (s)	1.5	1.5		1.5	1.5		2.0	6.0		2.0	5.0	1.5
Lane Grp Cap (vph)	710	339		112	217		198	1657		246	1511	897
v/s Ratio Prot	0.18	c0.24		0.06	c0.06		0.07	c0.36		c0.16	0.33	0.11
v/s Ratio Perm												0.21
v/c Ratio	0.78	1.03		0.70	0.77		0.54	0.94		1.04	0.79	0.47
Uniform Delay, d1	46.6	49.8		58.1	58.5		53.2	38.6		54.8	33.2	11.5
Progression Factor	1.00	1.00		1.00	1.00		0.77	1.02		0.93	0.55	0.37
Incremental Delay, d2	5.2	57.0		14.1	14.4		1.3	9.8		59.2	3.3	0.1
Delay (s)	51.9	106.8		72.2	72.9		42.0	49.2		110.4	21.6	4.3
Level of Service	D	F		E	E		D	D		F	C	A
Approach Delay (s)		73.7			72.8			48.7			28.8	
Approach LOS		E			E			D			C	
Intersection Summary												
HCM 2000 Control Delay			47.6									
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			130.0									
Intersection Capacity Utilization			96.5%									
Analysis Period (min)			15									
c Critical Lane Group												

602: Evergreen Way & Boeing Fwy EB Off Ramp Future Flyover Conditions PM Peak Hour
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project - EGN-E

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations	↰	↰	↰					↑↑↑		↰↰	↑↑↑	
Traffic Volume (vph)	530	35	255	0	0	0	0	1560	630	450	1655	0
Future Volume (vph)	530	35	255	0	0	0	0	1560	630	450	1655	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	14	14	14	12	12	12	11	11	11	11	11	11
Total Lost time (s)	4.5	4.5	4.5					5.0		4.5	5.0	
Lane Util. Factor	0.95	0.95	1.00					*0.90		0.97	*0.74	
Frpb, ped/bikes	1.00	1.00	1.00					0.96		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	1.00	0.85					0.96		1.00	1.00	
Flt Protected	0.95	0.96	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1668	1682	1571					4071		3027	3646	
Flt Permitted	0.95	0.96	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1668	1682	1571					4071		3027	3646	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	558	37	268	0	0	0	0	1642	663	474	1742	0
RTOR Reduction (vph)	0	0	48	0	0	0	0	55	0	0	0	0
Lane Group Flow (vph)	296	299	220	0	0	0	0	2250	0	474	1742	0
Confl. Peds. (#/hr)							1		54	54		1
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	3%	3%	3%	3%	3%	3%
Turn Type	Split	NA	Perm					NA		Prot	NA	
Protected Phases	8	8						2		1	6	
Permitted Phases			8									
Actuated Green, G (s)	24.9	24.9	24.9					71.6		19.5	95.6	
Effective Green, g (s)	24.9	24.9	24.9					71.6		19.5	95.6	
Actuated g/C Ratio	0.19	0.19	0.19					0.55		0.15	0.74	
Clearance Time (s)	4.5	4.5	4.5					5.0		4.5	5.0	
Vehicle Extension (s)	2.0	2.0	2.0					2.0		2.0	2.0	
Lane Grp Cap (vph)	319	322	300					2242		454	2681	
v/s Ratio Prot	0.18	c0.18						c0.55		c0.16	0.48	
v/s Ratio Perm			0.14									
v/c Ratio	0.93	0.93	0.73					1.00		1.04	0.65	
Uniform Delay, d1	51.7	51.7	49.4					29.2		55.2	8.7	
Progression Factor	1.00	1.00	1.00					0.22		1.11	1.22	
Incremental Delay, d2	31.5	31.4	7.8					14.4		49.3	1.0	
Delay (s)	83.2	83.1	57.2					20.8		110.7	11.6	
Level of Service	F	F	E					C		F	B	
Approach Delay (s)		75.1			0.0			20.8			32.8	
Approach LOS		E			A			C			C	
Intersection Summary												
HCM 2000 Control Delay			34.4									
HCM 2000 Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			130.0							14.0		
Intersection Capacity Utilization			127.2%									
Analysis Period (min)			15									
c Critical Lane Group												

603: Evergreen Way & Boeing Fwy WB On Ramp Signalized Intersection Capacity Analysis
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project - EGN-E

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰	↱	↰	↰	↰	↰		↰	↰
Traffic Volume (vph)	0	0	0	600	5	850	80	2010	0	0	1505	200
Future Volume (vph)	0	0	0	600	5	850	80	2010	0	0	1505	200
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	11	11	11	12	12	12	11	11	11
Total Lost time (s)				4.5	4.5	4.5	4.5	5.0			5.0	
Lane Util. Factor				0.95	0.95	0.88	1.00	*0.90			*0.74	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	1.00	0.85	1.00	1.00			0.98	
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1497	1502	2481	1630	4632			6018	
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1497	1502	2481	1630	4632			6018	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	632	5	895	84	2116	0	0	1584	211
RTOR Reduction (vph)	0	0	0	0	0	41	0	0	0	0	17	0
Lane Group Flow (vph)	0	0	0	316	321	854	84	2116	0	0	1778	0
Confl. Peds. (#/hr)							4		59	59		4
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type				Split	NA	Prot	Prot	NA			NA	
Protected Phases				4	4	4	5	2			6	
Permitted Phases												
Actuated Green, G (s)				40.5	40.5	40.5	11.1	80.0			64.4	
Effective Green, g (s)				40.5	40.5	40.5	11.1	80.0			64.4	
Actuated g/C Ratio				0.31	0.31	0.31	0.09	0.62			0.50	
Clearance Time (s)				4.5	4.5	4.5	4.5	5.0			5.0	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			3.0	
Lane Grp Cap (vph)				466	467	772	139	2850			2981	
v/s Ratio Prot				0.21	0.21	c0.34	0.05	c0.46			0.30	
v/s Ratio Perm												
v/c Ratio				0.68	0.69	1.11	0.60	0.74			0.60	
Uniform Delay, d1				39.1	39.2	44.8	57.3	17.7			23.5	
Progression Factor				1.00	1.00	1.00	0.83	0.50			0.51	
Incremental Delay, d2				3.1	3.3	65.7	1.4	0.5			0.6	
Delay (s)				42.1	42.5	110.4	48.9	9.3			12.6	
Level of Service				D	D	F	D	A			B	
Approach Delay (s)		0.0			82.1			10.8			12.6	
Approach LOS		A			F			B			B	
Intersection Summary												
HCM 2000 Control Delay			31.2									
HCM 2000 Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			130.0									
Intersection Capacity Utilization			127.2%									
Analysis Period (min)			15									
c Critical Lane Group												

604: Evergreen Way & 79th PI/79th PI
HCM 6th Signalized Intersection Summary

2046 Future Improved Conditions PM Peak Hour
Everett Link Extension Project - EGN-E

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↱		↰	↱	
Traffic Volume (veh/h)	85	15	400	45	20	45	320	2425	25	30	1200	65
Future Volume (veh/h)	85	15	400	45	20	45	320	2425	25	30	1200	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.93	0.98		0.93	1.00		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1777	1777	1777	1736	1736	1736	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	89	16	421	47	21	47	337	2553	26	32	1263	68
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	1	1	1	2	2	2	2	2	2
Cap, veh/h	200	32	746	83	40	58	499	3156	32	39	1515	82
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.61	1.00	1.00	0.02	0.38	0.38
Sat Flow, veh/h	724	154	1399	211	194	280	1641	4765	48	1641	4004	216
Grp Volume(v), veh/h	105	0	421	115	0	0	337	1659	920	32	804	527
Grp Sat Flow(s), veh/h/ln	878	0	1399	685	0	0	1641	1550	1712	1641	1275	1670
Q Serve(g_s), s	0.0	0.0	0.0	8.5	0.0	0.0	17.8	0.0	0.0	2.5	37.2	37.2
Cycle Q Clear(g_c), s	15.2	0.0	0.0	23.6	0.0	0.0	17.8	0.0	0.0	2.5	37.2	37.2
Prop In Lane	0.85		1.00	0.41		0.41	1.00		0.03	1.00		0.13
Lane Grp Cap(c), veh/h	232	0	746	180	0	0	499	2054	1134	39	965	632
V/C Ratio(X)	0.45	0.00	0.56	0.64	0.00	0.00	0.68	0.81	0.81	0.82	0.83	0.83
Avail Cap(c_a), veh/h	261	0	775	205	0	0	499	2054	1134	133	1000	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.41	0.41	0.41	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	0.0	21.6	52.3	0.0	0.0	21.2	0.0	0.0	63.2	36.7	36.7
Incr Delay (d2), s/veh	1.0	0.0	0.7	3.3	0.0	0.0	1.2	1.5	2.7	14.0	8.4	12.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	3.2	0.0	8.9	3.9	0.0	0.0	4.9	0.4	0.9	1.2	12.5	17.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.8	0.0	22.4	55.6	0.0	0.0	22.4	1.5	2.7	77.2	45.1	49.0
LnGrp LOS	D	A	C	E	A	A	C	A	A	E	D	D
Approach Vol, veh/h		526			115			2916			1363	
Approach Delay, s/veh		27.4			55.6			4.3			47.4	
Approach LOS		C			E			A			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	91.1		31.3	44.5	54.2		31.3				
Change Period (Y+Rc), s	4.5	5.0		4.5	5.0	* 5		4.5				
Max Green Setting (Gmax), s	10.5	76.0		29.5	35.5	* 51		29.5				
Max Q Clear Time (g_c+I1), s	4.5	2.0		17.2	19.8	39.2		25.6				
Green Ext Time (p_c), s	0.0	71.2		1.6	0.4	9.9		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			19.9									
HCM 6th LOS			B									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection													
Int Delay, s/veh	0.6												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗				↖		↗	
Traffic Vol, veh/h	10	15	495	65	0	360	5	0	0	10	10	0	20
Future Vol, veh/h	10	15	495	65	0	360	5	0	0	10	10	0	20
Conflicting Peds, #/hr	0	1	0	39	39	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	50	-	-	50	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	3	3	3	0	0	0
Mvmt Flow	10	16	516	68	0	375	5	0	0	10	10	0	21
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	381	0	0	623	0	0	-	-	589	966	1054	379
Stage 1	-	-	-	-	-	-	-	-	-	-	379	379	-
Stage 2	-	-	-	-	-	-	-	-	-	-	587	675	-
Critical Hdwy	-	4.12	-	-	4.12	-	-	-	-	6.23	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	6.1	5.5	-
Follow-up Hdwy	-	2.218	-	-	2.218	-	-	-	-	3.327	3.5	4	3.3
Pot Cap-1 Maneuver	-	1177	-	-	958	-	-	0	0	506	236	228	672
Stage 1	-	-	-	-	-	-	-	0	0	-	647	618	-
Stage 2	-	-	-	-	-	-	-	0	0	-	499	456	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	~ -3	~ -3	-	-	911	-	-	-	-	481	231	216	671
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	231	216	-
Stage 1	-	-	-	-	-	-	-	-	-	-	647	617	-
Stage 2	-	-	-	-	-	-	-	-	-	-	488	433	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s				0			12.7			14.5			
HCM LOS							B			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	481	+	-	-	911	-	-	410					
HCM Lane V/C Ratio	0.022	-	-	-	-	-	-	0.076					
HCM Control Delay (s)	12.7	-	-	-	0	-	-	14.5					
HCM Lane LOS	B	-	-	-	A	-	-	B					
HCM 95th %tile Q(veh)	0.1	-	-	-	0	-	-	0.2					
Notes													
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon													

Intersection

Int Delay, s/veh 1.2

Movement	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↗	↖	
Traffic Vol, veh/h	365	10	5	20	435	5	85
Future Vol, veh/h	365	10	5	20	435	5	85
Conflicting Peds, #/hr	0	12	0	12	0	0	3
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	-	75	-	0	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95	95
Heavy Vehicles, %	4	4	1	1	1	4	4
Mvmt Flow	384	11	5	21	458	5	89

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	407
Stage 1	-	-	402
Stage 2	-	-	500
Critical Hdwy	-	-	4.11
Critical Hdwy Stg 1	-	-	5.44
Critical Hdwy Stg 2	-	-	5.44
Follow-up Hdwy	-	-	2.209
Pot Cap-1 Maneuver	-	-	1157
Stage 1	-	-	671
Stage 2	-	-	605
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	303
Mov Cap-2 Maneuver	-	-	303
Stage 1	-	-	664
Stage 2	-	-	605

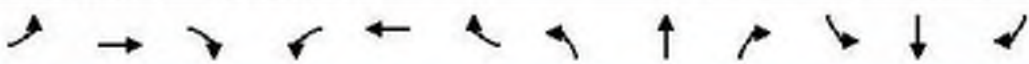
Approach	EB	WB	NB
HCM Control Delay, s	0		12.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	596	-	-	+	-
HCM Lane V/C Ratio	0.159	-	-	-	-
HCM Control Delay (s)	12.2	-	-	-	-
HCM Lane LOS	B	-	-	-	-
HCM 95th %tile Q(veh)	0.6	-	-	-	-

Notes

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

HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰		↰	↰		↰	↰		↰	↰	
Traffic Volume (vph)	145	300	95	330	490	90	100	350	205	140	395	125
Future Volume (vph)	145	300	95	330	490	90	100	350	205	140	395	125
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	12	12	12	11	11	11
Total Lost time (s)	4.5	5.0		4.5	5.0		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.96		1.00	0.99		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	0.94		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1524	2866		1545	2975		1599	1574		1545	1540	
Flt Permitted	0.42	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	675	2866		1545	2975		1599	1574		1545	1540	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	153	316	100	347	516	95	105	368	216	147	416	132
RTOR Reduction (vph)	0	21	0	0	10	0	0	14	0	0	7	0
Lane Group Flow (vph)	153	395	0	347	601	0	105	570	0	147	541	0
Confl. Peds. (#/hr)	45		35	35		45	39		8	8		39
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	custom	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6 10		7	4		3	8	
Permitted Phases	6											
Actuated Green, G (s)	40.4	23.9		34.5	47.5		12.5	54.1		13.6	55.2	
Effective Green, g (s)	40.4	23.9		34.5	43.5		12.5	54.1		13.6	55.2	
Actuated g/C Ratio	0.28	0.17		0.24	0.30		0.09	0.37		0.09	0.38	
Clearance Time (s)	4.5	5.0		4.5			4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	1.5		3.5			3.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	252	473		368	894		138	588		145	587	
v/s Ratio Prot	0.05	c0.14		c0.22	0.20		0.07	c0.36		c0.10	0.35	
v/s Ratio Perm	0.12											
v/c Ratio	0.61	0.84		0.94	0.67		0.76	0.97		1.01	0.92	
Uniform Delay, d1	41.8	58.4		54.1	44.3		64.6	44.4		65.5	42.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.8	11.6		32.6	1.6		21.6	29.1		78.4	19.7	
Delay (s)	44.6	70.0		86.7	45.9		86.2	73.5		143.9	62.3	
Level of Service	D	E		F	D		F	E		F	E	
Approach Delay (s)		63.2			60.7			75.4			79.6	
Approach LOS		E			E			E			E	
Intersection Summary												
HCM 2000 Control Delay			69.2			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			144.6			Sum of lost time (s)			22.5			
Intersection Capacity Utilization			92.0%			ICU Level of Service			F			
Analysis Period (min)			15									

c Critical Lane Group

609: Evergreen Way & Driveway
HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions PM Peak Hour
Everett Link Extension Project - EGN-E

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		↰	↱		↰		↱	↑↑↑		↱	↑↑↑	
Traffic Volume (vph)	70	15	55	130	10	5	35	1540	150	50	1230	30
Future Volume (vph)	70	15	55	130	10	5	35	1540	150	50	1230	30
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	15	15	15	11	11	11	11	11	11
Total Lost time (s)		4.5	4.5		4.5		4.5	5.0		4.0	5.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	*0.90		1.00	*0.74	
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.98	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00		1.00	0.99		1.00	1.00	
Flt Protected		0.96	1.00		0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1574	1417		1762		1575	4381		1560	3630	
Flt Permitted		0.77	1.00		0.66		0.13	1.00		0.10	1.00	
Satd. Flow (perm)		1260	1417		1210		214	4381		159	3630	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	74	16	58	137	11	5	37	1621	158	53	1295	32
RTOR Reduction (vph)	0	0	54	0	1	0	0	7	0	0	1	0
Lane Group Flow (vph)	0	90	4	0	152	0	37	1772	0	53	1326	0
Confl. Peds. (#/hr)	19					19	23		18	18		23
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	2%	2%	2%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	0	0	0	0
Turn Type	custom	NA	custom	Perm	NA		custom	NA		custom	NA	
Protected Phases		8 11		4			5	2 10		1	6 12	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)		27.2	9.3		27.2		75.1	84.1		79.0	84.2	
Effective Green, g (s)		23.7	9.3		27.2		75.1	80.6		79.0	80.7	
Actuated g/C Ratio		0.18	0.07		0.21		0.58	0.62		0.61	0.62	
Clearance Time (s)			4.5		4.5			4.5			4.0	
Vehicle Extension (s)			2.0		2.0			2.0			2.0	
Lane Grp Cap (vph)		229	101		253		171	2716		152	2253	
v/s Ratio Prot							0.01	c0.40		c0.01	c0.37	
v/s Ratio Perm		0.07	0.00		c0.13		0.12			0.20		
v/c Ratio		0.39	0.04		0.60		0.22	0.65		0.35	0.59	
Uniform Delay, d1		46.8	56.2		46.5		12.0	15.8		11.3	14.7	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.62	2.43	
Incremental Delay, d2		0.4	0.1		2.8		0.2	0.6		0.3	0.2	
Delay (s)		47.2	56.3		49.2		12.3	16.3		18.6	36.1	
Level of Service		D	E		D		B	B		B	D	
Approach Delay (s)		50.8			49.2			16.2			35.4	
Approach LOS		D			D			B			D	
Intersection Summary												
HCM 2000 Control Delay			26.7									
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			130.0							21.0		
Intersection Capacity Utilization			66.1%									
Analysis Period (min)			15									
c Critical Lane Group												

610: 7th Ave SE & Casino Rd
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions PM Peak Hour
 Everett Link Extension Project - EGN-E

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	195	310	310	95	265	435
Future Volume (vph)	195	310	310	95	265	435
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	11	11	12	12	11	11
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1658	1410	1595	1699	1576	1368
Flt Permitted	1.00	1.00	0.63	1.00	0.95	1.00
Satd. Flow (perm)	1658	1410	1057	1699	1576	1368
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	205	326	326	100	279	458
RTOR Reduction (vph)	0	227	0	0	0	318
Lane Group Flow (vph)	205	99	326	100	279	140
Confl. Peds. (#/hr)		28	28			3
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type	NA	Over	custom	NA	Prot	Perm
Protected Phases	1 8	2	7	1 9	2	
Permitted Phases			8			2
Actuated Green, G (s)	40.9	37.1	40.0	75.1	37.1	37.1
Effective Green, g (s)	40.9	37.1	40.0	75.1	37.1	37.1
Actuated g/C Ratio	0.34	0.30	0.33	0.62	0.30	0.30
Clearance Time (s)		4.5	4.5		4.5	4.5
Vehicle Extension (s)		2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	557	429	478	1048	480	417
v/s Ratio Prot	c0.12	0.07	c0.17	0.06	c0.18	
v/s Ratio Perm			c0.06			0.10
v/c Ratio	0.37	0.23	0.68	0.10	0.58	0.33
Uniform Delay, d1	30.6	31.6	34.5	9.5	35.7	32.7
Progression Factor	1.00	1.00	1.00	1.00	0.95	2.23
Incremental Delay, d2	0.4	0.1	3.2	0.0	1.0	0.1
Delay (s)	31.0	31.7	37.7	9.5	35.0	73.0
Level of Service	C	C	D	A	C	E
Approach Delay (s)	31.5			31.1	58.6	
Approach LOS	C			C	E	
Intersection Summary						
HCM 2000 Control Delay			43.2		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.59			
Actuated Cycle Length (s)			121.7		Sum of lost time (s)	21.5
Intersection Capacity Utilization			57.0%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

611: 7th Ave SE & Holly Dr/84th St SE
 HCM Signalized Intersection Capacity Analysis

2046 Future Improved Conditions PM Peak Hour
 Everett Link Extension Project - EGN-E

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Movement											
Lane Configurations		↔			↔		↗	↘		↗	↘
Traffic Volume (vph)	145	20	30	5	15	20	70	15	485	20	70
Future Volume (vph)	145	20	30	5	15	20	70	15	485	20	70
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	14	14	14	12	11	11	11	11	11	11	11
Total Lost time (s)		4.5			4.5		4.5	4.5		4.0	4.5
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	0.99
Flpb, ped/bikes		1.00			1.00		0.99	1.00		0.99	1.00
Frt		0.98			0.91		1.00	0.99		1.00	0.98
Flt Protected		0.96			0.99		0.95	1.00		0.95	1.00
Satd. Flow (prot)		1750			1528		1559	1632		1548	1576
Flt Permitted		0.65			0.93		0.29	1.00		0.47	1.00
Satd. Flow (perm)		1175			1440		472	1632		760	1576
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	153	21	32	5	16	21	74	16	511	21	74
RTOR Reduction (vph)	0	5	0	0	0	43	0	0	2	0	7
Lane Group Flow (vph)	0	201	0	0	0	73	0	16	530	0	74
Confl. Peds. (#/hr)			10		10			14		12	12
Confl. Bikes (#/hr)											
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	2%	2%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Perm	NA		Perm	Perm	NA	custom	NA		custom	NA
Protected Phases		1			1			2 4 5		3	2 3 4 5
Permitted Phases	1			1	1		2 4			4	
Actuated Green, G (s)		26.1			26.1		55.5	66.2		29.8	86.6
Effective Green, g (s)		26.1			26.1		50.5	57.7		29.8	74.1
Actuated g/C Ratio		0.21			0.21		0.41	0.47		0.24	0.61
Clearance Time (s)		4.5			4.5					4.0	
Vehicle Extension (s)		3.0			3.0					2.0	
Lane Grp Cap (vph)		251			308		195	773		292	959
v/s Ratio Prot								c0.33		0.03	c0.36
v/s Ratio Perm		c0.17			0.05		0.03			0.03	
v/c Ratio		0.80			0.24		0.08	0.69		0.25	0.59
Uniform Delay, d1		45.3			39.6		21.6	24.9		36.4	14.6
Progression Factor		1.00			1.00		1.00	1.00		0.76	0.37
Incremental Delay, d2		16.6			0.4		0.1	2.0		0.1	0.6
Delay (s)		62.0			40.0		21.6	27.0		27.9	5.9
Level of Service		E			D		C	C		C	A
Approach Delay (s)		62.0			40.0			26.8			8.4
Approach LOS		E			D			C			A
Intersection Summary											
HCM 2000 Control Delay		24.7			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio		0.70									
Actuated Cycle Length (s)		121.7			Sum of lost time (s)			21.5			
Intersection Capacity Utilization		67.3%			ICU Level of Service			C			
Analysis Period (min)		15									
c Critical Lane Group											



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	85
Future Volume (vph)	85
Ideal Flow (vphpl)	1750
Lane Width	11
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	89
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	14
Confl. Bikes (#/hr)	1
Heavy Vehicles (%)	3%
Bus Blockages (#/hr)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	150	110	10	45	20
Future Vol, veh/h	0	150	110	10	45	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	158	116	11	47	21

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0 280 122
Stage 1	-	-	- 122 -
Stage 2	-	-	- 158 -
Critical Hdwy	-	-	- 6.43 6.23
Critical Hdwy Stg 1	-	-	- 5.43 -
Critical Hdwy Stg 2	-	-	- 5.43 -
Follow-up Hdwy	-	-	- 3.527 3.327
Pot Cap-1 Maneuver	0	-	- 708 926
Stage 1	0	-	- 901 -
Stage 2	0	-	- 868 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- 708 926
Mov Cap-2 Maneuver	-	-	- 708 -
Stage 1	-	-	- 901 -
Stage 2	-	-	- 868 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	763
HCM Lane V/C Ratio	-	-	-	0.09
HCM Control Delay (s)	-	-	-	10.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.3

701: Broadway Ave & Hewitt Ave
HCM 6th Signalized Intersection Summary

Everett Link Extension Project
2046 Baseline Conditions AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	75	40	65	190	35	65	790	50	100	935	35
Future Volume (veh/h)	25	75	40	65	190	35	65	790	50	100	935	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1627	1627	1627	1709	1709	1709	1668	1668	1668	1682	1682	1682
Adj Flow Rate, veh/h	26	79	8	68	200	20	68	832	32	105	984	35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	9	9	3	3	3	6	6	6	5	5	5
Cap, veh/h	75	288	230	122	356	35	119	1321	688	412	1899	68
Arrive On Green	0.05	0.09	0.09	0.07	0.12	0.12	0.15	0.83	0.83	0.26	0.60	0.60
Sat Flow, veh/h	1550	3092	1366	1628	2982	295	1589	3169	1398	1602	3146	112
Grp Volume(v), veh/h	26	79	8	68	108	112	68	832	32	105	500	519
Grp Sat Flow(s), veh/h/ln	1550	1546	1366	1628	1624	1653	1589	1585	1398	1602	1598	1661
Q Serve(g_s), s	1.9	2.9	0.5	4.8	7.5	7.7	4.8	11.1	0.0	6.3	21.7	21.7
Cycle Q Clear(g_c), s	1.9	2.9	0.5	4.8	7.5	7.7	4.8	11.1	0.0	6.3	21.7	21.7
Prop In Lane	1.00		1.00	1.00		0.18	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	75	288	230	122	194	197	119	1321	688	412	964	1002
V/C Ratio(X)	0.35	0.27	0.03	0.56	0.56	0.57	0.57	0.63	0.05	0.25	0.52	0.52
Avail Cap(c_a), veh/h	136	580	359	156	318	324	165	1321	688	412	964	1002
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	50.7	25.9	53.6	49.8	49.9	49.3	6.8	4.5	35.4	13.7	13.7
Incr Delay (d2), s/veh	1.0	0.2	0.0	1.5	0.9	1.0	1.5	2.1	0.1	0.1	2.0	1.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.8	1.1	0.2	2.0	3.1	3.2	1.9	2.5	0.2	2.4	7.9	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.3	50.8	25.9	55.1	50.8	50.9	50.8	8.9	4.6	35.5	15.7	15.6
LnGrp LOS	E	D	C	E	D	D	D	A	A	D	B	B
Approach Vol, veh/h		113			288			932			1124	
Approach Delay, s/veh		50.3			51.8			11.8			17.5	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.9	55.0	10.3	18.8	13.5	77.4	13.5	15.7				
Change Period (Y+Rc), s	5.0	* 5	4.5	4.5	4.5	5.0	4.5	4.5				
Max Green Setting (Gmax), s	17.5	* 50	10.5	23.5	12.5	55.0	11.5	22.5				
Max Q Clear Time (g_c+I1), s	8.3	13.1	3.9	9.7	6.8	23.7	6.8	4.9				
Green Ext Time (p_c), s	0.0	2.2	0.0	0.4	0.0	2.2	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay			20.9									
HCM 6th LOS			C									
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

702: Broadway Ave & Wall St
HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
2046 Baseline Conditions AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Volume (vph)	15	5	25	10	5	15	75	875	15	40	900	100
Future Volume (vph)	15	5	25	10	5	15	75	875	15	40	900	100
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	16	16	16	16	16	16	10	10	10	10	10	10
Total Lost time (s)		4.5			4.5		5.0	4.0		5.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.98			0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		0.99	1.00		0.98	1.00	
Frt		0.93			0.93		1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1430			1324		1463	2790		1441	2848	
Flt Permitted		0.89			0.90		0.27	1.00		0.31	1.00	
Satd. Flow (perm)		1297			1206		416	2790		463	2848	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	5	26	11	5	16	79	921	16	42	947	105
RTOR Reduction (vph)	0	24	0	0	15	0	0	1	0	0	4	0
Lane Group Flow (vph)	0	23	0	0	17	0	79	936	0	42	1048	0
Confl. Peds. (#/hr)	3		3	3		3	15		19	19		15
Confl. Bikes (#/hr)			5			5						
Heavy Vehicles (%)	11%	11%	11%	21%	21%	21%	5%	5%	5%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Parking (#/hr)		1			1			1				
Turn Type	Perm	NA		Perm	NA		custom	NA		custom	NA	
Protected Phases		8			4			12			5 6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		10.8			10.8		91.7	99.7		87.7	91.7	
Effective Green, g (s)		10.8			10.8		91.7	99.7		87.7	91.7	
Actuated g/C Ratio		0.09			0.09		0.76	0.83		0.73	0.76	
Clearance Time (s)		4.5			4.5		5.0			5.0		
Vehicle Extension (s)		3.0			3.0		4.0			4.0		
Lane Grp Cap (vph)		116			108		317	2318		338	2176	
v/s Ratio Prot								c0.34			c0.37	
v/s Ratio Perm		c0.02			0.01		0.19			0.09		
v/c Ratio		0.20			0.16		0.25	0.40		0.12	0.48	
Uniform Delay, d1		50.6			50.4		4.1	2.6		4.8	5.3	
Progression Factor		1.00			1.00		0.30	0.27		1.53	1.53	
Incremental Delay, d2		0.9			0.7		1.5	0.0		0.7	0.1	
Delay (s)		51.5			51.1		2.8	0.7		7.9	8.1	
Level of Service		D			D		A	A		A	A	
Approach Delay (s)		51.5			51.1			0.9			8.1	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			6.3				HCM 2000 Level of Service			A		
HCM 2000 Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			13.5		
Intersection Capacity Utilization			63.8%				ICU Level of Service			B		
Analysis Period (min)			15									

703: Broadway Ave & Pacific Ave
HCM 6th Signalized Intersection Summary

Everett Link Extension Project
2046 Baseline Conditions AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↶↷	↷	↰	↶↷		↰	↶↷	↷	↰	↶↷	↷
Traffic Volume (veh/h)	95	135	75	65	305	75	290	810	85	70	700	140
Future Volume (veh/h)	95	135	75	65	305	75	290	810	85	70	700	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1801	1801	1801	1364	1364	1364	1695	1695	1695	1641	1641	1641
Adj Flow Rate, veh/h	98	139	28	67	314	53	299	835	42	72	722	60
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	12	12	12	14	14	14	4	4	4	8	8	8
Cap, veh/h	138	473	593	160	410	68	412	1612	885	118	987	541
Arrive On Green	0.08	0.14	0.14	0.12	0.19	0.19	0.08	0.17	0.17	0.03	0.10	0.10
Sat Flow, veh/h	1716	3423	1470	1299	2212	368	1615	3221	1415	1563	3118	1358
Grp Volume(v), veh/h	98	139	28	67	182	185	299	835	42	72	722	60
Grp Sat Flow(s), veh/h/ln	1716	1711	1470	1299	1295	1285	1615	1611	1415	1563	1559	1358
Q Serve(g_s), s	6.7	4.4	0.0	5.7	16.0	16.4	21.7	28.4	0.7	5.5	26.9	1.6
Cycle Q Clear(g_c), s	6.7	4.4	0.0	5.7	16.0	16.4	21.7	28.4	0.7	5.5	26.9	1.6
Prop In Lane	1.00		1.00	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	473	593	160	240	238	412	1612	885	118	987	541
V/C Ratio(X)	0.71	0.29	0.05	0.42	0.76	0.78	0.73	0.52	0.05	0.61	0.73	0.11
Avail Cap(c_a), veh/h	150	713	696	160	281	278	412	1612	885	358	987	541
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	46.4	22.5	48.6	46.3	46.5	50.8	36.9	4.8	56.7	48.8	11.6
Incr Delay (d2), s/veh	10.8	0.1	0.0	0.6	7.8	9.2	5.5	1.2	0.1	1.9	4.8	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	3.3	1.9	0.5	1.9	5.7	5.8	10.0	12.5	0.3	2.3	11.9	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	64.7	46.6	22.5	49.3	54.1	55.7	56.3	38.1	4.9	58.6	53.6	12.1
LnGrp LOS	E	D	C	D	D	E	E	D	A	E	D	B
Approach Vol, veh/h		265			434			1176			854	
Approach Delay, s/veh		50.7			54.0			41.5			51.1	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.6	65.0	14.1	27.2	35.6	43.0	19.8	21.6				
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	5.0	* 5	5.0	* 5				
Max Green Setting (Gmax), s	27.5	37.0	10.5	26.0	26.5	* 38	11.5	* 25				
Max Q Clear Time (g_c+I1), s	7.5	30.4	8.7	18.4	23.7	28.9	7.7	6.4				
Green Ext Time (p_c), s	0.1	4.3	0.0	0.9	0.1	5.0	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			47.4									
HCM 6th LOS			D									
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Vol, veh/h	15	0	20	5	0	10	25	1170	20	15	815	15
Future Vol, veh/h	15	0	20	5	0	10	25	1170	20	15	815	15
Conflicting Peds, #/hr	6	0	2	2	0	6	17	0	12	12	0	17
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	29	29	29	3	3	3	8	8	8
Mvmt Flow	16	0	21	5	0	11	26	1232	21	16	858	16
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1589	2232	456	1770	2230	645	891	0	0	1265	0	0
Stage 1	915	915	-	1307	1307	-	-	-	-	-	-	-
Stage 2	674	1317	-	463	923	-	-	-	-	-	-	-
Critical Hdwy	6.3	5.3	6.3	9.28	8.28	8.08	4.16	-	-	4.26	-	-
Critical Hdwy Stg 1	5.3	4.3	-	8.28	7.28	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.3	4.3	-	8.28	7.28	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.79	4.29	3.59	2.23	-	-	2.28	-	-
Pot Cap-1 Maneuver	125	91	601	22	14	320	750	-	-	514	-	-
Stage 1	404	481	-	87	118	-	-	-	-	-	-	-
Stage 2	520	355	-	414	214	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	112	83	590	20	13	315	738	-	-	508	-	-
Mov Cap-2 Maneuver	112	83	-	20	13	-	-	-	-	-	-	-
Stage 1	383	458	-	83	113	-	-	-	-	-	-	-
Stage 2	482	339	-	386	204	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	25.9		99.5		0.2		0.2					
HCM LOS	D		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	738	-	-	209	53	508	-	-				
HCM Lane V/C Ratio	0.036	-	-	0.176	0.298	0.031	-	-				
HCM Control Delay (s)	10.1	-	-	25.9	99.5	12.3	-	-				
HCM Lane LOS	B	-	-	D	F	B	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.6	1	0.1	-	-				

Intersection												
Int Delay, s/veh	5.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	30	10	0	10	0	10	30	20	0	0	10
Future Vol, veh/h	15	30	10	0	10	0	10	30	20	0	0	10
Conflicting Peds, #/hr	2	0	2	2	0	2	2	0	2	2	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	4	4	4	50	50	50	0	0	0	20	20	20
Mvmt Flow	15	30	10	0	10	0	10	30	20	0	0	10
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	12	0	0	42	0	0	84	79	39	104	84	14
Stage 1	-	-	-	-	-	-	67	67	-	12	12	-
Stage 2	-	-	-	-	-	-	17	12	-	92	72	-
Critical Hdwy	4.14	-	-	4.6	-	-	7.1	6.5	6.2	7.3	6.7	6.4
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.3	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.3	5.7	-
Follow-up Hdwy	2.236	-	-	2.65	-	-	3.5	4	3.3	3.68	4.18	3.48
Pot Cap-1 Maneuver	1594	-	-	1308	-	-	908	815	1038	835	773	1016
Stage 1	-	-	-	-	-	-	948	843	-	964	851	-
Stage 2	-	-	-	-	-	-	1008	890	-	873	801	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1591	-	-	1306	-	-	889	804	1034	787	762	1012
Mov Cap-2 Maneuver	-	-	-	-	-	-	889	804	-	787	762	-
Stage 1	-	-	-	-	-	-	937	833	-	952	849	-
Stage 2	-	-	-	-	-	-	996	888	-	815	791	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2			0			9.4			8.6		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	884	1591	-	-	1306	-	-	1012				
HCM Lane V/C Ratio	0.068	0.009	-	-	-	-	-	0.01				
HCM Control Delay (s)	9.4	7.3	0	-	0	-	-	8.6				
HCM Lane LOS	A	A	A	-	A	-	-	A				
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0				

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	
Traffic Vol, veh/h	0	295	445	20	5	10
Future Vol, veh/h	0	295	445	20	5	10
Conflicting Peds, #/hr	3	0	0	3	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	17	17	15	15	0	0
Mvmt Flow	0	307	464	21	5	10

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	488	0	632
Stage 1	-	-	478
Stage 2	-	-	154
Critical Hdwy	4.44	-	6.8
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	2.37	-	3.5
Pot Cap-1 Maneuver	973	-	417
Stage 1	-	-	595
Stage 2	-	-	864
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	971	-	415
Mov Cap-2 Maneuver	-	-	415
Stage 1	-	-	594
Stage 2	-	-	862

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	971	-	-	-	594
HCM Lane V/C Ratio	-	-	-	-	0.026
HCM Control Delay (s)	0	-	-	-	11.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

708: Smith Ave & Pacific Ave
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
 2046 Baseline Conditions AM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	235	70	125	510	60	70
Future Volume (vph)	235	70	125	510	60	70
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	11	11
Grade (%)	3%			0%	3%	
Total Lost time (s)	5.0		3.0	5.0	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	0.88
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	2726		1498	2995	1107	1743
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	2726		1498	2995	1107	1743
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	247	74	132	537	63	74
RTOR Reduction (vph)	21	0	0	0	0	42
Lane Group Flow (vph)	300	0	132	537	63	32
Confl. Peds. (#/hr)					2	
Heavy Vehicles (%)	16%	16%	11%	11%	43%	43%
Turn Type	NA		Prot	NA	Prot	custom
Protected Phases	8		6 7	4	5	5 6 7
Permitted Phases						
Actuated Green, G (s)	18.1		15.2	31.4	6.0	25.7
Effective Green, g (s)	18.1		15.2	31.4	6.0	22.7
Actuated g/C Ratio	0.34		0.29	0.59	0.11	0.43
Clearance Time (s)	5.0			5.0	4.5	
Vehicle Extension (s)	1.5			1.5	3.0	
Lane Grp Cap (vph)	925		427	1764	124	742
v/s Ratio Prot	0.11		c0.09	c0.18	c0.06	0.02
v/s Ratio Perm						
v/c Ratio	0.32		0.31	0.30	0.51	0.04
Uniform Delay, d1	13.1		14.9	5.5	22.3	8.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		0.2	0.0	3.3	0.0
Delay (s)	13.1		15.1	5.5	25.5	9.0
Level of Service	B		B	A	C	A
Approach Delay (s)	13.1			7.4	16.6	
Approach LOS	B			A	B	
Intersection Summary						
HCM 2000 Control Delay			10.2		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.39			
Actuated Cycle Length (s)			53.3		Sum of lost time (s)	17.0
Intersection Capacity Utilization			37.4%		ICU Level of Service	A
Analysis Period (min)			15			

c Critical Lane Group

709: Smith Ave & 32nd St
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
 2046 Baseline Conditions AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔		↔	↔	
Traffic Volume (vph)	0	0	0	10	0	10	0	115	15	45	150	0
Future Volume (vph)	0	0	0	10	0	10	0	115	15	45	150	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			0%			0%			-3%	
Total Lost time (s)				4.5	4.5			4.5		4.5	4.5	
Lane Util. Factor				1.00	1.00			0.95		1.00	1.00	
Frpb, ped/bikes				1.00	0.98			1.00		1.00	1.00	
Flpb, ped/bikes				0.89	1.00			1.00		0.99	1.00	
Frt				1.00	0.85			0.98		1.00	1.00	
Flt Protected				0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)				1481	1455			2274		1316	1399	
Flt Permitted				0.93	1.00			1.00		0.67	1.00	
Satd. Flow (perm)				1450	1455			2274		921	1399	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	11	0	11	0	121	16	47	158	0
RTOR Reduction (vph)	0	0	0	0	10	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	0	0	11	1	0	0	130	0	47	158	0
Confl. Peds. (#/hr)	11		60	60		11	12		17	17		12
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	43%	43%	43%	27%	27%	27%
Parking (#/hr)		1										
Turn Type				Perm	NA			NA		custom	NA	
Protected Phases		7 8			4			2 5		1	6	
Permitted Phases	8			4						2		
Actuated Green, G (s)				4.3	4.3			31.2		31.8	40.4	
Effective Green, g (s)				4.3	4.3			29.2		31.8	40.4	
Actuated g/C Ratio				0.07	0.07			0.45		0.48	0.62	
Clearance Time (s)				4.5	4.5					4.5	4.5	
Vehicle Extension (s)				2.5	2.5					2.0	2.0	
Lane Grp Cap (vph)				95	95			1012		474	861	
v/s Ratio Prot					0.00			0.06		0.01	c0.11	
v/s Ratio Perm				c0.01						0.04		
v/c Ratio				0.12	0.01			0.13		0.10	0.18	
Uniform Delay, d1				28.9	28.7			10.7		9.0	5.5	
Progression Factor				1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2				0.4	0.0			0.0		0.0	0.0	
Delay (s)				29.3	28.7			10.7		9.1	5.5	
Level of Service				C	C			B		A	A	
Approach Delay (s)		0.0			29.0			10.7			6.3	
Approach LOS		A			C			B			A	
Intersection Summary												
HCM 2000 Control Delay			9.3			HCM 2000 Level of Service				A		
HCM 2000 Volume to Capacity ratio			0.17									
Actuated Cycle Length (s)			65.6			Sum of lost time (s)			19.0			
Intersection Capacity Utilization			41.6%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

710: Smith Ave & 33rd St
HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
2046 Baseline Conditions AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	35	15	5	15	10	15	85	5	5	105	40
Future Volume (vph)	25	35	15	5	15	10	15	85	5	5	105	40
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5			4.5		4.5	5.0		4.5	5.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99			0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95			0.95		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	962	956			820		1279	1332		1341	1345	
Flt Permitted	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	962	956			820		1279	1332		1341	1345	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	26	37	16	5	16	11	16	89	5	5	111	42
RTOR Reduction (vph)	0	14	0	0	10	0	0	2	0	0	11	0
Lane Group Flow (vph)	26	39	0	0	22	0	16	92	0	5	142	0
Confl. Peds. (#/hr)	19		3	3		19	2		22	22		2
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	67%	67%	67%	100%	100%	100%	30%	30%	30%	24%	24%	24%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.8	5.8			3.9		1.1	22.3		1.1	22.3	
Effective Green, g (s)	5.8	5.8			3.9		1.1	22.3		1.1	22.3	
Actuated g/C Ratio	0.11	0.11			0.08		0.02	0.43		0.02	0.43	
Clearance Time (s)	4.5	4.5			4.5		4.5	5.0		4.5	5.0	
Vehicle Extension (s)	2.0	2.0			3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	108	107			61		27	575		28	581	
v/s Ratio Prot	0.03	c0.04			c0.03		c0.01	0.07		0.00	c0.11	
v/s Ratio Perm												
v/c Ratio	0.24	0.36			0.36		0.59	0.16		0.18	0.24	
Uniform Delay, d1	20.9	21.2			22.7		25.0	8.9		24.8	9.3	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.8			3.6		21.0	0.0		1.1	0.1	
Delay (s)	21.3	22.0			26.2		46.1	9.0		25.9	9.4	
Level of Service	C	C			C		D	A		C	A	
Approach Delay (s)		21.7			26.2			14.4			9.9	
Approach LOS		C			C			B			A	
Intersection Summary												
HCM 2000 Control Delay			15.1				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.29									
Actuated Cycle Length (s)			51.6				Sum of lost time (s)			18.5		
Intersection Capacity Utilization			33.2%				ICU Level of Service			A		
Analysis Period (min)			15									

c Critical Lane Group

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱			↰↱			↰↱	
Traffic Vol, veh/h	20	260	20	95	455	20	5	5	35	10	10	5
Future Vol, veh/h	20	260	20	95	455	20	5	5	35	10	10	5
Conflicting Peds, #/hr	0	0	9	9	0	0	2	0	5	5	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	235	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	-3	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	17	17	17	14	14	14	4	4	4	7	7	7
Mvmt Flow	21	271	21	99	474	21	5	5	36	10	10	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	495	0	0	301	0	0	775	1026	160	868	1026	250
Stage 1	-	-	-	-	-	-	333	333	-	683	683	-
Stage 2	-	-	-	-	-	-	442	693	-	185	343	-
Critical Hdwy	4.44	-	-	4.38	-	-	7.58	6.58	6.98	7.64	6.64	7.04
Critical Hdwy Stg 1	-	-	-	-	-	-	6.58	5.58	-	6.64	5.64	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.58	5.58	-	6.64	5.64	-
Follow-up Hdwy	2.37	-	-	2.34	-	-	3.54	4.04	3.34	3.57	4.07	3.37
Pot Cap-1 Maneuver	967	-	-	1174	-	-	284	230	850	238	225	735
Stage 1	-	-	-	-	-	-	649	637	-	394	435	-
Stage 2	-	-	-	-	-	-	559	438	-	785	623	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	967	-	-	1161	-	-	246	204	837	204	199	734
Mov Cap-2 Maneuver	-	-	-	-	-	-	246	204	-	204	199	-
Stage 1	-	-	-	-	-	-	628	616	-	385	398	-
Stage 2	-	-	-	-	-	-	494	401	-	725	602	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	1.4	12.6	22.1
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	519	967	-	-	1161	-	-	236
HCM Lane V/C Ratio	0.09	0.022	-	-	0.085	-	-	0.11
HCM Control Delay (s)	12.6	8.8	-	-	8.4	-	-	22.1
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.3	-	-	0.4

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	5	20	5	10	5	5	5	35	10	25	85	10
Future Vol, veh/h	5	20	5	10	5	5	5	35	10	25	85	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	25	25	25	10	10	10	10	10	10
Mvmt Flow	5	21	5	11	5	5	5	37	11	26	89	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.8	7.5	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	17%	50%	21%
Vol Thru, %	70%	67%	25%	71%
Vol Right, %	20%	17%	25%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	30	20	120
LT Vol	5	5	10	25
Through Vol	35	20	5	85
RT Vol	10	5	5	10
Lane Flow Rate	53	32	21	126
Geometry Grp	1	1	1	1
Degree of Util (X)	0.061	0.037	0.028	0.147
Departure Headway (Hd)	4.157	4.26	4.711	4.194
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	853	845	764	851
Service Time	2.224	2.261	2.712	2.241
HCM Lane V/C Ratio	0.062	0.038	0.027	0.148
HCM Control Delay	7.5	7.4	7.8	8
HCM Lane LOS	A	A	A	A
HCM 95th-ile Q	0.2	0.1	0.1	0.5

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↖		↗	↖	
Traffic Vol, veh/h	0	0	0	0	0	5	0	95	5	5	105	5
Future Vol, veh/h	0	0	0	0	0	5	0	95	5	5	105	5
Conflicting Peds, #/hr	0	0	0	0	0	0	8	0	8	8	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	20	20	20	16	16	16
Mvmt Flow	0	0	0	0	0	5	0	100	5	5	111	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	237	245	122	235	245	111	124	0	0	113	0	0
Stage 1	132	132	-	111	111	-	-	-	-	-	-	-
Stage 2	105	113	-	124	134	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.3	-	-	4.26	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.38	-	-	2.344	-	-
Pot Cap-1 Maneuver	722	661	935	724	661	948	1359	-	-	1394	-	-
Stage 1	876	791	-	899	807	-	-	-	-	-	-	-
Stage 2	906	806	-	885	789	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	710	648	928	717	648	941	1349	-	-	1383	-	-
Mov Cap-2 Maneuver	710	648	-	717	648	-	-	-	-	-	-	-
Stage 1	869	782	-	892	801	-	-	-	-	-	-	-
Stage 2	901	800	-	882	780	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	0		8.8		0		0.3					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1349	-	-	-	941	1383	-	-				
HCM Lane V/C Ratio	-	-	-	-	0.006	0.004	-	-				
HCM Control Delay (s)	0	-	-	0	8.8	7.6	-	-				
HCM Lane LOS	A	-	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	-	0	0	-	-				

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔		↔	↔	↔		↔	↔	
Traffic Vol, veh/h	0	0	0	5	0	15	0	90	0	5	105	0
Future Vol, veh/h	0	0	0	5	0	15	0	90	0	5	105	0
Conflicting Peds, #/hr	2	0	2	2	0	2	0	0	8	8	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	90	90	90	21	21	21	17	17	17
Mvmt Flow	0	0	0	5	0	16	0	95	0	5	111	0
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	226	224	113	226	-	105	111	0	0	103	0	0
Stage 1	121	121	-	103	-	-	-	-	-	-	-	-
Stage 2	105	103	-	123	-	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	8	-	7.1	4.31	-	-	4.27	-	-
Critical Hdwy Stg 1	6.1	5.5	-	7	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	7	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	4.31	-	4.11	2.389	-	-	2.353	-	-
Pot Cap-1 Maneuver	734	678	945	577	0	756	1369	-	-	1400	-	-
Stage 1	888	800	-	727	0	-	-	-	-	-	-	-
Stage 2	906	814	-	707	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	715	670	943	570	-	749	1369	-	-	1389	-	-
Mov Cap-2 Maneuver	715	670	-	570	-	-	-	-	-	-	-	-
Stage 1	888	797	-	721	-	-	-	-	-	-	-	-
Stage 2	885	807	-	703	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			10.3			0			0.3		
HCM LOS	A			B								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	1369	-	-	-	570	749	1369	-	-			
HCM Lane V/C Ratio	-	-	-	-	0.009	0.021	0.004	-	-			
HCM Control Delay (s)	0	-	-	0	11.4	9.9	7.6	-	-			
HCM Lane LOS	A	-	-	A	B	A	A	-	-			
HCM 95th %tile Q(veh)	0	-	-	-	0	0.1	0	-	-			

715: Broadway Ave & 33rd St
HCM 6th Signalized Intersection Summary

Everett Link Extension Project
2046 Baseline Conditions AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔		↔	↔	
Traffic Volume (veh/h)	10	5	20	25	5	25	25	1180	55	40	795	5
Future Volume (veh/h)	10	5	20	25	5	25	25	1180	55	40	795	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	0.98		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2050	2050	2050	667	667	667	1695	1695	1695	1641	1641	1641
Adj Flow Rate, veh/h	10	5	21	26	5	26	26	1229	57	42	828	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	5	5	5	65	65	65	4	4	4	8	8	8
Cap, veh/h	68	44	103	115	10	54	78	2212	103	98	2289	14
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.05	0.71	0.71	0.02	0.24	0.24
Sat Flow, veh/h	260	386	904	524	91	473	1615	3133	145	1563	3177	19
Grp Volume(v), veh/h	36	0	0	26	0	31	26	631	655	42	406	427
Grp Sat Flow(s), veh/h/ln	1550	0	0	524	0	564	1615	1611	1667	1563	1559	1637
Q Serve(g_s), s	0.0	0.0	0.0	0.6	0.0	6.2	1.9	22.7	22.8	3.2	26.1	26.1
Cycle Q Clear(g_c), s	6.2	0.0	0.0	6.8	0.0	6.2	1.9	22.7	22.8	3.2	26.1	26.1
Prop In Lane	0.28		0.58	1.00		0.84	1.00		0.09	1.00		0.01
Lane Grp Cap(c), veh/h	216	0	0	115	0	65	78	1137	1178	98	1123	1180
V/C Ratio(X)	0.17	0.00	0.00	0.23	0.00	0.48	0.33	0.56	0.56	0.43	0.36	0.36
Avail Cap(c_a), veh/h	567	0	0	223	0	181	141	1137	1178	137	1123	1180
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	0.0	0.0	50.2	0.0	49.8	55.2	8.5	8.5	56.6	22.7	22.7
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.4	0.0	2.0	0.9	2.0	1.9	1.1	0.9	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	0.8	0.0	0.9	0.8	7.6	7.8	1.3	11.1	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.2	0.0	0.0	50.5	0.0	51.8	56.2	10.5	10.4	57.7	23.6	23.6
LnGrp LOS	D	A	A	D	A	D	E	B	B	E	C	C
Approach Vol, veh/h		36			57			1312			875	
Approach Delay, s/veh		48.2			51.2			11.4			25.2	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	89.7		18.2	10.3	91.5		18.2				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	10.5	57.0		38.5	10.5	57.0		38.5				
Max Q Clear Time (g_c+I1), s	5.2	24.8		8.2	3.9	28.1		8.8				
Green Ext Time (p_c), s	0.0	17.6		0.1	0.0	9.6		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			18.3									
HCM 6th LOS			B									

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Vol, veh/h	5	0	10	5	0	10	30	1260	15	5	840	5
Future Vol, veh/h	5	0	10	5	0	10	30	1260	15	5	840	5
Conflicting Peds, #/hr	0	0	0	0	0	0	8	0	9	9	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-8	-	-	3	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	5	5	5	8	8	8
Mvmt Flow	5	0	11	5	0	11	32	1326	16	5	884	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1632	2320	453	1859	2314	680	897	0	0	1351	0	0
Stage 1	905	905	-	1407	1407	-	-	-	-	-	-	-
Stage 2	727	1415	-	452	907	-	-	-	-	-	-	-
Critical Hdwy	5.9	4.9	6.1	8.1	7.1	7.2	4.2	-	-	4.26	-	-
Critical Hdwy Stg 1	4.9	3.9	-	7.1	6.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	4.9	3.9	-	7.1	6.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.25	-	-	2.28	-	-
Pot Cap-1 Maneuver	141	107	619	34	26	376	734	-	-	475	-	-
Stage 1	451	535	-	118	164	-	-	-	-	-	-	-
Stage 2	533	386	-	521	307	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	130	99	613	32	24	372	727	-	-	470	-	-
Mov Cap-2 Maneuver	130	99	-	32	24	-	-	-	-	-	-	-
Stage 1	427	524	-	112	155	-	-	-	-	-	-	-
Stage 2	495	365	-	507	301	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	18.9		59.1		0.2		0.1					
HCM LOS	C		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	727	-	-	274	82	470	-	-				
HCM Lane V/C Ratio	0.043	-	-	0.058	0.193	0.011	-	-				
HCM Control Delay (s)	10.2	-	-	18.9	59.1	12.7	-	-				
HCM Lane LOS	B	-	-	C	F	B	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.7	0	-	-				

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Vol, veh/h	5	0	25	5	0	5	25	1295	5	5	840	10
Future Vol, veh/h	5	0	25	5	0	5	25	1295	5	5	840	10
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	5	5	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-7	-	-	5	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	0	0	0	4	4	4	8	8	8
Mvmt Flow	5	0	26	5	0	5	26	1363	5	5	884	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1637	2328	451	1875	2331	689	898	0	0	1373	0	0
Stage 1	903	903	-	1423	1423	-	-	-	-	-	-	-
Stage 2	734	1425	-	452	908	-	-	-	-	-	-	-
Critical Hdwy	6.2	5.2	6.3	8.5	7.5	7.4	4.18	-	-	4.26	-	-
Critical Hdwy Stg 1	5.2	4.2	-	7.5	6.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.2	4.2	-	7.5	6.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.5	4	3.3	2.24	-	-	2.28	-	-
Pot Cap-1 Maneuver	122	87	598	27	20	357	739	-	-	466	-	-
Stage 1	416	494	-	98	137	-	-	-	-	-	-	-
Stage 2	494	338	-	496	277	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	116	82	596	25	19	355	737	-	-	463	-	-
Mov Cap-2 Maneuver	116	82	-	25	19	-	-	-	-	-	-	-
Stage 1	400	487	-	94	131	-	-	-	-	-	-	-
Stage 2	470	324	-	469	273	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	16.2		102.5		0.2		0.1					
HCM LOS	C		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	737	-	-	353	47	463	-	-				
HCM Lane V/C Ratio	0.036	-	-	0.089	0.224	0.011	-	-				
HCM Control Delay (s)	10.1	-	-	16.2	102.5	12.9	-	-				
HCM Lane LOS	B	-	-	C	F	B	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.7	0	-	-				

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Vol, veh/h	5	5	30	20	0	50	35	1225	75	25	820	5
Future Vol, veh/h	5	5	30	20	0	50	35	1225	75	25	820	5
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	3	3	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	140	-	-	160	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	2	2	2	4	4	4	8	8	8
Mvmt Flow	5	5	32	21	0	53	37	1289	79	26	863	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1639	2365	436	1892	2328	687	870	0	0	1371	0	0
Stage 1	920	920	-	1406	1406	-	-	-	-	-	-	-
Stage 2	719	1445	-	486	922	-	-	-	-	-	-	-
Critical Hdwy	6.4	5.4	6.4	7.54	6.54	6.94	4.18	-	-	4.26	-	-
Critical Hdwy Stg 1	5.4	4.4	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	4.4	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.52	4.02	3.32	2.24	-	-	2.28	-	-
Pot Cap-1 Maneuver	111	73	602	43	37	389	758	-	-	466	-	-
Stage 1	388	463	-	146	204	-	-	-	-	-	-	-
Stage 2	481	308	-	531	347	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	88	65	601	35	33	388	756	-	-	464	-	-
Mov Cap-2 Maneuver	88	65	-	35	33	-	-	-	-	-	-	-
Stage 1	368	436	-	138	193	-	-	-	-	-	-	-
Stage 2	395	292	-	469	327	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	25.4		106.1		0.3		0.4					
HCM LOS	D		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	756	-	-	218 100	464	-	-					
HCM Lane V/C Ratio	0.049	-	-	0.193 0.737	0.057	-	-					
HCM Control Delay (s)	10	-	-	25.4 106.1	13.2	-	-					
HCM Lane LOS	B	-	-	D F	B	-	-					
HCM 95th %tile Q(veh)	0.2	-	-	0.7 3.9	0.2	-	-					

719: Hill Ave/Fulton St & Pacific Ave
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
 2046 Baseline Conditions AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↷		↰	↷			↷		↰	↷	
Traffic Volume (vph)	70	245	15	35	515	40	25	15	20	30	20	55
Future Volume (vph)	70	245	15	35	515	40	25	15	20	30	20	55
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0			4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99			0.95		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1484	2939		1524	3013			1488		1641	1527	
Flt Permitted	0.43	1.00		0.58	1.00			0.84		0.83	1.00	
Satd. Flow (perm)	675	2939		935	3013			1271		1427	1527	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	74	258	16	37	542	42	26	16	21	32	21	58
RTOR Reduction (vph)	0	3	0	0	5	0	0	19	0	0	52	0
Lane Group Flow (vph)	74	271	0	37	579	0	0	44	0	32	27	0
Confl. Peds. (#/hr)	2		3	3		2	1		3	3		1
Heavy Vehicles (%)	12%	12%	12%	9%	9%	9%	24%	24%	24%	1%	1%	1%
Turn Type	custom	NA		custom	NA		Perm	NA		Perm	NA	
Protected Phases	3	8 12		7	4 10			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	48.6	53.3		48.6	51.8			8.9		8.9	8.9	
Effective Green, g (s)	48.6	53.3		48.6	51.8			8.9		8.9	8.9	
Actuated g/C Ratio	0.61	0.67		0.61	0.65			0.11		0.11	0.11	
Clearance Time (s)	5.0			5.0				4.5		4.5	4.5	
Vehicle Extension (s)	2.0			2.0				2.0		2.0	2.0	
Lane Grp Cap (vph)	458	1958		592	1950			141		158	169	
v/s Ratio Prot	c0.01	0.09		0.00	c0.19						0.02	
v/s Ratio Perm	0.09			0.04				c0.03		0.02		
v/c Ratio	0.16	0.14		0.06	0.30			0.31		0.20	0.16	
Uniform Delay, d1	6.5	4.9		6.3	6.2			32.7		32.3	32.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.0		0.0	0.1			0.5		0.2	0.2	
Delay (s)	6.5	4.9		6.3	6.2			33.2		32.6	32.3	
Level of Service	A	A		A	A			C		C	C	
Approach Delay (s)		5.3			6.2			33.2			32.4	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM 2000 Control Delay			10.0			HCM 2000 Level of Service				A		
HCM 2000 Volume to Capacity ratio			0.31									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			19.5			
Intersection Capacity Utilization			44.2%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	10	0	0	50	45	25
Future Vol, veh/h	10	0	0	50	45	25
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	20	20	28	28	7	7
Mvmt Flow	11	0	0	53	47	26
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	113	62	73	0	-	0
Stage 1	60	-	-	-	-	-
Stage 2	53	-	-	-	-	-
Critical Hdwy	6.6	6.4	4.38	-	-	-
Critical Hdwy Stg 1	5.6	-	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-	-
Follow-up Hdwy	3.68	3.48	2.452	-	-	-
Pot Cap-1 Maneuver	842	955	1377	-	-	-
Stage 1	919	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	842	953	1377	-	-	-
Mov Cap-2 Maneuver	842	-	-	-	-	-
Stage 1	919	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.3	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1377	-	842	-	-	
HCM Lane V/C Ratio	-	-	0.013	-	-	
HCM Control Delay (s)	0	-	9.3	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	0	25	10	10	0	25	0	10	35	0
Future Vol, veh/h	10	0	0	25	10	10	0	25	0	10	35	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	50	50	50	25	25	25	0	0	0	26	26	26
Mvmt Flow	10	0	0	25	10	10	0	25	0	10	35	0
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	90	80	35	80	80	25	35	0	0	25	0	0
Stage 1	55	55	-	25	25	-	-	-	-	-	-	-
Stage 2	35	25	-	55	55	-	-	-	-	-	-	-
Critical Hdwy	7.6	7	6.7	7.35	6.75	6.45	4.1	-	-	4.36	-	-
Critical Hdwy Stg 1	6.6	6	-	6.35	5.75	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	6	-	6.35	5.75	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4.45	3.75	3.725	4.225	3.525	2.2	-	-	2.434	-	-
Pot Cap-1 Maneuver	792	727	916	855	768	989	1589	-	-	1447	-	-
Stage 1	849	764	-	937	831	-	-	-	-	-	-	-
Stage 2	871	788	-	902	806	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	772	722	916	851	763	989	1589	-	-	1447	-	-
Mov Cap-2 Maneuver	772	722	-	851	763	-	-	-	-	-	-	-
Stage 1	849	759	-	937	831	-	-	-	-	-	-	-
Stage 2	852	788	-	896	800	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.7		9.4			0			1.7			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1589	-	-	772	856	1447	-	-				
HCM Lane V/C Ratio	-	-	-	0.013	0.053	0.007	-	-				
HCM Control Delay (s)	0	-	-	9.7	9.4	7.5	0	-				
HCM Lane LOS	A	-	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-				

HCM 6th Signalized Intersection Summary
701: Broadway Ave & Hewitt Ave

04/30/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	80	60	65	190	50	75	935	50	175	1110	35
Future Volume (veh/h)	25	80	60	65	190	50	75	935	50	175	1110	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.94	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1627	1627	1627	1709	1709	1709	1668	1668	1668	1682	1682	1682
Adj Flow Rate, veh/h	26	84	15	68	200	35	79	984	30	184	1168	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	9	9	3	3	3	6	6	6	5	5	5
Cap, veh/h	75	485	307	122	502	86	123	1413	704	263	1697	52
Arrive On Green	0.05	0.16	0.16	0.07	0.18	0.18	0.15	0.89	0.89	0.16	0.54	0.54
Sat Flow, veh/h	1550	3092	1276	1628	2742	468	1589	3169	1342	1602	3160	97
Grp Volume(v), veh/h	26	84	15	68	116	119	79	984	30	184	590	614
Grp Sat Flow(s),veh/h/ln	1550	1546	1276	1628	1624	1587	1589	1585	1342	1602	1598	1659
Q Serve(g_s), s	1.9	2.8	0.8	4.8	7.6	7.9	5.6	10.6	0.0	13.0	32.6	32.6
Cycle Q Clear(g_c), s	1.9	2.8	0.8	4.8	7.6	7.9	5.6	10.6	0.0	13.0	32.6	32.6
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	75	485	307	122	297	291	123	1413	704	263	858	891
V/C Ratio(X)	0.35	0.17	0.05	0.56	0.39	0.41	0.64	0.70	0.04	0.70	0.69	0.69
Avail Cap(c_a), veh/h	129	567	341	142	304	298	152	1413	704	263	858	891
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	43.9	21.1	53.6	43.1	43.3	49.2	4.2	2.7	47.3	20.4	20.4
Incr Delay (d2), s/veh	1.0	0.1	0.0	1.5	0.3	0.3	2.4	2.3	0.1	6.7	4.5	4.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.1	0.3	2.0	3.1	3.1	2.2	2.0	0.1	5.6	12.6	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.3	43.9	21.1	55.1	43.4	43.6	51.5	6.4	2.8	54.1	24.9	24.7
LnGrp LOS	E	D	C	E	D	D	D	A	A	D	C	C
Approach Vol, veh/h	125			303			1093			1388		
Approach Delay, s/veh	43.8			46.1			9.6			28.7		
Approach LOS	D			D			A			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.7	58.5	10.3	26.5	13.8	69.4	13.5	23.3				
Change Period (Y+Rc), s	5.0	* 5	4.5	4.5	4.5	5.0	4.5	4.5				
Max Green Setting (Gmax), s	15.5	* 54	10.0	22.5	11.5	57.5	10.5	22.0				
Max Q Clear Time (g_c+I1), s	15.0	12.6	3.9	9.9	7.6	34.6	6.8	4.8				
Green Ext Time (p_c), s	0.0	2.8	0.0	0.4	0.0	2.7	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	24.0											
HCM 6th LOS	C											
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM Signalized Intersection Capacity Analysis

702: Broadway Ave & Wall St

04/30/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Volume (vph)	15	5	35	10	5	25	80	1020	15	40	1095	100
Future Volume (vph)	15	5	35	10	5	25	80	1020	15	40	1095	100
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	16	16	16	16	16	16	10	10	10	10	10	10
Total Lost time (s)		4.5			4.5		5.0	4.0		5.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.93			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.98		1.00	1.00		0.94	1.00	
Frt		0.91			0.92		1.00	1.00		1.00	0.99	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1344			1280		1478	2783		1378	2862	
Flt Permitted		0.93			0.75		0.14	1.00		0.26	1.00	
Satd. Flow (perm)		1264			968		224	2783		380	2862	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	5	37	11	5	26	84	1074	16	42	1153	105
RTOR Reduction (vph)	0	31	0	0	24	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	27	0	0	18	0	84	1089	0	42	1252	0
Confl. Peds. (#/hr)	2		59	59		2	10		89	89		10
Confl. Bikes (#/hr)			5			5						
Heavy Vehicles (%)	11%	11%	11%	21%	21%	21%	5%	5%	5%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Parking (#/hr)		1			1			1				
Turn Type	Perm	NA		Perm	NA		custom	NA		custom	NA	
Protected Phases		8			4			1 2			5 6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		19.2			9.2		69.6	77.6		53.6	57.6	
Effective Green, g (s)		19.2			9.2		69.6	77.6		53.6	57.6	
Actuated g/C Ratio		0.16			0.08		0.58	0.65		0.45	0.48	
Clearance Time (s)		4.5			4.5		5.0			5.0		
Vehicle Extension (s)		3.0			3.0		4.0			4.0		
Lane Grp Cap (vph)		202			74		129	1799		169	1373	
v/s Ratio Prot								c0.39			c0.44	
v/s Ratio Perm		c0.02			c0.02		0.37			0.11		
v/c Ratio		0.13			0.24		0.65	0.61		0.25	0.91	
Uniform Delay, d1		43.3			52.1		17.0	12.3		20.7	28.9	
Progression Factor		1.00			1.00		0.80	0.83		0.91	0.71	
Incremental Delay, d2		0.3			1.7		8.4	0.2		2.6	7.5	
Delay (s)		43.6			53.8		22.0	10.4		21.5	28.2	
Level of Service		D			D		C	B		C	C	
Approach Delay (s/veh)		43.6			53.8			11.2			27.9	
Approach LOS		D			D			B			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			21.1				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			78.4%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th Signalized Intersection Summary
703: Broadway Ave & Pacific Ave

04/30/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	230	80	90	345	100	320	910	210	270	700	155
Future Volume (veh/h)	95	230	80	90	345	100	320	910	210	270	700	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.87	1.00		0.88	1.00		0.88	1.00		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1801	1801	1801	1364	1364	1364	1695	1695	1695	1641	1641	1641
Adj Flow Rate, veh/h	98	237	28	93	356	75	330	938	84	278	722	81
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	12	12	12	14	14	14	4	4	4	8	8	8
Cap, veh/h	138	691	625	116	448	92	377	1133	571	304	961	480
Arrive On Green	0.08	0.20	0.20	0.09	0.22	0.22	0.08	0.12	0.12	0.13	0.21	0.21
Sat Flow, veh/h	1716	3423	1329	1299	2082	430	1615	3221	1259	1563	3118	1194
Grp Volume(v), veh/h	98	237	28	93	219	212	330	938	84	278	722	81
Grp Sat Flow(s),veh/h/ln	1716	1711	1329	1299	1295	1216	1615	1611	1259	1563	1559	1194
Q Serve(g_s), s	6.7	7.1	0.0	8.4	19.1	19.9	24.3	34.2	2.6	21.1	26.1	2.5
Cycle Q Clear(g_c), s	6.7	7.1	0.0	8.4	19.1	19.9	24.3	34.2	2.6	21.1	26.1	2.5
Prop In Lane	1.00		1.00	1.00		0.35	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	691	625	116	279	262	377	1133	571	304	961	480
V/C Ratio(X)	0.71	0.34	0.04	0.80	0.78	0.81	0.87	0.83	0.15	0.91	0.75	0.17
Avail Cap(c_a), veh/h	164	770	656	135	302	284	377	1133	571	397	961	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	41.1	19.5	53.6	44.4	44.8	53.6	49.5	10.1	51.2	43.3	10.5
Incr Delay (d2), s/veh	7.9	0.1	0.0	21.4	10.4	13.6	19.1	7.0	0.5	19.0	5.4	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	3.0	0.5	3.4	6.9	7.0	12.5	15.9	1.0	10.1	11.1	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	61.7	41.2	19.5	75.0	54.8	58.4	72.7	56.5	10.6	70.2	48.7	11.3
LnGrp LOS	E	D	B	E	D	E	E	E	B	E	D	B
Approach Vol, veh/h	363			524			1352			1081		
Approach Delay, s/veh	45.0			59.8			57.6			51.4		
Approach LOS	D			E			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	27.8	47.2	14.1	30.8	33.0	42.0	15.7	29.2				
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	5.0	* 5	5.0	* 5				
Max Green Setting (Gmax), s	30.5	31.0	11.5	28.0	24.5	* 37	12.5	* 27				
Max Q Clear Time (g_c+I1), s	23.1	36.2	8.7	21.9	26.3	28.1	10.4	9.1				
Green Ext Time (p_c), s	0.3	0.0	0.0	1.0	0.0	5.1	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	54.6											
HCM 6th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	15	0	20	5	0	40	20	1385	30	15	840	15
Future Vol, veh/h	15	0	20	5	0	40	20	1385	30	15	840	15
Conflicting Peds, #/hr	4	0	1	1	0	4	11	0	8	8	0	11
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	29	29	29	3	3	3	8	8	8
Mvmt Flow	16	0	21	5	0	42	21	1458	32	16	884	16
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1710	2475	462	1999	2467	757	911	0	0	1498	0	0
Stage 1	935	935	-	1524	1524	-	-	-	-	-	-	-
Stage 2	775	1540	-	475	943	-	-	-	-	-	-	-
Critical Hdwy	6.3	5.3	6.3	9.28	8.28	8.08	4.16	-	-	4.26	-	-
Critical Hdwy Stg 1	5.3	4.3	-	8.28	7.28	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.3	4.3	-	8.28	7.28	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.79	4.29	3.59	2.23	-	-	2.28	-	-
Pot Cap-1 Maneuver	106	69	596	13	9	261	737	-	-	415	-	-
Stage 1	395	474	-	57	83	-	-	-	-	-	-	-
Stage 2	468	299	-	405	208	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	83	63	589	12	8	258	729	-	-	412	-	-
Mov Cap-2 Maneuver	83	63	-	12	8	-	-	-	-	-	-	-
Stage 1	380	451	-	55	80	-	-	-	-	-	-	-
Stage 2	379	288	-	375	198	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	33.4		103.4		0.1		0.2					
HCM LOS	D		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	729	-	-	163	79	412	-	-				
HCM Lane V/C Ratio	0.029	-	-	0.226	0.6	0.038	-	-				
HCM Control Delay (s/veh)	10.1	-	-	33.4	103.4	14.1	-	-				
HCM Lane LOS	B	-	-	D	F	B	-	-				
HCM 95th %tile Q (veh)	0.1	-	-	0.8	2.7	0.1	-	-				

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	15	30	15	5	25	0	5	25	5	0	5	10
Future Vol, veh/h	15	30	15	5	25	0	5	25	5	0	5	10
Conflicting Peds, #/hr	1	0	1	1	0	1	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	4	4	4	50	50	50	0	0	0	20	20	20
Mvmt Flow	15	30	15	5	25	0	5	25	5	0	5	10
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	26	0	0	46	0	0	113	105	40	120	112	27
Stage 1	-	-	-	-	-	-	69	69	-	36	36	-
Stage 2	-	-	-	-	-	-	44	36	-	84	76	-
Critical Hdwy	4.14	-	-	4.6	-	-	7.1	6.5	6.2	7.3	6.7	6.4
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.3	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.3	5.7	-
Follow-up Hdwy	2.236	-	-	2.65	-	-	3.5	4	3.3	3.68	4.18	3.48
Pot Cap-1 Maneuver	1575	-	-	1303	-	-	869	789	1037	815	746	999
Stage 1	-	-	-	-	-	-	946	841	-	936	831	-
Stage 2	-	-	-	-	-	-	975	869	-	881	798	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1574	-	-	1302	-	-	845	776	1035	781	734	997
Mov Cap-2 Maneuver	-	-	-	-	-	-	845	776	-	781	734	-
Stage 1	-	-	-	-	-	-	936	832	-	926	827	-
Stage 2	-	-	-	-	-	-	954	865	-	841	789	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	1.8			1.3			9.6			9.1		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	815	1574	-	-	1302	-	-	891				
HCM Lane V/C Ratio	0.043	0.01	-	-	0.004	-	-	0.017				
HCM Control Delay (s/veh)	9.6	7.3	0	-	7.8	0	-	9.1				
HCM Lane LOS	A	A	A	-	A	A	-	A				
HCM 95th %tile Q (veh)	0.1	0	-	-	0	-	-	0.1				

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		Y	
Traffic Vol, veh/h	0	710	515	35	5	20
Future Vol, veh/h	0	710	515	35	5	20
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	17	17	15	15	0	0
Mvmt Flow	0	740	536	36	5	21

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	574	0	0	926	288
Stage 1	-	-	-	556	-
Stage 2	-	-	-	370	-
Critical Hdwy	4.44	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	5.8	-
Follow-up Hdwy	2.37	-	-	3.5	3.3
Pot Cap-1 Maneuver	899	-	-	271	715
Stage 1	-	-	-	544	-
Stage 2	-	-	-	675	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	898	-	-	270	714
Mov Cap-2 Maneuver	-	-	-	270	-
Stage 1	-	-	-	543	-
Stage 2	-	-	-	674	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	898	-	-	-	537
HCM Lane V/C Ratio	-	-	-	-	0.048
HCM Control Delay (s/veh)	0	-	-	-	12
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q (veh)	0	-	-	-	0.2

HCM Signalized Intersection Capacity Analysis
708: Smith Ave & Pacific Ave

04/30/2025

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	605	175	235	575	85	135
Future Volume (vph)	605	175	235	575	85	135
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	11	11
Grade (%)	3%			0%	3%	
Total Lost time (s)	5.0		3.0	5.0	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	0.88
Frpb, ped/bikes	0.98		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	2683		1498	2995	1107	1743
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	2683		1498	2995	1107	1743
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	637	184	247	605	89	142
RTOR Reduction (vph)	20	0	0	0	0	39
Lane Group Flow (vph)	801	0	247	605	89	103
Confl. Peds. (#/hr)		23	23		16	
Heavy Vehicles (%)	16%	16%	11%	11%	43%	43%
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	8		6 7	4	5	7 6
Permitted Phases						5
Actuated Green, G (s)	44.9		29.8	53.9	11.3	41.1
Effective Green, g (s)	44.9		29.8	53.9	11.3	38.1
Actuated g/C Ratio	0.45		0.30	0.54	0.11	0.38
Clearance Time (s)	5.0			5.0	4.5	
Vehicle Extension (s)	1.5			1.5	3.0	
Lane Grp Cap (vph)	1204		446	1614	125	742
v/s Ratio Prot	c0.30		c0.16	0.20	c0.08	0.04
v/s Ratio Perm						0.02
v/c Ratio	0.66		0.55	0.37	0.71	0.14
Uniform Delay, d1	21.6		29.5	13.3	42.8	20.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.9		0.8	0.7	17.4	0.0
Delay (s)	24.6		30.4	14.0	60.2	20.3
Level of Service	C		C	B	E	C
Approach Delay (s/veh)	24.6			18.7	35.6	
Approach LOS	C			B	D	
Intersection Summary						
HCM 2000 Control Delay (s/veh)		23.3		HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio		0.66				
Actuated Cycle Length (s)		100.0		Sum of lost time (s)		17.0
Intersection Capacity Utilization		55.2%		ICU Level of Service		B
Analysis Period (min)		15				
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

709: Smith Ave & 32nd St

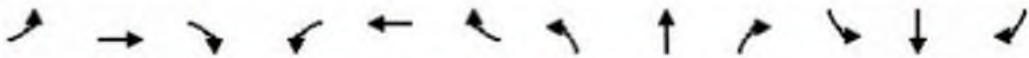
04/30/2025

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		+		+	+			+		+	+	
Traffic Volume (vph)	55	0	105	10	0	10	0	155	15	45	345	20
Future Volume (vph)	55	0	105	10	0	10	0	155	15	45	345	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			0%			0%			-3%	
Total Lost time (s)		3.5		4.5	3.5			4.5		4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00			0.95		1.00	1.00	
Frpb, ped/bikes		0.96		1.00	0.98			1.00		1.00	1.00	
Flpb, ped/bikes		1.00		0.96	1.00			1.00		0.99	1.00	
Frt		0.91		1.00	0.85			0.99		1.00	0.99	
Flt Protected		0.98		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1337		1597	1460			2287		1319	1381	
Flt Permitted		0.91		0.65	1.00			1.00		0.64	1.00	
Satd. Flow (perm)		1239		1093	1460			2287		887	1381	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	58	0	111	11	0	11	0	163	16	47	363	21
RTOR Reduction (vph)	0	75	0	0	9	0	0	8	0	0	2	0
Lane Group Flow (vph)	0	94	0	11	2	0	0	171	0	47	382	0
Confl. Peds. (#/hr)	7		39	39		7	46		11	11		46
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	43%	43%	43%	27%	27%	27%
Parking (#/hr)		1										
Turn Type	custom	NA		custom	NA			NA		custom	NA	
Protected Phases		7 8			3 4			2 5		1	6	
Permitted Phases	8			4						2		
Actuated Green, G (s)		17.7		8.3	10.4			22.7		20.5	29.1	
Effective Green, g (s)		17.7		8.3	10.4			20.7		20.5	29.1	
Actuated g/C Ratio		0.32		0.15	0.19			0.37		0.37	0.52	
Clearance Time (s)				4.5						4.5	4.5	
Vehicle Extension (s)				2.5						2.0	2.0	
Lane Grp Cap (vph)		393		162	272			848		340	720	
v/s Ratio Prot					0.00			0.07		0.00	c0.28	
v/s Ratio Perm		c0.08		0.01						0.05		
v/c Ratio		0.24		0.07	0.01			0.20		0.14	0.53	
Uniform Delay, d1		14.1		20.4	18.5			11.9		11.6	8.8	
Progression Factor		1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.2		0.1	0.0			0.0		0.1	0.4	
Delay (s)		14.3		20.6	18.5			12.0		11.6	9.2	
Level of Service		B		C	B			B		B	A	
Approach Delay (s/veh)		14.3			19.5			12.0			9.5	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			11.3									
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			55.8									
Intersection Capacity Utilization			47.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

710: Smith Ave & 33rd St

04/30/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱			↰		↰	↱		↰	↱	
Traffic Volume (vph)	40	25	35	5	10	0	20	105	5	15	125	320
Future Volume (vph)	40	25	35	5	10	0	20	105	5	15	125	320
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5			4.5		4.5	5.0		4.5	5.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98			1.00		1.00	1.00		1.00	0.97	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91			1.00		1.00	0.99		1.00	0.89	
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	962	905			862		1279	1334		1341	1227	
Flt Permitted	0.95	1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	962	905			862		1279	1334		1341	1227	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	42	26	37	5	11	0	21	111	5	16	132	337
RTOR Reduction (vph)	0	34	0	0	0	0	0	1	0	0	78	0
Lane Group Flow (vph)	42	29	0	0	16	0	21	115	0	16	391	0
Confl. Peds. (#/hr)	14		2	2		14	7		16	16		7
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	67%	67%	67%	100%	100%	100%	30%	30%	30%	24%	24%	24%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	6.7	6.7			18.4		2.5	31.8		1.2	30.5	
Effective Green, g (s)	6.7	6.7			18.4		2.5	31.8		1.2	30.5	
Actuated g/C Ratio	0.09	0.09			0.24		0.03	0.42		0.02	0.40	
Clearance Time (s)	4.5	4.5			4.5		4.5	5.0		4.5	5.0	
Vehicle Extension (s)	2.0	2.0			3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	84	79			207		41	553		21	488	
v/s Ratio Prot	c0.04	0.03			c0.02		c0.02	0.09		0.01	c0.32	
v/s Ratio Perm												
v/c Ratio	0.50	0.37			0.08		0.51	0.21		0.76	0.80	
Uniform Delay, d1	33.4	33.0			22.5		36.5	14.3		37.6	20.4	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.7	1.1			0.2		4.4	0.1		85.5	8.7	
Delay (s)	35.1	34.0			22.7		40.9	14.4		123.0	29.1	
Level of Service	D	C			C		D	B		F	C	
Approach Delay (s/veh)		34.4			22.7			18.5			32.2	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			29.8									
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			76.6									
Intersection Capacity Utilization			52.0%									
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	6.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	650	45	95	540	25	5	5	120	10	10	5
Future Vol, veh/h	20	650	45	95	540	25	5	5	120	10	10	5
Conflicting Peds, #/hr	0	0	216	216	0	0	1	0	3	3	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	235	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	-3	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	17	17	17	14	14	14	4	4	4	7	7	7
Mvmt Flow	21	677	47	99	563	26	5	5	125	10	10	5
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	589	0	0	940	0	0	1445	1746	581	1160	1756	296
Stage 1	-	-	-	-	-	-	959	959	-	774	774	-
Stage 2	-	-	-	-	-	-	486	787	-	386	982	-
Critical Hdwy	4.44	-	-	4.38	-	-	7.58	6.58	6.98	7.64	6.64	7.04
Critical Hdwy Stg 1	-	-	-	-	-	-	6.58	5.58	-	6.64	5.64	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.58	5.58	-	6.64	5.64	-
Follow-up Hdwy	2.37	-	-	2.34	-	-	3.54	4.04	3.34	3.57	4.07	3.37
Pot Cap-1 Maneuver	886	-	-	655	-	-	91	84	452	145	80	686
Stage 1	-	-	-	-	-	-	272	329	-	346	395	-
Stage 2	-	-	-	-	-	-	526	396	-	596	314	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	886	-	-	475	-	-	45	47	327	68	45	685
Mov Cap-2 Maneuver	-	-	-	-	-	-	45	47	-	68	45	-
Stage 1	-	-	-	-	-	-	193	233	-	338	313	-
Stage 2	-	-	-	-	-	-	399	314	-	350	223	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.3			2.1			43.7			91.4		
HCM LOS							E			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	222	886	-	-	475	-	-	66				
HCM Lane V/C Ratio	0.61	0.024	-	-	0.208	-	-	0.395				
HCM Control Delay (s/veh)	43.7	9.2	-	-	14.6	-	-	91.4				
HCM Lane LOS	E	A	-	-	B	-	-	F				
HCM 95th %tile Q (veh)	3.5	0.1	-	-	0.8	-	-	1.5				

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	5	35	5	10	5	5	30	120	85	40	100	10
Future Vol, veh/h	5	35	5	10	5	5	30	120	85	40	100	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	25	25	25	10	10	10	10	10	10
Mvmt Flow	5	37	5	11	5	5	32	126	89	42	105	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

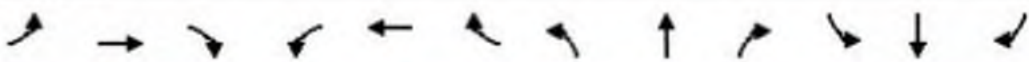
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.1	8.4	9	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	11%	50%	27%
Vol Thru, %	51%	78%	25%	67%
Vol Right, %	36%	11%	25%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	235	45	20	150
LT Vol	30	5	10	40
Through Vol	120	35	5	100
RT Vol	85	5	5	10
Lane Flow Rate	247	47	21	158
Geometry Grp	1	1	1	1
Degree of Util (X)	0.29	0.063	0.031	0.198
Departure Headway (Hd)	4.22	4.782	5.239	4.504
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	853	750	684	799
Service Time	2.235	2.806	3.265	2.521
HCM Lane V/C Ratio	0.29	0.063	0.031	0.198
HCM Control Delay, s/veh	9	8.1	8.4	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-ile Q	1.2	0.2	0.1	0.7

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+		+		+	+	+		+	+	
Traffic Vol, veh/h	0	0	0	5	0	15	0	120	0	5	155	0
Future Vol, veh/h	0	0	0	5	0	15	0	120	0	5	155	0
Conflicting Peds, #/hr	1	0	1	1	0	1	6	0	7	7	0	6
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	90	90	90	21	21	21	17	17	17
Mvmt Flow	0	0	0	5	0	16	0	126	0	5	163	0
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	314	312	170	307	-	134	169	0	0	133	0	0
Stage 1	179	179	-	133	-	-	-	-	-	-	-	-
Stage 2	135	133	-	174	-	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	8	-	7.1	4.31	-	-	4.27	-	-
Critical Hdwy Stg 1	6.1	5.5	-	7	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	7	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	4.31	-	4.11	2.389	-	-	2.353	-	-
Pot Cap-1 Maneuver	643	606	879	505	0	725	1301	-	-	1364	-	-
Stage 1	827	755	-	698	0	-	-	-	-	-	-	-
Stage 2	873	790	-	660	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	623	596	873	500	-	719	1294	-	-	1355	-	-
Mov Cap-2 Maneuver	623	596	-	500	-	-	-	-	-	-	-	-
Stage 1	822	747	-	693	-	-	-	-	-	-	-	-
Stage 2	853	784	-	657	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			10.7			0			0.2		
HCM LOS	A			B								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR			
Capacity (veh/h)	1294	-	-	-	500	719	1355	-	-			
HCM Lane V/C Ratio	-	-	-	-	0.011	0.022	0.004	-	-			
HCM Control Delay (s/veh)	0	-	-	0	12.3	10.1	7.7	-	-			
HCM Lane LOS	A	-	-	A	B	B	A	-	-			
HCM 95th %tile Q (veh)	0	-	-	-	0	0.1	0	-	-			

HCM 6th Signalized Intersection Summary
715: Broadway Ave & 33rd St

04/30/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+		+	+		+	+		+	+	
Traffic Volume (veh/h)	10	25	40	85	45	110	50	1315	105	40	820	5
Future Volume (veh/h)	10	25	40	85	45	110	50	1315	105	40	820	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.90	0.97		0.90	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	2050	2050	2050	667	667	667	1695	1695	1695	1641	1641	1641
Adj Flow Rate, veh/h	10	26	5	89	47	44	52	1370	106	42	854	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	5	5	5	65	65	65	4	4	4	8	8	8
Cap, veh/h	89	222	38	149	76	71	111	1710	132	98	1781	10
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.07	0.57	0.57	0.02	0.18	0.18
Sat Flow, veh/h	202	873	149	518	300	281	1615	3018	232	1563	3177	19
Grp Volume(v), veh/h	41	0	0	89	0	91	52	728	748	42	419	440
Grp Sat Flow(s), veh/h/ln	1225	0	0	518	0	581	1615	1611	1640	1563	1559	1636
Q Serve(g_s), s	0.2	0.0	0.0	13.6	0.0	16.6	3.7	42.9	43.6	3.2	28.9	28.9
Cycle Q Clear(g_c), s	16.9	0.0	0.0	30.4	0.0	16.6	3.7	42.9	43.6	3.2	28.9	28.9
Prop In Lane	0.24		0.12	1.00		0.48	1.00		0.14	1.00		0.01
Lane Grp Cap(c), veh/h	349	0	0	149	0	148	111	912	929	98	874	917
V/C Ratio(X)	0.12	0.00	0.00	0.60	0.00	0.62	0.47	0.80	0.81	0.43	0.48	0.48
Avail Cap(c_a), veh/h	349	0	0	149	0	148	155	912	929	150	874	917
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.6	0.0	0.0	48.0	0.0	39.6	53.8	20.6	20.7	56.6	33.2	33.2
Incr Delay (d2), s/veh	0.1	0.0	0.0	4.5	0.0	5.6	1.1	7.2	7.4	1.1	1.9	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	2.9	0.0	2.6	1.5	16.9	17.5	1.3	12.5	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.6	0.0	0.0	52.4	0.0	45.2	54.9	27.8	28.1	57.7	35.1	35.0
LnGrp LOS	C			D		D	D	C	C	E	D	D
Approach Vol, veh/h	41			180			1528			901		
Approach Delay, s/veh	34.6			48.8			28.9			36.1		
Approach LOS	C			D			C			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	73.0		35.0	12.7	72.3		35.0				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	11.5	64.0		30.5	11.5	64.0		30.5				
Max Q Clear Time (g_c+I1), s	5.2	45.6		18.9	5.7	30.9		32.4				
Green Ext Time (p_c), s	0.0	13.8		0.0	0.0	10.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				32.8								
HCM 6th LOS				C								

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	10	5	0	10	30	1455	15	5	935	5
Future Vol, veh/h	5	0	10	5	0	10	30	1455	15	5	935	5
Conflicting Peds, #/hr	0	0	0	0	0	0	35	0	14	14	0	35
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-8	-	-	3	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	5	5	5	8	8	8
Mvmt Flow	5	0	11	5	0	11	32	1532	16	5	984	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1862	2658	530	2120	2652	788	1024	0	0	1562	0	0
Stage 1	1032	1032	-	1618	1618	-	-	-	-	-	-	-
Stage 2	830	1626	-	502	1034	-	-	-	-	-	-	-
Critical Hdwy	5.9	4.9	6.1	8.1	7.1	7.2	4.2	-	-	4.26	-	-
Critical Hdwy Stg 1	4.9	3.9	-	7.1	6.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	4.9	3.9	-	7.1	6.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.25	-	-	2.28	-	-
Pot Cap-1 Maneuver	105	75	561	21	15	317	656	-	-	392	-	-
Stage 1	400	494	-	84	125	-	-	-	-	-	-	-
Stage 2	484	334	-	483	263	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	93	66	539	19	13	312	630	-	-	386	-	-
Mov Cap-2 Maneuver	93	66	-	19	13	-	-	-	-	-	-	-
Stage 1	365	469	-	78	117	-	-	-	-	-	-	-
Stage 2	444	312	-	467	250	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	23.8		104.5		0.2		0.1					
HCM LOS	C		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	630	-	-	207	51	386	-	-				
HCM Lane V/C Ratio	0.05	-	-	0.076	0.31	0.014	-	-				
HCM Control Delay (s/veh)	11	-	-	23.8	104.5	14.5	-	-				
HCM Lane LOS	B	-	-	C	F	B	-	-				
HCM 95th %tile Q (veh)	0.2	-	-	0.2	1.1	0	-	-				

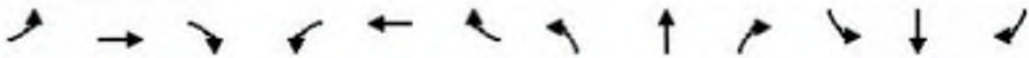
Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	5	0	25	5	0	10	25	1485	5	0	940	10
Future Vol, veh/h	5	0	25	5	0	10	25	1485	5	0	940	10
Conflicting Peds, #/hr	0	0	0	0	0	0	32	0	11	11	0	32
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-7	-	-	5	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	0	0	0	4	4	4	8	8	8
Mvmt Flow	5	0	26	5	0	11	26	1563	5	0	989	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1861	2658	532	2124	2661	795	1032	0	0	1579	0	0
Stage 1	1027	1027	-	1629	1629	-	-	-	-	-	-	-
Stage 2	834	1631	-	495	1032	-	-	-	-	-	-	-
Critical Hdwy	6.2	5.2	6.3	8.5	7.5	7.4	4.18	-	-	4.26	-	-
Critical Hdwy Stg 1	5.2	4.2	-	7.5	6.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.2	4.2	-	7.5	6.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.5	4	3.3	2.24	-	-	2.28	-	-
Pot Cap-1 Maneuver	90	60	537	16	11	300	657	-	-	386	-	-
Stage 1	366	452	-	69	103	-	-	-	-	-	-	-
Stage 2	446	289	-	462	235	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	81	55	518	15	10	296	634	-	-	381	-	-
Mov Cap-2 Maneuver	81	55	-	15	10	-	-	-	-	-	-	-
Stage 1	339	436	-	65	98	-	-	-	-	-	-	-
Stage 2	412	274	-	439	227	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	19.9		139.8		0.2		0					
HCM LOS	C		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	634	-	-	273	41	381	-	-				
HCM Lane V/C Ratio	0.042	-	-	0.116	0.385	-	-	-				
HCM Control Delay (s/veh)	10.9	-	-	19.9	139.8	0	-	-				
HCM Lane LOS	B	-	-	C	F	A	-	-				
HCM 95th %tile Q (veh)	0.1	-	-	0.4	1.3	0	-	-				

Intersection												
Int Delay, s/veh	10.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	5	5	30	20	0	50	35	1460	80	25	940	5
Future Vol, veh/h	5	5	30	20	0	50	35	1460	80	25	940	5
Conflicting Peds, #/hr	0	0	0	0	0	0	31	0	10	10	0	31
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	140	-	-	160	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	2	2	2	4	4	4	8	8	8
Mvmt Flow	5	5	32	21	0	53	37	1537	84	26	989	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1918	2780	528	2212	2740	821	1025	0	0	1631	0	0
Stage 1	1075	1075	-	1663	1663	-	-	-	-	-	-	-
Stage 2	843	1705	-	549	1077	-	-	-	-	-	-	-
Critical Hdwy	6.4	5.4	6.4	7.54	6.54	6.94	4.18	-	-	4.26	-	-
Critical Hdwy Stg 1	5.4	4.4	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	4.4	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.52	4.02	3.32	2.24	-	-	2.28	-	-
Pot Cap-1 Maneuver	75	45	532	24	20	318	661	-	-	368	-	-
Stage 1	328	412	-	101	152	-	-	-	-	-	-	-
Stage 2	422	249	-	488	293	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	55	38	514	~ 18	17	314	638	-	-	364	-	-
Mov Cap-2 Maneuver	55	38	-	~ 18	17	-	-	-	-	-	-	-
Stage 1	298	370	-	94	142	-	-	-	-	-	-	-
Stage 2	331	232	-	419	263	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	40.7		\$ 359.7		0.2		0.4					
HCM LOS	E		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	638	-	-	142	55	364	-	-				
HCM Lane V/C Ratio	0.058	-	-	0.297	1.34	0.072	-	-				
HCM Control Delay (s/veh)	11	-	-	40.7	\$ 359.7	15.7	-	-				
HCM Lane LOS	B	-	-	E	F	C	-	-				
HCM 95th %tile Q (veh)	0.2	-	-	1.2	6.6	0.2	-	-				
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

HCM Signalized Intersection Capacity Analysis

719: Hill Ave/Fulton St & Pacific Ave

04/30/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱		↰	↱		↰	↱	
Traffic Volume (vph)	70	390	305	190	625	40	85	30	50	30	95	60
Future Volume (vph)	70	390	305	190	625	40	85	30	50	30	95	60
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.91		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1484	2746		1525	3001		1340	1436		1641	1624	
Flt Permitted	0.39	1.00		0.37	1.00		0.55	1.00		0.70	1.00	
Satd. Flow (perm)	602	2746		600	3001		780	1436		1212	1624	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	74	411	321	200	658	42	89	32	53	32	100	63
RTOR Reduction (vph)	0	151	0	0	5	0	0	44	0	0	31	0
Lane Group Flow (vph)	74	581	0	200	695	0	89	41	0	32	132	0
Confl. Peds. (#/hr)	2		3	3		2	1		3	3		1
Heavy Vehicles (%)	12%	12%	12%	9%	9%	9%	24%	24%	24%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	3	0	0	0	0	0	0	0
Turn Type	custom	NA		custom	NA		Perm	NA		Perm	NA	
Protected Phases	3	8 12		7	4 10			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	43.8	41.4		43.8	43.8		13.7	13.7		13.7	13.7	
Effective Green, g (s)	43.8	41.4		43.8	43.8		13.7	13.7		13.7	13.7	
Actuated g/C Ratio	0.55	0.52		0.55	0.55		0.17	0.17		0.17	0.17	
Clearance Time (s)	5.0			5.0			4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0			2.0			2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	417	1421		448	1643		133	245		207	278	
v/s Ratio Prot	0.02	0.21		c0.06	c0.23			0.03			0.08	
v/s Ratio Perm	0.08			0.19			c0.11			0.03		
v/c Ratio	0.18	0.41		0.45	0.42		0.67	0.17		0.15	0.47	
Uniform Delay, d1	8.6	11.8		9.4	10.7		31.0	28.3		28.2	29.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.3	0.2		9.5	0.1		0.1	0.5	
Delay (s)	8.7	12.0		9.7	10.8		40.5	28.4		28.3	30.4	
Level of Service	A	B		A	B		D	C		C	C	
Approach Delay (s/veh)		11.7			10.6			34.6			30.0	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			14.9			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			19.5			
Intersection Capacity Utilization			67.7%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	115	0	0	50	45	545
Future Vol, veh/h	115	0	0	50	45	545
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	20	20	28	28	7	7
Mvmt Flow	121	0	0	53	47	574

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	387	336	621	0	-	0
Stage 1	334	-	-	-	-	-
Stage 2	53	-	-	-	-	-
Critical Hdwy	6.6	6.4	4.38	-	-	-
Critical Hdwy Stg 1	5.6	-	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-	-
Follow-up Hdwy	3.68	3.48	2.452	-	-	-
Pot Cap-1 Maneuver	583	667	846	-	-	-
Stage 1	687	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	583	665	846	-	-	-
Mov Cap-2 Maneuver	583	-	-	-	-	-
Stage 1	687	-	-	-	-	-
Stage 2	925	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	12.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	846	-	583	-	-
HCM Lane V/C Ratio	-	-	0.208	-	-
HCM Control Delay (s/veh)	0	-	12.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q (veh)	0	-	0.8	-	-

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	10	0	0	25	10	10	0	25	0	10	35	0
Future Vol, veh/h	10	0	0	25	10	10	0	25	0	10	35	0
Conflicting Peds, #/hr	0	0	1	1	0	0	6	0	6	6	0	6
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	50	50	50	25	25	25	0	0	0	26	26	26
Mvmt Flow	10	0	0	25	10	10	0	25	0	10	35	0
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	96	92	42	87	92	31	41	0	0	31	0	0
Stage 1	61	61	-	31	31	-	-	-	-	-	-	-
Stage 2	35	31	-	56	61	-	-	-	-	-	-	-
Critical Hdwy	7.6	7	6.7	7.35	6.75	6.45	4.1	-	-	4.36	-	-
Critical Hdwy Stg 1	6.6	6	-	6.35	5.75	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	6	-	6.35	5.75	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4.45	3.75	3.725	4.225	3.525	2.2	-	-	2.434	-	-
Pot Cap-1 Maneuver	784	716	907	846	756	981	1581	-	-	1440	-	-
Stage 1	843	759	-	930	826	-	-	-	-	-	-	-
Stage 2	871	783	-	901	801	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	759	701	900	835	740	974	1570	-	-	1430	-	-
Mov Cap-2 Maneuver	759	701	-	835	740	-	-	-	-	-	-	-
Stage 1	837	748	-	923	820	-	-	-	-	-	-	-
Stage 2	852	778	-	894	790	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s/v	9.8		9.5			0			1.7			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1570	-	-	759	838	1430	-	-				
HCM Lane V/C Ratio	-	-	-	0.013	0.054	0.007	-	-				
HCM Control Delay (s/veh)	0	-	-	9.8	9.5	7.5	0	-				
HCM Lane LOS	A	-	-	A	A	A	A	-				
HCM 95th %tile Q (veh)	0	-	-	0	0.2	0	-	-				

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+				↑	↑	↑			↑	
Traffic Vol, veh/h	0	0	5	0	0	25	0	145	0	0	455	5
Future Vol, veh/h	0	0	5	0	0	25	0	145	0	0	455	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	75	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	5	0	0	26	0	153	0	0	479	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	648	635	482	-	-	153	484	0	-	-	-	0
Stage 1	482	482	-	-	-	-	-	-	-	-	-	-
Stage 2	166	153	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	-	-	6.23	4.13	-	-	-	-	-
Critical Hdwy Stg 1	6.13	5.53	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	-	-	3.327	2.227	-	-	-	-	-
Pot Cap-1 Maneuver	382	395	582	0	0	890	1074	-	0	0	-	-
Stage 1	564	552	-	0	0	-	-	-	0	0	-	-
Stage 2	834	769	-	0	0	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	371	395	582	-	-	890	1074	-	-	-	-	-
Mov Cap-2 Maneuver	371	395	-	-	-	-	-	-	-	-	-	-
Stage 1	564	552	-	-	-	-	-	-	-	-	-	-
Stage 2	809	769	-	-	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	11.2		9.2		0		0					
HCM LOS	B		A									
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBT	SBR						
Capacity (veh/h)	1074	-	582	890	-	-						
HCM Lane V/C Ratio	-	-	0.009	0.03	-	-						
HCM Control Delay (s/veh)	0	-	11.2	9.2	-	-						
HCM Lane LOS	A	-	B	A	-	-						
HCM 95th %tile Q (veh)	0	-	0	0.1	-	-						

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	5	0	235	0	5	110
Future Vol, veh/h	5	0	235	0	5	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	5	0	247	0	5	116
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	373	247	0	0	247	0
Stage 1	247	-	-	-	-	-
Stage 2	126	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	626	789	-	-	1313	-
Stage 1	792	-	-	-	-	-
Stage 2	897	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	623	789	-	-	1313	-
Mov Cap-2 Maneuver	623	-	-	-	-	-
Stage 1	792	-	-	-	-	-
Stage 2	893	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	10.8	0	0.3			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR/WBLn1	SBL	SBT		
Capacity (veh/h)	-	-	623	1313	-	
HCM Lane V/C Ratio	-	-	0.008	0.004	-	
HCM Control Delay (s/veh)	-	-	10.8	7.8	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q (veh)	-	-	0	0	-	

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	70	100	0	0	235	115	0	50	0	0	110	5
Future Vol, veh/h	70	100	0	0	235	115	0	50	0	0	110	5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	74	105	0	0	247	121	0	53	0	0	116	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.6	11.1	8.9	9.4
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	41%	0%	0%
Vol Thru, %	100%	59%	67%	96%
Vol Right, %	0%	0%	33%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	170	350	115
LT Vol	0	70	0	0
Through Vol	50	100	235	110
RT Vol	0	0	115	5
Lane Flow Rate	53	179	368	121
Geometry Grp	1	1	1	1
Degree of Util (X)	0.079	0.244	0.453	0.176
Departure Headway (Hd)	5.378	4.9	4.429	5.239
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	660	728	811	679
Service Time	3.46	2.958	2.477	3.313
HCM Lane V/C Ratio	0.08	0.246	0.454	0.178
HCM Control Delay, s/veh	8.9	9.6	11.1	9.4
HCM Lane LOS	A	A	B	A
HCM 95th-ile Q	0.3	1	2.4	0.6

HCM 6th Signalized Intersection Summary

701: Broadway Ave & Hewitt Ave

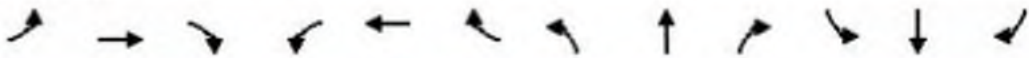
04/29/2025

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰	↰	↰	↰↰		↰	↰↰	↰	↰	↰↰	
Traffic Volume (veh/h)	25	75	60	80	190	50	75	935	65	175	1105	35
Future Volume (veh/h)	25	75	60	80	190	50	75	935	65	175	1105	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.94	1.00		0.93	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1627	1627	1627	1709	1709	1709	1668	1668	1668	1682	1682	1682
Adj Flow Rate, veh/h	26	79	10	84	200	39	79	984	45	184	1163	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	9	9	3	3	3	6	6	6	5	5	5
Cap, veh/h	30	485	284	104	541	103	97	1068	533	455	1783	55
Arrive On Green	0.02	0.16	0.16	0.06	0.20	0.20	0.06	0.34	0.34	0.28	0.56	0.56
Sat Flow, veh/h	1550	3092	1276	1628	2692	511	1589	3169	1314	1602	3159	98
Grp Volume(v), veh/h	26	79	10	84	119	120	79	984	45	184	588	611
Grp Sat Flow(s), veh/h/ln	1550	1546	1276	1628	1624	1580	1589	1585	1314	1602	1598	1659
Q Serve(g_s), s	2.0	2.7	0.6	6.1	7.5	7.9	5.9	35.8	0.0	11.1	30.4	30.5
Cycle Q Clear(g_c), s	2.0	2.7	0.6	6.1	7.5	7.9	5.9	35.8	0.0	11.1	30.4	30.5
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	30	485	284	104	326	318	97	1068	533	455	902	936
V/C Ratio(X)	0.87	0.16	0.04	0.81	0.36	0.38	0.81	0.92	0.08	0.40	0.65	0.65
Avail Cap(c_a), veh/h	97	580	324	142	345	336	152	1479	703	455	902	936
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.7	43.8	22.8	55.5	41.3	41.5	55.7	38.2	22.3	34.7	18.0	18.0
Incr Delay (d2), s/veh	22.6	0.1	0.0	15.5	0.3	0.3	7.2	12.4	0.3	0.2	3.7	3.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.0	0.2	3.0	3.1	3.1	2.5	15.4	0.8	4.3	11.5	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	81.3	43.8	22.8	71.0	41.6	41.7	62.9	50.6	22.5	34.9	21.7	21.6
LnGrp LOS	F	D	C	E	D	D	E	D	C	C	C	C
Approach Vol, veh/h		115			323			1108			1383	
Approach Delay, s/veh		50.5			49.3			50.4			23.4	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	39.1	45.4	6.8	28.6	11.8	72.7	12.1	23.3				
Change Period (Y+Rc), s	5.0	* 5	4.5	4.5	4.5	5.0	4.5	4.5				
Max Green Setting (Gmax), s	12.5	* 56	7.5	25.5	11.5	57.0	10.5	22.5				
Max Q Clear Time (g_c+I1), s	13.1	37.8	4.0	9.9	7.9	32.5	8.1	4.7				
Green Ext Time (p_c), s	0.0	2.6	0.0	0.4	0.0	2.7	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			37.5									
HCM 6th LOS			D									
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM Signalized Intersection Capacity Analysis

702: Broadway Ave & Wall St

04/29/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Volume (vph)	15	5	35	10	5	15	80	1045	15	40	1100	105
Future Volume (vph)	15	5	35	10	5	15	80	1045	15	40	1100	105
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	16	16	16	16	16	16	10	10	10	10	10	10
Total Lost time (s)		4.5			4.5		5.0	4.0		5.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.93			0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			0.97		0.99	1.00		0.94	1.00	
Frt		0.91			0.93		1.00	1.00		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1342			1293		1469	2782		1369	2856	
Flt Permitted		0.93			0.92		0.19	1.00		0.26	1.00	
Satd. Flow (perm)		1265			1207		294	2782		368	2856	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	5	37	11	5	16	84	1100	16	42	1158	111
RTOR Reduction (vph)	0	31	0	0	13	0	0	1	0	0	7	0
Lane Group Flow (vph)	0	27	0	0	19	0	84	1115	0	42	1262	0
Confl. Peds. (#/hr)	3		60	60		3	15		102	102		15
Confl. Bikes (#/hr)			5			5						
Heavy Vehicles (%)	11%	11%	11%	21%	21%	21%	5%	5%	5%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Parking (#/hr)		1			1			1				
Turn Type	Perm	NA		Perm	NA		custom	NA		custom	NA	
Protected Phases		8			4			1 2			5 6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		19.2			19.2		79.3	91.3		67.3	75.3	
Effective Green, g (s)		19.2			19.2		79.3	91.3		67.3	75.3	
Actuated g/C Ratio		0.16			0.16		0.66	0.76		0.56	0.63	
Clearance Time (s)		4.5			4.5		5.0			5.0		
Vehicle Extension (s)		3.0			3.0		4.0			4.0		
Lane Grp Cap (vph)		202			193		194	2116		206	1792	
v/s Ratio Prot								c0.40			c0.44	
v/s Ratio Perm		c0.02			0.02		0.29			0.11		
v/c Ratio		0.13			0.10		0.43	0.53		0.20	0.70	
Uniform Delay, d1		43.3			43.0		9.7	5.7		13.1	14.9	
Progression Factor		1.00			1.00		0.55	0.22		0.41	1.03	
Incremental Delay, d2		0.3			0.2		3.8	0.2		1.7	1.1	
Delay (s)		43.6			43.2		9.1	1.4		7.1	16.5	
Level of Service		D			D		A	A		A	B	
Approach Delay (s/veh)		43.6			43.2			2.0			16.2	
Approach LOS		D			D			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		10.6										
HCM 2000 Volume to Capacity ratio		0.58										
Actuated Cycle Length (s)		120.0								13.5		
Intersection Capacity Utilization		78.8%								D		
Analysis Period (min)		15										

HCM Signalized Intersection Capacity Analysis

702: Broadway Ave & Wall St

04/29/2025

c Critical Lane Group

HCM 6th Signalized Intersection Summary
703: Broadway Ave & Pacific Ave

04/29/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	145	85	100	310	115	305	920	250	240	760	140
Future Volume (veh/h)	95	145	85	100	310	115	305	920	250	240	760	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.87	1.00		0.84
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1801	1801	1801	1364	1364	1364	1695	1695	1695	1641	1641	1641
Adj Flow Rate, veh/h	98	149	35	103	320	96	314	948	166	247	784	84
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	12	12	12	14	14	14	4	4	4	8	8	8
Cap, veh/h	121	615	636	125	407	119	405	1245	623	273	955	455
Arrive On Green	0.07	0.18	0.18	0.10	0.21	0.21	0.25	0.39	0.39	0.06	0.10	0.10
Sat Flow, veh/h	1716	3423	1407	1299	1940	568	1615	3221	1253	1563	3118	1166
Grp Volume(v), veh/h	98	149	35	103	211	205	314	948	166	247	784	84
Grp Sat Flow(s),veh/h/ln	1716	1711	1407	1299	1295	1213	1615	1611	1253	1563	1559	1166
Q Serve(g_s), s	6.8	4.5	0.0	9.3	18.4	19.3	21.7	30.7	3.9	18.9	29.6	2.9
Cycle Q Clear(g_c), s	6.8	4.5	0.0	9.3	18.4	19.3	21.7	30.7	3.9	18.9	29.6	2.9
Prop In Lane	1.00		1.00	1.00		0.47	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	121	615	636	125	272	255	405	1245	623	273	955	455
V/C Ratio(X)	0.81	0.24	0.06	0.82	0.78	0.80	0.78	0.76	0.27	0.90	0.82	0.18
Avail Cap(c_a), veh/h	136	742	688	125	281	263	405	1245	623	319	1039	486
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.49	0.49	0.49	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	42.2	19.9	53.2	44.7	45.1	41.8	32.0	6.4	55.5	50.7	12.6
Incr Delay (d2), s/veh	24.5	0.1	0.0	32.0	11.2	14.8	4.2	2.2	0.5	23.5	7.9	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	1.9	0.6	4.2	6.8	6.8	9.0	12.0	1.3	9.7	13.4	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	79.5	42.3	19.9	85.2	55.9	59.9	46.0	34.2	7.0	79.0	58.6	13.5
LnGrp LOS	E	D	B	F	E	E	D	C	A	E	E	B
Approach Vol, veh/h	282				519		1428				1115	
Approach Delay, s/veh	52.4				63.3		33.6				59.7	
Approach LOS	D				E		C				E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.5	51.4	12.9	30.2	35.1	41.8	16.6	26.6				
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	5.0	* 5	5.0	* 5				
Max Green Setting (Gmax), s	24.5	41.0	9.5	26.0	25.5	* 40	9.5	* 26				
Max Q Clear Time (g_c+I1), s	20.9	32.7	8.8	21.3	23.7	31.6	11.3	6.5				
Green Ext Time (p_c), s	0.1	6.0	0.0	0.8	0.1	5.2	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	48.5											
HCM 6th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM Signalized Intersection Capacity Analysis

704: Broadway Ave & 32nd St

04/29/2025

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		+			+		+	+		+	+	
Traffic Volume (vph)	15	10	20	5	0	65	35	1395	95	70	860	15
Future Volume (vph)	15	10	20	5	0	65	35	1395	95	70	860	15
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	12	12	10	10	10	11	11	11
Grade (%)		-6%			6%			0%			0%	
Total Lost time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.98			0.97		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Frt		0.94			0.87		1.00	0.99		1.00	1.00	
Flt Protected		0.98			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1449			1111		1500	2817		1487	2809	
Flt Permitted		0.91			0.98		0.31	1.00		0.16	1.00	
Satd. Flow (perm)		1347			1097		489	2817		253	2809	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	11	21	5	0	68	37	1468	100	74	905	16
RTOR Reduction (vph)	0	17	0	0	63	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	31	0	0	10	0	37	1565	0	74	920	0
Confl. Peds. (#/hr)	17		29	29		17	17		12	12		17
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	15%	15%	15%	3%	3%	3%	8%	8%	8%
Parking (#/hr)		1			1			1			1	
Turn Type	custom	NA		custom	NA		custom	NA		custom	NA	
Protected Phases		7 4			3 8		5 1	13 2 1		1 1	9 6 1	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		25.6			15.9		31.2	72.9		32.8	68.9	
Effective Green, g (s)		25.6			15.9		31.2	72.9		32.8	68.9	
Actuated g/C Ratio		0.21			0.13		0.26	0.61		0.27	0.57	
Clearance Time (s)							4.5			4.5		
Vehicle Extension (s)							3.0			3.0		
Lane Grp Cap (vph)		287			145		163	1711		138	1612	
v/s Ratio Prot							0.01	0.56		0.03	0.33	
v/s Ratio Perm		0.02			0.01		0.05			0.12		
v/c Ratio		0.11			0.07		0.23	0.91		0.54	0.57	
Uniform Delay, d1		38.0			45.6		35.5	20.8		41.4	16.2	
Progression Factor		1.00			1.00		1.00	0.85		1.95	0.51	
Incremental Delay, d2		0.2			0.2		0.5	6.2		2.7	1.0	
Delay (s)		38.2			45.8		35.9	23.9		83.5	9.3	
Level of Service		D			D		D	C		F	A	
Approach Delay (s/veh)		38.2			45.8			24.2			14.8	
Approach LOS		D			D			C			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			21.6									
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			120.0							22.5		
Intersection Capacity Utilization			77.5%									
Analysis Period (min)			15									
Intersection Summary												
HCM 2000 Control Delay (s/veh)			21.6									
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			120.0							22.5		
Intersection Capacity Utilization			77.5%									
Analysis Period (min)			15									

! Phase conflict between lane groups.

c Critical Lane Group

Intersection												
Int Delay, s/veh	5.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	15	30	15	0	10	0	10	30	20	0	0	10
Future Vol, veh/h	15	30	15	0	10	0	10	30	20	0	0	10
Conflicting Peds, #/hr	2	0	2	2	0	2	2	0	2	2	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	4	4	4	50	50	50	0	0	0	20	20	20
Mvmt Flow	15	30	15	0	10	0	10	30	20	0	0	10
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	12	0	0	47	0	0	87	82	42	107	89	14
Stage 1	-	-	-	-	-	-	70	70	-	12	12	-
Stage 2	-	-	-	-	-	-	17	12	-	95	77	-
Critical Hdwy	4.14	-	-	4.6	-	-	7.1	6.5	6.2	7.3	6.7	6.4
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.3	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.3	5.7	-
Follow-up Hdwy	2.236	-	-	2.65	-	-	3.5	4	3.3	3.68	4.18	3.48
Pot Cap-1 Maneuver	1594	-	-	1302	-	-	904	812	1034	831	768	1016
Stage 1	-	-	-	-	-	-	945	841	-	964	851	-
Stage 2	-	-	-	-	-	-	1008	890	-	869	797	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1591	-	-	1300	-	-	885	801	1031	783	757	1013
Mov Cap-2 Maneuver	-	-	-	-	-	-	885	801	-	783	757	-
Stage 1	-	-	-	-	-	-	934	831	-	952	849	-
Stage 2	-	-	-	-	-	-	996	888	-	812	787	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	1.8			0			9.4			8.6		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	880	1591	-	-	1300	-	-	1013				
HCM Lane V/C Ratio	0.068	0.009	-	-	-	-	-	0.01				
HCM Control Delay (s/veh)	9.4	7.3	0	-	0	-	-	8.6				
HCM Lane LOS	A	A	A	-	A	-	-	A				
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0				

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑			↑↑			↑↑	
Traffic Vol, veh/h	0	575	60	0	515	60	0	0	70	5	0	10
Future Vol, veh/h	0	575	60	0	515	60	0	0	70	5	0	10
Conflicting Peds, #/hr	3	0	178	178	0	3	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	92	92	96	96	92	92	92	96	92	96
Heavy Vehicles, %	17	17	17	15	15	15	3	3	3	0	0	0
Mvmt Flow	0	599	65	0	536	63	0	0	76	5	0	10
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	1078	1412	510	871	1413	303
Stage 1	-	-	-	-	-	-	810	810	-	571	571	-
Stage 2	-	-	-	-	-	-	268	602	-	300	842	-
Critical Hdwy	-	-	-	-	-	-	7.56	6.56	6.96	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.5	5.5	-
Follow-up Hdwy	-	-	-	-	-	-	3.53	4.03	3.33	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	0	-	-	172	136	506	248	139	699
Stage 1	0	-	-	0	-	-	338	389	-	478	508	-
Stage 2	0	-	-	0	-	-	712	485	-	690	383	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	141	113	420	203	115	697
Mov Cap-2 Maneuver	-	-	-	-	-	-	141	113	-	203	115	-
Stage 1	-	-	-	-	-	-	338	323	-	478	506	-
Stage 2	-	-	-	-	-	-	701	484	-	565	318	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			0			15.5			14.7		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1						
Capacity (veh/h)	420	-	-	-	-	385						
HCM Lane V/C Ratio	0.181	-	-	-	-	0.041						
HCM Control Delay (s/veh)	15.5	-	-	-	-	14.7						
HCM Lane LOS	C	-	-	-	-	B						
HCM 95th %tile Q (veh)	0.7	-	-	-	-	0.1						

HCM Signalized Intersection Capacity Analysis
708: Smith Ave & Pacific Ave

04/29/2025

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↑↑
Traffic Volume (vph)	560	55	195	520	45	115
Future Volume (vph)	560	55	195	520	45	115
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	11	11
Grade (%)	3%			0%	3%	
Total Lost time (s)	5.0		3.0	5.0	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	0.88
Frpb, ped/bikes	0.99		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	2770		1498	2995	1107	1743
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	2770		1498	2995	1107	1743
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	589	58	205	547	47	121
RTOR Reduction (vph)	5	0	0	0	0	74
Lane Group Flow (vph)	642	0	205	547	47	47
Confl. Peds. (#/hr)		27	27		13	
Heavy Vehicles (%)	16%	16%	11%	11%	43%	43%
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	8		6 7	4	5	7 6
Permitted Phases						5
Actuated Green, G (s)	23.3		22.8	33.9	5.5	28.3
Effective Green, g (s)	23.3		22.8	33.9	5.5	25.3
Actuated g/C Ratio	0.36		0.35	0.52	0.08	0.39
Clearance Time (s)	5.0			5.0	4.5	
Vehicle Extension (s)	1.5			1.5	3.0	
Lane Grp Cap (vph)	983		520	1547	92	791
v/s Ratio Prot	c0.23		c0.14	0.18	c0.04	0.02
v/s Ratio Perm						0.01
v/c Ratio	0.65		0.39	0.35	0.51	0.06
Uniform Delay, d1	17.8		16.2	9.4	28.8	12.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2		0.2	0.1	4.7	0.0
Delay (s)	19.0		16.4	9.4	33.5	12.7
Level of Service	B		B	A	C	B
Approach Delay (s/veh)	19.0			11.3	18.5	
Approach LOS	B			B	B	
Intersection Summary						
HCM 2000 Control Delay (s/veh)		15.2		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.55				
Actuated Cycle Length (s)		65.6		Sum of lost time (s)		17.0
Intersection Capacity Utilization		46.9%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

709: Smith Ave & 32nd St

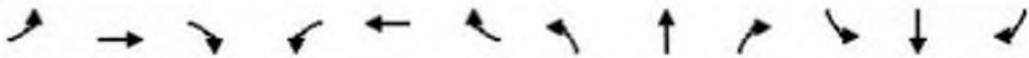
04/29/2025

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		+		+	+			+		+	+	
Traffic Volume (vph)	5	0	20	10	0	10	0	145	20	45	130	75
Future Volume (vph)	5	0	20	10	0	10	0	145	20	45	130	75
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			0%			0%			-3%	
Total Lost time (s)		3.5		4.5	3.5			4.5		4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00			0.95		1.00	1.00	
Frpb, ped/bikes		0.92		1.00	0.98			1.00		1.00	0.99	
Flpb, ped/bikes		1.00		0.92	1.00			1.00		0.99	1.00	
Frt		0.89		1.00	0.85			0.98		1.00	0.95	
Flt Protected		0.99		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1265		1528	1453			2272		1316	1303	
Flt Permitted		0.97		1.00	1.00			1.00		0.64	1.00	
Satd. Flow (perm)		1243		1608	1453			2272		889	1303	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	5	0	21	11	0	11	0	153	21	47	137	79
RTOR Reduction (vph)	0	19	0	0	10	0	0	10	0	0	19	0
Lane Group Flow (vph)	0	7	0	11	1	0	0	164	0	47	197	0
Confl. Peds. (#/hr)	11		60	60		11	12		17	17		12
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	43%	43%	43%	27%	27%	27%
Parking (#/hr)		1										
Turn Type	custom	NA		custom	NA			NA		custom	NA	
Protected Phases		7 8			3 4			2 5		1	6	
Permitted Phases	8			4						2		
Actuated Green, G (s)		16.5		2.4	4.6			29.6		27.5	36.2	
Effective Green, g (s)		16.5		2.4	4.6			27.6		27.5	36.2	
Actuated g/C Ratio		0.27		0.04	0.07			0.45		0.45	0.59	
Clearance Time (s)				4.5						4.5	4.5	
Vehicle Extension (s)				2.5						2.0	2.0	
Lane Grp Cap (vph)		332		62	108			1016		410	764	
v/s Ratio Prot					0.00			0.07		0.00	c0.15	
v/s Ratio Perm		c0.01		c0.01						0.05		
v/c Ratio		0.02		0.18	0.01			0.16		0.11	0.26	
Uniform Delay, d1		16.6		28.7	26.4			10.2		9.8	6.2	
Progression Factor		1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.0		1.0	0.0			0.0		0.0	0.1	
Delay (s)		16.7		29.7	26.5			10.2		9.9	6.3	
Level of Service		B		C	C			B		A	A	
Approach Delay (s/veh)		16.7			28.1			10.2			6.9	
Approach LOS		B			C			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			9.6									
HCM 2000 Volume to Capacity ratio			0.23									
Actuated Cycle Length (s)			61.7									
Intersection Capacity Utilization			39.7%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

710: Smith Ave & 33rd St

04/29/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	55	25	5	35	5	30	95	10	5	115	40
Future Volume (vph)	65	55	25	5	35	5	30	95	10	5	115	40
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5			4.5		4.5	5.0		4.5	5.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99			1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		0.97	1.00	
Frt	1.00	0.95			0.99		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	962	956			855		1279	1319		1299	1349	
Flt Permitted	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	962	956			855		1279	1319		1299	1349	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	68	58	26	5	37	5	32	100	11	5	121	42
RTOR Reduction (vph)	0	18	0	0	4	0	0	4	0	0	11	0
Lane Group Flow (vph)	68	66	0	0	43	0	32	107	0	5	152	0
Confl. Peds. (#/hr)	21		3	3		21	8		24	24		2
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	67%	67%	67%	100%	100%	100%	30%	30%	30%	24%	24%	24%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	7.7	7.7			5.7		2.2	21.6		0.7	20.1	
Effective Green, g (s)	7.7	7.7			5.7		2.2	21.6		0.7	20.1	
Actuated g/C Ratio	0.14	0.14			0.11		0.04	0.40		0.01	0.37	
Clearance Time (s)	4.5	4.5			4.5		4.5	5.0		4.5	5.0	
Vehicle Extension (s)	2.0	2.0			3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	136	135			89		51	525		16	500	
v/s Ratio Prot	c0.07	0.07			c0.05		c0.03	0.08		0.00	c0.11	
v/s Ratio Perm												
v/c Ratio	0.50	0.49			0.48		0.63	0.20		0.31	0.30	
Uniform Delay, d1	21.5	21.4			22.8		25.6	10.7		26.5	12.1	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	1.0			4.0		16.1	0.1		4.0	0.1	
Delay (s)	22.5	22.5			26.9		41.7	10.7		30.5	12.2	
Level of Service	C	C			C		D	B		C	B	
Approach Delay (s/veh)		22.5			26.9			17.7			12.8	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			18.3									
HCM 2000 Volume to Capacity ratio			0.39									
Actuated Cycle Length (s)			54.2									
Intersection Capacity Utilization			37.7%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
711: EVT-C Bus Access/McDougall Ave & Pacific Ave

04/29/2025

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱			↱			↱	
Traffic Volume (vph)	20	600	30	5	540	20	30	0	5	10	0	5
Future Volume (vph)	20	600	30	5	540	20	30	0	5	10	0	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	12	16	12	12	16	12
Grade (%)		-6%			-3%			0%			0%	
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00			1.00			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.98			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96			0.97	
Satd. Flow (prot)	1415	2699		816	2846			929			1521	
Flt Permitted	0.95	1.00		0.95	1.00			0.84			0.91	
Satd. Flow (perm)	1415	2699		816	2846			814			1430	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	625	31	5	562	21	31	0	5	10	0	5
RTOR Reduction (vph)	0	3	0	0	3	0	0	17	0	0	7	0
Lane Group Flow (vph)	21	653	0	5	581	0	0	19	0	0	8	0
Confl. Peds. (#/hr)			47	47			2		5	5		2
Heavy Vehicles (%)	17%	17%	100%	100%	14%	14%	100%	100%	100%	7%	7%	7%
Parking (#/hr)												1
Turn Type	Prot	NA		Prot	NA		custom	NA		custom	NA	
Protected Phases	7	4		3	8			5 2			1 6	
Permitted Phases							2			6		
Actuated Green, G (s)	3.4	31.9		1.6	30.1			53.0			53.0	
Effective Green, g (s)	3.4	31.9		1.6	30.1			53.0			53.0	
Actuated g/C Ratio	0.03	0.32		0.02	0.30			0.53			0.53	
Clearance Time (s)	4.5	4.5		4.5	4.5							
Vehicle Extension (s)	3.0	3.0		3.0	3.0							
Lane Grp Cap (vph)	48	860		13	856			431			757	
v/s Ratio Prot	c0.01	c0.24		0.01	0.20							
v/s Ratio Perm								c0.02			0.01	
v/c Ratio	0.44	0.76		0.38	0.68			0.04			0.01	
Uniform Delay, d1	47.4	30.6		48.7	30.7			11.3			11.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	6.3	3.9		17.9	2.2			0.0			0.0	
Delay (s)	53.6	34.5		66.6	32.9			11.4			11.1	
Level of Service	D	C		E	C			B			B	
Approach Delay (s/veh)		35.1			33.1			11.4			11.1	
Approach LOS		D			C			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			33.3			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.34									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			50.1%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection

Intersection Delay, s/veh 8.5

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	0	25	5	0	75	0	5	35	0	0	35	0
Future Vol, veh/h	0	25	5	0	75	0	5	35	0	0	35	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	100	0	0	25	25	100	100	100	100	100	100	100
Mvmt Flow	0	26	5	0	79	0	5	37	0	0	37	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay, s/veh	7.3			8.1			9.4			9.3		
HCM LOS	A			A			A			A		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	0%	0%	0%
Vol Thru, %	88%	83%	100%	100%
Vol Right, %	0%	17%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	30	75	35
LT Vol	5	0	0	0
Through Vol	35	25	75	35
RT Vol	0	5	0	0
Lane Flow Rate	42	32	79	37
Geometry Grp	1	1	1	1
Degree of Util (X)	0.07	0.036	0.101	0.061
Departure Headway (Hd)	5.95	4.135	4.605	5.932
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	605	869	782	607
Service Time	3.951	2.144	2.612	3.934
HCM Lane V/C Ratio	0.069	0.037	0.101	0.061
HCM Control Delay, s/veh	9.4	7.3	8.1	9.3
HCM Lane LOS	A	A	A	A
HCM 95th-ile Q	0.2	0.1	0.3	0.2

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	0	0	0	0	0	10	0	125	5	10	130	5
Future Vol, veh/h	0	0	0	0	0	10	0	125	5	10	130	5
Conflicting Peds, #/hr	0	0	0	0	0	0	14	0	10	10	0	14
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	20	20	20	16	16	16
Mvmt Flow	0	0	0	0	0	11	0	132	5	11	137	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	316	323	154	307	323	145	156	0	0	147	0	0
Stage 1	176	176	-	145	145	-	-	-	-	-	-	-
Stage 2	140	147	-	162	178	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.3	-	-	4.26	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.38	-	-	2.344	-	-
Pot Cap-1 Maneuver	641	598	897	649	598	908	1321	-	-	1353	-	-
Stage 1	831	757	-	863	781	-	-	-	-	-	-	-
Stage 2	868	779	-	845	756	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	621	579	885	639	579	899	1303	-	-	1340	-	-
Mov Cap-2 Maneuver	621	579	-	639	579	-	-	-	-	-	-	-
Stage 1	820	741	-	854	773	-	-	-	-	-	-	-
Stage 2	858	771	-	838	740	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	0		9.1		0		0.5					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1303	-	-	-	899	1340	-	-				
HCM Lane V/C Ratio	-	-	-	-	0.012	0.008	-	-				
HCM Control Delay (s/veh)	0	-	-	0	9.1	7.7	-	-				
HCM Lane LOS	A	-	-	A	A	A	-	-				
HCM 95th %tile Q (veh)	0	-	-	-	0	0	-	-				

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+		+		+	+	+		+	+	
Traffic Vol, veh/h	0	0	0	5	0	15	0	115	0	5	125	0
Future Vol, veh/h	0	0	0	5	0	15	0	115	0	5	125	0
Conflicting Peds, #/hr	2	0	2	2	0	2	6	0	10	0	0	6
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	90	90	90	21	21	21	17	17	17
Mvmt Flow	0	0	0	5	0	16	0	121	0	5	132	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	279	279	140	275	-	133	138	0	0	131	0	0
Stage 1	148	148	-	131	-	-	-	-	-	-	-	-
Stage 2	131	131	-	144	-	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	8	-	7.1	4.31	-	-	4.27	-	-
Critical Hdwy Stg 1	6.1	5.5	-	7	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	7	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	4.31	-	4.11	2.389	-	-	2.353	-	-
Pot Cap-1 Maneuver	677	632	913	532	0	726	1337	-	-	1367	-	-
Stage 1	859	779	-	700	0	-	-	-	-	-	-	-
Stage 2	877	792	-	687	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	655	619	906	525	-	718	1329	-	-	1354	-	-
Mov Cap-2 Maneuver	655	619	-	525	-	-	-	-	-	-	-	-
Stage 1	854	771	-	693	-	-	-	-	-	-	-	-
Stage 2	856	784	-	683	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	0		10.5		0		0.3					
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	1329	-	-	-	525	718	1354	-	-			
HCM Lane V/C Ratio	-	-	-	-	0.01	0.022	0.004	-	-			
HCM Control Delay (s/veh)	0	-	-	0	11.9	10.1	7.7	-	-			
HCM Lane LOS	A	-	-	A	B	B	A	-	-			
HCM 95th %tile Q (veh)	0	-	-	-	0	0.1	0	-	-			

HCM 6th Signalized Intersection Summary
715: Broadway Ave & 33rd St

04/29/2025

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+		+	+		+	+		+	+	
Traffic Volume (veh/h)	55	5	20	85	15	105	40	1365	50	35	840	10
Future Volume (veh/h)	55	5	20	85	15	105	40	1365	50	35	840	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.90		0.88	0.91		0.88	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	2050	2050	2050	667	667	667	1695	1695	1695	1641	1641	1641
Adj Flow Rate, veh/h	57	5	11	89	16	14	42	1422	50	36	875	10
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	5	5	5	65	65	65	4	4	4	8	8	8
Cap, veh/h	238	24	37	158	61	54	52	2076	73	43	2053	23
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.03	0.66	0.66	0.01	0.21	0.21
Sat Flow, veh/h	920	119	184	493	306	268	1615	3169	111	1563	3155	36
Grp Volume(v), veh/h	73	0	0	89	0	30	42	721	751	36	432	453
Grp Sat Flow(s), veh/h/ln	1224	0	0	493	0	574	1615	1611	1669	1563	1559	1632
Q Serve(g_s), s	4.4	0.0	0.0	11.7	0.0	5.3	3.1	33.6	33.8	2.8	28.8	28.8
Cycle Q Clear(g_c), s	9.7	0.0	0.0	21.4	0.0	5.3	3.1	33.6	33.8	2.8	28.8	28.8
Prop In Lane	0.78		0.15	1.00		0.47	1.00		0.07	1.00		0.02
Lane Grp Cap(c), veh/h	299	0	0	158	0	115	52	1055	1093	43	1014	1062
V/C Ratio(X)	0.24	0.00	0.00	0.56	0.00	0.26	0.81	0.68	0.69	0.83	0.43	0.43
Avail Cap(c_a), veh/h	480	0	0	217	0	184	141	1055	1093	137	1014	1062
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	43.6	0.0	0.0	46.9	0.0	40.5	57.7	12.9	13.0	59.2	27.8	27.8
Incr Delay (d2), s/veh	0.2	0.0	0.0	1.2	0.0	0.4	10.6	3.6	3.5	12.0	1.1	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	2.7	0.0	0.8	1.4	12.0	12.5	1.2	12.3	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.8	0.0	0.0	48.1	0.0	40.9	68.3	16.5	16.5	71.2	28.9	28.8
LnGrp LOS	D			D		D	E	B	B	E	C	C
Approach Vol, veh/h	73			119			1514			921		
Approach Delay, s/veh	43.8			46.3			17.9			30.5		
Approach LOS	D			D			B			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	83.6		28.6	8.4	83.1		28.6				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	10.5	57.0		38.5	10.5	57.0		38.5				
Max Q Clear Time (g_c+I1), s	4.8	35.8		11.7	5.1	30.8		23.4				
Green Ext Time (p_c), s	0.0	15.3		0.2	0.0	9.9		0.7				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	24.4											
HCM 6th LOS	C											

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	5	0	10	5	0	10	30	1440	15	5	935	5
Future Vol, veh/h	5	0	10	5	0	10	30	1440	15	5	935	5
Conflicting Peds, #/hr	0	0	0	0	0	0	38	0	17	17	0	38
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-8	-	-	3	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	5	5	5	8	8	8
Mvmt Flow	5	0	11	5	0	11	32	1516	16	5	984	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1857	2648	533	2107	2642	783	1027	0	0	1549	0	0
Stage 1	1035	1035	-	1605	1605	-	-	-	-	-	-	-
Stage 2	822	1613	-	502	1037	-	-	-	-	-	-	-
Critical Hdwy	5.9	4.9	6.1	8.1	7.1	7.2	4.2	-	-	4.26	-	-
Critical Hdwy Stg 1	4.9	3.9	-	7.1	6.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	4.9	3.9	-	7.1	6.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.25	-	-	2.28	-	-
Pot Cap-1 Maneuver	106	76	559	21	15	319	654	-	-	396	-	-
Stage 1	399	494	-	86	127	-	-	-	-	-	-	-
Stage 2	488	337	-	483	262	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	93	67	535	19	13	313	626	-	-	389	-	-
Mov Cap-2 Maneuver	93	67	-	19	13	-	-	-	-	-	-	-
Stage 1	363	467	-	80	118	-	-	-	-	-	-	-
Stage 2	447	314	-	467	248	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	23.8		104.5		0.2		0.1					
HCM LOS	C		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	626	-	-	207	51	389	-	-				
HCM Lane V/C Ratio	0.05	-	-	0.076	0.31	0.014	-	-				
HCM Control Delay (s/veh)	11.1	-	-	23.8	104.5	14.4	-	-				
HCM Lane LOS	B	-	-	C	F	B	-	-				
HCM 95th %tile Q (veh)	0.2	-	-	0.2	1.1	0	-	-				

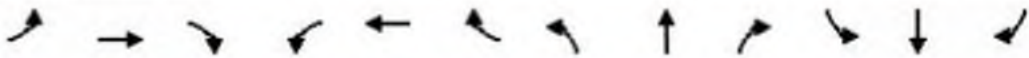
Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	5	0	25	5	0	5	25	1475	5	5	935	10
Future Vol, veh/h	5	0	25	5	0	5	25	1475	5	5	935	10
Conflicting Peds, #/hr	0	0	0	0	0	0	33	0	13	13	0	33
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-7	-	-	5	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	0	0	0	4	4	4	8	8	8
Mvmt Flow	5	0	26	5	0	5	26	1553	5	5	984	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1862	2656	531	2123	2659	792	1028	0	0	1571	0	0
Stage 1	1033	1033	-	1621	1621	-	-	-	-	-	-	-
Stage 2	829	1623	-	502	1038	-	-	-	-	-	-	-
Critical Hdwy	6.2	5.2	6.3	8.5	7.5	7.4	4.18	-	-	4.26	-	-
Critical Hdwy Stg 1	5.2	4.2	-	7.5	6.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.2	4.2	-	7.5	6.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.5	4	3.3	2.24	-	-	2.28	-	-
Pot Cap-1 Maneuver	90	60	538	16	11	301	659	-	-	388	-	-
Stage 1	364	450	-	70	104	-	-	-	-	-	-	-
Stage 2	448	291	-	457	233	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	82	54	518	14	10	297	635	-	-	382	-	-
Mov Cap-2 Maneuver	82	54	-	14	10	-	-	-	-	-	-	-
Stage 1	336	428	-	66	98	-	-	-	-	-	-	-
Stage 2	422	275	-	428	221	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	19.8		206.6		0.2		0.1					
HCM LOS	C		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	635	-	-	275	27	382	-	-				
HCM Lane V/C Ratio	0.041	-	-	0.115	0.39	0.014	-	-				
HCM Control Delay (s/veh)	10.9	-	-	19.8	206.6	14.6	-	-				
HCM Lane LOS	B	-	-	C	F	B	-	-				
HCM 95th %tile Q (veh)	0.1	-	-	0.4	1.2	0	-	-				

Intersection												
Int Delay, s/veh	9.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	5	5	30	20	0	50	35	1450	75	25	935	5
Future Vol, veh/h	5	5	30	20	0	50	35	1450	75	25	935	5
Conflicting Peds, #/hr	0	0	0	0	0	0	32	0	11	11	0	32
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	140	-	-	160	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	2	2	2	4	4	4	8	8	8
Mvmt Flow	5	5	32	21	0	53	37	1526	79	26	984	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1908	2761	527	2198	2724	814	1021	0	0	1616	0	0
Stage 1	1071	1071	-	1651	1651	-	-	-	-	-	-	-
Stage 2	837	1690	-	547	1073	-	-	-	-	-	-	-
Critical Hdwy	6.4	5.4	6.4	7.54	6.54	6.94	4.18	-	-	4.26	-	-
Critical Hdwy Stg 1	5.4	4.4	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	4.4	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.52	4.02	3.32	2.24	-	-	2.28	-	-
Pot Cap-1 Maneuver	76	46	533	25	20	321	664	-	-	373	-	-
Stage 1	329	413	-	103	155	-	-	-	-	-	-	-
Stage 2	424	252	-	489	295	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	55	38	514	~ 19	17	317	640	-	-	368	-	-
Mov Cap-2 Maneuver	55	38	-	~ 19	17	-	-	-	-	-	-	-
Stage 1	299	370	-	96	144	-	-	-	-	-	-	-
Stage 2	333	235	-	420	264	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	40.7		\$ 325.9		0.2		0.4					
HCM LOS	E		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	640	-	-	142	58	368	-	-				
HCM Lane V/C Ratio	0.058	-	-	0.297	1.27	0.072	-	-				
HCM Control Delay (s/veh)	11	-	-	40.7	\$ 325.9	15.5	-	-				
HCM Lane LOS	B	-	-	E	F	C	-	-				
HCM 95th %tile Q (veh)	0.2	-	-	1.2	6.3	0.2	-	-				
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

HCM Signalized Intersection Capacity Analysis

719: Hill Ave/Fulton St & Pacific Ave

04/29/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↶↷		↰	↶↷		↰	↶		↰	↶	
Traffic Volume (vph)	70	335	300	190	540	40	85	30	50	30	95	60
Future Volume (vph)	70	335	300	190	540	40	85	30	50	30	95	60
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.91		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1484	2729		1525	3014		1340	1436		1641	1624	
Flt Permitted	0.42	1.00		0.40	1.00		0.55	1.00		0.70	1.00	
Satd. Flow (perm)	658	2729		638	3014		780	1436		1212	1624	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	74	353	316	200	568	42	89	32	53	32	100	63
RTOR Reduction (vph)	0	152	0	0	5	0	0	44	0	0	31	0
Lane Group Flow (vph)	74	517	0	200	605	0	89	41	0	32	132	0
Confl. Peds. (#/hr)	2		3	3		2	1		3	3		1
Heavy Vehicles (%)	12%	12%	12%	9%	9%	9%	24%	24%	24%	1%	1%	1%
Turn Type	custom	NA		custom	NA		Perm	NA		Perm	NA	
Protected Phases	3	8 12		7	4 10			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	43.8	41.5		43.8	43.8		13.7	13.7		13.7	13.7	
Effective Green, g (s)	43.8	41.5		43.8	43.8		13.7	13.7		13.7	13.7	
Actuated g/C Ratio	0.55	0.52		0.55	0.55		0.17	0.17		0.17	0.17	
Clearance Time (s)	5.0			5.0			4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0			2.0			2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	442	1415		463	1650		133	245		207	278	
v/s Ratio Prot	0.02	0.19		c0.06	c0.20			0.03			0.08	
v/s Ratio Perm	0.07			c0.18			c0.11			0.03		
v/c Ratio	0.17	0.37		0.43	0.37		0.67	0.17		0.15	0.47	
Uniform Delay, d1	8.6	11.4		9.4	10.2		31.0	28.3		28.2	29.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.2	0.1		9.5	0.1		0.1	0.5	
Delay (s)	8.7	11.6		9.7	10.4		40.5	28.4		28.3	30.4	
Level of Service	A	B		A	B		D	C		C	C	
Approach Delay (s/veh)		11.3			10.2			34.6			30.0	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			14.8			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.51									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			19.5			
Intersection Capacity Utilization			65.9%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	115	0	0	50	45	540
Future Vol, veh/h	115	0	0	50	45	540
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	20	20	28	28	7	7
Mvmt Flow	121	0	0	53	47	568

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	384	333	615	0	0
Stage 1	331	-	-	-	-
Stage 2	53	-	-	-	-
Critical Hdwy	6.6	6.4	4.38	-	-
Critical Hdwy Stg 1	5.6	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-
Follow-up Hdwy	3.68	3.48	2.452	-	-
Pot Cap-1 Maneuver	585	669	850	-	-
Stage 1	689	-	-	-	-
Stage 2	925	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	585	667	850	-	-
Mov Cap-2 Maneuver	585	-	-	-	-
Stage 1	689	-	-	-	-
Stage 2	925	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	12.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	850	-	585	-	-
HCM Lane V/C Ratio	-	-	0.207	-	-
HCM Control Delay (s/veh)	0	-	12.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q (veh)	0	-	0.8	-	-

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	10	0	0	25	10	10	0	25	0	10	35	0
Future Vol, veh/h	10	0	0	25	10	10	0	25	0	10	35	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	50	50	50	25	25	25	0	0	0	26	26	26
Mvmt Flow	10	0	0	25	10	10	0	25	0	10	35	0
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	90	80	35	80	80	25	35	0	0	25	0	0
Stage 1	55	55	-	25	25	-	-	-	-	-	-	-
Stage 2	35	25	-	55	55	-	-	-	-	-	-	-
Critical Hdwy	7.6	7	6.7	7.35	6.75	6.45	4.1	-	-	4.36	-	-
Critical Hdwy Stg 1	6.6	6	-	6.35	5.75	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	6	-	6.35	5.75	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4.45	3.75	3.725	4.225	3.525	2.2	-	-	2.434	-	-
Pot Cap-1 Maneuver	792	727	916	855	768	989	1589	-	-	1447	-	-
Stage 1	849	764	-	937	831	-	-	-	-	-	-	-
Stage 2	871	788	-	902	806	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	772	722	916	851	763	989	1589	-	-	1447	-	-
Mov Cap-2 Maneuver	772	722	-	851	763	-	-	-	-	-	-	-
Stage 1	849	759	-	937	831	-	-	-	-	-	-	-
Stage 2	852	788	-	896	800	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s/v	9.7		9.4			0			1.7			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1589	-	-	772	856	1447	-	-				
HCM Lane V/C Ratio	-	-	-	0.013	0.053	0.007	-	-				
HCM Control Delay (s/veh)	0	-	-	9.7	9.4	7.5	0	-				
HCM Lane LOS	A	-	-	A	A	A	A	-				
HCM 95th %tile Q (veh)	0	-	-	0	0.2	0	-	-				

Intersection						
Int Delay, s/veh	5.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	90	55	5	0	150
Future Vol, veh/h	0	90	55	5	0	150
Conflicting Peds, #/hr	118	0	0	118	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	6	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	95	58	5	0	158
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	181	0	-	0	274	179
Stage 1	-	-	-	-	179	-
Stage 2	-	-	-	-	95	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1388	-	-	-	713	861
Stage 1	-	-	-	-	850	-
Stage 2	-	-	-	-	926	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1232	-	-	-	563	764
Mov Cap-2 Maneuver	-	-	-	-	563	-
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	822	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0	0		10.9		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1232	-	-	-	-	764
HCM Lane V/C Ratio	-	-	-	-	-	0.207
HCM Control Delay (s/veh)	0	-	-	-	-	10.9
HCM Lane LOS	A	-	-	-	-	B
HCM 95th %tile Q (veh)	0	-	-	-	-	0.8

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	0	25	150	0	10	70	0	0	5	0	0	60
Future Vol, veh/h	0	25	150	0	10	70	0	0	5	0	0	60
Conflicting Peds, #/hr	11	0	27	27	0	11	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	26	158	0	11	74	0	0	5	0	0	63
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	96	0	0	211	0	0	212	228	132	167	270	59
Stage 1	-	-	-	-	-	-	132	132	-	59	59	-
Stage 2	-	-	-	-	-	-	80	96	-	108	211	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1491	-	-	1354	-	-	743	670	915	795	635	1004
Stage 1	-	-	-	-	-	-	869	785	-	950	844	-
Stage 2	-	-	-	-	-	-	926	814	-	895	726	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1475	-	-	1319	-	-	678	646	891	782	612	993
Mov Cap-2 Maneuver	-	-	-	-	-	-	678	646	-	782	612	-
Stage 1	-	-	-	-	-	-	846	765	-	941	836	-
Stage 2	-	-	-	-	-	-	867	806	-	890	707	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			0			9.1			8.9		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	891	1475	-	-	1319	-	-	993				
HCM Lane V/C Ratio	0.006	-	-	-	-	-	-	0.064				
HCM Control Delay (s/veh)	9.1	0	-	-	0	-	-	8.9				
HCM Lane LOS	A	A	-	-	A	-	-	A				
HCM 95th %tile Q (veh)	0	0	-	-	0	-	-	0.2				

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	0	65	25	15	50	40	10	0	40	40	0	0
Future Vol, veh/h	0	65	25	15	50	40	10	0	40	40	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	100	3	3	3	3	100	3	3	3	3	3	3
Mvmt Flow	0	68	26	16	53	42	11	0	42	42	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.6	7.6	7.2	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	0%	14%	100%
Vol Thru, %	0%	72%	48%	0%
Vol Right, %	80%	28%	38%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	90	105	40
LT Vol	10	0	15	40
Through Vol	0	65	50	0
RT Vol	40	25	40	0
Lane Flow Rate	53	95	111	42
Geometry Grp	1	1	1	1
Degree of Util (X)	0.058	0.106	0.122	0.053
Departure Headway (Hd)	3.997	4.033	3.987	4.546
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	902	878	889	776
Service Time	1.997	2.107	2.06	2.645
HCM Lane V/C Ratio	0.059	0.108	0.125	0.054
HCM Control Delay, s/veh	7.2	7.6	7.6	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-ile Q	0.2	0.4	0.4	0.2

HCM 6th Signalized Intersection Summary
701: Broadway Ave & Hewitt Ave

04/29/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	80	60	135	190	50	75	910	120	175	1065	35
Future Volume (veh/h)	25	80	60	135	190	50	75	910	120	175	1065	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.88	1.00		0.91	1.00		0.90	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1627	1627	1627	1709	1709	1709	1668	1668	1668	1682	1682	1682
Adj Flow Rate, veh/h	26	84	15	142	200	42	79	958	91	184	1121	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	9	9	3	3	3	6	6	6	5	5	5
Cap, veh/h	75	540	318	166	602	122	123	1373	697	211	1549	50
Arrive On Green	0.05	0.17	0.17	0.10	0.23	0.23	0.05	0.29	0.29	0.13	0.49	0.49
Sat Flow, veh/h	1550	3092	1208	1628	2635	535	1589	3169	1276	1602	3149	101
Grp Volume(v), veh/h	26	84	15	142	121	121	79	958	91	184	569	588
Grp Sat Flow(s),veh/h/ln	1550	1546	1208	1628	1624	1547	1589	1585	1276	1602	1598	1652
Q Serve(g_s), s	1.9	2.8	0.8	10.3	7.4	7.9	5.9	32.3	0.0	13.5	33.7	33.7
Cycle Q Clear(g_c), s	1.9	2.8	0.8	10.3	7.4	7.9	5.9	32.3	0.0	13.5	33.7	33.7
Prop In Lane	1.00		1.00	1.00		0.35	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	75	540	318	166	371	353	123	1373	697	211	786	813
V/C Ratio(X)	0.35	0.16	0.05	0.86	0.33	0.34	0.64	0.70	0.13	0.87	0.72	0.72
Avail Cap(c_a), veh/h	136	580	333	210	372	354	152	1373	697	211	786	813
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	42.0	18.5	53.0	38.6	38.8	55.3	35.6	17.7	51.1	24.0	24.1
Incr Delay (d2), s/veh	1.0	0.0	0.0	19.9	0.2	0.2	3.0	3.0	0.4	29.4	5.7	5.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.1	0.3	5.1	3.0	3.0	2.5	13.5	1.6	7.1	13.5	13.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.3	42.1	18.5	72.9	38.8	39.0	58.2	38.5	18.0	80.5	29.8	29.6
LnGrp LOS	E	D	B	E	D	D	E	D	B	F	C	C
Approach Vol, veh/h	125			384			1128			1341		
Approach Delay, s/veh	42.2			51.5			38.3			36.7		
Approach LOS	D			D			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.8	57.0	10.3	31.9	13.8	64.0	16.7	25.5				
Change Period (Y+Rc), s	5.0	* 5	4.5	4.5	4.5	5.0	4.5	4.5				
Max Green Setting (Gmax), s	11.5	* 52	10.5	27.5	11.5	52.0	15.5	22.5				
Max Q Clear Time (g_c+I1), s	15.5	34.3	3.9	9.9	7.9	35.7	12.3	4.8				
Green Ext Time (p_c), s	0.0	2.6	0.0	0.5	0.0	2.5	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	39.4											
HCM 6th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM Signalized Intersection Capacity Analysis

702: Broadway Ave & Wall St

04/29/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	5	30	115	5	185	75	905	115	185	975	100
Future Volume (vph)	15	5	30	115	5	185	75	905	115	185	975	100
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	16	16	16	16	16	16	10	10	10	10	10	10
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	5.0		4.5	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.93		1.00	0.93		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.85		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1697	1297		1557	1160		1478	2719		1464	2853	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1697	1297		1557	1160		1478	2719		1464	2853	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	5	32	121	5	195	79	953	121	195	1026	105
RTOR Reduction (vph)	0	27	0	0	149	0	0	9	0	0	5	0
Lane Group Flow (vph)	16	10	0	121	51	0	79	1065	0	195	1126	0
Confl. Peds. (#/hr)	39		39	39		39	15		19	19		15
Confl. Bikes (#/hr)			5			5						
Heavy Vehicles (%)	11%	11%	11%	21%	21%	21%	5%	5%	5%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	2	0	0	3	0
Parking (#/hr)		1			1			1				
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.2	18.4		13.4	28.6		8.3	46.3		23.4	61.4	
Effective Green, g (s)	3.2	18.4		13.4	28.6		8.3	46.3		23.4	61.4	
Actuated g/C Ratio	0.03	0.15		0.11	0.24		0.07	0.39		0.19	0.51	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	5.0		4.5	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		4.0	4.0	
Lane Grp Cap (vph)	45	198		173	276		102	1049		285	1459	
v/s Ratio Prot	c0.01	0.01		c0.08	c0.04		0.05	c0.39		c0.13	c0.39	
v/s Ratio Perm												
v/c Ratio	0.36	0.05		0.70	0.19		0.77	1.02		0.68	0.77	
Uniform Delay, d1	57.4	43.3		51.4	36.4		54.9	36.9		44.9	23.6	
Progression Factor	1.00	1.00		1.00	1.00		1.08	0.89		0.62	1.54	
Incremental Delay, d2	4.8	0.1		11.7	0.3		18.9	26.2		9.3	2.9	
Delay (s)	62.2	43.4		63.0	36.8		78.2	59.1		37.0	39.2	
Level of Service	E	D		E	D		E	E		D	D	
Approach Delay (s/veh)		49.1			46.7			60.4			38.9	
Approach LOS		D			D			E			D	
Intersection Summary												
HCM 2000 Control Delay (s/veh)	48.6			HCM 2000 Level of Service			D					
HCM 2000 Volume to Capacity ratio	0.75											
Actuated Cycle Length (s)	120.0			Sum of lost time (s)			18.5					
Intersection Capacity Utilization	72.4%			ICU Level of Service			C					
Analysis Period (min)	15											

HCM Signalized Intersection Capacity Analysis

702: Broadway Ave & Wall St

04/29/2025

c Critical Lane Group

HCM 6th Signalized Intersection Summary
703: Broadway Ave & Pacific Ave

04/29/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	145	80	100	305	105	290	875	250	175	755	175
Future Volume (veh/h)	115	145	80	100	305	105	290	875	250	175	755	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.95	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1801	1801	1801	1364	1364	1364	1695	1695	1695	1641	1641	1641
Adj Flow Rate, veh/h	119	149	29	103	314	48	299	902	177	180	778	119
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	12	12	12	14	14	14	4	4	4	8	8	8
Cap, veh/h	143	567	613	146	446	67	398	1376	756	206	961	526
Arrive On Green	0.08	0.17	0.17	0.11	0.20	0.20	0.08	0.14	0.14	0.04	0.10	0.10
Sat Flow, veh/h	1716	3423	1427	1299	2238	337	1615	3221	1391	1563	3118	1330
Grp Volume(v), veh/h	119	149	29	103	180	182	299	902	177	180	778	119
Grp Sat Flow(s),veh/h/ln	1716	1711	1427	1299	1295	1280	1615	1611	1391	1563	1559	1330
Q Serve(g_s), s	8.2	4.6	0.0	9.2	15.5	15.9	21.7	31.8	4.1	13.7	29.3	3.5
Cycle Q Clear(g_c), s	8.2	4.6	0.0	9.2	15.5	15.9	21.7	31.8	4.1	13.7	29.3	3.5
Prop In Lane	1.00		1.00	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	143	567	613	146	258	255	398	1376	756	206	961	526
V/C Ratio(X)	0.83	0.26	0.05	0.70	0.70	0.71	0.75	0.66	0.23	0.87	0.81	0.23
Avail Cap(c_a), veh/h	150	685	662	146	281	277	398	1376	756	306	961	526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.2	43.7	21.1	51.3	44.7	44.9	51.5	43.2	7.8	56.4	50.4	12.3
Incr Delay (d2), s/veh	28.0	0.1	0.0	12.0	5.1	6.1	7.0	2.5	0.7	11.9	7.3	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	1.9	0.5	3.5	5.3	5.5	10.2	14.2	1.8	6.5	13.2	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	82.2	43.8	21.1	63.3	49.8	51.0	58.5	45.6	8.6	68.3	57.8	13.3
LnGrp LOS	F	D	C	E	D	D	E	D	A	E	E	B
Approach Vol, veh/h	297				465				1378			
Approach Delay, s/veh	57.0				53.2				43.7			
Approach LOS	E				D				D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.3	56.2	14.5	28.9	34.6	42.0	18.5	24.9				
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	5.0	* 5	5.0	* 5				
Max Green Setting (Gmax), s	23.5	41.0	10.5	26.0	27.5	* 37	12.5	* 24				
Max Q Clear Time (g_c+I1), s	15.7	33.8	10.2	17.9	23.7	31.3	11.2	6.6				
Green Ext Time (p_c), s	0.1	5.2	0.0	0.9	0.2	3.8	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	49.9											
HCM 6th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	15	0	20	5	0	15	20	1385	15	15	905	15
Future Vol, veh/h	15	0	20	5	0	15	20	1385	15	15	905	15
Conflicting Peds, #/hr	6	0	2	2	0	6	17	0	36	36	0	17
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	29	29	29	3	3	3	8	8	8
Mvmt Flow	16	0	21	5	0	16	21	1458	16	16	953	16
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1787	2562	504	2055	2562	779	986	0	0	1510	0	0
Stage 1	1010	1010	-	1544	1544	-	-	-	-	-	-	-
Stage 2	777	1552	-	511	1018	-	-	-	-	-	-	-
Critical Hdwy	6.3	5.3	6.3	9.28	8.28	8.08	4.16	-	-	4.26	-	-
Critical Hdwy Stg 1	5.3	4.3	-	8.28	7.28	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.3	4.3	-	8.28	7.28	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.79	4.29	3.59	2.23	-	-	2.28	-	-
Pot Cap-1 Maneuver	95	63	564	12	7	251	690	-	-	411	-	-
Stage 1	365	448	-	55	81	-	-	-	-	-	-	-
Stage 2	467	296	-	379	185	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	82	56	554	11	6	241	679	-	-	397	-	-
Mov Cap-2 Maneuver	82	56	-	11	6	-	-	-	-	-	-	-
Stage 1	348	423	-	51	76	-	-	-	-	-	-	-
Stage 2	421	277	-	349	175	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	34.1		175.8		0.1		0.2					
HCM LOS	D		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	679	-	-	160	39	397	-	-				
HCM Lane V/C Ratio	0.031	-	-	0.23	0.54	0.04	-	-				
HCM Control Delay (s/veh)	10.5	-	-	34.1	175.8	14.4	-	-				
HCM Lane LOS	B	-	-	D	F	B	-	-				
HCM 95th %tile Q (veh)	0.1	-	-	0.9	1.9	0.1	-	-				

Intersection												
Int Delay, s/veh	8.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+				+
Traffic Vol, veh/h	280	10	15	15	10	0	15	0	10	0	0	280
Future Vol, veh/h	280	10	15	15	10	0	15	0	10	0	0	280
Conflicting Peds, #/hr	2	0	2	2	0	2	2	0	2	2	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	4	4	4	50	50	50	0	0	0	20	20	20
Mvmt Flow	280	10	15	15	10	0	15	0	10	0	0	280
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	12	0	0	27	0	0	762	622	22	-	-	14
Stage 1	-	-	-	-	-	-	580	580	-	-	-	-
Stage 2	-	-	-	-	-	-	182	42	-	-	-	-
Critical Hdwy	4.14	-	-	4.6	-	-	7.1	6.5	6.2	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	-	-	-
Follow-up Hdwy	2.236	-	-	2.65	-	-	3.5	4	3.3	-	-	3.48
Pot Cap-1 Maneuver	1594	-	-	1326	-	-	324	405	1061	0	0	1016
Stage 1	-	-	-	-	-	-	504	503	-	0	0	-
Stage 2	-	-	-	-	-	-	824	864	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1591	-	-	1323	-	-	200	328	1057	-	-	1012
Mov Cap-2 Maneuver	-	-	-	-	-	-	200	328	-	-	-	-
Stage 1	-	-	-	-	-	-	413	412	-	-	-	-
Stage 2	-	-	-	-	-	-	588	853	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	7.1			4.7			18.3			9.9		
HCM LOS							C			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	296	1591	-	-	1323	-	-	1012				
HCM Lane V/C Ratio	0.084	0.176	-	-	0.011	-	-	0.277				
HCM Control Delay (s/veh)	18.3	7.7	0	-	7.8	0	-	9.9				
HCM Lane LOS	C	A	A	-	A	A	-	A				
HCM 95th %tile Q (veh)	0.3	0.6	-	-	0	-	-	1.1				

HCM Signalized Intersection Capacity Analysis
708: Smith Ave & Pacific Ave

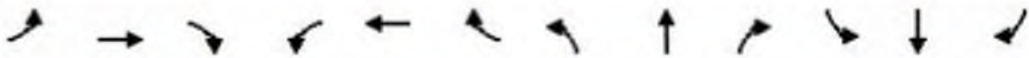
04/29/2025

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↑↑
Traffic Volume (vph)	520	90	135	545	85	130
Future Volume (vph)	520	90	135	545	85	130
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	11	11
Grade (%)	3%			0%	3%	
Total Lost time (s)	5.0		3.0	5.0	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	0.88
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	2751		1498	2995	1107	1743
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	2751		1498	2995	1107	1743
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	547	95	142	574	89	137
RTOR Reduction (vph)	11	0	0	0	0	78
Lane Group Flow (vph)	631	0	142	574	89	59
Confl. Peds. (#/hr)		3	3		12	
Heavy Vehicles (%)	16%	16%	11%	11%	43%	43%
Turn Type	NA		Prot	NA	Prot	pt+ov
Protected Phases	8		6 7	4	5	7 6
Permitted Phases						5
Actuated Green, G (s)	21.2		19.5	38.5	9.9	29.4
Effective Green, g (s)	21.2		19.5	38.5	9.9	26.4
Actuated g/C Ratio	0.33		0.30	0.60	0.15	0.41
Clearance Time (s)	5.0			5.0	4.5	
Vehicle Extension (s)	1.5			1.5	3.0	
Lane Grp Cap (vph)	902		452	1784	169	833
v/s Ratio Prot	c0.23		c0.09	0.19	c0.08	0.02
v/s Ratio Perm						0.02
v/c Ratio	0.70		0.31	0.32	0.53	0.07
Uniform Delay, d1	18.9		17.4	6.5	25.2	11.6
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9		0.1	0.0	2.9	0.0
Delay (s)	20.9		17.5	6.6	28.1	11.6
Level of Service	C		B	A	C	B
Approach Delay (s/veh)	20.9			8.7	18.1	
Approach LOS	C			A	B	
Intersection Summary						
HCM 2000 Control Delay (s/veh)		15.0		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.55				
Actuated Cycle Length (s)		64.6		Sum of lost time (s)	17.0	
Intersection Capacity Utilization		46.7%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

709: Smith Ave & 32nd St

04/29/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+		+	+			+		+	+	
Traffic Volume (vph)	55	0	0	10	0	10	5	150	15	45	165	15
Future Volume (vph)	55	0	0	10	0	10	5	150	15	45	165	15
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			0%			0%			-3%	
Total Lost time (s)		3.5		4.5	3.5			4.5		4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00			0.95		1.00	1.00	
Frpb, ped/bikes		1.00		1.00	0.98			1.00		1.00	1.00	
Flpb, ped/bikes		0.99		0.92	1.00			1.00		0.99	1.00	
Frt		1.00		1.00	0.85			0.99		1.00	0.99	
Flt Protected		0.95		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1471		1531	1453			2281		1316	1375	
Flt Permitted		0.75		1.00	1.00			0.95		0.64	1.00	
Satd. Flow (perm)		1162		1612	1453			2172		885	1375	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	58	0	0	11	0	11	5	158	16	47	174	16
RTOR Reduction (vph)	0	0	0	0	10	0	0	6	0	0	3	0
Lane Group Flow (vph)	0	58	0	11	1	0	0	173	0	47	187	0
Confl. Peds. (#/hr)	11		60	60		11	19		17	17		19
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	43%	43%	43%	27%	27%	27%
Parking (#/hr)		1										
Turn Type	custom	NA		custom	NA		Perm	NA		custom	NA	
Protected Phases		7 8			3 4			2 5		1	6	
Permitted Phases	8			4			2 5			2		
Actuated Green, G (s)		17.5		3.0	5.2			29.0		27.5	36.2	
Effective Green, g (s)		17.5		3.0	5.2			27.0		27.5	36.2	
Actuated g/C Ratio		0.28		0.05	0.08			0.43		0.44	0.58	
Clearance Time (s)				4.5						4.5	4.5	
Vehicle Extension (s)				2.5						2.0	2.0	
Lane Grp Cap (vph)		324		77	120			935		406	793	
v/s Ratio Prot					0.00					0.00	c0.14	
v/s Ratio Perm		c0.05		0.01				0.08		0.05		
v/c Ratio		0.18		0.14	0.01			0.18		0.12	0.24	
Uniform Delay, d1		17.1		28.6	26.4			11.0		10.2	6.5	
Progression Factor		1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.2		0.6	0.0			0.0		0.0	0.1	
Delay (s)		17.3		29.2	26.4			11.1		10.3	6.5	
Level of Service		B		C	C			B		B	A	
Approach Delay (s/veh)		17.3			27.8			11.1			7.3	
Approach LOS		B			C			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			10.7			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.27									
Actuated Cycle Length (s)			62.7			Sum of lost time (s)			19.0			
Intersection Capacity Utilization			49.4%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

710: Smith Ave & 33rd St

04/29/2025

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱			↰	↱	↰	↱		↰	↱	
Traffic Volume (vph)	50	25	20	5	10	10	15	110	5	5	130	40
Future Volume (vph)	50	25	20	5	10	10	15	110	5	5	130	40
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5			4.5		4.5	5.0		4.5	5.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98			0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93			0.95		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	962	930			809		1279	1335		1341	1352	
Flt Permitted	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	962	930			809		1279	1335		1341	1352	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	26	21	5	11	11	16	116	5	5	137	42
RTOR Reduction (vph)	0	19	0	0	10	0	0	1	0	0	8	0
Lane Group Flow (vph)	53	28	0	0	17	0	16	120	0	5	171	0
Confl. Peds. (#/hr)	21		3	3		21	7		24	24		7
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	67%	67%	67%	100%	100%	100%	30%	30%	30%	24%	24%	24%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	6.1	6.1			3.8		1.1	22.9		1.1	22.9	
Effective Green, g (s)	6.1	6.1			3.8		1.1	22.9		1.1	22.9	
Actuated g/C Ratio	0.12	0.12			0.07		0.02	0.44		0.02	0.44	
Clearance Time (s)	4.5	4.5			4.5		4.5	5.0		4.5	5.0	
Vehicle Extension (s)	2.0	2.0			3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	111	108			58		26	583		28	590	
v/s Ratio Prot	c0.06	0.03			c0.02		c0.01	0.09		0.00	c0.13	
v/s Ratio Perm												
v/c Ratio	0.48	0.26			0.29		0.62	0.21		0.18	0.29	
Uniform Delay, d1	21.7	21.1			23.0		25.4	9.1		25.2	9.5	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	0.5			2.8		26.7	0.1		1.1	0.1	
Delay (s)	22.8	21.6			25.8		52.1	9.2		26.3	9.6	
Level of Service	C	C			C		D	A		C	A	
Approach Delay (s/veh)		22.2			25.8			14.2			10.1	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			15.0									
HCM 2000 Volume to Capacity ratio			0.33									
Actuated Cycle Length (s)			52.4									
Intersection Capacity Utilization			33.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

711: McDougall Ave & Pacific Ave

04/29/2025

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰
Traffic Volume (vph)	10	535	25	95	495	40	5	0	35	40	0	10
Future Volume (vph)	10	535	25	95	495	40	5	0	35	40	0	10
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	12	16	12	12	16	12
Grade (%)		-6%			-3%			0%			0%	
Total Lost time (s)	4.5	3.5		4.5	3.5			3.5			3.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.88			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	
Satd. Flow (prot)	1396	2807		1425	2819			1649			1606	
Flt Permitted	0.44	1.00		0.43	1.00			0.96			0.74	
Satd. Flow (perm)	651	2807		648	2819			1588			1235	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	557	26	99	516	42	5	0	36	42	0	10
RTOR Reduction (vph)	0	3	0	0	5	0	0	37	0	0	47	0
Lane Group Flow (vph)	10	580	0	99	553	0	0	4	0	0	5	0
Confl. Peds. (#/hr)	24		9	9		24	2		5	5		2
Heavy Vehicles (%)	17%	17%	17%	14%	14%	14%	4%	4%	4%	3%	3%	3%
Parking (#/hr)												1
Turn Type	custom	NA		custom	NA		custom	NA		custom	NA	
Protected Phases		7.4			3.8			5.2			1.6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	32.3	34.9		32.0	34.3			5.3			5.1	
Effective Green, g (s)	32.3	34.9		32.0	34.3			5.3			5.1	
Actuated g/C Ratio	0.58	0.63		0.57	0.61			0.09			0.09	
Clearance Time (s)	4.5			4.5								
Vehicle Extension (s)	3.0			3.0								
Lane Grp Cap (vph)	376	1755		371	1732			150			112	
v/s Ratio Prot		c0.21			0.20							
v/s Ratio Perm	0.02			0.15				0.00			c0.00	
v/c Ratio	0.03	0.33		0.27	0.32			0.03			0.04	
Uniform Delay, d1	5.0	4.9		6.0	5.2			22.9			23.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.1	0.1		1.8	0.1			0.1			0.2	
Delay (s)	5.2	5.0		7.7	5.3			23.0			23.3	
Level of Service	A	A		A	A			C			C	
Approach Delay (s/veh)		5.0			5.6			23.0			23.3	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			6.6			HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio			0.30									
Actuated Cycle Length (s)			55.8			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			48.5%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection

Intersection Delay, s/veh 7.8

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	5	20	5	10	5	5	5	30	10	25	85	10
Future Vol, veh/h	5	20	5	10	5	5	5	30	10	25	85	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	25	25	25	10	10	10	10	10	10
Mvmt Flow	5	21	5	11	5	5	5	32	11	26	89	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.4	7.8	7.5	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	17%	50%	21%
Vol Thru, %	67%	67%	25%	71%
Vol Right, %	22%	17%	25%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	30	20	120
LT Vol	5	5	10	25
Through Vol	30	20	5	85
RT Vol	10	5	5	10
Lane Flow Rate	47	32	21	126
Geometry Grp	1	1	1	1
Degree of Util (X)	0.055	0.036	0.027	0.147
Departure Headway (Hd)	4.146	4.149	4.7	4.189
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	856	848	766	853
Service Time	2.208	2.248	2.7	2.232
HCM Lane V/C Ratio	0.055	0.038	0.027	0.148
HCM Control Delay, s/veh	7.5	7.4	7.8	8
HCM Lane LOS	A	A	A	A
HCM 95th-ile Q	0.2	0.1	0.1	0.5

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	0	0	0	0	0	10	0	120	5	10	140	5
Future Vol, veh/h	0	0	0	0	0	10	0	120	5	10	140	5
Conflicting Peds, #/hr	0	0	0	0	0	0	13	0	10	10	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	20	20	20	16	16	16
Mvmt Flow	0	0	0	0	0	11	0	126	5	11	147	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	319	326	163	311	326	139	165	0	0	141	0	0
Stage 1	185	185	-	139	139	-	-	-	-	-	-	-
Stage 2	134	141	-	172	187	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.3	-	-	4.26	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.38	-	-	2.344	-	-
Pot Cap-1 Maneuver	638	596	887	645	596	915	1311	-	-	1360	-	-
Stage 1	821	751	-	869	785	-	-	-	-	-	-	-
Stage 2	874	784	-	835	749	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	619	578	876	635	578	906	1295	-	-	1347	-	-
Mov Cap-2 Maneuver	619	578	-	635	578	-	-	-	-	-	-	-
Stage 1	811	736	-	860	777	-	-	-	-	-	-	-
Stage 2	864	776	-	828	734	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	0		9		0		0.5					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1295	-	-	-	906	1347	-	-				
HCM Lane V/C Ratio	-	-	-	-	0.012	0.008	-	-				
HCM Control Delay (s/veh)	0	-	-	0	9	7.7	-	-				
HCM Lane LOS	A	-	-	A	A	A	-	-				
HCM 95th %tile Q (veh)	0	-	-	-	0	0	-	-				

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+		+		+	+	+		+	+	
Traffic Vol, veh/h	0	0	0	5	0	15	0	110	0	5	135	0
Future Vol, veh/h	0	0	0	5	0	15	0	110	0	5	135	0
Conflicting Peds, #/hr	2	0	2	2	0	2	5	0	10	10	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	90	90	90	21	21	21	17	17	17
Mvmt Flow	0	0	0	5	0	16	0	116	0	5	142	0
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	283	283	149	280	-	128	147	0	0	126	0	0
Stage 1	157	157	-	126	-	-	-	-	-	-	-	-
Stage 2	126	126	-	154	-	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	8	-	7.1	4.31	-	-	4.27	-	-
Critical Hdwy Stg 1	6.1	5.5	-	7	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	7	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	4.31	-	4.11	2.389	-	-	2.353	-	-
Pot Cap-1 Maneuver	673	629	903	528	0	731	1326	-	-	1373	-	-
Stage 1	850	772	-	704	0	-	-	-	-	-	-	-
Stage 2	883	796	-	678	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	652	617	897	521	-	723	1320	-	-	1360	-	-
Mov Cap-2 Maneuver	652	617	-	521	-	-	-	-	-	-	-	-
Stage 1	846	765	-	697	-	-	-	-	-	-	-	-
Stage 2	862	788	-	674	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			10.6			0			0.3		
HCM LOS	A			B								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	1320	-	-	-	521	723	1360	-	-			
HCM Lane V/C Ratio	-	-	-	-	0.01	0.022	0.004	-	-			
HCM Control Delay (s/veh)	0	-	-	0	12	10.1	7.7	-	-			
HCM Lane LOS	A	-	-	A	B	B	A	-	-			
HCM 95th %tile Q (veh)	0	-	-	-	0	0.1	0	-	-			

HCM 6th Signalized Intersection Summary
715: Broadway Ave & 33rd St

04/29/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	5	20	40	10	15	50	1350	55	35	880	15
Future Volume (veh/h)	55	5	20	40	10	15	50	1350	55	35	880	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		0.95	0.96		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	2050	2050	2050	667	667	667	1695	1695	1695	1641	1641	1641
Adj Flow Rate, veh/h	57	5	13	42	10	-11	52	1406	56	36	917	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	5	5	5	65	65	65	4	4	4	8	8	8
Cap, veh/h	223	23	41	136	0	134	111	2153	86	91	2106	37
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.00	0.07	0.68	0.68	0.02	0.22	0.22
Sat Flow, veh/h	1193	165	285	517	667	0	1615	3155	125	1563	3134	55
Grp Volume(v), veh/h	75	0	0	42	-1	-1	52	716	746	36	456	477
Grp Sat Flow(s), veh/h/ln	1642	0	0	517	667	566	1615	1611	1670	1563	1559	1630
Q Serve(g_s), s	4.2	0.0	0.0	3.7	0.0	0.0	3.7	30.5	30.7	2.7	30.2	30.2
Cycle Q Clear(g_c), s	4.8	0.0	0.0	8.6	0.0	0.0	3.7	30.5	30.7	2.7	30.2	30.2
Prop In Lane	0.76		0.17	1.00		0.00	1.00		0.08	1.00		0.03
Lane Grp Cap(c), veh/h	287	0	0	136	0	0	111	1099	1140	91	1048	1095
V/C Ratio(X)	0.26	0.00	0.00	0.31	0.00	0.00	0.47	0.65	0.65	0.40	0.44	0.44
Avail Cap(c_a), veh/h	442	0	0	185	0	0	141	1099	1140	137	1048	1095
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.1	0.0	0.0	47.7	0.0	0.0	53.8	10.9	10.9	56.8	27.1	27.1
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.5	0.0	0.0	1.1	3.0	2.9	1.0	1.3	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	1.2	0.0	0.0	1.5	10.6	11.0	1.1	13.0	13.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.3	0.0	0.0	48.2	0.0	0.0	54.9	13.9	13.9	57.8	28.4	28.3
LnGrp LOS	D			D			D	B	B	E	C	C
Approach Vol, veh/h	75			40			1514			969		
Approach Delay, s/veh	46.3			50.6			15.3			29.5		
Approach LOS	D			D			B			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.5	86.9		21.6	12.7	85.7		21.6				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	10.5	67.0		28.5	10.5	67.0		28.5				
Max Q Clear Time (g_c+I1), s	4.7	32.7		6.8	5.7	32.2		10.6				
Green Ext Time (p_c), s	0.0	21.4		0.2	0.0	11.9		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	22.0											
HCM 6th LOS	C											

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	5	0	10	5	0	10	30	1440	15	5	930	5
Future Vol, veh/h	5	0	10	5	0	10	30	1440	15	5	930	5
Conflicting Peds, #/hr	0	0	0	0	0	0	16	0	11	11	0	16
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-8	-	-	3	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	5	5	5	8	8	8
Mvmt Flow	5	0	11	5	0	11	32	1516	16	5	979	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1830	2615	508	2099	2609	777	1000	0	0	1543	0	0
Stage 1	1008	1008	-	1599	1599	-	-	-	-	-	-	-
Stage 2	822	1607	-	500	1010	-	-	-	-	-	-	-
Critical Hdwy	5.9	4.9	6.1	8.1	7.1	7.2	4.2	-	-	4.26	-	-
Critical Hdwy Stg 1	4.9	3.9	-	7.1	6.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	4.9	3.9	-	7.1	6.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.25	-	-	2.28	-	-
Pot Cap-1 Maneuver	110	79	577	21	16	322	670	-	-	399	-	-
Stage 1	409	502	-	87	128	-	-	-	-	-	-	-
Stage 2	488	339	-	484	270	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	100	72	567	19	15	318	658	-	-	394	-	-
Mov Cap-2 Maneuver	100	72	-	19	15	-	-	-	-	-	-	-
Stage 1	382	486	-	82	120	-	-	-	-	-	-	-
Stage 2	449	319	-	469	262	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	22.5		104.5		0.2		0.1					
HCM LOS	C		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	658	-	-	222	51	394	-	-				
HCM Lane V/C Ratio	0.048	-	-	0.071	0.31	0.013	-	-				
HCM Control Delay (s/veh)	10.7	-	-	22.5	104.5	14.3	-	-				
HCM Lane LOS	B	-	-	C	F	B	-	-				
HCM 95th %tile Q (veh)	0.2	-	-	0.2	1.1	0	-	-				

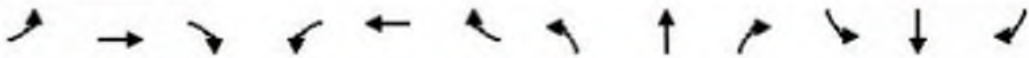
Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	5	0	25	5	0	10	25	1470	5	0	935	10
Future Vol, veh/h	5	0	25	5	0	10	25	1470	5	0	935	10
Conflicting Peds, #/hr	0	0	0	0	0	0	11	0	7	7	0	11
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-7	-	-	5	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	0	0	0	4	4	4	8	8	8
Mvmt Flow	5	0	26	5	0	11	26	1547	5	0	984	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1827	2612	509	2101	2615	783	1006	0	0	1559	0	0
Stage 1	1001	1001	-	1609	1609	-	-	-	-	-	-	-
Stage 2	826	1611	-	492	1006	-	-	-	-	-	-	-
Critical Hdwy	6.2	5.2	6.3	8.5	7.5	7.4	4.18	-	-	4.26	-	-
Critical Hdwy Stg 1	5.2	4.2	-	7.5	6.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.2	4.2	-	7.5	6.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.5	4	3.3	2.24	-	-	2.28	-	-
Pot Cap-1 Maneuver	94	63	554	17	12	306	672	-	-	393	-	-
Stage 1	376	461	-	71	106	-	-	-	-	-	-	-
Stage 2	450	294	-	464	243	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	87	59	547	16	11	304	664	-	-	390	-	-
Mov Cap-2 Maneuver	87	59	-	16	11	-	-	-	-	-	-	-
Stage 1	357	455	-	68	101	-	-	-	-	-	-	-
Stage 2	417	280	-	442	240	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	18.9		131		0.2		0					
HCM LOS	C		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	664	-	-	291	43	390	-	-				
HCM Lane V/C Ratio	0.04	-	-	0.109	0.367	-	-	-				
HCM Control Delay (s/veh)	10.6	-	-	18.9	131	0	-	-				
HCM Lane LOS	B	-	-	C	F	A	-	-				
HCM 95th %tile Q (veh)	0.1	-	-	0.4	1.3	0	-	-				

Intersection												
Int Delay, s/veh	9.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	5	5	30	20	0	50	35	1445	80	25	935	5
Future Vol, veh/h	5	5	30	20	0	50	35	1445	80	25	935	5
Conflicting Peds, #/hr	0	0	0	0	0	0	10	0	5	5	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	140	-	-	160	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	2	2	2	4	4	4	8	8	8
Mvmt Flow	5	5	32	21	0	53	37	1521	84	26	984	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1884	2733	505	2189	2693	808	999	0	0	1610	0	0
Stage 1	1049	1049	-	1642	1642	-	-	-	-	-	-	-
Stage 2	835	1684	-	547	1051	-	-	-	-	-	-	-
Critical Hdwy	6.4	5.4	6.4	7.54	6.54	6.94	4.18	-	-	4.26	-	-
Critical Hdwy Stg 1	5.4	4.4	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	4.4	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.52	4.02	3.32	2.24	-	-	2.28	-	-
Pot Cap-1 Maneuver	78	48	549	25	21	324	677	-	-	375	-	-
Stage 1	337	420	-	104	156	-	-	-	-	-	-	-
Stage 2	425	253	-	489	302	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	59	41	543	~ 19	18	322	669	-	-	373	-	-
Mov Cap-2 Maneuver	59	41	-	~ 19	18	-	-	-	-	-	-	-
Stage 1	315	386	-	98	146	-	-	-	-	-	-	-
Stage 2	336	238	-	423	278	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	37.2		\$ 325.9		0.2		0.4					
HCM LOS	E		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	669	-	-	153	58	373	-	-				
HCM Lane V/C Ratio	0.055	-	-	0.275	1.27	0.071	-	-				
HCM Control Delay (s/veh)	10.7	-	-	37.25	325.9	15.4	-	-				
HCM Lane LOS	B	-	-	E	F	C	-	-				
HCM 95th %tile Q (veh)	0.2	-	-	1.1	6.3	0.2	-	-				
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

HCM Signalized Intersection Capacity Analysis

719: Hill Ave/Fulton St & Pacific Ave

04/29/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↶↷		↰	↶↷		↰	↶		↰	↶	
Traffic Volume (vph)	70	305	300	190	495	40	85	30	50	30	95	60
Future Volume (vph)	70	305	300	190	495	40	85	30	50	30	95	60
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.91		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1484	2717		1525	3011		1340	1436		1641	1624	
Flt Permitted	0.44	1.00		0.41	1.00		0.55	1.00		0.70	1.00	
Satd. Flow (perm)	688	2717		658	3011		780	1436		1212	1624	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	74	321	316	200	521	42	89	32	53	32	100	63
RTOR Reduction (vph)	0	152	0	0	6	0	0	44	0	0	31	0
Lane Group Flow (vph)	74	485	0	200	557	0	89	41	0	32	132	0
Confl. Peds. (#/hr)	2		3	3		2	1		3	3		1
Heavy Vehicles (%)	12%	12%	12%	9%	9%	9%	24%	24%	24%	1%	1%	1%
Turn Type	custom	NA		custom	NA		Perm	NA		Perm	NA	
Protected Phases	3	8 12		7	4 10		2			6		
Permitted Phases	4			8								
Actuated Green, G (s)	43.8	41.5		43.8	43.8		13.7	13.7		13.7	13.7	
Effective Green, g (s)	43.8	41.5		43.8	43.8		13.7	13.7		13.7	13.7	
Actuated g/C Ratio	0.55	0.52		0.55	0.55		0.17	0.17		0.17	0.17	
Clearance Time (s)	5.0			5.0			4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0			2.0			2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	456	1409		471	1648		133	245		207	278	
v/s Ratio Prot	0.02	c0.18		c0.05	c0.19			0.03			0.08	
v/s Ratio Perm	0.07			c0.18			c0.11			0.03		
v/c Ratio	0.16	0.34		0.42	0.34		0.67	0.17		0.15	0.47	
Uniform Delay, d1	8.6	11.3		9.4	10.1		31.0	28.3		28.2	29.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.2	0.1		9.5	0.1		0.1	0.5	
Delay (s)	8.7	11.4		9.7	10.2		40.5	28.4		28.3	30.4	
Level of Service	A	B		A	B		D	C		C	C	
Approach Delay (s/veh)		11.1			10.0			34.6			30.0	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			14.9			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)		19.5				
Intersection Capacity Utilization			65.1%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	115	0	0	50	45	540
Future Vol, veh/h	115	0	0	50	45	540
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	20	20	28	28	7	7
Mvmt Flow	121	0	0	53	47	568
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	384	333	615	0	-	0
Stage 1	331	-	-	-	-	-
Stage 2	53	-	-	-	-	-
Critical Hdwy	6.6	6.4	4.38	-	-	-
Critical Hdwy Stg 1	5.6	-	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-	-
Follow-up Hdwy	3.68	3.48	2.452	-	-	-
Pot Cap-1 Maneuver	585	669	850	-	-	-
Stage 1	689	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	585	667	850	-	-	-
Mov Cap-2 Maneuver	585	-	-	-	-	-
Stage 1	689	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	12.8	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	850	-	585	-	-	
HCM Lane V/C Ratio	-	-	0.207	-	-	
HCM Control Delay (s/veh)	0	-	12.8	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q (veh)	0	-	0.8	-	-	

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	10	0	0	25	10	10	0	25	0	10	35	0
Future Vol, veh/h	10	0	0	25	10	10	0	25	0	10	35	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	50	50	50	25	25	25	0	0	0	26	26	26
Mvmt Flow	10	0	0	25	10	10	0	25	0	10	35	0
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	90	80	35	80	80	25	35	0	0	25	0	0
Stage 1	55	55	-	25	25	-	-	-	-	-	-	-
Stage 2	35	25	-	55	55	-	-	-	-	-	-	-
Critical Hdwy	7.6	7	6.7	7.35	6.75	6.45	4.1	-	-	4.36	-	-
Critical Hdwy Stg 1	6.6	6	-	6.35	5.75	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	6	-	6.35	5.75	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4.45	3.75	3.725	4.225	3.525	2.2	-	-	2.434	-	-
Pot Cap-1 Maneuver	792	727	916	855	768	989	1589	-	-	1447	-	-
Stage 1	849	764	-	937	831	-	-	-	-	-	-	-
Stage 2	871	788	-	902	806	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	772	722	916	851	763	989	1589	-	-	1447	-	-
Mov Cap-2 Maneuver	772	722	-	851	763	-	-	-	-	-	-	-
Stage 1	849	759	-	937	831	-	-	-	-	-	-	-
Stage 2	852	788	-	896	800	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s/v	9.7		9.4			0			1.7			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1589	-	-	772	856	1447	-	-				
HCM Lane V/C Ratio	-	-	-	0.013	0.053	0.007	-	-				
HCM Control Delay (s/veh)	0	-	-	9.7	9.4	7.5	0	-				
HCM Lane LOS	A	-	-	A	A	A	A	-				
HCM 95th %tile Q (veh)	0	-	-	0	0.2	0	-	-				

701: Broadway Ave & Hewitt Ave
HCM 6th Signalized Intersection Summary

Everett Link Extension Project
2046 Baseline Conditions PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	530	125	85	120	40	50	1655	335	175	1065	30
Future Volume (veh/h)	95	530	125	85	120	40	50	1655	335	175	1065	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1736	1736	1736	1736	1736	1709	1709	1709	1709	1709	1709
Adj Flow Rate, veh/h	100	558	76	89	126	24	53	1742	327	184	1121	31
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1	3	3	3	3	3	3
Cap, veh/h	117	559	320	105	449	83	84	1786	855	320	2249	62
Arrive On Green	0.07	0.17	0.17	0.06	0.16	0.16	0.10	1.00	1.00	0.20	0.70	0.70
Sat Flow, veh/h	1654	3299	1438	1654	2766	513	1628	3247	1388	1628	3223	89
Grp Volume(v), veh/h	100	558	76	89	74	76	53	1742	327	184	565	587
Grp Sat Flow(s), veh/h/ln	1654	1650	1438	1654	1650	1629	1628	1624	1388	1628	1624	1688
Q Serve(g_s), s	10.8	30.4	7.3	9.6	7.1	7.4	5.6	0.0	0.0	18.4	29.0	29.0
Cycle Q Clear(g_c), s	10.8	30.4	7.3	9.6	7.1	7.4	5.6	0.0	0.0	18.4	29.0	29.0
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	117	559	320	105	268	265	84	1786	855	320	1133	1178
V/C Ratio(X)	0.86	1.00	0.24	0.85	0.28	0.29	0.63	0.98	0.38	0.57	0.50	0.50
Avail Cap(c_a), veh/h	142	559	320	106	268	265	131	1786	855	320	1133	1178
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.30	0.30	0.30	1.00	1.00	1.00
Uniform Delay (d), s/veh	82.8	74.7	50.8	83.4	66.1	66.2	79.1	0.0	0.0	65.5	12.6	12.6
Incr Delay (d2), s/veh	28.9	37.6	0.1	41.7	0.2	0.2	0.9	7.2	0.4	1.6	1.6	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	9.5	22.4	4.8	9.1	5.4	5.6	3.7	3.0	0.2	12.4	16.3	16.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	111.6	112.3	50.9	125.1	66.3	66.4	79.9	7.2	0.4	67.1	14.2	14.1
LnGrp LOS	F	F	D	F	E	E	E	A	A	E	B	B
Approach Vol, veh/h		734			239			2122			1336	
Approach Delay, s/veh		105.8			88.2			8.0			21.4	
Approach LOS		F			F			A			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	40.8	104.0	17.2	33.8	13.8	131.0	16.0	35.0				
Change Period (Y+Rc), s	5.0	* 5	4.5	4.5	4.5	5.0	4.5	4.5				
Max Green Setting (Gmax), s	20.5	* 99	15.5	26.5	14.5	105.0	11.5	30.5				
Max Q Clear Time (g_c+I1), s	20.4	2.0	12.8	9.4	7.6	31.0	11.6	32.4				
Green Ext Time (p_c), s	0.0	6.8	0.0	0.2	0.0	2.6	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			32.6									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

702: Broadway Ave & Wall St
 HCM 6th Signalized Intersection Summary

Everett Link Extension Project
 2046 Baseline Conditions PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	45	5	85	15	5	80	45	1925	20	15	1170	80
Future Volume (veh/h)	45	5	85	15	5	80	45	1925	20	15	1170	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.94	0.97		0.94	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1806	1806	1806	1820	1820	1820	1709	1709	1709	1695	1695	1695
Adj Flow Rate, veh/h	47	5	52	16	5	7	47	2026	21	16	1232	82
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	3	3	3	4	4	4
Cap, veh/h	90	17	78	105	34	36	401	2585	27	49	1732	115
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.49	1.00	1.00	0.04	0.75	0.75
Sat Flow, veh/h	575	161	735	690	316	335	1628	3290	34	1615	3057	203
Grp Volume(v), veh/h	104	0	0	28	0	0	47	997	1050	16	648	666
Grp Sat Flow(s), veh/h/ln	1471	0	0	1341	0	0	1628	1624	1701	1615	1611	1649
Q Serve(g_s), s	8.9	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	1.7	38.4	38.7
Cycle Q Clear(g_c), s	12.1	0.0	0.0	3.2	0.0	0.0	2.8	0.0	0.0	1.7	38.4	38.7
Prop In Lane	0.45		0.50	0.57		0.25	1.00		0.02	1.00		0.12
Lane Grp Cap(c), veh/h	185	0	0	174	0	0	401	1275	1336	49	913	935
V/C Ratio(X)	0.56	0.00	0.00	0.16	0.00	0.00	0.12	0.78	0.79	0.32	0.71	0.71
Avail Cap(c_a), veh/h	340	0	0	331	0	0	401	1275	1336	103	913	935
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	77.2	0.0	0.0	73.2	0.0	0.0	35.1	0.0	0.0	84.5	14.3	14.4
Incr Delay (d2), s/veh	2.7	0.0	0.0	0.4	0.0	0.0	0.1	4.8	4.7	2.9	3.6	3.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.4	0.0	0.0	2.2	0.0	0.0	2.0	3.1	3.1	1.4	17.3	17.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	79.8	0.0	0.0	73.6	0.0	0.0	35.2	4.8	4.7	87.4	18.0	17.9
LnGrp LOS	E	A	A	E	A	A	D	A	A	F	B	B
Approach Vol, veh/h	104			28			2094			1330		
Approach Delay, s/veh	79.8			73.6			5.4			18.8		
Approach LOS	E			E			A			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	146.4			23.6	49.4	107.0		23.6				
Change Period (Y+Rc), s	4.5	5.0		4.5	5.0	* 5		4.5				
Max Green Setting (Gmax), s	116.0			38.5	25.5	* 1E2		38.5				
Max Q Clear Time (g_c+I), s	2.0			5.2	4.8	40.7		14.1				
Green Ext Time (p_c), s	0.0	66.7		0.1	0.1	20.3		0.6				

Intersection Summary

HCM 6th Ctrl Delay	13.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

703: Broadway Ave & Pacific Ave
 HCM 6th Signalized Intersection Summary

Everett Link Extension Project
 2046 Baseline Conditions PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	505	350	70	215	80	145	1655	235	65	1100	95
Future Volume (veh/h)	210	505	350	70	215	80	145	1655	235	65	1100	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.92	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1926	1926	1926	1418	1418	1418	1709	1709	1709	1695	1695	1695
Adj Flow Rate, veh/h	216	521	302	72	222	60	149	1706	200	67	1134	75
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	10	10	10	3	3	3	4	4	4
Cap, veh/h	234	597	413	143	293	76	166	1856	967	87	1685	921
Arrive On Green	0.13	0.16	0.16	0.11	0.14	0.14	0.10	0.57	0.57	0.11	1.00	1.00
Sat Flow, veh/h	1834	3659	1512	1351	2070	539	1628	3247	1422	1615	3221	1409
Grp Volume(v), veh/h	216	521	302	72	142	140	149	1706	200	67	1134	75
Grp Sat Flow(s),veh/h/ln	1834	1830	1512	1351	1347	1262	1628	1624	1422	1615	1611	1409
Q Serve(g_s), s	21.0	25.0	24.8	9.1	18.1	19.3	16.3	85.4	2.3	7.3	0.0	0.0
Cycle Q Clear(g_c), s	21.0	25.0	24.8	9.1	18.1	19.3	16.3	85.4	2.3	7.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	234	597	413	143	191	179	166	1856	967	87	1685	921
V/C Ratio(X)	0.92	0.87	0.73	0.50	0.74	0.79	0.90	0.92	0.21	0.77	0.67	0.08
Avail Cap(c_a), veh/h	250	752	477	143	202	189	203	1856	967	94	1685	921
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	77.6	73.5	36.0	75.9	74.1	74.6	79.9	34.8	4.5	79.3	0.0	0.0
Incr Delay (d2), s/veh	34.3	7.9	3.7	1.1	11.2	16.6	29.5	8.9	0.5	26.5	2.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	17.9	18.3	14.8	5.8	11.2	11.5	12.9	45.0	3.0	6.4	0.9	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.9	81.4	39.8	77.0	85.3	91.3	109.4	43.7	4.9	105.8	2.2	0.2
LnGrp LOS	F	F	D	E	F	F	F	D	A	F	A	A
Approach Vol, veh/h	1039			354			2055			1276		
Approach Delay, s/veh	75.7			86.0			44.7			7.5		
Approach LOS	E			F			D			A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.1	107.9	27.5	30.5	22.8	99.2	23.6	34.4				
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0				
Max Green Setting (Gmax), s	10.5	99.0	24.5	27.0	22.5	87.0	14.5	37.0				
Max Q Clear Time (g_c+I1), s	9.3	87.4	23.0	21.3	18.3	2.0	11.1	27.0				
Green Ext Time (p_c), s	0.0	10.8	0.1	0.5	0.1	27.5	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay	44.5											
HCM 6th LOS	D											

Intersection												
Int Delay, s/veh	13.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Vol, veh/h	5	0	40	5	0	25	15	2010	30	15	1475	30
Future Vol, veh/h	5	0	40	5	0	25	15	2010	30	15	1475	30
Conflicting Peds, #/hr	5	0	5	5	0	5	19	0	24	24	0	19
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	2	2	2
Mvmt Flow	5	0	42	5	0	26	16	2116	32	16	1553	32
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2715	3824	817	3002	3824	1103	1604	0	0	2172	0	0
Stage 1	1620	1620	-	2188	2188	-	-	-	-	-	-	-
Stage 2	1095	2204	-	814	1636	-	-	-	-	-	-	-
Critical Hdwy	6.3	5.3	6.3	8.7	7.7	7.5	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	5.3	4.3	-	7.7	6.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.3	4.3	-	7.7	6.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	25	14	371	~2	1	174	399	-	-	242	-	-
Stage 1	188	280	-	23	41	-	-	-	-	-	-	-
Stage 2	333	173	-	261	93	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	19	12	363	~2	1	169	392	-	-	236	-	-
Mov Cap-2 Maneuver	19	12	-	~2	1	-	-	-	-	-	-	-
Stage 1	177	256	-	22	38	-	-	-	-	-	-	-
Stage 2	268	162	-	214	85	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	52.7		\$ 1527.8		0.1		0.2					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	392	-	-	121	11	236	-	-				
HCM Lane V/C Ratio	0.04	-	-	0.391	2.871	0.067	-	-				
HCM Control Delay (s)	14.6	-	-	52.7	1527.8	21.3	-	-				
HCM Lane LOS	B	-	-	F	F	C	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	1.6	5	0.2	-	-				
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

Intersection												
Int Delay, s/veh	5.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	0	20	0	45	0	30	15	0	0	20	25
Future Vol, veh/h	15	0	20	0	45	0	30	15	0	0	20	25
Conflicting Peds, #/hr	2	0	3	3	0	2	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	6	6	6	0	0	0	0	0	0	0	0	0
Mvmt Flow	15	0	20	0	45	0	30	15	0	0	20	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	47	0	0	23	0	0	113	90	13	95	100	49
Stage 1	-	-	-	-	-	-	43	43	-	47	47	-
Stage 2	-	-	-	-	-	-	70	47	-	48	53	-
Critical Hdwy	4.16	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.254	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1535	-	-	1605	-	-	869	804	1073	893	794	1025
Stage 1	-	-	-	-	-	-	976	863	-	972	860	-
Stage 2	-	-	-	-	-	-	945	860	-	971	855	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1533	-	-	1601	-	-	821	793	1070	872	783	1021
Mov Cap-2 Maneuver	-	-	-	-	-	-	821	793	-	872	783	-
Stage 1	-	-	-	-	-	-	964	853	-	960	858	-
Stage 2	-	-	-	-	-	-	898	858	-	944	845	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	0	9.7	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	811	1533	-	-	1601	-	-	899
HCM Lane V/C Ratio	0.055	0.01	-	-	-	-	-	0.05
HCM Control Delay (s)	9.7	7.4	0	-	0	-	-	9.2
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	
Traffic Vol, veh/h	10	805	350	15	0	20
Future Vol, veh/h	10	805	350	15	0	20
Conflicting Peds, #/hr	26	0	0	26	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	7	7	9	9	0	0
Mvmt Flow	10	839	365	16	0	21

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	407	0	0 839 217
Stage 1	-	-	- 399 -
Stage 2	-	-	- 440 -
Critical Hdwy	4.24	-	- 6.8 6.9
Critical Hdwy Stg 1	-	-	- 5.8 -
Critical Hdwy Stg 2	-	-	- 5.8 -
Follow-up Hdwy	2.27	-	- 3.5 3.3
Pot Cap-1 Maneuver	1113	-	- 308 794
Stage 1	-	-	- 652 -
Stage 2	-	-	- 622 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1090	-	- 290 778
Mov Cap-2 Maneuver	-	-	- 290 -
Stage 1	-	-	- 627 -
Stage 2	-	-	- 609 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1090	-	-	-	778
HCM Lane V/C Ratio	0.01	-	-	-	0.027
HCM Control Delay (s)	8.3	0.1	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

708: Smith Ave & Pacific Ave
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
 2046 Baseline Conditions PM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	1035	55	100	275	90	765
Future Volume (vph)	1035	55	100	275	90	765
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	11	11
Grade (%)	3%			0%	3%	
Total Lost time (s)	5.0		3.0	5.0	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	0.88
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3092		1554	3107	1439	2266
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3092		1554	3107	1439	2266
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1089	58	105	289	95	805
RTOR Reduction (vph)	3	0	0	0	0	12
Lane Group Flow (vph)	1144	0	105	289	95	793
Confl. Peds. (#/hr)		2	2		6	
Heavy Vehicles (%)	5%	5%	7%	7%	10%	10%
Turn Type	NA		Prot	NA	Prot	custom
Protected Phases	8		6 7	4	5	5 7 6
Permitted Phases						
Actuated Green, G (s)	35.9		18.2	50.9	7.8	30.5
Effective Green, g (s)	35.9		18.2	50.9	7.8	27.5
Actuated g/C Ratio	0.47		0.24	0.67	0.10	0.36
Clearance Time (s)	5.0			5.0	4.5	
Vehicle Extension (s)	1.5			1.5	3.0	
Lane Grp Cap (vph)	1462		372	2083	147	821
v/s Ratio Prot	c0.37		0.07	0.09	0.07	c0.35
v/s Ratio Perm						
v/c Ratio	0.78		0.28	0.14	0.65	0.97
Uniform Delay, d1	16.7		23.5	4.5	32.7	23.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3		0.2	0.1	9.4	23.1
Delay (s)	21.0		23.7	4.7	42.1	46.9
Level of Service	C		C	A	D	D
Approach Delay (s)	21.0			9.7	46.4	
Approach LOS	C			A	D	
Intersection Summary						
HCM 2000 Control Delay			28.5		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.93			
Actuated Cycle Length (s)			75.9		Sum of lost time (s)	17.0
Intersection Capacity Utilization			69.9%		ICU Level of Service	C
Analysis Period (min)			15			

c Critical Lane Group

709: Smith Ave & 32nd St
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
 2046 Baseline Conditions PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔		↔	↔	
Traffic Volume (vph)	0	0	0	25	0	65	0	790	30	35	120	0
Future Volume (vph)	0	0	0	25	0	65	0	790	30	35	120	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			0%			0%			-3%	
Total Lost time (s)				4.5	4.5			4.5		4.5	4.5	
Lane Util. Factor				1.00	1.00			0.95		1.00	1.00	
Frpb, ped/bikes				1.00	0.97			1.00		1.00	1.00	
Flpb, ped/bikes				0.92	1.00			1.00		1.00	1.00	
Frt				1.00	0.85			0.99		1.00	1.00	
Flt Protected				0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)				1463	1385			2999		1263	1336	
Flt Permitted				0.76	1.00			1.00		0.33	1.00	
Satd. Flow (perm)				1166	1385			2999		444	1336	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	26	0	67	0	814	31	36	124	0
RTOR Reduction (vph)	0	0	0	0	57	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	0	0	26	10	0	0	843	0	36	124	0
Confl. Peds. (#/hr)	19		40	40		19	31		45	45		31
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	10%	10%	10%	33%	33%	33%
Parking (#/hr)		1										
Turn Type				Perm	NA			NA		custom	NA	
Protected Phases		3 4			8			2 10		1	6	
Permitted Phases	4			8						2		
Actuated Green, G (s)				11.2	11.2			40.8		37.2	50.3	
Effective Green, g (s)				11.2	11.2			37.3		37.2	50.3	
Actuated g/C Ratio				0.15	0.15			0.49		0.49	0.66	
Clearance Time (s)				4.5	4.5					4.5	4.5	
Vehicle Extension (s)				2.5	2.5					2.0	2.0	
Lane Grp Cap (vph)				171	203			1469		270	883	
v/s Ratio Prot					0.01			c0.28		0.01	c0.09	
v/s Ratio Perm				c0.02						0.06		
v/c Ratio				0.15	0.05			0.57		0.13	0.14	
Uniform Delay, d1				28.3	27.9			13.8		10.2	4.8	
Progression Factor				1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2				0.3	0.1			0.3		0.1	0.0	
Delay (s)				28.6	27.9			14.1		10.3	4.8	
Level of Service				C	C			B		B	A	
Approach Delay (s)		0.0			28.1			14.1			6.1	
Approach LOS		A			C			B			A	
Intersection Summary												
HCM 2000 Control Delay			14.1									
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			76.1							20.5		
Intersection Capacity Utilization			52.1%							A		
Analysis Period (min)			15									
c Critical Lane Group												

710: Smith Ave & 33rd St
HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
2046 Baseline Conditions PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱			↕		↰	↱		↰	↱	
Traffic Volume (vph)	55	25	30	5	20	10	20	720	0	10	90	35
Future Volume (vph)	55	25	30	5	20	10	20	720	0	10	90	35
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5			4.5		4.5	5.0		4.5	5.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00			0.97		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92			0.96		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1265	1223			812		1568	1651		1299	1301	
Flt Permitted	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1265	1223			812		1568	1651		1299	1301	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	57	26	31	5	21	10	21	742	0	10	93	36
RTOR Reduction (vph)	0	28	0	0	9	0	0	0	0	0	9	0
Lane Group Flow (vph)	57	29	0	0	27	0	21	742	0	10	120	0
Confl. Peds. (#/hr)	60					60	2		40	40		2
Heavy Vehicles (%)	27%	27%	27%	100%	100%	100%	6%	6%	6%	28%	28%	28%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.2	8.2			11.8		6.5	55.5		1.6	50.6	
Effective Green, g (s)	8.2	8.2			11.8		6.5	55.5		1.6	50.6	
Actuated g/C Ratio	0.09	0.09			0.12		0.07	0.58		0.02	0.53	
Clearance Time (s)	4.5	4.5			4.5		4.5	5.0		4.5	5.0	
Vehicle Extension (s)	2.0	2.0			3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	108	104			100		106	958		21	688	
v/s Ratio Prot	c0.05	0.02			c0.03		0.01	c0.45		c0.01	0.09	
v/s Ratio Perm												
v/c Ratio	0.53	0.28			0.27		0.20	0.77		0.48	0.17	
Uniform Delay, d1	41.8	40.9			38.0		42.1	15.3		46.6	11.7	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	0.5			1.5		0.3	3.6		6.1	0.0	
Delay (s)	44.0	41.4			39.5		42.4	18.9		52.7	11.7	
Level of Service	D	D			D		D	B		D	B	
Approach Delay (s)		42.7			39.5			19.5			14.7	
Approach LOS		D			D			B			B	
Intersection Summary												
HCM 2000 Control Delay			22.1				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			95.6				Sum of lost time (s)			18.5		
Intersection Capacity Utilization			63.2%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	11											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	760	30	20	335	10	20	15	315	25	10	10
Future Vol, veh/h	15	760	30	20	335	10	20	15	315	25	10	10
Conflicting Peds, #/hr	29	0	11	11	0	29	5	0	2	2	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	235	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	-3	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	9	9	9	1	1	1	0	0	0
Mvmt Flow	16	800	32	21	353	11	21	16	332	26	11	11
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	393	0	0	843	0	0	1088	1294	429	872	1305	216
Stage 1	-	-	-	-	-	-	859	859	-	430	430	-
Stage 2	-	-	-	-	-	-	229	435	-	442	875	-
Critical Hdwy	4.24	-	-	4.28	-	-	7.52	6.52	6.92	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.5	5.5	-
Follow-up Hdwy	2.27	-	-	2.29	-	-	3.51	4.01	3.31	3.5	4	3.3
Pot Cap-1 Maneuver	1127	-	-	746	-	-	171	163	577	248	162	795
Stage 1	-	-	-	-	-	-	320	374	-	579	587	-
Stage 2	-	-	-	-	-	-	756	581	-	570	370	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1085	-	-	736	-	-	152	148	568	88	147	762
Mov Cap-2 Maneuver	-	-	-	-	-	-	152	148	-	88	147	-
Stage 1	-	-	-	-	-	-	311	363	-	549	549	-
Stage 2	-	-	-	-	-	-	707	543	-	223	359	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.5			41.8			51.5		
HCM LOS							E			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	444	1085	-	-	736	-	-	123				
HCM Lane V/C Ratio	0.83	0.015	-	-	0.029	-	-	0.385				
HCM Control Delay (s)	41.8	8.4	-	-	10	-	-	51.5				
HCM Lane LOS	E	A	-	-	B	-	-	F				
HCM 95th %tile Q(veh)	7.9	0	-	-	0.1	-	-	1.6				

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	30	5	15	15	10	65	5	250	5	5	40	15
Future Vol, veh/h	30	5	15	15	10	65	5	250	5	5	40	15
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	2	2	2	1	1	1	5	5	5
Mvmt Flow	32	5	16	16	11	68	5	263	5	5	42	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	8	9.4	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	60%	17%	8%
Vol Thru, %	96%	10%	11%	67%
Vol Right, %	2%	30%	72%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	260	50	90	60
LT Vol	5	30	15	5
Through Vol	250	5	10	40
RT Vol	5	15	65	15
Lane Flow Rate	274	53	95	63
Geometry Grp	1	1	1	1
Degree of Util (X)	0.328	0.069	0.115	0.079
Departure Headway (Hd)	4.317	4.711	4.358	4.482
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	835	761	823	800
Service Time	2.337	2.738	2.382	2.508
HCM Lane V/C Ratio	0.328	0.07	0.115	0.079
HCM Control Delay	9.4	8.1	8	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-ile Q	1.4	0.2	0.4	0.3

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↖		↗	↖	
Traffic Vol, veh/h	10	0	0	10	0	15	0	705	5	5	110	0
Future Vol, veh/h	10	0	0	10	0	15	0	705	5	5	110	0
Conflicting Peds, #/hr	0	0	0	0	0	0	15	0	15	15	0	15
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	8	8	8
Mvmt Flow	11	0	0	11	0	16	0	742	5	5	116	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	894	903	131	886	901	760	131	0	0	762	0	0
Stage 1	141	141	-	760	760	-	-	-	-	-	-	-
Stage 2	753	762	-	126	141	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.18	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.272	-	-
Pot Cap-1 Maneuver	264	279	924	267	280	409	1442	-	-	824	-	-
Stage 1	867	784	-	401	417	-	-	-	-	-	-	-
Stage 2	405	416	-	883	784	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	249	270	911	262	270	403	1421	-	-	812	-	-
Mov Cap-2 Maneuver	249	270	-	262	270	-	-	-	-	-	-	-
Stage 1	855	768	-	395	411	-	-	-	-	-	-	-
Stage 2	389	410	-	878	768	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	20.1		16.8		0		0.4					
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1421	-	-	249	332	812	-	-				
HCM Lane V/C Ratio	-	-	-	0.042	0.079	0.006	-	-				
HCM Control Delay (s)	0	-	-	20.1	16.8	9.5	-	-				
HCM Lane LOS	A	-	-	C	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-				

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕		↕	↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	5	5	0	15	5	700	5	10	100	5
Future Vol, veh/h	0	0	5	5	0	15	5	700	5	10	100	5
Conflicting Peds, #/hr	2	0	2	2	0	2	0	0	15	15	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	50	50	50	70	70	70	4	4	4	16	16	16
Mvmt Flow	0	0	5	5	0	16	5	737	5	11	105	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	890	897	110	899	-	757	110	0	0	757	0	0
Stage 1	130	130	-	765	-	-	-	-	-	-	-	-
Stage 2	760	767	-	134	-	-	-	-	-	-	-	-
Critical Hdwy	7.6	7	6.7	7.8	-	6.9	4.14	-	-	4.26	-	-
Critical Hdwy Stg 1	6.6	6	-	6.8	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	6	-	6.8	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4.45	3.75	4.13	-	3.93	2.236	-	-	2.344	-	-
Pot Cap-1 Maneuver	218	234	828	199	0	315	1468	-	-	794	-	-
Stage 1	771	705	-	309	0	-	-	-	-	-	-	-
Stage 2	334	349	-	730	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	204	227	826	192	-	310	1468	-	-	783	-	-
Mov Cap-2 Maneuver	204	227	-	192	-	-	-	-	-	-	-	-
Stage 1	769	695	-	303	-	-	-	-	-	-	-	-
Stage 2	315	343	-	714	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.4		19		0.1		0.8					
HCM LOS	A		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	1468	-	-	826 192 310	783	-	-					
HCM Lane V/C Ratio	0.004	-	-	0.006 0.027 0.051	0.013	-	-					
HCM Control Delay (s)	7.5	-	-	9.4 24.3 17.2	9.7	-	-					
HCM Lane LOS	A	-	-	A C C	A	-	-					
HCM 95th %tile Q(veh)	0	-	-	0 0.1 0.2	0	-	-					

715: Broadway Ave & 33rd St
HCM 6th Signalized Intersection Summary

Everett Link Extension Project
2046 Baseline Conditions PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↗	↖		↗	↕		↗	↕	
Traffic Volume (veh/h)	25	10	30	55	10	40	20	1985	60	30	1465	15
Future Volume (veh/h)	25	10	30	55	10	40	20	1985	60	30	1465	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.96	0.97		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2121	2121	2121	1254	1254	1254	1709	1709	1709	1723	1723	1723
Adj Flow Rate, veh/h	26	11	13	58	11	4	21	2089	63	32	1542	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	22	22	22	3	3	3	2	2	2
Cap, veh/h	106	47	43	133	82	30	59	2521	76	73	2627	27
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.04	0.78	0.78	0.06	1.00	1.00
Sat Flow, veh/h	802	500	457	975	867	315	1628	3217	96	1641	3318	34
Grp Volume(v), veh/h	50	0	0	58	0	15	21	1048	1104	32	760	798
Grp Sat Flow(s), veh/h/ln	1759	0	0	975	0	1182	1628	1624	1689	1641	1637	1716
Q Serve(g_s), s	2.7	0.0	0.0	5.3	0.0	2.1	2.3	71.0	73.4	3.4	0.0	0.0
Cycle Q Clear(g_c), s	4.8	0.0	0.0	10.1	0.0	2.1	2.3	71.0	73.4	3.4	0.0	0.0
Prop In Lane	0.52		0.26	1.00		0.27	1.00		0.06	1.00		0.02
Lane Grp Cap(c), veh/h	196	0	0	133	0	111	59	1272	1324	73	1296	1359
V/C Ratio(X)	0.25	0.00	0.00	0.44	0.00	0.13	0.36	0.82	0.83	0.44	0.59	0.59
Avail Cap(c_a), veh/h	416	0	0	255	0	259	95	1272	1324	105	1296	1359
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	0.00	0.99	0.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.9	0.0	0.0	78.4	0.0	74.8	84.7	11.9	12.2	82.5	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.8	0.0	0.2	1.4	6.1	6.3	1.5	1.9	1.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	4.0	0.0	0.0	4.8	0.0	1.2	1.8	33.2	35.4	2.6	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	76.2	0.0	0.0	79.2	0.0	75.0	86.1	18.0	18.4	84.1	1.9	1.9
LnGrp LOS	E	A	A	E	A	E	F	B	B	F	A	A
Approach Vol, veh/h	50			73			2173			1590		
Approach Delay, s/veh	76.2			78.3			18.9			3.6		
Approach LOS	E			E			B			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.5	146.0		21.5	11.0	147.5		21.5				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	11.5	115.0		39.5	10.5	116.0		39.5				
Max Q Clear Time (g_c+I1), s	5.4	75.4		6.8	4.3	2.0		12.1				
Green Ext Time (p_c), s	0.0	35.5		0.1	0.0	41.6		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				14.5								
HCM 6th LOS				B								

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Vol, veh/h	5	0	30	0	0	15	25	2030	20	5	1530	10
Future Vol, veh/h	5	0	30	0	0	15	25	2030	20	5	1530	10
Conflicting Peds, #/hr	2	0	0	0	0	2	6	0	11	11	0	6
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-8	-	-	3	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	0	0	0	3	3	3	2	2	2
Mvmt Flow	5	0	32	0	0	16	26	2137	21	5	1611	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2756	3854	817	3027	3849	1092	1628	0	0	2169	0	0
Stage 1	1633	1633	-	2211	2211	-	-	-	-	-	-	-
Stage 2	1123	2221	-	816	1638	-	-	-	-	-	-	-
Critical Hdwy	6	5	6.2	8.1	7.1	7.2	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	5	4	-	7.1	6.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5	4	-	7.1	6.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.5	4	3.3	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	30	18	376	4	2	194	391	-	-	243	-	-
Stage 1	211	316	-	32	57	-	-	-	-	-	-	-
Stage 2	353	205	-	298	122	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	26	16	373	3	2	191	388	-	-	240	-	-
Mov Cap-2 Maneuver	26	16	-	3	2	-	-	-	-	-	-	-
Stage 1	196	307	-	30	53	-	-	-	-	-	-	-
Stage 2	302	189	-	267	119	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	44.1		25.5		0.2		0.1					
HCM LOS	E		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	388	-	-	128	191	240	-	-				
HCM Lane V/C Ratio	0.068	-	-	0.288	0.083	0.022	-	-				
HCM Control Delay (s)	15	-	-	44.1	25.5	20.3	-	-				
HCM Lane LOS	B	-	-	E	D	C	-	-				
HCM 95th %tile Q(veh)	0.2	-	-	1.1	0.3	0.1	-	-				

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	10	0	40	0	0	10	15	2035	40	5	1545	15
Future Vol, veh/h	10	0	40	0	0	10	15	2035	40	5	1545	15
Conflicting Peds, #/hr	5	0	0	0	0	5	8	0	11	11	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-7	-	-	5	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	2	2	2
Mvmt Flow	11	0	42	0	0	11	16	2142	42	5	1626	16

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2760	3879	829	3029	3866	1108	1650	0	0	2195	0	0
Stage 1	1652	1652	-	2206	2206	-	-	-	-	-	-	-
Stage 2	1108	2227	-	823	1660	-	-	-	-	-	-	-
Critical Hdwy	6.1	5.1	6.2	8.5	7.5	7.4	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	5.1	4.1	-	7.5	6.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.1	4.1	-	7.5	6.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	28	16	374	3	1	178	383	-	-	237	-	-
Stage 1	199	299	-	25	45	-	-	-	-	-	-	-
Stage 2	350	192	-	269	98	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	25	15	371	3	1	175	380	-	-	234	-	-
Mov Cap-2 Maneuver	25	15	-	3	1	-	-	-	-	-	-	-
Stage 1	189	290	-	24	43	-	-	-	-	-	-	-
Stage 2	314	182	-	233	95	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	78	26.9	0.1	0.1
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	380	-	-	98	175	234	-
HCM Lane V/C Ratio	0.042	-	-	0.537	0.06	0.022	-
HCM Control Delay (s)	14.9	-	-	78	26.9	20.7	-
HCM Lane LOS	B	-	-	F	D	C	-
HCM 95th %tile Q(veh)	0.1	-	-	2.4	0.2	0.1	-

Intersection												
Int Delay, s/veh	57.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Vol, veh/h	5	0	30	15	5	45	20	2030	105	35	1510	20
Future Vol, veh/h	5	0	30	15	5	45	20	2030	105	35	1510	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	3	3	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	140	-	-	160	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	2	2	2
Mvmt Flow	5	0	32	16	5	47	21	2137	111	37	1589	21
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2787	3967	805	3107	3922	1127	1610	0	0	2251	0	0
Stage 1	1674	1674	-	2238	2238	-	-	-	-	-	-	-
Stage 2	1113	2293	-	869	1684	-	-	-	-	-	-	-
Critical Hdwy	6.3	5.3	6.3	7.5	6.5	6.9	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	5.3	4.3	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.3	4.3	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	23	12	377	~5	~3	202	397	-	-	225	-	-
Stage 1	177	268	-	44	80	-	-	-	-	-	-	-
Stage 2	327	161	-	317	152	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	9	377	~4	~2	201	397	-	-	224	-	-
Mov Cap-2 Maneuver	-	9	-	~4	~2	-	-	-	-	-	-	-
Stage 1	168	224	-	42	76	-	-	-	-	-	-	-
Stage 2	220	152	-	242	127	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s			\$ 3363.6		0.1		0.5					
HCM LOS	-		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	397	-	-	-	10	224	-	-				
HCM Lane V/C Ratio	0.053	-	-	-	6.842	0.164	-	-				
HCM Control Delay (s)	14.6	-	-	-	\$ 3363.6	24.2	-	-				
HCM Lane LOS	B	-	-	-	F	C	-	-				
HCM 95th %tile Q(veh)	0.2	-	-	-	9.9	0.6	-	-				
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

719: Hill Ave/Fulton St & Pacific Ave
HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
2046 Baseline Conditions PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱			↕		↰	↰	
Traffic Volume (vph)	590	1655	25	5	270	30	25	30	40	60	5	40
Future Volume (vph)	590	1655	25	5	270	30	25	30	40	60	5	40
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0			4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98			0.94		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1614	3220		1568	3089			1713		1609	1451	
Flt Permitted	0.56	1.00		0.09	1.00			0.90		0.67	1.00	
Satd. Flow (perm)	952	3220		156	3089			1564		1136	1451	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	621	1742	26	5	284	32	26	32	42	63	5	42
RTOR Reduction (vph)	0	1	0	0	11	0	0	37	0	0	37	0
Lane Group Flow (vph)	621	1767	0	5	305	0	0	63	0	63	10	0
Confl. Peds. (#/hr)			2	2			3		3	3		3
Heavy Vehicles (%)	3%	3%	3%	6%	6%	6%	7%	7%	7%	3%	3%	3%
Turn Type	custom	NA		custom	NA		Perm	NA		Perm	NA	
Protected Phases	3	8 12		7	4 10			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	48.4	55.4		48.4	34.1			9.1		9.1	9.1	
Effective Green, g (s)	48.4	55.4		48.4	34.1			9.1		9.1	9.1	
Actuated g/C Ratio	0.60	0.69		0.60	0.43			0.11		0.11	0.11	
Clearance Time (s)	5.0			5.0				4.5		4.5	4.5	
Vehicle Extension (s)	2.0			2.0				2.0		2.0	2.0	
Lane Grp Cap (vph)	760	2229		112	1316			177		129	165	
v/s Ratio Prot	c0.23	c0.55		0.00	0.10						0.01	
v/s Ratio Perm	0.27			0.03				0.04		c0.06		
v/c Ratio	0.82	0.79		0.04	0.23			0.35		0.49	0.06	
Uniform Delay, d1	10.1	8.4		7.4	14.6			32.7		33.3	31.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	6.5	2.0		0.1	0.1			0.4		1.1	0.1	
Delay (s)	16.6	10.4		7.5	14.7			33.2		34.3	31.7	
Level of Service	B	B		A	B			C		C	C	
Approach Delay (s)		12.0			14.6			33.2			33.2	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			13.8			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			19.5			
Intersection Capacity Utilization			79.0%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	10	0	70	20	20
Future Vol, veh/h	30	10	0	70	20	20
Conflicting Peds, #/hr	1	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	6	6	8	8	29	29
Mvmt Flow	30	10	0	70	20	20

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	101	32	40
Stage 1	30	-	-
Stage 2	71	-	-
Critical Hdwy	6.46	6.26	4.18
Critical Hdwy Stg 1	5.46	-	-
Critical Hdwy Stg 2	5.46	-	-
Follow-up Hdwy	3.554	3.354	2.272
Pot Cap-1 Maneuver	888	1030	1532
Stage 1	982	-	-
Stage 2	942	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	888	1027	1532
Mov Cap-2 Maneuver	888	-	-
Stage 1	982	-	-
Stage 2	942	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1532	-	919	-	-
HCM Lane V/C Ratio	-	-	0.044	-	-
HCM Control Delay (s)	0	-	9.1	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	10	5	0	5	10	5	25	10	10	0	5
Future Vol, veh/h	10	10	5	0	5	10	5	25	10	10	0	5
Conflicting Peds, #/hr	2	0	1	1	0	2	2	0	3	3	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	18	18	18	0	0	0	5	5	5	50	50	50
Mvmt Flow	10	10	5	0	5	10	5	25	10	10	0	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	75	73	6	74	70	35	7	0	0	38	0	0
Stage 1	25	25	-	43	43	-	-	-	-	-	-	-
Stage 2	50	48	-	31	27	-	-	-	-	-	-	-
Critical Hdwy	7.28	6.68	6.38	7.1	6.5	6.2	4.15	-	-	4.6	-	-
Critical Hdwy Stg 1	6.28	5.68	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.28	5.68	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.662	4.162	3.462	3.5	4	3.3	2.245	-	-	2.65	-	-
Pot Cap-1 Maneuver	877	788	1032	921	824	1044	1594	-	-	1312	-	-
Stage 1	953	844	-	976	863	-	-	-	-	-	-	-
Stage 2	924	824	-	991	877	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	853	775	1028	896	811	1038	1590	-	-	1308	-	-
Mov Cap-2 Maneuver	853	775	-	896	811	-	-	-	-	-	-	-
Stage 1	948	836	-	970	858	-	-	-	-	-	-	-
Stage 2	905	819	-	965	868	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.4		8.9		0.9		5.2					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1590	-	-	848	949	1308	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.029	0.016	0.008	-	-				
HCM Control Delay (s)	7.3	0	-	9.4	8.9	7.8	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-				

HCM 6th Signalized Intersection Summary
701: Broadway Ave & Hewitt Ave

04/30/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	520	130	80	125	105	60	1770	330	190	1145	25
Future Volume (veh/h)	95	520	130	80	125	105	60	1770	330	190	1145	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1736	1736	1736	1736	1736	1736	1709	1709	1709	1709	1709	1709
Adj Flow Rate, veh/h	100	547	81	84	132	24	63	1863	319	200	1205	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1	3	3	3	3	3	3
Cap, veh/h	117	559	311	100	441	78	87	1714	811	223	1993	43
Arrive On Green	0.07	0.17	0.17	0.06	0.16	0.16	0.11	1.00	1.00	0.14	0.61	0.61
Sat Flow, veh/h	1654	3299	1375	1654	2768	487	1628	3247	1370	1628	3245	70
Grp Volume(v), veh/h	100	547	81	84	77	79	63	1863	319	200	603	628
Grp Sat Flow(s),veh/h/ln	1654	1650	1375	1654	1650	1606	1628	1624	1370	1628	1624	1691
Q Serve(g_s), s	10.8	29.7	7.2	9.1	7.4	7.8	6.7	95.0	0.0	21.8	41.0	41.1
Cycle Q Clear(g_c), s	10.8	29.7	7.2	9.1	7.4	7.8	6.7	95.0	0.0	21.8	41.0	41.1
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	117	559	311	100	263	256	87	1714	811	223	997	1039
V/C Ratio(X)	0.86	0.98	0.26	0.84	0.29	0.31	0.73	1.09	0.39	0.90	0.60	0.60
Avail Cap(c_a), veh/h	179	559	311	106	263	256	194	1714	811	223	997	1039
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	82.7	74.4	40.1	83.7	66.7	66.9	79.2	0.0	0.0	76.5	21.3	21.3
Incr Delay (d2), s/veh	14.1	32.4	0.2	38.4	0.2	0.3	0.4	40.3	0.1	33.6	2.7	2.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.8	21.6	4.5	8.6	5.7	5.9	3.6	12.0	0.1	16.7	22.9	23.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	96.8	106.8	40.3	122.1	67.0	67.2	79.6	40.3	0.1	110.0	24.0	23.9
LnGrp LOS	F	F	D	F	E	E	E	F	A	F	C	C
Approach Vol, veh/h	728			240			2245			1431		
Approach Delay, s/veh	98.0			86.3			35.7			36.0		
Approach LOS	F			F			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.6	100.0	17.2	33.2	14.1	115.5	15.4	35.0				
Change Period (Y+Rc), s	5.0	* 5	4.5	4.5	4.5	5.0	4.5	4.5				
Max Green Setting (Gmax), s	24.5	* 95	19.5	22.5	21.5	98.0	11.5	30.5				
Max Q Clear Time (g_c+I1), s	23.8	97.0	12.8	9.8	8.7	43.1	11.1	31.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.2	0.0	2.8	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	48.2											
HCM 6th LOS	D											
Notes												

HCM 6th Signalized Intersection Summary
702: Broadway Ave & Wall St

04/30/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	5	90	50	5	70	55	2045	35	15	1265	75
Future Volume (veh/h)	45	5	90	50	5	70	55	2045	35	15	1265	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.91		0.85	0.91		0.85	1.00		0.95	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1806	1806	1806	1820	1820	1820	1709	1709	1709	1695	1695	1695
Adj Flow Rate, veh/h	47	5	56	53	5	47	58	2153	37	16	1332	78
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	3	3	3	4	4	4
Cap, veh/h	101	18	97	112	17	80	224	2444	42	49	1971	115
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.28	1.00	1.00	0.06	1.00	1.00
Sat Flow, veh/h	504	126	679	574	119	562	1628	3263	56	1615	3086	180
Grp Volume(v), veh/h	108	0	0	105	0	0	58	1067	1123	16	694	716
Grp Sat Flow(s),veh/h/ln	1309	0	0	1256	0	0	1628	1624	1696	1615	1611	1655
Q Serve(g_s), s	0.0	0.0	0.0	0.8	0.0	0.0	5.0	0.0	0.0	1.7	0.0	0.0
Cycle Q Clear(g_c), s	13.8	0.0	0.0	14.6	0.0	0.0	5.0	0.0	0.0	1.7	0.0	0.0
Prop In Lane	0.44		0.52	0.50		0.45	1.00		0.03	1.00		0.11
Lane Grp Cap(c), veh/h	216	0	0	209	0	0	224	1216	1270	49	1029	1058
V/C Ratio(X)	0.50	0.00	0.00	0.50	0.00	0.00	0.26	0.88	0.88	0.32	0.67	0.68
Avail Cap(c_a), veh/h	287	0	0	281	0	0	224	1216	1270	121	1029	1058
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.74	0.74	0.74
Uniform Delay (d), s/veh	71.9	0.0	0.0	72.2	0.0	0.0	58.0	0.0	0.0	82.7	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	1.9	0.0	0.0	0.6	9.1	9.2	2.8	2.6	2.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.4	0.0	0.0	8.3	0.0	0.0	3.7	5.5	5.9	1.3	1.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	73.7	0.0	0.0	74.0	0.0	0.0	58.6	9.1	9.2	85.5	2.6	2.6
LnGrp LOS	E			E			E	A	A	F	A	A
Approach Vol, veh/h	108				105		2248				1426	
Approach Delay, s/veh	73.7				74.0		10.4				3.5	
Approach LOS	E				E		B				A	
Timer - Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	10.0	139.8			30.2	29.8	120.0	30.2				
Change Period (Y+Rc), s	4.5	5.0			4.5	5.0	* 5	4.5				
Max Green Setting (Gmax), s	13.5	117.0			35.5	15.5	1.2E+02	35.5				
Max Q Clear Time (g_c+I1), s	3.7	2.0			16.6	7.0	2.0	15.8				
Green Ext Time (p_c), s	0.0	78.1			0.6	0.1	26.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	11.4											
HCM 6th LOS	B											
Notes												

HCM 6th Signalized Intersection Summary
703: Broadway Ave & Pacific Ave

04/30/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	500	350	210	230	170	155	1720	265	170	1140	95
Future Volume (veh/h)	220	500	350	210	230	170	155	1720	265	170	1140	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.82	1.00		0.83	1.00		0.94	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1926	1926	1926	1418	1418	1418	1709	1709	1709	1695	1695	1695
Adj Flow Rate, veh/h	227	515	312	216	237	100	160	1773	225	175	1175	66
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	10	10	10	3	3	3	4	4	4
Cap, veh/h	229	531	469	184	272	107	274	2026	1044	166	1790	921
Arrive On Green	0.13	0.15	0.15	0.14	0.15	0.15	0.34	1.00	1.00	0.21	1.00	1.00
Sat Flow, veh/h	1834	3659	1335	1351	1772	697	1628	3247	1357	1615	3221	1335
Grp Volume(v), veh/h	227	515	312	216	176	161	160	1773	225	175	1175	66
Grp Sat Flow(s),veh/h/ln	1834	1830	1335	1351	1347	1122	1628	1624	1357	1615	1611	1335
Q Serve(g_s), s	22.2	25.2	8.8	24.5	22.9	25.5	14.6	0.0	0.0	18.5	0.0	0.0
Cycle Q Clear(g_c), s	22.2	25.2	8.8	24.5	22.9	25.5	14.6	0.0	0.0	18.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.62	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	229	531	469	184	207	172	274	2026	1044	166	1790	921
V/C Ratio(X)	0.99	0.97	0.67	1.17	0.85	0.94	0.58	0.87	0.22	1.05	0.66	0.07
Avail Cap(c_a), veh/h	229	531	469	184	210	174	274	2026	1044	166	1790	921
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	78.6	76.6	40.9	77.8	74.2	75.3	54.5	0.0	0.0	71.5	0.0	0.0
Incr Delay (d2), s/veh	56.4	31.4	2.9	121.4	25.6	48.6	2.1	5.6	0.5	85.1	1.9	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	20.3	20.4	15.8	22.6	14.5	14.8	9.4	2.9	0.2	16.7	0.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	135.1	107.9	43.8	199.1	99.8	124.0	56.6	5.6	0.5	156.6	1.9	0.2
LnGrp LOS	F	F	D	F	F	F	E	A	A	F	A	A
Approach Vol, veh/h	1054			553			2158			1416		
Approach Delay, s/veh	94.8			145.6			8.9			20.9		
Approach LOS	F			F			A			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.0	117.9	27.5	32.6	35.9	105.0	29.0	31.1				
Change Period (Y+Rc), s	4.5	5.0	5.0	* 5	5.0	* 5	4.5	5.0				
Max Green Setting (Gmax), s	18.5	92.0	22.5	* 28	10.5	* 1E+02	24.5	26.0				
Max Q Clear Time (g_c+I1), s	20.5	2.0	24.2	27.5	16.6	2.0	26.5	27.2				
Green Ext Time (p_c), s	0.0	64.1	0.0	0.1	0.0	30.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	44.2											
HCM 6th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	5	5	40	5	0	25	15	2110	45	15	1660	25
Future Vol, veh/h	5	5	40	5	0	25	15	2110	45	15	1660	25
Conflicting Peds, #/hr	5	0	5	5	0	5	19	0	24	24	0	19
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	2	2	2
Mvmt Flow	5	5	42	5	0	26	16	2221	47	16	1747	26
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2959	4135	911	3214	4125	1163	1792	0	0	2292	0	0
Stage 1	1811	1811	-	2301	2301	-	-	-	-	-	-	-
Stage 2	1148	2324	-	913	1824	-	-	-	-	-	-	-
Critical Hdwy	6.3	5.3	6.3	8.7	7.7	7.5	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	5.3	4.3	-	7.7	6.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.3	4.3	-	7.7	6.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	18	9	327	~1	1	157	337	-	-	217	-	-
Stage 1	152	240	-	19	34	-	-	-	-	-	-	-
Stage 2	315	157	-	220	70	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	13	8	320	0	1	153	331	-	-	212	-	-
Mov Cap-2 Maneuver	13	8	-	0	1	-	-	-	-	-	-	-
Stage 1	142	218	-	18	32	-	-	-	-	-	-	-
Stage 2	247	146	-	172	64	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/345.4				34.5			0.1			0.2		
HCM LOS	F			D								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	331	-	-	44	153	212	-	-				
HCM Lane V/C Ratio	0.048	-	-	1.196	0.206	0.074	-	-				
HCM Control Delay (s/veh)	16.4	-	-	\$ 345.4	34.5	23.3	-	-				
HCM Lane LOS	C	-	-	F	D	C	-	-				
HCM 95th %tile Q (veh)	0.2	-	-	5	0.7	0.2	-	-				
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	15	25	15	5	75	0	30	10	5	0	15	20
Future Vol, veh/h	15	25	15	5	75	0	30	10	5	0	15	20
Conflicting Peds, #/hr	2	0	3	3	0	2	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	6	6	6	0	0	0	0	0	0	0	0	0
Mvmt Flow	15	25	15	5	75	0	30	10	5	0	15	20
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	77	0	0	43	0	0	171	153	36	157	160	79
Stage 1	-	-	-	-	-	-	66	66	-	87	87	-
Stage 2	-	-	-	-	-	-	105	87	-	70	73	-
Critical Hdwy	4.16	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.254	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1497	-	-	1579	-	-	797	742	1042	814	736	987
Stage 1	-	-	-	-	-	-	950	844	-	926	827	-
Stage 2	-	-	-	-	-	-	906	827	-	945	838	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1495	-	-	1575	-	-	757	729	1040	793	723	983
Mov Cap-2 Maneuver	-	-	-	-	-	-	757	729	-	793	723	-
Stage 1	-	-	-	-	-	-	939	834	-	915	823	-
Stage 2	-	-	-	-	-	-	867	823	-	920	828	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	2			0.5			9.9			9.4		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	774	1495	-	-	1575	-	-	852				
HCM Lane V/C Ratio	0.058	0.01	-	-	0.003	-	-	0.041				
HCM Control Delay (s/veh)	9.9	7.4	0	-	7.3	0	-	9.4				
HCM Lane LOS	A	A	A	-	A	A	-	A				
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0.1				

Intersection							
Int Delay, s/veh	0.3						
Movement	EBL	EBT	WBT	WBR	SBU	SBL	SBR
Lane Configurations		↑↑	↑↑↑			↑	
Traffic Vol, veh/h	0	935	605	15	30	0	5
Future Vol, veh/h	0	935	605	15	30	0	5
Conflicting Peds, #/hr	26	0	0	26	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	-	0	-
Grade, %	-	0	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96
Heavy Vehicles, %	7	7	9	9	0	0	0
Mvmt Flow	0	974	630	16	31	0	5

Major/Minor	Major1	Major2	Minor2				
Conflicting Flow All	672	0	-	0	0	1151	349
Stage 1	-	-	-	-	0	664	-
Stage 2	-	-	-	-	0	487	-
Critical Hdwy	5.44	-	-	-	-	6.25	7.1
Critical Hdwy Stg 1	-	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	-	5.8	-
Follow-up Hdwy	3.17	-	-	-	-	3.65	3.9
Pot Cap-1 Maneuver	545	-	-	-	0	227	557
Stage 1	-	-	-	-	0	401	-
Stage 2	-	-	-	-	0	570	-
Platoon blocked, %	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	534	-	-	-	0	217	546
Mov Cap-2 Maneuver	-	-	-	-	0	217	-
Stage 1	-	-	-	-	0	393	-
Stage 2	-	-	-	-	0	558	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	534	-	-	-	546
HCM Lane V/C Ratio	-	-	-	-	0.01
HCM Control Delay (s/veh)	0	-	-	-	11.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q (veh)	0	-	-	-	0

HCM Signalized Intersection Capacity Analysis
708: Smith Ave & Pacific Ave

04/30/2025

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗↗
Traffic Volume (vph)	1160	100	265	525	130	780
Future Volume (vph)	1160	100	265	525	130	780
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	11	11
Grade (%)	3%			0%	3%	
Total Lost time (s)	5.0		3.0	5.0	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	0.88
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3076		1554	3107	1439	2266
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3076		1554	3107	1439	2266
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1221	105	279	553	137	821
RTOR Reduction (vph)	5	0	0	0	0	14
Lane Group Flow (vph)	1321	0	279	553	137	807
Confl. Peds. (#/hr)		2	2		40	
Heavy Vehicles (%)	5%	5%	7%	7%	10%	10%
Turn Type	NA		Prot	NA	Prot	custom
Protected Phases	8		6 7	4	5	5 6 7
Permitted Phases						
Actuated Green, G (s)	48.4		32.0	64.0	11.9	48.4
Effective Green, g (s)	48.4		32.0	64.0	11.9	45.4
Actuated g/C Ratio	0.46		0.30	0.60	0.11	0.43
Clearance Time (s)	5.0			5.0	4.5	
Vehicle Extension (s)	1.5			1.5	3.0	
Lane Grp Cap (vph)	1400		467	1870	161	967
v/s Ratio Prot	c0.43		0.18	0.18	0.10	c0.36
v/s Ratio Perm						
v/c Ratio	0.94		0.60	0.30	0.85	0.83
Uniform Delay, d1	27.6		31.7	10.2	46.3	27.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	13.9		1.4	0.4	32.6	6.3
Delay (s)	41.6		33.0	10.6	79.0	33.4
Level of Service	D		C	B	E	C
Approach Delay (s/veh)	41.6			18.2	39.9	
Approach LOS	D			B	D	
Intersection Summary						
HCM 2000 Control Delay (s/veh)		34.8		HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio		0.94				
Actuated Cycle Length (s)		106.3		Sum of lost time (s)		17.0
Intersection Capacity Utilization		75.8%		ICU Level of Service		D
Analysis Period (min)		15				
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

709: Smith Ave & 32nd St

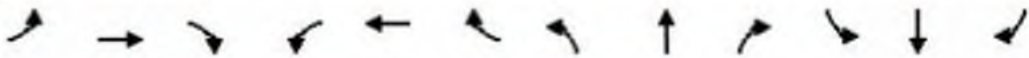
04/30/2025

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		+		+	+			+		+	+	
Traffic Volume (vph)	50	0	150	25	0	65	0	795	30	35	245	85
Future Volume (vph)	50	0	150	25	0	65	0	795	30	35	245	85
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			0%			0%			-3%	
Total Lost time (s)		3.5		4.5	3.5			4.5		4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00			0.95		1.00	1.00	
Frpb, ped/bikes		0.92		1.00	0.97			1.00		1.00	0.96	
Flpb, ped/bikes		1.00		0.93	1.00			1.00		0.99	1.00	
Frt		0.90		1.00	0.85			0.99		1.00	0.96	
Flt Protected		0.99		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1272		1491	1384			2998		1258	1230	
Flt Permitted		0.92		0.63	1.00			1.00		0.33	1.00	
Satd. Flow (perm)		1184		986	1384			2998		440	1230	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	52	0	155	26	0	67	0	820	31	36	253	88
RTOR Reduction (vph)	0	87	0	0	50	0	0	2	0	0	11	0
Lane Group Flow (vph)	0	120	0	26	17	0	0	849	0	36	330	0
Confl. Peds. (#/hr)	19		40	40		19	65		45	45		65
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	10%	10%	10%	33%	33%	33%
Parking (#/hr)		1										
Turn Type	custom	NA		custom	NA			NA		custom	NA	
Protected Phases		3 4			7 8			2 10		1	6	
Permitted Phases	4			8						2		
Actuated Green, G (s)		23.7		13.3	19.9			37.0		19.7	46.2	
Effective Green, g (s)		23.7		13.3	19.9			33.5		19.7	46.2	
Actuated g/C Ratio		0.29		0.17	0.25			0.42		0.24	0.57	
Clearance Time (s)				4.5						4.5	4.5	
Vehicle Extension (s)				2.5						2.0	2.0	
Lane Grp Cap (vph)		348		162	342			1247		155	705	
v/s Ratio Prot					0.01			0.28		0.01	0.27	
v/s Ratio Perm		0.10		0.03						0.04		
v/c Ratio		0.34		0.16	0.05			0.68		0.23	0.47	
Uniform Delay, d1		22.3		28.8	23.1			19.1		23.6	10.0	
Progression Factor		1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.4		0.3	0.0			1.2		0.3	0.2	
Delay (s)		22.7		29.2	23.1			20.4		23.9	10.2	
Level of Service		C		C	C			C		C	B	
Approach Delay (s/veh)		22.7			24.8			20.4			11.5	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			18.8									
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			80.5							20.5		
Intersection Capacity Utilization			60.9%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

710: Smith Ave & 33rd St

04/30/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱			↰		↰	↱		↰	↱	
Traffic Volume (vph)	55	25	30	5	10	0	20	745	0	20	100	300
Future Volume (vph)	55	25	30	5	10	0	20	745	0	20	100	300
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5			4.5		4.5	5.0		4.5	5.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	0.97	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92			1.00		1.00	1.00		1.00	0.89	
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1265	1223			861		1568	1651		1299	1176	
Flt Permitted	0.95	1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1265	1223			861		1568	1651		1299	1176	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	57	26	31	5	10	0	21	768	0	21	103	309
RTOR Reduction (vph)	0	28	0	0	0	0	0	0	0	0	82	0
Lane Group Flow (vph)	57	29	0	0	15	0	21	768	0	21	330	0
Confl. Peds. (#/hr)	62					62	7		42	42		7
Heavy Vehicles (%)	27%	27%	27%	100%	100%	100%	6%	6%	6%	28%	28%	28%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.7	8.7			18.3		7.0	54.3		3.5	50.8	
Effective Green, g (s)	8.7	8.7			18.3		7.0	54.3		3.5	50.8	
Actuated g/C Ratio	0.08	0.08			0.18		0.07	0.53		0.03	0.49	
Clearance Time (s)	4.5	4.5			4.5		4.5	5.0		4.5	5.0	
Vehicle Extension (s)	2.0	2.0			3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	106	103			152		106	867		44	578	
v/s Ratio Prot	c0.05	0.02			c0.02		0.01	c0.47		0.02	c0.28	
v/s Ratio Perm												
v/c Ratio	0.54	0.28			0.10		0.20	0.89		0.48	0.57	
Uniform Delay, d1	45.4	44.4			35.6		45.5	21.7		49.0	18.5	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.6	0.5			0.3		0.3	10.5		3.0	0.8	
Delay (s)	48.0	44.9			35.9		45.8	32.2		52.0	19.4	
Level of Service	D	D			D		D	C		D	B	
Approach Delay (s/veh)		46.4			35.9			32.6			21.0	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			30.1									
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			103.3							18.5		
Intersection Capacity Utilization			65.5%									
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	45.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑			↑↑			↑↑	
Traffic Vol, veh/h	0	875	60	20	610	25	0	0	385	0	0	10
Future Vol, veh/h	0	875	60	20	610	25	0	0	385	0	0	10
Conflicting Peds, #/hr	29	0	200	200	0	29	5	0	2	2	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	235	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	-3	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	9	9	9	1	1	1	0	0	0
Mvmt Flow	0	921	63	21	642	26	0	0	405	0	0	11
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	1184	0	0	1521	1892	694	1189	1910	368
Stage 1	-	-	-	-	-	-	1153	1153	-	726	726	-
Stage 2	-	-	-	-	-	-	368	739	-	463	1184	-
Critical Hdwy	-	-	-	4.28	-	-	7.52	6.52	6.92	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.5	5.5	-
Follow-up Hdwy	-	-	-	2.29	-	-	3.51	4.01	3.31	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	548	-	-	82	70	~388	146	69	635
Stage 1	0	-	-	-	-	-	212	272	-	387	433	-
Stage 2	0	-	-	-	-	-	627	424	-	554	265	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	409	-	-	57	48	~289	-	47	609
Mov Cap-2 Maneuver	-	-	-	-	-	-	57	48	-	-	47	-
Stage 1	-	-	-	-	-	-	212	203	-	387	396	-
Stage 2	-	-	-	-	-	-	582	388	-	-	198	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			0.4			234.7					
HCM LOS							F			-		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	289	-	-	409	-	-	-					
HCM Lane V/C Ratio	1.402	-	-	0.051	-	-	-					
HCM Control Delay (s/veh)	234.7	-	-	14.3	-	-	-					
HCM Lane LOS	F	-	-	B	-	-	-					
HCM 95th %tile Q (veh)	21.6	-	-	0.2	-	-	-					
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	30	20	15	15	10	60	5	295	160	20	45	15
Future Vol, veh/h	30	20	15	15	10	60	5	295	160	20	45	15
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	2	2	2	1	1	1	5	5	5
Mvmt Flow	32	21	16	16	11	63	5	311	168	21	47	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.9	8.6	12.6	8.5
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	46%	18%	25%
Vol Thru, %	64%	31%	12%	56%
Vol Right, %	35%	23%	71%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	460	65	85	80
LT Vol	5	30	15	20
Through Vol	295	20	10	45
RT Vol	160	15	60	15
Lane Flow Rate	484	68	89	84
Geometry Grp	1	1	1	1
Degree of Util (X)	0.566	0.099	0.121	0.113
Departure Headway (Hd)	4.208	5.225	4.888	4.83
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	857	682	729	739
Service Time	2.239	3.284	2.946	2.878
HCM Lane V/C Ratio	0.565	0.1	0.122	0.114
HCM Control Delay, s/veh	12.6	8.9	8.6	8.5
HCM Lane LOS	B	A	A	A
HCM 95th-ile Q	3.6	0.3	0.4	0.4

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	5	0	15	5	735	5	10	130	5
Future Vol, veh/h	0	0	5	5	0	15	5	735	5	10	130	5
Conflicting Peds, #/hr	2	0	2	2	0	2	5	0	17	17	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	50	50	50	70	70	70	4	4	4	16	16	16
Mvmt Flow	0	0	5	5	0	16	5	774	5	11	137	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	964	973	147	970	-	796	147	0	0	796	0	0
Stage 1	167	167	-	804	-	-	-	-	-	-	-	-
Stage 2	797	806	-	166	-	-	-	-	-	-	-	-
Critical Hdwy	7.6	7	6.7	7.8	-	6.9	4.14	-	-	4.26	-	-
Critical Hdwy Stg 1	6.6	6	-	6.8	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	6	-	6.8	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4.45	3.75	4.13	-	3.93	2.236	-	-	2.344	-	-
Pot Cap-1 Maneuver	193	210	788	177	0	298	1423	-	-	767	-	-
Stage 1	734	678	-	292	0	-	-	-	-	-	-	-
Stage 2	317	333	-	700	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	179	202	783	170	-	293	1416	-	-	755	-	-
Mov Cap-2 Maneuver	179	202	-	170	-	-	-	-	-	-	-	-
Stage 1	728	664	-	286	-	-	-	-	-	-	-	-
Stage 2	298	326	-	684	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	9.6		20.2		0.1		0.7					
HCM LOS	A		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	1416	-	-	783 170 293	755	-	-					
HCM Lane V/C Ratio	0.004	-	-	0.007 0.031 0.054	0.014	-	-					
HCM Control Delay (s/veh)	7.6	-	-	9.6 26.9 18	9.8	-	-					
HCM Lane LOS	A	-	-	A D C	A	-	-					
HCM 95th %tile Q (veh)	0	-	-	0 0.1 0.2	0	-	-					

HCM 6th Signalized Intersection Summary
715: Broadway Ave & 33rd St

04/30/2025

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+		+	+		+	+		+	+	
Traffic Volume (veh/h)	25	30	30	110	30	145	20	2000	100	80	1580	45
Future Volume (veh/h)	25	30	30	110	30	145	20	2000	100	80	1580	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.86	0.95		0.86	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	2121	2121	2121	1254	1254	1254	1709	1709	1709	1723	1723	1723
Adj Flow Rate, veh/h	26	32	20	116	32	48	21	2105	104	84	1663	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	22	22	22	3	3	3	2	2	2
Cap, veh/h	88	108	58	166	72	109	59	2161	106	96	2304	65
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.04	0.69	0.69	0.12	1.00	1.00
Sat Flow, veh/h	349	611	331	937	411	616	1628	3141	153	1641	3246	91
Grp Volume(v), veh/h	78	0	0	116	0	80	21	1076	1133	84	835	875
Grp Sat Flow(s), veh/h/ln	1291	0	0	937	0	1027	1628	1624	1671	1641	1637	1700
Q Serve(g_s), s	2.9	0.0	0.0	14.1	0.0	12.5	2.3	110.5	118.2	9.1	0.0	0.0
Cycle Q Clear(g_c), s	15.4	0.0	0.0	29.5	0.0	12.5	2.3	110.5	118.2	9.1	0.0	0.0
Prop In Lane	0.33		0.26	1.00		0.60	1.00		0.09	1.00		0.05
Lane Grp Cap(c), veh/h	254	0	0	166	0	181	59	1117	1149	96	1162	1207
V/C Ratio(X)	0.31	0.00	0.00	0.70	0.00	0.44	0.36	0.96	0.99	0.88	0.72	0.72
Avail Cap(c_a), veh/h	291	0	0	186	0	203	95	1117	1149	96	1162	1207
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.5	0.0	0.0	75.6	0.0	66.3	84.7	26.0	27.2	78.9	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	7.4	0.0	0.6	1.4	19.5	23.3	53.2	3.8	3.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.0	0.0	0.0	9.6	0.0	6.1	1.8	57.0	63.1	8.7	2.2	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	66.8	0.0	0.0	83.0	0.0	66.9	86.1	45.5	50.5	132.1	3.8	3.8
LnGrp LOS	E			F		E	F	D	D	F	A	A
Approach Vol, veh/h	78			196			2230			1794		
Approach Delay, s/veh	66.8			76.4			48.4			9.8		
Approach LOS	E			E			D			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	128.8		36.2	11.0	132.8		36.2				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	10.5	120.0		35.5	10.5	120.0		35.5				
Max Q Clear Time (g_c+I1), s	11.1	120.2		17.4	4.3	2.0		31.5				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	53.2		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				33.9								
HCM 6th LOS				C								

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	5	0	30	0	0	15	25	2100	20	5	1705	10
Future Vol, veh/h	5	0	30	0	0	15	25	2100	20	5	1705	10
Conflicting Peds, #/hr	2	0	0	0	0	2	33	0	18	18	0	33
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-8	-	-	3	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	0	0	0	3	3	3	2	2	2
Mvmt Flow	5	0	32	0	0	16	26	2211	21	5	1795	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	3004	4146	936	3200	4141	1136	1839	0	0	2250	0	0
Stage 1	1844	1844	-	2292	2292	-	-	-	-	-	-	-
Stage 2	1160	2302	-	908	1849	-	-	-	-	-	-	-
Critical Hdwy	6	5	6.2	8.1	7.1	7.2	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	5	4	-	7.1	6.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5	4	-	7.1	6.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.5	4	3.3	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	21	13	321	3	1	181	323	-	-	226	-	-
Stage 1	170	272	-	28	51	-	-	-	-	-	-	-
Stage 2	340	193	-	258	92	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	17	11	309	2	1	177	311	-	-	221	-	-
Mov Cap-2 Maneuver	17	11	-	2	1	-	-	-	-	-	-	-
Stage 1	150	256	-	25	46	-	-	-	-	-	-	-
Stage 2	283	173	-	226	87	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	71.5		27.3		0.2		0.1					
HCM LOS	F		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	311	-	-	89	177	221	-	-				
HCM Lane V/C Ratio	0.085	-	-	0.414	0.089	0.024	-	-				
HCM Control Delay (s/veh)	17.6	-	-	71.5	27.3	21.7	-	-				
HCM Lane LOS	C	-	-	F	D	C	-	-				
HCM 95th %tile Q (veh)	0.3	-	-	1.7	0.3	0.1	-	-				

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	35	0	0	10	15	2125	40	5	1715	15
Future Vol, veh/h	10	0	35	0	0	10	15	2125	40	5	1715	15
Conflicting Peds, #/hr	5	0	0	0	0	5	35	0	18	18	0	35
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-7	-	-	5	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	2	2	2
Mvmt Flow	11	0	37	0	0	11	16	2237	42	5	1805	16
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	3014	4187	946	3221	4174	1163	1856	0	0	2297	0	0
Stage 1	1858	1858	-	2308	2308	-	-	-	-	-	-	-
Stage 2	1156	2329	-	913	1866	-	-	-	-	-	-	-
Critical Hdwy	6.1	5.1	6.2	8.5	7.5	7.4	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	5.1	4.1	-	7.5	6.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.1	4.1	-	7.5	6.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	19	11	320	2	1	162	318	-	-	216	-	-
Stage 1	160	256	-	21	39	-	-	-	-	-	-	-
Stage 2	333	177	-	232	73	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	16	10	308	2	1	158	306	-	-	212	-	-
Mov Cap-2 Maneuver	16	10	-	2	1	-	-	-	-	-	-	-
Stage 1	146	240	-	20	36	-	-	-	-	-	-	-
Stage 2	293	164	-	199	68	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v165.9			29.4		0.1		0.1					
HCM LOS	F		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	306	-	-	61	158	212	-	-				
HCM Lane V/C Ratio	0.052	-	-	0.777	0.067	0.025	-	-				
HCM Control Delay (s/veh)	17.4	-	-	165.9	29.4	22.4	-	-				
HCM Lane LOS	C	-	-	F	D	C	-	-				
HCM 95th %tile Q (veh)	0.2	-	-	3.4	0.2	0.1	-	-				

Intersection												
Int Delay, s/veh	113.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	5	0	30	15	5	45	20	2130	100	35	1695	20
Future Vol, veh/h	5	0	30	15	5	45	20	2130	100	35	1695	20
Conflicting Peds, #/hr	0	0	0	0	0	0	27	0	10	10	0	27
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	140	-	-	160	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	2	2	2
Mvmt Flow	5	0	32	16	5	47	21	2242	105	37	1784	21

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	3062	4295	930	3313	4253	1184	1832	0	0	2357	0	0
Stage 1	1896	1896	-	2347	2347	-	-	-	-	-	-	-
Stage 2	1166	2399	-	966	1906	-	-	-	-	-	-	-
Critical Hdwy	6.3	5.3	6.3	7.5	6.5	6.9	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	5.3	4.3	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.3	4.3	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	15	8	318	~3	~2	185	325	-	-	205	-	-
Stage 1	138	224	-	38	70	-	-	-	-	-	-	-
Stage 2	309	147	-	277	118	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	6	308	~2	~1	183	315	-	-	203	-	-
Mov Cap-2 Maneuver	-	6	-	~2	~1	-	-	-	-	-	-	-
Stage 1	125	178	-	35	65	-	-	-	-	-	-	-
Stage 2	196	136	-	203	94	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v		\$ 7125.6	0.2	0.5
HCM LOS	-	F		

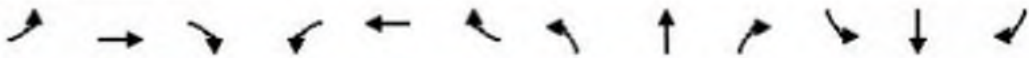
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	315	-	-	- 5	203	-	-
HCM Lane V/C Ratio	0.067	-	-	-13.684	0.181	-	-
HCM Control Delay (s/veh)	17.2	-	-	\$ 7125.6	26.6	-	-
HCM Lane LOS	C	-	-	F	D	-	-
HCM 95th %tile Q (veh)	0.2	-	-	10.4	0.6	-	-

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

HCM Signalized Intersection Capacity Analysis

719: Hill Ave/Fulton St & Pacific Ave

04/30/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱		↰	↰		↰	↰	
Traffic Volume (vph)	580	1735	90	50	435	25	280	105	190	60	25	40
Future Volume (vph)	580	1735	90	50	435	25	280	105	190	60	25	40
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.90		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1614	3201		1568	3112		1549	1658		1611	1527	
Flt Permitted	0.48	1.00		0.13	1.00		0.71	1.00		0.34	1.00	
Satd. Flow (perm)	809	3201		210	3112		1162	1658		580	1527	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	611	1826	95	53	458	26	295	111	200	63	26	42
RTOR Reduction (vph)	0	4	0	0	7	0	0	81	0	0	32	0
Lane Group Flow (vph)	611	1917	0	53	477	0	295	230	0	63	37	0
Confl. Peds. (#/hr)			2	2			3		3	3		3
Heavy Vehicles (%)	3%	3%	3%	6%	6%	6%	7%	7%	7%	3%	3%	3%
Turn Type	custom	NA		custom	NA		Perm	NA		Perm	NA	
Protected Phases	3	8 12		7	4 10		2			6		
Permitted Phases	4			8								
Actuated Green, G (s)	37.5	39.5		37.5	14.5		20.0	20.0		20.0	20.0	
Effective Green, g (s)	37.5	39.5		37.5	14.5		20.0	20.0		20.0	20.0	
Actuated g/C Ratio	0.47	0.49		0.47	0.18		0.25	0.25		0.25	0.25	
Clearance Time (s)	5.0			5.0			4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0			2.0			2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	640	1580		200	564		290	414		145	381	
v/s Ratio Prot	c0.31	c0.60		0.02	c0.15			0.14			0.02	
v/s Ratio Perm	0.14			0.10			c0.25			0.11		
v/c Ratio	0.95	1.21		0.27	0.85		1.02	0.56		0.43	0.10	
Uniform Delay, d1	18.2	20.3		16.6	31.7		30.0	26.1		25.2	23.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	24.5	102.1		0.3	11.3		57.3	0.9		0.8	0.0	
Delay (s)	42.7	122.3		16.8	42.9		87.3	27.0		26.0	23.1	
Level of Service	D	F		B	D		F	C		C	C	
Approach Delay (s/veh)		103.1			40.4			56.4			24.5	
Approach LOS		F			D			E			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			84.1			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.19									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			19.5			
Intersection Capacity Utilization			106.6%			ICU Level of Service			G			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection							
Int Delay, s/veh	11.2						
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations	Y			Y		Y	
Traffic Vol, veh/h	505	10	0	65	5	20	140
Future Vol, veh/h	505	10	0	65	5	20	140
Conflicting Peds, #/hr	1	2	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100
Heavy Vehicles, %	6	6	8	8	29	29	29
Mvmt Flow	505	10	0	65	5	20	140

Major/Minor	Minor2	Major1	Major2				
Conflicting Flow All	156	92	160	0	-	-	0
Stage 1	90	-	-	-	-	-	-
Stage 2	66	-	-	-	-	-	-
Critical Hdwy	6.46	6.26	4.18	-	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	2.272	-	-	-	-
Pot Cap-1 Maneuver	826	954	1383	-	-	-	-
Stage 1	924	-	-	-	-	-	-
Stage 2	947	-	-	-	-	-	-
Platoon blocked, %				-	-	-	-
Mov Cap-1 Maneuver	826	952	1383	-	-	-	-
Mov Cap-2 Maneuver	826	-	-	-	-	-	-
Stage 1	924	-	-	-	-	-	-
Stage 2	947	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	16.2	0	
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1383	-	828	-	-
HCM Lane V/C Ratio	-	-	0.622	-	-
HCM Control Delay (s/veh)	0	-	16.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q (veh)	0	-	4.4	-	-

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	10	10	5	0	5	10	5	30	10	10	0	20
Future Vol, veh/h	10	10	5	0	5	10	5	30	10	10	0	20
Conflicting Peds, #/hr	2	0	1	1	0	2	2	0	3	3	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	18	18	18	0	0	0	5	5	5	50	50	50
Mvmt Flow	10	10	5	0	5	10	5	30	10	10	0	20
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	87	85	13	87	90	40	22	0	0	43	0	0
Stage 1	32	32	-	48	48	-	-	-	-	-	-	-
Stage 2	55	53	-	39	42	-	-	-	-	-	-	-
Critical Hdwy	7.28	6.68	6.38	7.1	6.5	6.2	4.15	-	-	4.6	-	-
Critical Hdwy Stg 1	6.28	5.68	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.28	5.68	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.662	4.162	3.462	3.5	4	3.3	2.245	-	-	2.65	-	-
Pot Cap-1 Maneuver	861	776	1023	904	804	1037	1574	-	-	1306	-	-
Stage 1	945	838	-	971	859	-	-	-	-	-	-	-
Stage 2	918	820	-	981	864	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	838	764	1019	879	791	1031	1571	-	-	1302	-	-
Mov Cap-2 Maneuver	838	764	-	879	791	-	-	-	-	-	-	-
Stage 1	940	830	-	965	854	-	-	-	-	-	-	-
Stage 2	899	815	-	955	855	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	9.4		8.9		0.8		2.6					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1571	-	-	835	936	1302	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.03	0.016	0.008	-	-				
HCM Control Delay (s/veh)	7.3	0	-	9.4	8.9	7.8	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q (veh)	0	-	-	0.1	0	0	-	-				

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+	+				+	+			+	
Traffic Vol, veh/h	0	0	5	0	0	25	0	800	0	0	415	5
Future Vol, veh/h	0	0	5	0	0	25	0	800	0	0	415	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	75	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	100	100	100	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	0	0	27	0	870	0	0	451	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1338	1324	454	-	-	870	456	0	-	-	-	0
Stage 1	454	454	-	-	-	-	-	-	-	-	-	-
Stage 2	884	870	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	8.1	7.5	7.2	-	-	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	7.1	6.5	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.1	6.5	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	4.4	4.9	4.2	-	-	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	82	101	445	0	0	351	1105	-	0	0	-	-
Stage 1	435	434	-	0	0	-	-	-	0	0	-	-
Stage 2	234	261	-	0	0	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	76	101	445	-	-	351	1105	-	-	-	-	-
Mov Cap-2 Maneuver	76	101	-	-	-	-	-	-	-	-	-	-
Stage 1	435	434	-	-	-	-	-	-	-	-	-	-
Stage 2	216	261	-	-	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	13.2		16.1		0		0					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL		NBT		EBLn1WBLn1		SBT		SBR			
Capacity (veh/h)	1105		-		445		351		-		-	
HCM Lane V/C Ratio	-		-		0.012		0.077		-		-	
HCM Control Delay (s/veh)	0		-		13.2		16.1		-		-	
HCM Lane LOS	A		-		B		C		-		-	
HCM 95th %tile Q (veh)	0		-		0		0.3		-		-	

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	5	0	460	0	5	70
Future Vol, veh/h	5	0	460	0	5	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	100	100	3	3	3	3
Mvmt Flow	5	0	484	0	5	74
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	568	484	0	0	484	0
Stage 1	484	-	-	-	-	-
Stage 2	84	-	-	-	-	-
Critical Hdwy	7.4	7.2	-	-	4.13	-
Critical Hdwy Stg 1	6.4	-	-	-	-	-
Critical Hdwy Stg 2	6.4	-	-	-	-	-
Follow-up Hdwy	4.4	4.2	-	-	2.227	-
Pot Cap-1 Maneuver	353	426	-	-	1074	-
Stage 1	458	-	-	-	-	-
Stage 2	741	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	351	426	-	-	1074	-
Mov Cap-2 Maneuver	351	-	-	-	-	-
Stage 1	458	-	-	-	-	-
Stage 2	737	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	15.4	0	0.6			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBR/WBLn1	SBL	SBT		
Capacity (veh/h)	-	-	351	1074	-	
HCM Lane V/C Ratio	-	-	0.015	0.005	-	
HCM Control Delay (s/veh)	-	-	15.4	8.4	0	
HCM Lane LOS	-	-	C	A	A	
HCM 95th %tile Q (veh)	-	-	0	0	-	

Intersection	
Intersection Delay, s/veh	14.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	115	95	0	0	250	80	30	265	15	0	70	5
Future Vol, veh/h	115	95	0	0	250	80	30	265	15	0	70	5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	121	100	0	0	263	84	32	279	16	0	74	5
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	11.2	16.7	15.1	10.4
HCM LOS	B	C	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	10%	100%	0%	0%	0%	0%
Vol Thru, %	85%	0%	100%	100%	76%	93%
Vol Right, %	5%	0%	0%	0%	24%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	310	115	95	0	330	75
LT Vol	30	115	0	0	0	0
Through Vol	265	0	95	0	250	70
RT Vol	15	0	0	0	80	5
Lane Flow Rate	326	121	100	0	347	79
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.523	0.23	0.176	0	0.578	0.138
Departure Headway (Hd)	5.771	6.844	6.335	6.158	5.985	6.279
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	623	523	564	0	601	567
Service Time	3.834	4.614	4.104	3.916	3.744	4.366
HCM Lane V/C Ratio	0.523	0.231	0.177	0	0.577	0.139
HCM Control Delay, s/veh	15.1	11.7	10.5	8.9	16.7	10.4
HCM Lane LOS	C	B	B	N	C	B
HCM 95th-ile Q	3	0.9	0.6	0	3.7	0.5

HCM 6th Signalized Intersection Summary
701: Broadway Ave & Hewitt Ave

04/29/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	520	130	95	125	105	60	1765	345	190	1150	25
Future Volume (veh/h)	95	520	130	95	125	105	60	1765	345	190	1150	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1736	1736	1736	1736	1736	1736	1709	1709	1709	1709	1709	1709
Adj Flow Rate, veh/h	100	547	80	100	132	23	63	1858	325	200	1211	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1	3	3	3	3	3	3
Cap, veh/h	117	522	295	115	438	74	87	1732	832	217	2000	43
Arrive On Green	0.07	0.16	0.16	0.07	0.16	0.16	0.11	1.00	1.00	0.13	0.62	0.62
Sat Flow, veh/h	1654	3299	1368	1654	2788	471	1628	3247	1371	1628	3245	70
Grp Volume(v), veh/h	100	547	80	100	76	79	63	1858	325	200	606	631
Grp Sat Flow(s),veh/h/ln	1654	1650	1368	1654	1650	1609	1628	1624	1371	1628	1624	1691
Q Serve(g_s), s	10.8	28.5	7.2	10.8	7.4	7.8	6.7	96.0	0.0	21.9	41.1	41.1
Cycle Q Clear(g_c), s	10.8	28.5	7.2	10.8	7.4	7.8	6.7	96.0	0.0	21.9	41.1	41.1
Prop In Lane	1.00		1.00	1.00		0.29	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	117	522	295	115	259	253	87	1732	832	217	1001	1042
V/C Ratio(X)	0.86	1.05	0.27	0.87	0.29	0.31	0.73	1.07	0.39	0.92	0.61	0.61
Avail Cap(c_a), veh/h	152	522	295	115	259	253	113	1732	832	222	1001	1042
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	82.7	75.8	40.5	83.0	67.0	67.2	79.2	0.0	0.0	77.1	21.1	21.1
Incr Delay (d2), s/veh	24.9	52.3	0.2	45.3	0.2	0.3	0.9	34.1	0.1	38.3	2.7	2.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.3	23.0	4.5	10.1	5.7	5.9	3.6	10.2	0.1	17.0	22.9	23.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	107.6	128.0	40.7	128.2	67.3	67.5	80.1	34.1	0.1	115.4	23.9	23.8
LnGrp LOS	F	F	D	F	E	E	F	F	A	F	C	C
Approach Vol, veh/h	727			255			2246			1437		
Approach Delay, s/veh	115.6			91.2			30.5			36.6		
Approach LOS	F			F			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.0	101.0	17.2	32.8	14.1	115.9	17.0	33.0				
Change Period (Y+Rc), s	5.0	* 5	4.5	4.5	4.5	5.0	4.5	4.5				
Max Green Setting (Gmax), s	24.5	* 96	16.5	24.5	12.5	108.0	12.5	28.5				
Max Q Clear Time (g_c+I1), s	23.9	98.0	12.8	9.8	8.7	43.1	12.8	30.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.2	0.0	2.9	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	48.9											
HCM 6th LOS	D											
Notes												

HCM 6th Signalized Intersection Summary
702: Broadway Ave & Wall St

04/29/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	5	90	15	5	70	55	2055	20	15	1270	90
Future Volume (veh/h)	45	5	90	15	5	70	55	2055	20	15	1270	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.86		0.83	0.90		0.83	1.00		0.91	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1806	1806	1806	1820	1820	1820	1709	1709	1709	1695	1695	1695
Adj Flow Rate, veh/h	47	5	56	16	5	11	58	2163	21	16	1337	93
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	3	3	3	4	4	4
Cap, veh/h	92	17	87	101	34	55	251	2518	24	49	1940	134
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.20	1.00	1.00	0.06	1.00	1.00
Sat Flow, veh/h	502	134	685	563	267	435	1628	3291	32	1615	3036	210
Grp Volume(v), veh/h	108	0	0	32	0	0	58	1064	1120	16	707	723
Grp Sat Flow(s),veh/h/ln	1322	0	0	1265	0	0	1628	1624	1700	1615	1611	1636
Q Serve(g_s), s	10.0	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0	1.7	0.0	0.0
Cycle Q Clear(g_c), s	13.7	0.0	0.0	3.7	0.0	0.0	5.4	0.0	0.0	1.7	0.0	0.0
Prop In Lane	0.44		0.52	0.50		0.34	1.00		0.02	1.00		0.13
Lane Grp Cap(c), veh/h	196	0	0	190	0	0	251	1242	1301	49	1029	1045
V/C Ratio(X)	0.55	0.00	0.00	0.17	0.00	0.00	0.23	0.86	0.86	0.32	0.69	0.69
Avail Cap(c_a), veh/h	287	0	0	285	0	0	251	1242	1301	94	1029	1045
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.73	0.73	0.73
Uniform Delay (d), s/veh	74.4	0.0	0.0	70.2	0.0	0.0	62.7	0.0	0.0	82.7	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.0	0.0	0.4	0.0	0.0	0.5	7.7	7.6	2.7	2.7	2.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.6	0.0	0.0	2.5	0.0	0.0	4.0	4.8	5.0	1.3	1.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	76.8	0.0	0.0	70.6	0.0	0.0	63.1	7.7	7.6	85.4	2.7	2.8
LnGrp LOS	E			E			E	A	A	F	A	A
Approach Vol, veh/h		108			32			2242			1446	
Approach Delay, s/veh		76.8			70.6			9.1			3.7	
Approach LOS		E			E			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	142.7		27.3	32.7	120.0		27.3				
Change Period (Y+Rc), s	4.5	5.0		4.5	5.0	* 5		4.5				
Max Green Setting (Gmax), s	10.5	120.0		35.5	15.5	1.2E+02		35.5				
Max Q Clear Time (g_c+I1), s	3.7	2.0		5.7	7.4	2.0		15.7				
Green Ext Time (p_c), s	0.0	78.9		0.1	0.1	27.1		0.6				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				9.5								
HCM 6th LOS				A								
Notes												

HCM 6th Signalized Intersection Summary
703: Broadway Ave & Pacific Ave

04/29/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	460	355	210	210	180	175	1720	300	155	1125	95
Future Volume (veh/h)	205	460	355	210	210	180	175	1720	300	155	1125	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.92	1.00		0.92	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1926	1926	1926	1418	1418	1418	1709	1709	1709	1695	1695	1695
Adj Flow Rate, veh/h	211	474	317	216	216	99	180	1773	276	160	1160	73
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	10	10	10	3	3	3	4	4	4
Cap, veh/h	230	508	407	229	331	144	203	1614	907	139	1467	777
Arrive On Green	0.13	0.14	0.14	0.17	0.19	0.19	0.25	0.99	0.99	0.17	0.91	0.91
Sat Flow, veh/h	1834	3659	1466	1351	1779	773	1628	3247	1331	1615	3221	1310
Grp Volume(v), veh/h	211	474	317	216	161	154	180	1773	276	160	1160	73
Grp Sat Flow(s),veh/h/ln	1834	1830	1466	1351	1347	1204	1628	1624	1331	1615	1611	1310
Q Serve(g_s), s	20.5	23.1	10.9	28.5	19.8	21.5	19.2	89.5	0.1	15.5	20.6	0.4
Cycle Q Clear(g_c), s	20.5	23.1	10.9	28.5	19.8	21.5	19.2	89.5	0.1	15.5	20.6	0.4
Prop In Lane	1.00		1.00	1.00		0.64	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	230	508	407	229	251	224	203	1614	907	139	1467	777
V/C Ratio(X)	0.92	0.93	0.78	0.94	0.64	0.69	0.89	1.10	0.30	1.15	0.79	0.09
Avail Cap(c_a), veh/h	270	508	407	251	251	224	203	1614	907	139	1467	777
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	77.8	76.7	60.7	73.9	67.7	68.4	66.3	0.5	0.0	74.5	5.3	1.0
Incr Delay (d2), s/veh	29.1	24.0	8.5	38.4	4.3	7.2	4.5	45.5	0.1	122.5	4.4	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	17.2	18.5	7.6	18.1	11.6	11.5	8.8	13.0	0.1	16.8	6.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	106.8	100.7	69.2	112.2	72.0	75.7	70.9	46.1	0.1	197.0	9.7	1.3
LnGrp LOS	F	F	E	F	E	E	E	F	A	F	A	A
Approach Vol, veh/h	1002			531			2229			1393		
Approach Delay, s/veh	92.0			89.4			42.4			30.8		
Approach LOS	F			F			D			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	94.5	27.1	38.5	27.5	87.0	35.5	30.0				
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	5.0	* 5	5.0	* 5				
Max Green Setting (Gmax), s	15.5	87.0	26.5	32.0	20.5	* 82	33.5	* 25				
Max Q Clear Time (g_c+I1), s	17.5	91.5	22.5	23.5	21.2	22.6	30.5	25.1				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.8	0.0	25.6	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	53.7											
HCM 6th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary

704: Broadway Ave & 32nd St

04/29/2025

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Volume (veh/h)	5	10	40	10	0	70	25	2120	75	75	1590	25
Future Volume (veh/h)	5	10	40	10	0	70	25	2120	75	75	1590	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.91	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1967	1967	1967	1350	1350	1350	1709	1709	1709	1723	1723	1723
Adj Flow Rate, veh/h	5	11	6	11	0	5	26	2232	78	79	1674	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	15	15	15	3	3	3	2	2	2
Cap, veh/h	39	87	47	76	0	35	66	2091	73	94	2211	34
Arrive On Green	0.10	0.10	0.10	0.09	0.00	0.09	0.08	1.00	1.00	0.11	1.00	1.00
Sat Flow, veh/h	409	900	491	822	0	374	1628	3199	111	1641	3298	51
Grp Volume(v), veh/h	22	0	0	16	0	0	26	1125	1185	79	829	871
Grp Sat Flow(s), veh/h/ln	1801	0	0	1196	0	0	1628	1624	1687	1641	1637	1712
Q Serve(g_s), s	2.0	0.0	0.0	2.2	0.0	0.0	2.7	117.7	117.7	8.5	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.0	0.0	2.2	0.0	0.0	2.7	117.7	117.7	8.5	0.0	0.0
Prop In Lane	0.23		0.27	0.69		0.31	1.00		0.07	1.00		0.03
Lane Grp Cap(c), veh/h	173	0	0	111	0	0	66	1061	1103	94	1097	1148
V/C Ratio(X)	0.13	0.00	0.00	0.14	0.00	0.00	0.40	1.06	1.07	0.84	0.76	0.76
Avail Cap(c_a), veh/h	275	0	0	183	0	0	95	1061	1103	96	1097	1148
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.09	0.09	0.09	0.41	0.41	0.41
Uniform Delay (d), s/veh	74.4	0.0	0.0	75.0	0.0	0.0	80.6	0.0	0.0	78.9	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.6	0.0	0.0	0.3	29.6	35.5	23.0	2.0	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	0.0	0.0	1.3	0.0	0.0	1.7	10.8	13.4	6.1	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	74.8	0.0	0.0	75.6	0.0	0.0	81.0	29.6	35.5	101.9	2.0	2.0
LnGrp LOS	E			E			F	F	F	F	A	A
Approach Vol, veh/h	22			16			2336			1779		
Approach Delay, s/veh	74.8			75.6			33.1			6.4		
Approach LOS	E			E			C			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.8	122.2		21.8	11.8	125.2		21.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	96.5		27.5	10.5	96.5		27.5				
Max Q Clear Time (g_c+I1), s	10.5	119.7		4.0	4.7	2.0		4.2				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	39.1		0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	22.1											
HCM 6th LOS	C											

Intersection												
Int Delay, s/veh	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	15	10	15	5	40	0	30	10	5	0	15	20
Future Vol, veh/h	15	10	15	5	40	0	30	10	5	0	15	20
Conflicting Peds, #/hr	2	0	3	3	0	2	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	6	6	6	0	0	0	0	0	0	0	0	0
Mvmt Flow	15	10	15	5	40	0	30	10	5	0	15	20
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	42	0	0	28	0	0	121	103	21	107	110	44
Stage 1	-	-	-	-	-	-	51	51	-	52	52	-
Stage 2	-	-	-	-	-	-	70	52	-	55	58	-
Critical Hdwy	4.16	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.254	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1542	-	-	1599	-	-	859	791	1062	877	784	1032
Stage 1	-	-	-	-	-	-	967	856	-	966	856	-
Stage 2	-	-	-	-	-	-	945	856	-	962	851	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1540	-	-	1595	-	-	819	778	1059	854	771	1029
Mov Cap-2 Maneuver	-	-	-	-	-	-	819	778	-	854	771	-
Stage 1	-	-	-	-	-	-	955	846	-	954	852	-
Stage 2	-	-	-	-	-	-	906	852	-	937	841	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	2.8			0.8			9.6			9.2		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	830	1540	-	-	1595	-	-	900				
HCM Lane V/C Ratio	0.054	0.01	-	-	0.003	-	-	0.039				
HCM Control Delay (s/veh)	9.6	7.4	0	-	7.3	0	-	9.2				
HCM Lane LOS	A	A	A	-	A	A	-	A				
HCM 95th %tile Q (veh)	0.2	0	-	-	0	-	-	0.1				

Intersection													
Int Delay, s/veh	0.9												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑			↑↑				↑↑	
Traffic Vol, veh/h	0	860	55	0	595	15	0	0	65	30	0	0	5
Future Vol, veh/h	0	860	55	0	595	15	0	0	65	30	0	0	5
Conflicting Peds, #/hr	26	0	160	160	0	26	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	96	96	92	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	7	7	7	9	9	9	3	3	3	0	0	0	0
Mvmt Flow	0	896	60	0	620	16	0	0	68	31	0	0	5
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	0	0	-	-	0	1396	1748	638	0	1102	1770	344
Stage 1	-	-	-	-	-	-	1086	1086	-	0	654	654	-
Stage 2	-	-	-	-	-	-	310	662	-	0	448	1116	-
Critical Hdwy	-	-	-	-	-	-	7.56	6.56	6.96	-	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	-	6.5	5.5	-
Follow-up Hdwy	-	-	-	-	-	-	3.53	4.03	3.33	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	0	-	-	100	84	417	0	169	84	658
Stage 1	0	-	-	0	-	-	229	288	-	0	427	466	-
Stage 2	0	-	-	0	-	-	672	455	-	0	565	285	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	84	69	353	0	133	69	642
Mov Cap-2 Maneuver	-	-	-	-	-	-	84	69	-	0	133	69	-
Stage 1	-	-	-	-	-	-	229	244	-	0	427	454	-
Stage 2	-	-	-	-	-	-	667	444	-	0	457	242	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s/v	0			0			17.6			10.7			
HCM LOS							C			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1							
Capacity (veh/h)	353	-	-	-	-	642							
HCM Lane V/C Ratio	0.192	-	-	-	-	0.008							
HCM Control Delay (s/veh)	17.6	-	-	-	-	10.7							
HCM Lane LOS	C	-	-	-	-	B							
HCM 95th %tile Q (veh)	0.7	-	-	-	-	0							

HCM Signalized Intersection Capacity Analysis
708: Smith Ave & Pacific Ave

04/29/2025

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗↗
Traffic Volume (vph)	885	40	175	515	70	955
Future Volume (vph)	885	40	175	515	70	955
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	11	11
Grade (%)	3%			0%	3%	
Total Lost time (s)	5.0		3.0	5.0	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	0.88
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3090		1554	3107	1439	2266
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3090		1554	3107	1439	2266
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	932	42	184	542	74	1005
RTOR Reduction (vph)	3	0	0	0	0	18
Lane Group Flow (vph)	971	0	184	542	74	987
Confl. Peds. (#/hr)		26	26		16	
Heavy Vehicles (%)	5%	5%	7%	7%	10%	10%
Turn Type	NA		Prot	NA	Prot	custom
Protected Phases	8		6 7	4	5	5 6 7
Permitted Phases						
Actuated Green, G (s)	36.8		24.0	52.0	7.7	36.2
Effective Green, g (s)	36.8		24.0	52.0	7.7	33.2
Actuated g/C Ratio	0.45		0.29	0.63	0.09	0.40
Clearance Time (s)	5.0			5.0	4.5	
Vehicle Extension (s)	1.5			1.5	3.0	
Lane Grp Cap (vph)	1378		452	1958	134	911
v/s Ratio Prot	c0.31		0.12	0.17	0.05	c0.44
v/s Ratio Perm						
v/c Ratio	0.70		0.41	0.28	0.55	1.08
Uniform Delay, d1	18.5		23.5	6.8	35.8	24.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	3.0		0.2	0.4	4.9	55.1
Delay (s)	21.5		23.7	7.2	40.6	79.7
Level of Service	C		C	A	D	E
Approach Delay (s/veh)	21.5			11.4	77.0	
Approach LOS	C			B	E	
Intersection Summary						
HCM 2000 Control Delay (s/veh)		40.4		HCM 2000 Level of Service		D
HCM 2000 Volume to Capacity ratio		0.94				
Actuated Cycle Length (s)		82.5		Sum of lost time (s)		17.0
Intersection Capacity Utilization		72.2%		ICU Level of Service		C
Analysis Period (min)		15				
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

709: Smith Ave & 32nd St

04/29/2025

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		+		+	+			+		+	+	
Traffic Volume (vph)	0	0	20	25	0	65	0	960	30	35	105	75
Future Volume (vph)	0	0	20	25	0	65	0	960	30	35	105	75
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			0%			0%			-3%	
Total Lost time (s)		3.5		4.5	3.5			4.5		4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00			0.95		1.00	1.00	
Frpb, ped/bikes		0.88		1.00	0.97			1.00		1.00	0.96	
Flpb, ped/bikes		1.00		0.91	1.00			1.00		1.00	1.00	
Frt		0.87		1.00	0.85			1.00		1.00	0.94	
Flt Protected		1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1198		1447	1381			3003		1264	1203	
Flt Permitted		1.00		0.74	1.00			1.00		0.28	1.00	
Satd. Flow (perm)		1198		1133	1381			3003		373	1203	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	21	26	0	67	0	990	31	36	108	77
RTOR Reduction (vph)	0	16	0	0	55	0	0	1	0	0	18	0
Lane Group Flow (vph)	0	5	0	26	12	0	0	1020	0	36	167	0
Confl. Peds. (#/hr)	19		40	40		19	31		45	45		31
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	10%	10%	10%	33%	33%	33%
Parking (#/hr)		1										
Turn Type		NA		custom	NA			NA		custom	NA	
Protected Phases		3 4			7 8			2 10		1	6	
Permitted Phases	4			8						2		
Actuated Green, G (s)		20.0		9.7	16.2			48.0		29.8	57.2	
Effective Green, g (s)		20.0		9.7	16.2			44.5		29.8	57.2	
Actuated g/C Ratio		0.23		0.11	0.18			0.51		0.34	0.65	
Clearance Time (s)				4.5						4.5	4.5	
Vehicle Extension (s)				2.5						2.0	2.0	
Lane Grp Cap (vph)		272		125	254			1522		174	783	
v/s Ratio Prot		c0.00			c0.01			c0.34		0.01	c0.14	
v/s Ratio Perm				c0.02						0.06		
v/c Ratio		0.02		0.21	0.05			0.67		0.21	0.21	
Uniform Delay, d1		26.3		35.6	29.5			16.2		19.7	6.2	
Progression Factor		1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.0		0.6	0.1			0.9		0.2	0.0	
Delay (s)		26.3		36.2	29.5			17.0		19.9	6.2	
Level of Service		C		D	C			B		B	A	
Approach Delay (s/veh)		26.3			31.4			17.0			8.5	
Approach LOS		C			C			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			16.8			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			87.8			Sum of lost time (s)			20.5			
Intersection Capacity Utilization			51.9%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

710: Smith Ave & 33rd St

04/29/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	45	40	5	35	0	30	730	0	0	125	25
Future Volume (vph)	260	45	40	5	35	0	30	730	0	0	125	25
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5			4.5		4.5	5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00			0.99	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00			1.00	
Frt	1.00	0.93			1.00		1.00	1.00			0.97	
Flt Protected	0.95	1.00			0.99		0.95	1.00			1.00	
Satd. Flow (prot)	1265	1238			870		1568	1651			1323	
Flt Permitted	0.95	1.00			0.99		0.95	1.00			1.00	
Satd. Flow (perm)	1265	1238			870		1568	1651			1323	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	268	46	41	5	36	0	31	753	0	0	129	26
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	0	0	6	0
Lane Group Flow (vph)	268	64	0	0	41	0	31	753	0	0	149	0
Confl. Peds. (#/hr)	62					62	7		42	42		7
Heavy Vehicles (%)	27%	27%	27%	100%	100%	100%	6%	6%	6%	28%	28%	28%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	27.6	27.6			13.8		10.1	56.2			41.6	
Effective Green, g (s)	27.6	27.6			13.8		10.1	56.2			41.6	
Actuated g/C Ratio	0.25	0.25			0.12		0.09	0.50			0.37	
Clearance Time (s)	4.5	4.5			4.5		4.5	5.0			5.0	
Vehicle Extension (s)	2.0	2.0			3.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	312	306			107		141	831			493	
v/s Ratio Prot	c0.21	0.05			c0.05		0.02	c0.46			0.11	
v/s Ratio Perm												
v/c Ratio	0.86	0.21			0.38		0.22	0.91			0.30	
Uniform Delay, d1	40.1	33.3			45.0		47.1	25.3			24.7	
Progression Factor	1.00	1.00			1.00		1.00	1.00			1.00	
Incremental Delay, d2	19.6	0.1			2.3		0.3	13.1			0.1	
Delay (s)	59.7	33.5			47.3		47.4	38.4			24.9	
Level of Service	E	C			D		D	D			C	
Approach Delay (s/veh)		53.3			47.3			38.7			24.9	
Approach LOS		D			D			D			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		41.3										
HCM 2000 Volume to Capacity ratio		0.86										
Actuated Cycle Length (s)		111.6						18.5				
Intersection Capacity Utilization		71.9%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
711: EVT-C Bus Access/McDougall Ave & Pacific Ave

04/29/2025

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations	↰	↰↱		↰	↰↱			↰↱			↰↱	
Traffic Volume (vph)	0	895	30	5	570	10	30	0	5	25	0	10
Future Volume (vph)	0	895	30	5	570	10	30	0	5	25	0	10
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	12	16	12	12	16	12
Grade (%)		-6%			-3%			0%			0%	
Total Lost time (s)		5.0		5.0	4.0			4.5			4.5	
Lane Util. Factor		0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Flpb, ped/bikes		1.00		0.99	1.00			1.00			1.00	
Frt		1.00		1.00	1.00			0.98			0.96	
Flt Protected		1.00		0.95	1.00			0.96			0.97	
Satd. Flow (prot)		3073		1482	2981			928			1637	
Flt Permitted		1.00		0.29	1.00			0.76			0.80	
Satd. Flow (perm)		3073		459	2981			735			1361	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	942	32	5	600	11	32	0	5	26	0	11
RTOR Reduction (vph)	0	2	0	0	1	0	0	31	0	0	31	0
Lane Group Flow (vph)	0	972	0	5	610	0	0	6	0	0	6	0
Confl. Peds. (#/hr)	29		45	45		29	5		2	2		5
Heavy Vehicles (%)	7%	7%	7%	9%	9%	9%	100%	100%	100%	0%	0%	0%
Parking (#/hr)												1
Turn Type	custom	NA		custom	NA		custom	NA		custom	NA	
Protected Phases		4 7			3 8			2 5			1 6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		38.7		40.2	46.0			10.5			10.5	
Effective Green, g (s)		38.7		40.2	46.0			10.5			10.5	
Actuated g/C Ratio		0.59		0.61	0.70			0.16			0.16	
Clearance Time (s)				5.0								
Vehicle Extension (s)				4.0								
Lane Grp Cap (vph)		1799		279	2074			116			216	
v/s Ratio Prot		c0.32			c0.20							
v/s Ratio Perm				0.01				c0.01			0.00	
v/c Ratio		0.54		0.02	0.29			0.05			0.03	
Uniform Delay, d1		8.3		5.1	3.8			23.6			23.5	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.3		0.1	0.1			0.2			0.1	
Delay (s)		8.6		5.2	4.0			23.8			23.5	
Level of Service		A		A	A			C			C	
Approach Delay (s/veh)		8.6			4.0			23.8			23.5	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			7.6			HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio			0.47									
Actuated Cycle Length (s)			66.1			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			46.4%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection

Intersection Delay, s/veh 8.3

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	0	20	5	0	75	0	5	35	0	0	35	0
Future Vol, veh/h	0	20	5	0	75	0	5	35	0	0	35	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	2	2	2	100	100	100	100	100	5
Mvmt Flow	0	21	5	0	79	0	5	37	0	0	37	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay, s/veh	7.2			7.6			9.4			9.3		
HCM LOS	A			A			A			A		

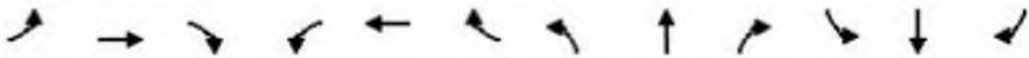
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	0%	0%	0%
Vol Thru, %	88%	80%	100%	100%
Vol Right, %	0%	20%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	25	75	35
LT Vol	5	0	0	0
Through Vol	35	20	75	35
RT Vol	0	5	0	0
Lane Flow Rate	42	26	79	37
Geometry Grp	1	1	1	1
Degree of Util (X)	0.068	0.03	0.092	0.06
Departure Headway (Hd)	5.838	4.108	4.208	5.817
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	609	876	857	610
Service Time	3.92	2.11	2.209	3.902
HCM Lane V/C Ratio	0.069	0.03	0.092	0.061
HCM Control Delay, s/veh	9.4	7.2	7.6	9.3
HCM Lane LOS	A	A	A	A
HCM 95th-ile Q	0.2	0.1	0.3	0.2

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	10	0	0	10	0	20	0	730	5	10	160	0
Future Vol, veh/h	10	0	0	10	0	20	0	730	5	10	160	0
Conflicting Peds, #/hr	0	0	0	0	0	0	20	0	17	17	0	20
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	8	8	8
Mvmt Flow	11	0	0	11	0	21	0	768	5	11	168	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	991	1000	188	978	998	788	188	0	0	790	0	0
Stage 1	210	210	-	788	788	-	-	-	-	-	-	-
Stage 2	781	790	-	190	210	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.18	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.272	-	-
Pot Cap-1 Maneuver	227	245	859	232	246	394	1374	-	-	804	-	-
Stage 1	797	732	-	387	405	-	-	-	-	-	-	-
Stage 2	391	404	-	816	732	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	208	233	843	226	234	388	1348	-	-	791	-	-
Mov Cap-2 Maneuver	208	233	-	226	234	-	-	-	-	-	-	-
Stage 1	782	708	-	381	399	-	-	-	-	-	-	-
Stage 2	370	398	-	805	708	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	23.2		17.8		0		0.6					
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1348	-	-	208	313	791	-	-				
HCM Lane V/C Ratio	-	-	-	0.051	0.101	0.013	-	-				
HCM Control Delay (s/veh)	0	-	-	23.2	17.8	9.6	-	-				
HCM Lane LOS	A	-	-	C	C	A	-	-				
HCM 95th %tile Q (veh)	0	-	-	0.2	0.3	0	-	-				

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+		+		+	+	+		+	+	
Traffic Vol, veh/h	0	0	5	5	0	15	5	720	5	10	155	5
Future Vol, veh/h	0	0	5	5	0	15	5	720	5	10	155	5
Conflicting Peds, #/hr	2	0	2	2	0	2	5	0	17	17	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	50	50	50	70	70	70	4	4	4	16	16	16
Mvmt Flow	0	0	5	5	0	16	5	758	5	11	163	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	974	983	173	980	-	780	173	0	0	780	0	0
Stage 1	193	193	-	788	-	-	-	-	-	-	-	-
Stage 2	781	790	-	192	-	-	-	-	-	-	-	-
Critical Hdwy	7.6	7	6.7	7.8	-	6.9	4.14	-	-	4.26	-	-
Critical Hdwy Stg 1	6.6	6	-	6.8	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	6	-	6.8	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4.45	3.75	4.13	-	3.93	2.236	-	-	2.344	-	-
Pot Cap-1 Maneuver	190	207	760	174	0	305	1392	-	-	778	-	-
Stage 1	710	659	-	299	0	-	-	-	-	-	-	-
Stage 2	324	340	-	676	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	176	199	755	167	-	299	1385	-	-	765	-	-
Mov Cap-2 Maneuver	176	199	-	167	-	-	-	-	-	-	-	-
Stage 1	704	646	-	293	-	-	-	-	-	-	-	-
Stage 2	305	333	-	660	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	9.8		20.1		0.1		0.6					
HCM LOS	A		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	1385	-	-	755 167 299	765	-	-					
HCM Lane V/C Ratio	0.004	-	-	0.007 0.032 0.053	0.014	-	-					
HCM Control Delay (s/veh)	7.6	-	-	9.8 27.3 17.7	9.8	-	-					
HCM Lane LOS	A	-	-	A D C	A	-	-					
HCM 95th %tile Q (veh)	0	-	-	0 0.1 0.2	0	-	-					

HCM 6th Signalized Intersection Summary
715: Broadway Ave & 33rd St

04/29/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+		+	+		+	+		+	+	
Traffic Volume (veh/h)	45	10	30	105	20	155	20	2020	50	25	1550	65
Future Volume (veh/h)	45	10	30	105	20	155	20	2020	50	25	1550	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.87		0.84	0.91		0.84	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	2121	2121	2121	1254	1254	1254	1709	1709	1709	1723	1723	1723
Adj Flow Rate, veh/h	47	11	18	111	21	16	21	2126	52	26	1632	67
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	22	22	22	3	3	3	2	2	2
Cap, veh/h	143	36	46	161	88	67	59	2380	58	66	2366	97
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.04	0.74	0.74	0.08	1.00	1.00
Sat Flow, veh/h	758	247	312	912	606	462	1628	3235	79	1641	3197	131
Grp Volume(v), veh/h	76	0	0	111	0	37	21	1061	1117	26	831	868
Grp Sat Flow(s), veh/h/ln	1317	0	0	912	0	1067	1628	1624	1690	1641	1637	1691
Q Serve(g_s), s	6.6	0.0	0.0	11.9	0.0	5.5	2.3	89.7	92.7	2.7	0.0	0.0
Cycle Q Clear(g_c), s	12.1	0.0	0.0	24.0	0.0	5.5	2.3	89.7	92.7	2.7	0.0	0.0
Prop In Lane	0.62		0.24	1.00		0.43	1.00		0.05	1.00		0.08
Lane Grp Cap(c), veh/h	225	0	0	161	0	156	59	1195	1244	66	1211	1252
V/C Ratio(X)	0.34	0.00	0.00	0.69	0.00	0.24	0.36	0.89	0.90	0.39	0.69	0.69
Avail Cap(c_a), veh/h	304	0	0	208	0	211	95	1195	1244	96	1211	1252
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.35	0.35	0.35
Uniform Delay (d), s/veh	71.9	0.0	0.0	76.5	0.0	68.0	84.7	18.1	18.5	80.6	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	3.5	0.0	0.3	1.4	10.0	10.4	0.5	1.1	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.0	0.0	0.0	9.1	0.0	2.8	1.8	43.9	46.8	2.1	0.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	72.2	0.0	0.0	80.0	0.0	68.3	86.1	28.1	28.9	81.1	1.1	1.1
LnGrp LOS	E			F		E	F	C	C	F	A	A
Approach Vol, veh/h	76			148			2199			1725		
Approach Delay, s/veh	72.2			77.1			29.1			2.3		
Approach LOS	E			E			C			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.8	137.4		30.8	11.0	138.2		30.8				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	10.5	120.0		35.5	10.5	120.0		35.5				
Max Q Clear Time (g_c+I1), s	4.7	94.7		14.1	4.3	2.0		26.0				
Green Ext Time (p_c), s	0.0	23.6		0.2	0.0	52.5		0.3				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	20.5											
HCM 6th LOS	C											

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		↑	↑↑		↑	↑↑	
Traffic Vol, veh/h	5	0	35	0	0	15	25	2070	20	5	1670	10
Future Vol, veh/h	5	0	35	0	0	15	25	2070	20	5	1670	10
Conflicting Peds, #/hr	2	0	0	0	0	2	33	0	18	18	0	33
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-8	-	-	3	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	0	0	0	3	3	3	2	2	2
Mvmt Flow	5	0	37	0	0	16	26	2179	21	5	1758	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2951	4077	918	3149	4072	1120	1802	0	0	2218	0	0
Stage 1	1807	1807	-	2260	2260	-	-	-	-	-	-	-
Stage 2	1144	2270	-	889	1812	-	-	-	-	-	-	-
Critical Hdwy	6	5	6.2	8.1	7.1	7.2	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	5	4	-	7.1	6.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5	4	-	7.1	6.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.5	4	3.3	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	23	14	329	3	1	186	334	-	-	232	-	-
Stage 1	177	279	-	29	53	-	-	-	-	-	-	-
Stage 2	345	198	-	266	97	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	19	12	317	2	1	182	322	-	-	227	-	-
Mov Cap-2 Maneuver	19	12	-	2	1	-	-	-	-	-	-	-
Stage 1	157	263	-	26	48	-	-	-	-	-	-	-
Stage 2	289	178	-	230	91	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	59		26.7		0.2		0.1					
HCM LOS	F		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	322	-	-	107	182	227	-	-				
HCM Lane V/C Ratio	0.082	-	-	0.394	0.087	0.023	-	-				
HCM Control Delay (s/veh)	17.2	-	-	59	26.7	21.2	-	-				
HCM Lane LOS	C	-	-	F	D	C	-	-				
HCM 95th %tile Q (veh)	0.3	-	-	1.6	0.3	0.1	-	-				

Intersection												
Int Delay, s/veh	8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	10	0	35	0	0	10	15	2095	40	5	1685	15
Future Vol, veh/h	10	0	35	0	0	10	15	2095	40	5	1685	15
Conflicting Peds, #/hr	5	0	0	0	0	5	35	0	18	18	0	335
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-7	-	-	5	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	2	2	2
Mvmt Flow	11	0	37	0	0	11	16	2205	42	5	1774	16
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	3267	4424	1230	3173	4411	1147	2125	0	0	2265	0	0
Stage 1	2127	2127	-	2276	2276	-	-	-	-	-	-	-
Stage 2	1140	2297	-	897	2135	-	-	-	-	-	-	-
Critical Hdwy	6.1	5.1	6.2	8.5	7.5	7.4	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	5.1	4.1	-	7.5	6.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.1	4.1	-	7.5	6.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	13	8	219	2	0	167	249	-	-	222	-	-
Stage 1	120	208	-	22	41	-	-	-	-	-	-	-
Stage 2	338	182	-	238	50	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	~ 7	4	137	1	0	163	156	-	-	218	-	-
Mov Cap-2 Maneuver	~ 7	4	-	1	0	-	-	-	-	-	-	-
Stage 1	68	128	-	19	36	-	-	-	-	-	-	-
Stage 2	283	160	-	170	31	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	674.2		28.6		0.2		0.1					
HCM LOS	F		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	156	-	-	27	163	218	-	-				
HCM Lane V/C Ratio	0.101	-	-	1.754	0.065	0.024	-	-				
HCM Control Delay (s/veh)	30.7	-	-	674.2	28.6	21.9	-	-				
HCM Lane LOS	D	-	-	F	D	C	-	-				
HCM 95th %tile Q (veh)	0.3	-	-	5.7	0.2	0.1	-	-				
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

Intersection												
Int Delay, s/veh	94.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	5	0	30	15	5	45	20	2100	100	35	1665	20
Future Vol, veh/h	5	0	30	15	5	45	20	2100	100	35	1665	20
Conflicting Peds, #/hr	0	0	0	0	0	0	27	0	10	10	0	27
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	140	-	-	160	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	2	2	2
Mvmt Flow	5	0	32	16	5	47	21	2211	105	37	1753	21

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	3015	4233	914	3267	4191	1168	1801	0	0	2326	0	0
Stage 1	1865	1865	-	2316	2316	-	-	-	-	-	-	-
Stage 2	1150	2368	-	951	1875	-	-	-	-	-	-	-
Critical Hdwy	6.3	5.3	6.3	7.5	6.5	6.9	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	5.3	4.3	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.3	4.3	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	16	8	325	-4	-2	189	334	-	-	210	-	-
Stage 1	143	230	-	40	73	-	-	-	-	-	-	-
Stage 2	314	151	-	283	122	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	6	315	-3	-1	187	324	-	-	208	-	-
Mov Cap-2 Maneuver	-	6	-	-3	-1	-	-	-	-	-	-	-
Stage 1	130	183	-	37	68	-	-	-	-	-	-	-
Stage 2	202	140	-	209	97	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v		\$ 5871.2	0.2	0.5
HCM LOS	-	F		

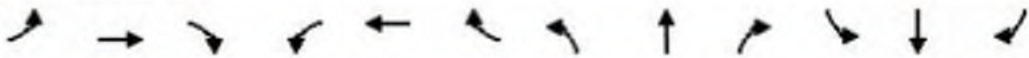
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	324	-	-	-	6	208	-
HCM Lane V/C Ratio	0.065	-	-	-11.404	0.177	-	-
HCM Control Delay (s/veh)	16.9	-	-	\$ 5871.2	26	-	-
HCM Lane LOS	C	-	-	F	D	-	-
HCM 95th %tile Q (veh)	0.2	-	-	10.3	0.6	-	-

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

HCM Signalized Intersection Capacity Analysis

719: Hill Ave/Fulton St & Pacific Ave

04/29/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↶↷		↰	↶↷		↰	↶		↰	↶	
Traffic Volume (vph)	580	1635	90	50	335	25	280	105	190	60	25	40
Future Volume (vph)	580	1635	90	50	335	25	280	105	190	60	25	40
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.90		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1614	3199		1568	3105		1549	1658		1611	1527	
Flt Permitted	0.53	1.00		0.13	1.00		0.71	1.00		0.34	1.00	
Satd. Flow (perm)	895	3199		210	3105		1162	1658		580	1527	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	611	1721	95	53	353	26	295	111	200	63	26	42
RTOR Reduction (vph)	0	5	0	0	9	0	0	81	0	0	32	0
Lane Group Flow (vph)	611	1811	0	53	370	0	295	230	0	63	37	0
Confl. Peds. (#/hr)			2	2			3		3	3		3
Heavy Vehicles (%)	3%	3%	3%	6%	6%	6%	7%	7%	7%	3%	3%	3%
Turn Type	custom	NA		custom	NA		Perm	NA		Perm	NA	
Protected Phases	3	8 12		7	4 10			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	37.5	39.5		37.5	14.5		20.0	20.0		20.0	20.0	
Effective Green, g (s)	37.5	39.5		37.5	14.5		20.0	20.0		20.0	20.0	
Actuated g/C Ratio	0.47	0.49		0.47	0.18		0.25	0.25		0.25	0.25	
Clearance Time (s)	5.0			5.0			4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0			2.0			2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	653	1579		200	562		290	414		145	381	
v/s Ratio Prot	c0.30	c0.57		0.02	c0.12			0.14			0.02	
v/s Ratio Perm	0.13			0.10			c0.25			0.11		
v/c Ratio	0.94	1.15		0.27	0.66		1.02	0.56		0.43	0.10	
Uniform Delay, d1	18.2	20.3		16.6	30.4		30.0	26.1		25.2	23.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	20.5	74.2		0.3	2.8		57.3	0.9		0.8	0.0	
Delay (s)	38.7	94.4		16.8	33.2		87.3	27.0		26.0	23.1	
Level of Service	D	F		B	C		F	C		C	C	
Approach Delay (s/veh)		80.4			31.2			56.4			24.5	
Approach LOS		F			C			E			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			68.4			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			1.14									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			19.5			
Intersection Capacity Utilization			103.6%			ICU Level of Service			G			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection						
Int Delay, s/veh	11.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Traffic Vol, veh/h	505	0	0	65	20	140
Future Vol, veh/h	505	0	0	65	20	140
Conflicting Peds, #/hr	1	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	6	6	8	8	29	29
Mvmt Flow	505	0	0	65	20	140

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	156	92	160
Stage 1	90	-	-
Stage 2	66	-	-
Critical Hdwy	6.46	6.26	4.18
Critical Hdwy Stg 1	5.46	-	-
Critical Hdwy Stg 2	5.46	-	-
Follow-up Hdwy	3.554	3.354	2.272
Pot Cap-1 Maneuver	826	954	1383
Stage 1	924	-	-
Stage 2	947	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	826	952	1383
Mov Cap-2 Maneuver	826	-	-
Stage 1	924	-	-
Stage 2	947	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	16	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1383	-	826	-	-
HCM Lane V/C Ratio	-	-	0.611	-	-
HCM Control Delay (s/veh)	0	-	16	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q (veh)	0	-	4.3	-	-

Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	10	0	0	0	5	10	0	30	0	10	0	0
Future Vol, veh/h	10	0	0	0	5	10	0	30	0	10	0	0
Conflicting Peds, #/hr	2	0	1	1	0	2	2	0	3	3	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	18	18	18	0	0	0	5	5	5	50	50	50
Mvmt Flow	10	0	0	0	5	10	0	30	0	10	0	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	62	55	3	54	55	35	2	0	0	33	0	0
Stage 1	22	22	-	33	33	-	-	-	-	-	-	-
Stage 2	40	33	-	21	22	-	-	-	-	-	-	-
Critical Hdwy	7.28	6.68	6.38	7.1	6.5	6.2	4.15	-	-	4.6	-	-
Critical Hdwy Stg 1	6.28	5.68	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.28	5.68	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.662	4.162	3.462	3.5	4	3.3	2.245	-	-	2.65	-	-
Pot Cap-1 Maneuver	895	806	1036	949	840	1044	1601	-	-	1318	-	-
Stage 1	957	846	-	988	872	-	-	-	-	-	-	-
Stage 2	936	837	-	1003	881	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	873	796	1032	939	829	1038	1597	-	-	1314	-	-
Mov Cap-2 Maneuver	873	796	-	939	829	-	-	-	-	-	-	-
Stage 1	955	838	-	985	869	-	-	-	-	-	-	-
Stage 2	919	834	-	994	872	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	9.2		8.8		0		7.8					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1597	-	-	873	958	1314	-	-				
HCM Lane V/C Ratio	-	-	-	0.011	0.016	0.008	-	-				
HCM Control Delay (s/veh)	0	-	-	9.2	8.8	7.8	0	-				
HCM Lane LOS	A	-	-	A	A	A	A	-				
HCM 95th %tile Q (veh)	0	-	-	0	0	0	-	-				

Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	85	140	15	0	140
Future Vol, veh/h	0	85	140	15	0	140
Conflicting Peds, #/hr	106	0	0	106	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	6	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	89	147	16	0	147
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	269	0	-	0	350	261
Stage 1	-	-	-	-	261	-
Stage 2	-	-	-	-	89	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1289	-	-	-	645	775
Stage 1	-	-	-	-	780	-
Stage 2	-	-	-	-	932	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1159	-	-	-	521	697
Mov Cap-2 Maneuver	-	-	-	-	521	-
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	838	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0	0		11.5		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1159	-	-	-	697	
HCM Lane V/C Ratio	-	-	-	-	0.211	
HCM Control Delay (s/veh)	0	-	-	-	11.5	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q (veh)	0	-	-	-	0.8	

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	0	20	140	0	15	65	10	0	5	0	0	55
Future Vol, veh/h	0	20	140	0	15	65	10	0	5	0	0	55
Conflicting Peds, #/hr	10	0	24	24	0	10	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	21	147	0	16	68	11	0	5	0	0	58
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	94	0	0	192	0	0	198	213	119	157	252	60
Stage 1	-	-	-	-	-	-	119	119	-	60	60	-
Stage 2	-	-	-	-	-	-	79	94	-	97	192	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1494	-	-	1375	-	-	759	683	930	807	650	1003
Stage 1	-	-	-	-	-	-	883	795	-	949	843	-
Stage 2	-	-	-	-	-	-	927	815	-	907	740	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1480	-	-	1344	-	-	698	660	909	795	629	993
Mov Cap-2 Maneuver	-	-	-	-	-	-	698	660	-	795	629	-
Stage 1	-	-	-	-	-	-	863	777	-	940	835	-
Stage 2	-	-	-	-	-	-	873	807	-	902	723	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			0			9.9			8.9		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	757	1480	-	-	1344	-	-	993				
HCM Lane V/C Ratio	0.021	-	-	-	-	-	-	0.058				
HCM Control Delay (s/veh)	9.9	0	-	-	0	-	-	8.9				
HCM Lane LOS	A	A	-	-	A	-	-	A				
HCM 95th %tile Q (veh)	0.1	0	-	-	0	-	-	0.2				

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	0	85	0	0	50	40	105	0	220	40	0	0
Future Vol, veh/h	0	85	0	0	50	40	105	0	220	40	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	100	3	3	3	3	3	3	3	3	100	100	100
Mvmt Flow	0	89	0	0	53	42	111	0	232	42	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.7	8.4	9.8	10.2
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	32%	0%	0%	100%
Vol Thru, %	0%	100%	56%	0%
Vol Right, %	68%	0%	44%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	325	85	90	40
LT Vol	105	0	0	40
Through Vol	0	85	50	0
RT Vol	220	0	40	0
Lane Flow Rate	342	89	95	42
Geometry Grp	1	1	1	1
Degree of Util (X)	0.392	0.123	0.123	0.077
Departure Headway (Hd)	4.126	4.938	4.67	6.618
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	872	724	765	541
Service Time	2.153	2.981	2.712	4.661
HCM Lane V/C Ratio	0.392	0.123	0.124	0.078
HCM Control Delay, s/veh	9.8	8.7	8.4	10.2
HCM Lane LOS	A	A	A	B
HCM 95th-ile Q	1.9	0.4	0.4	0.2

HCM 6th Signalized Intersection Summary
701: Broadway Ave & Hewitt Ave

04/30/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	520	130	145	125	105	60	1665	395	190	1120	25
Future Volume (veh/h)	95	520	130	145	125	105	60	1665	395	190	1120	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.87	1.00		0.89	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	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1736	1736	1736	1736	1736	1709	1709	1709	1709	1709	1709
Adj Flow Rate, veh/h	100	547	80	153	132	23	63	1753	378	200	1179	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1	3	3	3	3	3	3
Cap, veh/h	117	522	285	161	512	86	90	1732	860	176	1891	42
Arrive On Green	0.07	0.16	0.16	0.10	0.18	0.18	0.11	1.00	1.00	0.11	0.58	0.58
Sat Flow, veh/h	1654	3299	1285	1654	2770	465	1628	3247	1348	1628	3242	71
Grp Volume(v), veh/h	100	547	80	153	77	78	63	1753	378	200	590	615
Grp Sat Flow(s), veh/h/ln	1654	1650	1285	1654	1650	1586	1628	1624	1348	1628	1624	1689
Q Serve(g_s), s	10.8	28.5	1.5	16.6	7.1	7.6	6.7	96.0	0.0	19.5	42.9	42.9
Cycle Q Clear(g_c), s	10.8	28.5	1.5	16.6	7.1	7.6	6.7	96.0	0.0	19.5	42.9	42.9
Prop In Lane	1.00		1.00	1.00		0.29	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	117	522	285	161	305	293	90	1732	860	176	947	985
V/C Ratio(X)	0.86	1.05	0.28	0.95	0.25	0.27	0.70	1.01	0.44	1.13	0.62	0.62
Avail Cap(c_a), veh/h	152	522	285	161	305	293	95	1732	860	176	947	985
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	82.7	75.8	37.0	80.8	62.7	62.9	78.5	0.0	0.0	80.3	24.6	24.6
Incr Delay (d2), s/veh	24.9	52.3	0.2	56.1	0.2	0.2	15.6	24.7	1.6	108.4	3.1	3.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.3	23.0	4.2	14.7	5.5	5.6	5.6	10.0	0.7	20.6	24.1	24.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	107.6	128.0	37.2	136.9	62.9	63.1	94.2	24.7	1.6	188.7	27.6	27.5
LnGrp LOS	F	F	D	F	E	E	F	F	A	F	C	C
Approach Vol, veh/h		727			308			2194			1405	
Approach Delay, s/veh		115.2			99.7			22.7			50.5	
Approach LOS		F			F			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.0	101.0	17.2	37.8	15.0	110.0	22.0	33.0				
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	5.0	* 5	4.5	4.5				
Max Green Setting (Gmax), s	19.5	96.0	16.5	29.5	10.5	1.1E+02	17.5	28.5				
Max Q Clear Time (g_c+I1), s	21.5	98.0	12.8	9.6	8.7	44.9	18.6	30.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.0	2.8	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			50.8									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary
702: Broadway Ave & Wall St

04/30/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	5	85	115	10	160	50	1915	110	170	1135	90
Future Volume (veh/h)	45	5	85	115	10	160	50	1915	110	170	1135	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.83	1.00		0.87	1.00		0.94	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1806	1806	1806	1820	1820	1820	1709	1709	1709	1695	1695	1695
Adj Flow Rate, veh/h	47	5	60	121	11	141	53	2016	116	179	1195	92
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	3	3	3	4	4	4
Cap, veh/h	60	11	129	130	15	188	90	1860	106	184	1981	152
Arrive On Green	0.03	0.11	0.11	0.08	0.15	0.15	0.11	1.00	1.00	0.23	1.00	1.00
Sat Flow, veh/h	1720	99	1194	1733	99	1268	1628	3099	176	1615	3022	232
Grp Volume(v), veh/h	47	0	65	121	0	152	53	1043	1089	179	636	651
Grp Sat Flow(s),veh/h/ln	1720	0	1293	1733	0	1367	1628	1624	1651	1615	1611	1644
Q Serve(g_s), s	4.9	0.0	8.5	12.5	0.0	19.2	5.6	0.0	99.1	19.8	0.0	0.0
Cycle Q Clear(g_c), s	4.9	0.0	8.5	12.5	0.0	19.2	5.6	0.0	99.1	19.8	0.0	0.0
Prop In Lane	1.00		0.92	1.00		0.93	1.00		0.11	1.00		0.14
Lane Grp Cap(c), veh/h	60	0	140	130	0	203	90	974	991	184	1056	1078
V/C Ratio(X)	0.79	0.00	0.46	0.93	0.00	0.75	0.59	1.07	1.10	0.97	0.60	0.60
Avail Cap(c_a), veh/h	100	0	169	130	0	203	95	974	991	184	1056	1078
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	86.2	0.0	75.3	82.8	0.0	73.4	78.0	0.0	0.0	69.2	0.0	0.0
Incr Delay (d2), s/veh	20.0	0.0	2.4	58.0	0.0	14.2	8.3	49.7	59.7	58.4	2.5	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	0.0	5.3	12.3	0.0	12.2	4.5	20.5	24.8	15.7	1.3	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	106.2	0.0	77.7	140.8	0.0	87.6	86.3	49.7	59.7	127.6	2.5	2.5
LnGrp LOS	F		E	F		F	F	F	F	F	A	A
Approach Vol, veh/h	112			273			2185			1466		
Approach Delay, s/veh	89.7			111.2			55.5			17.8		
Approach LOS	F			F			E			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.0	113.0	10.7	31.3	15.0	123.0	18.0	24.0				
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	5.0	* 5	4.5	4.5				
Max Green Setting (Gmax), s	20.5	104.0	10.5	26.5	10.5	1.1E+02	13.5	23.5				
Max Q Clear Time (g_c+I1), s	21.8	101.1	6.9	21.2	7.6	2.0	14.5	10.5				
Green Ext Time (p_c), s	0.0	2.8	0.0	0.4	0.0	21.2	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	46.5											
HCM 6th LOS	D											
Notes												

HCM 6th Signalized Intersection Summary
703: Broadway Ave & Pacific Ave

04/30/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	485	345	210	215	175	140	1675	265	95	1125	120
Future Volume (veh/h)	225	485	345	210	215	175	140	1675	265	95	1125	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.87	1.00		0.89	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1926	1926	1926	1418	1418	1418	1709	1709	1709	1695	1695	1695
Adj Flow Rate, veh/h	232	500	313	216	222	102	144	1727	240	98	1160	99
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	10	10	10	3	3	3	4	4	4
Cap, veh/h	251	508	402	228	305	132	205	1690	974	103	1467	827
Arrive On Green	0.14	0.14	0.14	0.28	0.29	0.29	0.25	1.00	1.00	0.06	0.46	0.46
Sat Flow, veh/h	1834	3659	1414	1351	1760	761	1628	3247	1402	1615	3221	1385
Grp Volume(v), veh/h	232	500	313	216	167	157	144	1727	240	98	1160	99
Grp Sat Flow(s),veh/h/ln	1834	1830	1414	1351	1347	1173	1628	1624	1402	1615	1611	1385
Q Serve(g_s), s	22.5	24.5	10.5	28.2	19.9	22.1	14.5	93.7	0.0	10.9	55.2	2.8
Cycle Q Clear(g_c), s	22.5	24.5	10.5	28.2	19.9	22.1	14.5	93.7	0.0	10.9	55.2	2.8
Prop In Lane	1.00		1.00	1.00		0.65	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	251	508	402	228	234	204	205	1690	974	103	1467	827
V/C Ratio(X)	0.93	0.98	0.78	0.95	0.71	0.77	0.70	1.02	0.25	0.95	0.79	0.12
Avail Cap(c_a), veh/h	280	508	402	251	234	204	205	1690	974	103	1467	827
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	76.8	77.3	60.4	63.9	59.9	60.7	64.3	0.0	0.0	84.0	41.7	6.2
Incr Delay (d2), s/veh	31.4	35.5	8.6	39.1	8.3	14.8	8.8	27.6	0.6	71.8	4.4	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.8	20.3	7.0	17.2	11.3	11.3	10.0	10.8	0.3	10.8	30.6	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	108.2	112.8	69.0	103.1	68.2	75.5	73.1	27.6	0.6	155.8	46.1	6.5
LnGrp LOS	F	F	E	F	E	E	E	F	A	F	D	A
Approach Vol, veh/h	1045			540			2111			1357		
Approach Delay, s/veh	98.7			84.3			27.7			51.1		
Approach LOS	F			F			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	98.7	29.1	36.2	27.7	87.0	35.3	30.0				
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	5.0	* 5	5.0	* 5				
Max Green Setting (Gmax), s	11.5	91.0	27.5	31.0	20.5	* 82	33.5	* 25				
Max Q Clear Time (g_c+I1), s	12.9	95.7	24.5	24.1	16.5	57.2	30.2	26.5				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.8	0.1	16.0	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	54.7											
HCM 6th LOS	D											
Notes												

Intersection												
Int Delay, s/veh	12.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	5	0	40	5	0	25	15	2050	35	15	1635	30
Future Vol, veh/h	5	0	40	5	0	25	15	2050	35	15	1635	30
Conflicting Peds, #/hr	5	0	5	5	0	5	19	0	48	48	0	19
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	2	2	2
Mvmt Flow	5	0	42	5	0	26	16	2158	37	16	1721	32

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2904	4063	901	3155	4061	1151	1772	0	0	2243	0	0
Stage 1	1788	1788	-	2257	2257	-	-	-	-	-	-	-
Stage 2	1116	2275	-	898	1804	-	-	-	-	-	-	-
Critical Hdwy	6.3	5.3	6.3	8.7	7.7	7.5	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	5.3	4.3	-	7.7	6.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.3	4.3	-	7.7	6.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	19	10	331	~2	1	161	343	-	-	227	-	-
Stage 1	156	245	-	20	37	-	-	-	-	-	-	-
Stage 2	326	163	-	226	73	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	14	8	324	~2	1	153	337	-	-	217	-	-
Mov Cap-2 Maneuver	14	8	-	~2	1	-	-	-	-	-	-	-
Stage 1	146	223	-	18	34	-	-	-	-	-	-	-
Stage 2	256	148	-	181	66	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	77.1	\$ 1527.8	0.1	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	337	-	-	94	11	217	-
HCM Lane V/C Ratio	0.047	-	-	0.504	2.871	0.073	-
HCM Control Delay (s/veh)	16.2	-	-	77.1	1527.8	22.9	-
HCM Lane LOS	C	-	-	F	F	C	-
HCM 95th %tile Q (veh)	0.1	-	-	2.2	5	0.2	-

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

Intersection												
Int Delay, s/veh	8.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+				+
Traffic Vol, veh/h	260	10	15	15	10	0	15	0	10	0	0	260
Future Vol, veh/h	260	10	15	15	10	0	15	0	10	0	0	260
Conflicting Peds, #/hr	2	0	3	3	0	2	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	6	6	6	0	0	0	0	0	0	0	0	0
Mvmt Flow	260	10	15	15	10	0	15	0	10	0	0	260
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	12	0	0	28	0	0	713	583	21	-	-	14
Stage 1	-	-	-	-	-	-	541	541	-	-	-	-
Stage 2	-	-	-	-	-	-	172	42	-	-	-	-
Critical Hdwy	4.16	-	-	4.1	-	-	7.1	6.5	6.2	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	-	-	-
Follow-up Hdwy	2.254	-	-	2.2	-	-	3.5	4	3.3	-	-	3.3
Pot Cap-1 Maneuver	1581	-	-	1599	-	-	349	427	1062	0	0	1072
Stage 1	-	-	-	-	-	-	529	524	-	0	0	-
Stage 2	-	-	-	-	-	-	835	864	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1578	-	-	1594	-	-	228	351	1059	-	-	1068
Mov Cap-2 Maneuver	-	-	-	-	-	-	228	351	-	-	-	-
Stage 1	-	-	-	-	-	-	440	435	-	-	-	-
Stage 2	-	-	-	-	-	-	625	854	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	7.1			4.4			16.7			9.5		
HCM LOS							C			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	332	1578	-	-	1594	-	-	1068				
HCM Lane V/C Ratio	0.075	0.165	-	-	0.009	-	-	0.243				
HCM Control Delay (s/veh)	16.7	7.7	0	-	7.3	0	-	9.5				
HCM Lane LOS	C	A	A	-	A	A	-	A				
HCM 95th %tile Q (veh)	0.2	0.6	-	-	0	-	-	1				

HCM Signalized Intersection Capacity Analysis
708: Smith Ave & Pacific Ave

04/30/2025

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗↗
Traffic Volume (vph)	1080	75	130	525	105	760
Future Volume (vph)	1080	75	130	525	105	760
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	11	11
Grade (%)	3%			0%	3%	
Total Lost time (s)	5.0		3.0	5.0	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	0.88
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3083		1554	3107	1439	2266
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3083		1554	3107	1439	2266
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1137	79	137	553	111	800
RTOR Reduction (vph)	4	0	0	0	0	8
Lane Group Flow (vph)	1212	0	137	553	111	792
Confl. Peds. (#/hr)		5	5		16	
Heavy Vehicles (%)	5%	5%	7%	7%	10%	10%
Turn Type	NA		Prot	NA	Prot	custom
Protected Phases	8		6 7	4	5	5 6 7
Permitted Phases						
Actuated Green, G (s)	35.7		24.2	50.7	10.5	39.2
Effective Green, g (s)	35.7		24.2	50.7	10.5	36.2
Actuated g/C Ratio	0.42		0.29	0.60	0.12	0.43
Clearance Time (s)	5.0			5.0	4.5	
Vehicle Extension (s)	1.5			1.5	3.0	
Lane Grp Cap (vph)	1304		445	1866	179	971
v/s Ratio Prot	c0.39		0.09	0.18	0.08	c0.35
v/s Ratio Perm						
v/c Ratio	0.93		0.31	0.30	0.62	0.82
Uniform Delay, d1	23.2		23.5	8.2	35.1	21.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	12.9		0.1	0.4	6.5	5.4
Delay (s)	36.1		23.7	8.6	41.6	26.5
Level of Service	D		C	A	D	C
Approach Delay (s/veh)	36.1			11.6	28.4	
Approach LOS	D			B	C	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			27.6		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.93			
Actuated Cycle Length (s)			84.4		Sum of lost time (s)	17.0
Intersection Capacity Utilization			71.8%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

709: Smith Ave & 32nd St

04/30/2025

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		+		+	+			+		+	+	
Traffic Volume (vph)	15	0	0	25	0	65	0	785	30	35	140	30
Future Volume (vph)	15	0	0	25	0	65	0	785	30	35	140	30
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			0%			0%			-3%	
Total Lost time (s)		3.5		4.5	3.5			4.5		4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00			0.95		1.00	1.00	
Frpb, ped/bikes		1.00		1.00	0.97			1.00		1.00	0.98	
Flpb, ped/bikes		0.98		0.91	1.00			1.00		0.99	1.00	
Frt		1.00		1.00	0.85			0.99		1.00	0.97	
Flt Protected		0.95		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1459		1455	1383			2999		1260	1276	
Flt Permitted		0.71		0.75	1.00			1.00		0.34	1.00	
Satd. Flow (perm)		1096		1145	1383			2999		445	1276	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	15	0	0	26	0	67	0	809	31	36	144	31
RTOR Reduction (vph)	0	0	0	0	49	0	0	2	0	0	6	0
Lane Group Flow (vph)	0	15	0	26	18	0	0	838	0	36	169	0
Confl. Peds. (#/hr)	19		40	40		19	38		45	45		38
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	10%	10%	10%	33%	33%	33%
Parking (#/hr)		1										
Turn Type	custom	NA		custom	NA			NA		custom	NA	
Protected Phases		3 4			7 8			2 10		1	6	
Permitted Phases	4			8						2		
Actuated Green, G (s)		13.1		9.9	22.0			42.1		24.7	51.4	
Effective Green, g (s)		13.1		9.9	22.0			38.6		24.7	51.4	
Actuated g/C Ratio		0.16		0.12	0.27			0.47		0.30	0.62	
Clearance Time (s)				4.5						4.5	4.5	
Vehicle Extension (s)				2.5						2.0	2.0	
Lane Grp Cap (vph)		174		137	369			1404		180	795	
v/s Ratio Prot					0.01			c0.28		0.01	c0.13	
v/s Ratio Perm		c0.01		c0.02						0.05		
v/c Ratio		0.09		0.19	0.05			0.60		0.20	0.21	
Uniform Delay, d1		29.5		32.6	22.4			16.2		20.8	6.7	
Progression Factor		1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.2		0.5	0.0			0.5		0.2	0.0	
Delay (s)		29.7		33.1	22.5			16.6		21.0	6.8	
Level of Service		C		C	C			B		C	A	
Approach Delay (s/veh)		29.7			25.4			16.6			9.2	
Approach LOS		C			C			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			16.1			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.44									
Actuated Cycle Length (s)			82.4			Sum of lost time (s)			20.5			
Intersection Capacity Utilization			51.9%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

710: Smith Ave & 33rd St

04/30/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	25	25	5	10	10	15	750	0	10	105	50
Future Volume (vph)	55	25	25	5	10	10	15	750	0	10	105	50
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.5			4.5		4.5	5.0		4.5	5.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00			0.95		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93			0.95		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1265	1232			782		1568	1651		1299	1283	
Flt Permitted	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1265	1232			782		1568	1651		1299	1283	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	57	26	26	5	10	10	15	773	0	10	108	52
RTOR Reduction (vph)	0	24	0	0	9	0	0	0	0	0	12	0
Lane Group Flow (vph)	57	28	0	0	16	0	15	773	0	10	148	0
Confl. Peds. (#/hr)						62	7		42	42		7
Heavy Vehicles (%)	27%	27%	27%	100%	100%	100%	6%	6%	6%	28%	28%	28%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.3	8.3			13.7		6.2	58.7		1.7	54.2	
Effective Green, g (s)	8.3	8.3			13.7		6.2	58.7		1.7	54.2	
Actuated g/C Ratio	0.08	0.08			0.14		0.06	0.58		0.02	0.54	
Clearance Time (s)	4.5	4.5			4.5		4.5	5.0		4.5	5.0	
Vehicle Extension (s)	2.0	2.0			3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	104	101			106		96	960		21	689	
v/s Ratio Prot	c0.05	0.02			c0.02		0.01	c0.47		0.01	c0.12	
v/s Ratio Perm												
v/c Ratio	0.55	0.28			0.15		0.16	0.81		0.48	0.22	
Uniform Delay, d1	44.5	43.5			38.5		44.9	16.6		49.2	12.2	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.1	0.5			0.7		0.3	4.7		6.1	0.1	
Delay (s)	47.6	44.0			39.2		45.1	21.3		55.2	12.3	
Level of Service	D	D			D		D	C		E	B	
Approach Delay (s/veh)		45.9			39.2			21.8			14.8	
Approach LOS		D			D			C			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		23.5										
HCM 2000 Volume to Capacity ratio		0.66										
Actuated Cycle Length (s)		100.9								18.5		
Intersection Capacity Utilization		64.9%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

711: McDougall Ave & Pacific Ave

04/30/2025

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰
Traffic Volume (vph)	10	805	30	20	570	40	20	0	310	40	0	10
Future Volume (vph)	10	805	30	20	570	40	20	0	310	40	0	10
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	12	16	12	12	16	12
Grade (%)		-6%			-3%			0%			0%	
Total Lost time (s)	4.5	4.5		4.5	3.5			4.5			3.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.98			0.99			1.00	
Flpb, ped/bikes	0.91	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.87			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.96	
Satd. Flow (prot)	1403	3074		1493	2906			1684			1652	
Flt Permitted	0.39	1.00		0.32	1.00			0.98			0.25	
Satd. Flow (perm)	572	3074		508	2906			1656			435	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	11	847	32	21	600	42	21	0	326	42	0	11
RTOR Reduction (vph)	0	1	0	0	1	0	0	100	0	0	25	0
Lane Group Flow (vph)	11	878	0	21	641	0	0	247	0	0	28	0
Confl. Peds. (#/hr)	53		11	11		53	5		2	2		5
Heavy Vehicles (%)	7%	7%	7%	9%	9%	9%	1%	1%	1%	0%	0%	0%
Parking (#/hr)												1
Turn Type	Perm	NA		custom	NA		custom	NA		custom	NA	
Protected Phases		4 7			3 8			2 5			1 6	
Permitted Phases	4 7			8			2			6		
Actuated Green, G (s)	129.6	129.6		123.2	136.7			31.0			30.6	
Effective Green, g (s)	129.6	129.6		123.2	136.7			31.0			30.6	
Actuated g/C Ratio	0.72	0.72		0.68	0.76			0.17			0.17	
Clearance Time (s)				4.5								
Vehicle Extension (s)				3.0								
Lane Grp Cap (vph)	411	2213		347	2206			285			73	
v/s Ratio Prot		c0.29			c0.22							
v/s Ratio Perm	0.02			0.04				c0.15			0.06	
v/c Ratio	0.03	0.40		0.06	0.29			0.87			0.38	
Uniform Delay, d1	7.2	9.9		9.3	6.7			72.5			66.3	
Progression Factor	0.43	0.50		1.00	1.00			1.00			0.96	
Incremental Delay, d2	0.0	0.1		0.3	0.1			22.3			1.2	
Delay (s)	3.1	5.0		9.7	6.8			94.8			65.2	
Level of Service	A	A		A	A			F			E	
Approach Delay (s/veh)		5.0			6.8			94.8			65.2	
Approach LOS		A			A			F			E	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			23.2									
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			180.0									
Intersection Capacity Utilization			54.5%									
Analysis Period (min)			15									
c Critical Lane Group												

Intersection

Intersection Delay, s/veh 8.7

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	30	5	15	15	10	60	5	240	5	5	30	15
Future Vol, veh/h	30	5	15	15	10	60	5	240	5	5	30	15
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	2	2	2	1	1	1	5	5	5
Mvmt Flow	32	5	16	16	11	63	5	253	5	5	32	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8	7.9	9.3	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	60%	18%	10%
Vol Thru, %	96%	10%	12%	60%
Vol Right, %	2%	30%	71%	30%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	250	50	85	50
LT Vol	5	30	15	5
Through Vol	240	5	10	30
RT Vol	5	15	60	15
Lane Flow Rate	263	53	89	53
Geometry Grp	1	1	1	1
Degree of Util (X)	0.315	0.068	0.107	0.065
Departure Headway (Hd)	4.307	4.656	4.321	4.429
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	839	770	830	809
Service Time	2.307	2.679	2.343	2.451
HCM Lane V/C Ratio	0.313	0.069	0.107	0.066
HCM Control Delay, s/veh	9.3	8	7.9	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-ile Q	1.4	0.2	0.4	0.2

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	10	0	0	10	0	20	0	735	5	10	125	0
Future Vol, veh/h	10	0	0	10	0	20	0	735	5	10	125	0
Conflicting Peds, #/hr	0	0	0	0	0	0	20	0	17	17	0	20
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	8	8	8
Mvmt Flow	11	0	0	11	0	21	0	774	5	11	132	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	961	970	152	948	968	794	152	0	0	796	0	0
Stage 1	174	174	-	794	794	-	-	-	-	-	-	-
Stage 2	787	796	-	154	174	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.18	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.272	-	-
Pot Cap-1 Maneuver	238	255	900	243	256	391	1417	-	-	800	-	-
Stage 1	833	759	-	384	403	-	-	-	-	-	-	-
Stage 2	388	402	-	853	759	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	218	243	883	236	244	385	1390	-	-	787	-	-
Mov Cap-2 Maneuver	218	243	-	236	244	-	-	-	-	-	-	-
Stage 1	817	734	-	378	397	-	-	-	-	-	-	-
Stage 2	367	396	-	841	734	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	22.4		17.6		0		0.7					
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1390	-	-	218	318	787	-	-				
HCM Lane V/C Ratio	-	-	-	0.048	0.099	0.013	-	-				
HCM Control Delay (s/veh)	0	-	-	22.4	17.6	9.6	-	-				
HCM Lane LOS	A	-	-	C	C	A	-	-				
HCM 95th %tile Q (veh)	0	-	-	0.2	0.3	0	-	-				

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+		+		+	+	+		+	+	
Traffic Vol, veh/h	0	0	5	5	0	15	5	725	5	10	120	5
Future Vol, veh/h	0	0	5	5	0	15	5	725	5	10	120	5
Conflicting Peds, #/hr	2	0	2	2	0	2	5	0	17	17	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	50	50	50	70	70	70	4	4	4	16	16	16
Mvmt Flow	0	0	5	5	0	16	5	763	5	11	126	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	942	951	136	948	-	785	136	0	0	785	0	0
Stage 1	156	156	-	793	-	-	-	-	-	-	-	-
Stage 2	786	795	-	155	-	-	-	-	-	-	-	-
Critical Hdwy	7.6	7	6.7	7.8	-	6.9	4.14	-	-	4.26	-	-
Critical Hdwy Stg 1	6.6	6	-	6.8	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	6	-	6.8	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4.45	3.75	4.13	-	3.93	2.236	-	-	2.344	-	-
Pot Cap-1 Maneuver	200	216	799	183	0	303	1436	-	-	775	-	-
Stage 1	745	686	-	297	0	-	-	-	-	-	-	-
Stage 2	322	338	-	710	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	186	208	794	176	-	298	1429	-	-	762	-	-
Mov Cap-2 Maneuver	186	208	-	176	-	-	-	-	-	-	-	-
Stage 1	739	673	-	291	-	-	-	-	-	-	-	-
Stage 2	303	332	-	694	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	9.6		19.9		0.1		0.7					
HCM LOS	A		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	1429	-	-	794	176	298	762	-	-			
HCM Lane V/C Ratio	0.004	-	-	0.007	0.03	0.053	0.014	-	-			
HCM Control Delay (s/veh)	7.5	-	-	9.6	26.1	17.8	9.8	-	-			
HCM Lane LOS	A	-	-	A	D	C	A	-	-			
HCM 95th %tile Q (veh)	0	-	-	0	0.1	0.2	0	-	-			

HCM 6th Signalized Intersection Summary
715: Broadway Ave & 33rd St

04/30/2025

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+						+			+	
Traffic Volume (veh/h)	45	10	30	50	15	35	20	2020	70	25	1590	65
Future Volume (veh/h)	45	10	30	50	15	35	20	2020	70	25	1590	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.93		0.93	0.94		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	2121	2121	2121	1254	1254	1254	1709	1709	1709	1723	1723	1723
Adj Flow Rate, veh/h	47	11	18	53	16	-10	21	2126	73	26	1674	67
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	22	22	22	3	3	3	2	2	2
Cap, veh/h	138	35	44	139	136	0	59	2476	84	66	2493	99
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.00	0.04	0.77	0.77	0.08	1.00	1.00
Sat Flow, veh/h	976	325	404	949	1254	0	1628	3200	109	1641	3204	128
Grp Volume(v), veh/h	76	0	0	53	6	0	21	1071	1128	26	851	890
Grp Sat Flow(s), veh/h/ln	1705	0	0	949	1254	0	1628	1624	1686	1641	1637	1695
Q Serve(g_s), s	6.1	0.0	0.0	3.0	0.8	0.0	2.3	79.0	82.3	2.7	0.0	0.0
Cycle Q Clear(g_c), s	7.3	0.0	0.0	10.3	0.8	0.0	2.3	79.0	82.3	2.7	0.0	0.0
Prop In Lane	0.62		0.24	1.00		0.00	1.00		0.06	1.00		0.08
Lane Grp Cap(c), veh/h	217	0	0	139	136	0	59	1256	1304	66	1273	1319
V/C Ratio(X)	0.35	0.00	0.00	0.38	0.04	0.00	0.36	0.85	0.86	0.39	0.67	0.67
Avail Cap(c_a), veh/h	367	0	0	223	247	0	95	1256	1304	96	1273	1319
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	74.8	0.0	0.0	76.3	71.9	0.0	84.7	13.5	13.9	80.6	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.6	0.0	0.0	1.4	7.5	7.8	1.4	2.8	2.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.0	0.0	0.0	4.3	0.5	0.0	1.8	37.2	39.9	2.1	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	75.2	0.0	0.0	76.9	72.0	0.0	86.1	21.0	21.7	82.0	2.8	2.8
LnGrp LOS	E			E	E		F	C	C	F	A	A
Approach Vol, veh/h	76			59			2220			1767		
Approach Delay, s/veh	75.2			76.4			22.0			4.0		
Approach LOS	E			E			C			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.8	144.3		23.9	11.0	145.1		23.9				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	10.5	120.0		35.5	10.5	120.0		35.5				
Max Q Clear Time (g_c+I1), s	4.7	84.3		9.3	4.3	2.0		12.3				
Green Ext Time (p_c), s	0.0	32.7		0.2	0.0	55.7		0.1				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh	16.0											
HCM 6th LOS	B											

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		↑	↑↑		↑	↑↑	
Traffic Vol, veh/h	5	0	35	0	0	45	25	2060	20	5	1655	10
Future Vol, veh/h	5	0	35	0	0	45	25	2060	20	5	1655	10
Conflicting Peds, #/hr	2	0	0	0	0	2	14	0	13	13	0	14
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-8	-	-	3	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	0	0	0	3	3	3	2	2	2
Mvmt Flow	5	0	37	0	0	47	26	2168	21	5	1742	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2910	4026	891	3125	4021	1110	1767	0	0	2202	0	0
Stage 1	1772	1772	-	2244	2244	-	-	-	-	-	-	-
Stage 2	1138	2254	-	881	1777	-	-	-	-	-	-	-
Critical Hdwy	6	5	6.2	8.1	7.1	7.2	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	5	4	-	7.1	6.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5	4	-	7.1	6.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.5	4	3.3	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	24	15	341	3	1	189	345	-	-	236	-	-
Stage 1	183	286	-	30	55	-	-	-	-	-	-	-
Stage 2	347	200	-	269	102	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	16	13	336	2	1	186	340	-	-	233	-	-
Mov Cap-2 Maneuver	16	13	-	2	1	-	-	-	-	-	-	-
Stage 1	166	275	-	27	50	-	-	-	-	-	-	-
Stage 2	238	182	-	234	98	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	69		30.8		0.2		0.1					
HCM LOS	F		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	340	-	-	96	186	233	-	-				
HCM Lane V/C Ratio	0.077	-	-	0.439	0.255	0.023	-	-				
HCM Control Delay (s/veh)	16.5	-	-	69	30.8	20.8	-	-				
HCM Lane LOS	C	-	-	F	D	C	-	-				
HCM 95th %tile Q (veh)	0.3	-	-	1.8	1	0.1	-	-				

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	10	0	35	0	0	10	15	2085	45	5	1670	15
Future Vol, veh/h	10	0	35	0	0	10	15	2085	45	5	1670	15
Conflicting Peds, #/hr	5	0	0	0	0	5	16	0	13	13	0	16
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-7	-	-	5	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	2	2	2
Mvmt Flow	11	0	37	0	0	11	16	2195	47	5	1758	16
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2927	4079	903	3153	4064	1139	1790	0	0	2255	0	0
Stage 1	1792	1792	-	2264	2264	-	-	-	-	-	-	-
Stage 2	1135	2287	-	889	1800	-	-	-	-	-	-	-
Critical Hdwy	6.1	5.1	6.2	8.5	7.5	7.4	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	5.1	4.1	-	7.5	6.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.1	4.1	-	7.5	6.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	22	13	339	2	1	169	338	-	-	225	-	-
Stage 1	172	270	-	23	41	-	-	-	-	-	-	-
Stage 2	340	184	-	241	81	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	19	12	333	2	1	166	332	-	-	222	-	-
Mov Cap-2 Maneuver	19	12	-	2	1	-	-	-	-	-	-	-
Stage 1	161	259	-	22	38	-	-	-	-	-	-	-
Stage 2	302	173	-	210	78	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v125.1			28.2		0.1		0.1					
HCM LOS	F		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	332	-	-	71	166	222	-	-				
HCM Lane V/C Ratio	0.048	-	-	0.667	0.063	0.024	-	-				
HCM Control Delay (s/veh)	16.4	-	-	125.1	28.2	21.6	-	-				
HCM Lane LOS	C	-	-	F	D	C	-	-				
HCM 95th %tile Q (veh)	0.1	-	-	3	0.2	0.1	-	-				

Intersection												
Int Delay, s/veh	69.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		+	+		+	+	
Traffic Vol, veh/h	5	0	30	15	5	45	20	2095	100	35	1650	20
Future Vol, veh/h	5	0	30	15	5	45	20	2095	100	35	1650	20
Conflicting Peds, #/hr	0	0	0	0	0	0	8	0	5	5	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	140	-	-	160	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	2	2	2
Mvmt Flow	5	0	32	16	5	47	21	2205	105	37	1737	21

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2977	4187	887	3248	4145	1160	1766	0	0	2315	0	0
Stage 1	1830	1830	-	2305	2305	-	-	-	-	-	-	-
Stage 2	1147	2357	-	943	1840	-	-	-	-	-	-	-
Critical Hdwy	6.3	5.3	6.3	7.5	6.5	6.9	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	5.3	4.3	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.3	4.3	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	17	9	338	-4	-2	192	345	-	-	213	-	-
Stage 1	149	237	-	40	74	-	-	-	-	-	-	-
Stage 2	315	152	-	286	127	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	7	335	-3	-2	191	342	-	-	212	-	-
Mov Cap-2 Maneuver	-	7	-	-3	-2	-	-	-	-	-	-	-
Stage 1	139	194	-	37	69	-	-	-	-	-	-	-
Stage 2	205	142	-	214	104	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v		\$ 4303.7	0.1	0.5
HCM LOS	-	F		

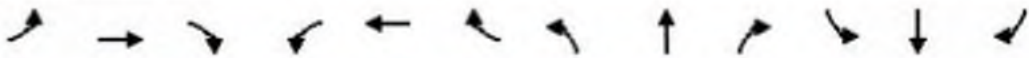
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	342	-	-	- 8	212	-	-
HCM Lane V/C Ratio	0.062	-	-	- 8.553	0.174	-	-
HCM Control Delay (s/veh)	16.2	-	-	\$ 4303.7	25.5	-	-
HCM Lane LOS	C	-	-	F	D	-	-
HCM 95th %tile Q (veh)	0.2	-	-	10.1	0.6	-	-

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

HCM Signalized Intersection Capacity Analysis

719: Hill Ave/Fulton St & Pacific Ave

04/30/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱		↰	↰		↰	↰	
Traffic Volume (vph)	580	1635	90	50	300	25	280	105	190	60	25	40
Future Volume (vph)	580	1635	90	50	300	25	280	105	190	60	25	40
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.90		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1614	3199		1568	3101		1549	1658		1611	1527	
Flt Permitted	0.55	1.00		0.13	1.00		0.71	1.00		0.34	1.00	
Satd. Flow (perm)	928	3199		210	3101		1162	1658		580	1527	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	611	1721	95	53	316	26	295	111	200	63	26	42
RTOR Reduction (vph)	0	5	0	0	10	0	0	81	0	0	32	0
Lane Group Flow (vph)	611	1811	0	53	332	0	295	230	0	63	37	0
Confl. Peds. (#/hr)			2	2			3		3	3		3
Heavy Vehicles (%)	3%	3%	3%	6%	6%	6%	7%	7%	7%	3%	3%	3%
Turn Type	custom	NA		custom	NA		Perm	NA		Perm	NA	
Protected Phases	3	8 12		7	4 10		2			6		
Permitted Phases	4			8								
Actuated Green, G (s)	37.5	39.5		37.5	14.5		20.0	20.0		20.0	20.0	
Effective Green, g (s)	37.5	39.5		37.5	14.5		20.0	20.0		20.0	20.0	
Actuated g/C Ratio	0.47	0.49		0.47	0.18		0.25	0.25		0.25	0.25	
Clearance Time (s)	5.0			5.0			4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0			2.0			2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	657	1579		200	562		290	414		145	381	
v/s Ratio Prot	c0.30	c0.57		0.02	c0.11			0.14			0.02	
v/s Ratio Perm	0.13			0.10			c0.25			0.11		
v/c Ratio	0.93	1.15		0.27	0.59		1.02	0.56		0.43	0.10	
Uniform Delay, d1	18.2	20.3		16.6	30.0		30.0	26.1		25.2	23.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	19.3	74.2		0.3	1.7		57.3	0.9		0.8	0.0	
Delay (s)	37.5	94.4		16.8	31.7		87.3	27.0		26.0	23.1	
Level of Service	D	F		B	C		F	C		C	C	
Approach Delay (s/veh)		80.1			29.7			56.4			24.5	
Approach LOS		F			C			E			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		68.4			HCM 2000 Level of Service			E				
HCM 2000 Volume to Capacity ratio		1.14										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			19.5				
Intersection Capacity Utilization		103.6%			ICU Level of Service			G				
Analysis Period (min)		15										
c Critical Lane Group												

Intersection						
Int Delay, s/veh	11.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Traffic Vol, veh/h	505	0	0	65	20	140
Future Vol, veh/h	505	0	0	65	20	140
Conflicting Peds, #/hr	1	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	6	6	8	8	29	29
Mvmt Flow	505	0	0	65	20	140
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	156	92	160	0	-	0
Stage 1	90	-	-	-	-	-
Stage 2	66	-	-	-	-	-
Critical Hdwy	6.46	6.26	4.18	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	2.272	-	-	-
Pot Cap-1 Maneuver	826	954	1383	-	-	-
Stage 1	924	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	826	952	1383	-	-	-
Mov Cap-2 Maneuver	826	-	-	-	-	-
Stage 1	924	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	16	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1383	-	826	-	-	
HCM Lane V/C Ratio	-	-	0.611	-	-	
HCM Control Delay (s/veh)	0	-	16	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q (veh)	0	-	4.3	-	-	

Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+			+			+	
Traffic Vol, veh/h	10	0	0	0	5	10	0	30	0	10	0	0
Future Vol, veh/h	10	0	0	0	5	10	0	30	0	10	0	0
Conflicting Peds, #/hr	2	0	1	1	0	2	2	0	3	3	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	18	18	18	0	0	0	5	5	5	50	50	50
Mvmt Flow	10	0	0	0	5	10	0	30	0	10	0	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	62	55	3	54	55	35	2	0	0	33	0	0
Stage 1	22	22	-	33	33	-	-	-	-	-	-	-
Stage 2	40	33	-	21	22	-	-	-	-	-	-	-
Critical Hdwy	7.28	6.68	6.38	7.1	6.5	6.2	4.15	-	-	4.6	-	-
Critical Hdwy Stg 1	6.28	5.68	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.28	5.68	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.662	4.162	3.462	3.5	4	3.3	2.245	-	-	2.65	-	-
Pot Cap-1 Maneuver	895	806	1036	949	840	1044	1601	-	-	1318	-	-
Stage 1	957	846	-	988	872	-	-	-	-	-	-	-
Stage 2	936	837	-	1003	881	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	873	796	1032	939	829	1038	1597	-	-	1314	-	-
Mov Cap-2 Maneuver	873	796	-	939	829	-	-	-	-	-	-	-
Stage 1	955	838	-	985	869	-	-	-	-	-	-	-
Stage 2	919	834	-	994	872	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	9.2		8.8		0		7.8					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1597	-	-	873	958	1314	-	-				
HCM Lane V/C Ratio	-	-	-	0.011	0.016	0.008	-	-				
HCM Control Delay (s/veh)	0	-	-	9.2	8.8	7.8	0	-				
HCM Lane LOS	A	-	-	A	A	A	A	-				
HCM 95th %tile Q (veh)	0	-	-	0	0	0	-	-				

801: Seaway Blvd & 75th St
HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
2037 Future Improved Conditions AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	5	45	220	35	70	530	1475	305	15	375	35
Future Volume (vph)	30	5	45	220	35	70	530	1475	305	15	375	35
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	4.5	4.5	4.0	4.5	4.5		5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.91	0.91		0.97	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	2941	3032	1357	1219	2359		3027	3029		2860	2908	
Flt Permitted	0.95	1.00	1.00	0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	2941	3032	1357	1219	2359		3027	3029		2860	2908	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	5	47	232	37	74	558	1553	321	16	395	37
RTOR Reduction (vph)	0	0	0	0	41	0	0	8	0	0	4	0
Lane Group Flow (vph)	32	5	47	116	186	0	558	1866	0	16	428	0
Confl. Peds. (#/hr)	8					8			6	6		
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	6%	6%	6%	20%	20%	20%	3%	3%	3%	9%	9%	9%
Turn Type	Split	NA	Free	Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases			Free									
Actuated Green, G (s)	4.1	4.1	140.0	18.8	18.8		30.3	95.6		2.5	67.8	
Effective Green, g (s)	4.1	4.1	140.0	18.8	18.8		30.3	95.6		2.5	67.8	
Actuated g/C Ratio	0.03	0.03	1.00	0.13	0.13		0.22	0.68		0.02	0.48	
Clearance Time (s)	4.5	4.5		4.5	4.5		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	2.0		3.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	86	88	1357	163	316		655	2068		51	1408	
v/s Ratio Prot	c0.01	0.00		c0.10	0.08		0.18	c0.62		0.01	c0.15	
v/s Ratio Perm			0.03									
v/c Ratio	0.37	0.06	0.03	0.71	0.59		0.85	0.90		0.31	0.30	
Uniform Delay, d1	66.7	66.1	0.0	58.0	57.0		52.7	18.3		67.9	21.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.1	0.0	13.7	2.8		10.0	7.0		1.3	0.6	
Delay (s)	67.7	66.2	0.0	71.7	59.8		62.7	25.3		69.2	22.4	
Level of Service	E	E	A	E	E		E	C		E	C	
Approach Delay (s)		29.7			63.8			33.9			24.1	
Approach LOS		C			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			35.6			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)				19.0		
Intersection Capacity Utilization			86.9%			ICU Level of Service				E		
Analysis Period (min)			15									

c Critical Lane Group

802: Snohomish PUD & 75th St
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
 2037 Future Improved Conditions AM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	305	20	10	295	30	10
Future Volume (vph)	305	20	10	295	30	10
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	11	11	12	12	11	11
Total Lost time (s)	5.0		4.0	5.0	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	2718		1432	2861	992	871
Flt Permitted	1.00		0.55	1.00	0.95	1.00
Satd. Flow (perm)	2718		823	2861	992	871
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	321	21	11	311	32	11
RTOR Reduction (vph)	5	0	0	0	0	9
Lane Group Flow (vph)	337	0	11	311	32	2
Confl. Peds. (#/hr)		2	2			2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	17%	17%	16%	16%	62%	62%
Bus Blockages (#/hr)	0	0	0	1	0	0
Turn Type	NA		custom	NA	Prot	Perm
Protected Phases	2 4 9		1	6	3	
Permitted Phases			2 4			3
Actuated Green, G (s)	30.5		24.2	20.9	10.6	10.6
Effective Green, g (s)	26.5		24.2	20.9	10.6	10.6
Actuated g/C Ratio	0.44		0.40	0.34	0.17	0.17
Clearance Time (s)			4.0	5.0	5.0	5.0
Vehicle Extension (s)			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1186		334	985	173	152
v/s Ratio Prot	c0.12		c0.00	c0.11	c0.03	
v/s Ratio Perm			0.01			0.00
v/c Ratio	0.28		0.03	0.32	0.18	0.01
Uniform Delay, d1	11.0		11.1	14.6	21.4	20.7
Progression Factor	0.21		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		0.0	0.2	0.5	0.0
Delay (s)	2.4		11.2	14.8	21.9	20.8
Level of Service	A		B	B	C	C
Approach Delay (s)	2.4			14.7	21.6	
Approach LOS	A			B	C	
Intersection Summary						
HCM 2000 Control Delay			9.2		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.30			
Actuated Cycle Length (s)			60.7		Sum of lost time (s)	23.0
Intersection Capacity Utilization			25.0%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

803: Hardeson Rd & 75th St/Sievers Duecy Blvd
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
 2037 Future Improved Conditions AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↔	↔↔		↔	↔		↔	↔	
Traffic Volume (vph)	80	105	40	145	180	15	90	195	80	10	155	55
Future Volume (vph)	80	105	40	145	180	15	90	195	80	10	155	55
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	12	12	12	12	12	12
Grade (%)		-4%			0%			0%			0%	
Total Lost time (s)		5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lane Util. Factor		0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.97		1.00	0.99		1.00	0.96		1.00	0.96	
Flt Protected		0.98		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2539		1531	3027		1554	1564		1397	1407	
Flt Permitted		0.78		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2015		1531	3027		1554	1564		1397	1407	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	82	108	41	149	186	15	93	201	82	10	160	57
RTOR Reduction (vph)	0	17	0	0	5	0	0	10	0	0	11	0
Lane Group Flow (vph)	0	214	0	149	196	0	93	273	0	10	206	0
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	23%	23%	23%	5%	5%	5%	7%	7%	7%	19%	19%	19%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	1	0
Turn Type	custom	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases		8 9		7	4 9		5	2		1	6	
Permitted Phases	8											
Actuated Green, G (s)		20.9		14.1	39.0		7.8	26.5		0.9	19.6	
Effective Green, g (s)		16.9		14.1	39.0		7.8	26.5		0.9	19.6	
Actuated g/C Ratio		0.21		0.18	0.49		0.10	0.33		0.01	0.24	
Clearance Time (s)				4.0			4.0	5.0		4.0	5.0	
Vehicle Extension (s)				3.0			2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		423		268	1468		150	515		15	343	
v/s Ratio Prot				c0.10	0.06		c0.06	0.17		0.01	c0.15	
v/s Ratio Perm		c0.11										
v/c Ratio		0.51		0.56	0.13		0.62	0.53		0.67	0.60	
Uniform Delay, d1		28.1		30.3	11.4		34.9	21.9		39.6	26.9	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3		2.5	0.0		5.3	0.5		62.4	2.0	
Delay (s)		28.4		32.8	11.4		40.2	22.3		102.0	29.0	
Level of Service		C		C	B		D	C		F	C	
Approach Delay (s)		28.4			20.5			26.8			32.2	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			26.3			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			80.4			Sum of lost time (s)			22.0			
Intersection Capacity Utilization			52.7%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔	↗		↔	
Traffic Vol, veh/h	15	250	30	5	305	5	10	0	5	5	0	0
Future Vol, veh/h	15	250	30	5	305	5	10	0	5	5	0	0
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-5	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	21	21	21	13	13	13	30	30	30	0	0	0
Mvmt Flow	16	263	32	5	321	5	11	0	5	5	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	327	0	0	295	0	0	482	648	148	499	662	164
Stage 1	-	-	-	-	-	-	311	311	-	335	335	-
Stage 2	-	-	-	-	-	-	171	337	-	164	327	-
Critical Hdwy	4.52	-	-	4.36	-	-	8.1	7.1	7.5	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	7.1	6.1	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.1	6.1	-	6.5	5.5	-
Follow-up Hdwy	2.41	-	-	2.33	-	-	3.8	4.3	3.6	3.5	4	3.3
Pot Cap-1 Maneuver	1103	-	-	1187	-	-	409	335	790	459	385	858
Stage 1	-	-	-	-	-	-	602	592	-	658	646	-
Stage 2	-	-	-	-	-	-	739	575	-	828	651	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1102	-	-	1187	-	-	402	327	790	448	376	857
Mov Cap-2 Maneuver	-	-	-	-	-	-	402	327	-	448	376	-
Stage 1	-	-	-	-	-	-	592	582	-	646	642	-
Stage 2	-	-	-	-	-	-	735	572	-	809	640	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.1			12.7			13.1		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	402	790	1102	-	-	1187	-	-	448
HCM Lane V/C Ratio	0.026	0.007	0.014	-	-	0.004	-	-	0.012
HCM Control Delay (s)	14.2	9.6	8.3	0.1	-	8	0	-	13.1
HCM Lane LOS	B	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	0	-	-	0	-	-	0

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	Y	
Traffic Vol, veh/h	220	40	10	310	5	5
Future Vol, veh/h	220	40	10	310	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	42	11	326	5	5
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	274	0	438	137
Stage 1	-	-	-	-	253	-
Stage 2	-	-	-	-	185	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1286	-	547	886
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	828	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1286	-	542	886
Mov Cap-2 Maneuver	-	-	-	-	542	-
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	820	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.2		10.4		
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	673	-	-	1286	-	
HCM Lane V/C Ratio	0.016	-	-	0.008	-	
HCM Control Delay (s)	10.4	-	-	7.8	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0	-	

801: Seaway Blvd & 75th St
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
 2037 Future Improved Conditions PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↱	↰↱	↱	↰	↰↱		↰↱	↰↱		↰↱	↰↱	↰
Traffic Volume (vph)	70	105	505	250	10	35	30	450	330	135	1135	20
Future Volume (vph)	70	105	505	250	10	35	30	450	330	135	1135	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	4.5	4.5	4.0	4.5	4.5		5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.91	0.91		0.97	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.94		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3087	3182	1424	1250	2438		2860	2712		3057	3142	
Flt Permitted	0.95	1.00	1.00	0.95	0.96		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3087	3182	1424	1250	2438		2860	2712		3057	3142	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	74	111	532	263	11	37	32	474	347	142	1195	21
RTOR Reduction (vph)	0	0	0	0	16	0	0	72	0	0	0	0
Lane Group Flow (vph)	74	111	532	131	164	0	32	749	0	142	1216	0
Confl. Peds. (#/hr)	17					17			16	16		
Confl. Bikes (#/hr)												4
Heavy Vehicles (%)	1%	1%	1%	17%	17%	17%	9%	9%	9%	2%	2%	2%
Turn Type	Split	NA	Free	Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases			Free									
Actuated Green, G (s)	9.6	9.6	150.0	21.0	21.0		4.2	69.1		31.3	96.2	
Effective Green, g (s)	9.6	9.6	150.0	21.0	21.0		4.2	69.1		31.3	96.2	
Actuated g/C Ratio	0.06	0.06	1.00	0.14	0.14		0.03	0.46		0.21	0.64	
Clearance Time (s)	4.5	4.5		4.5	4.5		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	2.0		3.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	197	203	1424	175	341		80	1249		637	2015	
v/s Ratio Prot	0.02	0.03		c0.10	0.07		0.01	c0.28		0.05	c0.39	
v/s Ratio Perm			c0.37									
v/c Ratio	0.38	0.55	0.37	0.75	0.48		0.40	0.60		0.22	0.60	
Uniform Delay, d1	67.3	68.1	0.0	62.0	59.5		71.7	30.1		49.3	15.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.6	0.8	16.0	1.1		1.2	2.1		0.1	1.3	
Delay (s)	67.8	69.7	0.8	78.0	60.5		72.9	32.3		49.3	17.1	
Level of Service	E	E	A	E	E		E	C		D	B	
Approach Delay (s)		18.3			67.9			33.8			20.5	
Approach LOS		B			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			28.1			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			150.0			Sum of lost time (s)				19.0		
Intersection Capacity Utilization			68.5%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group

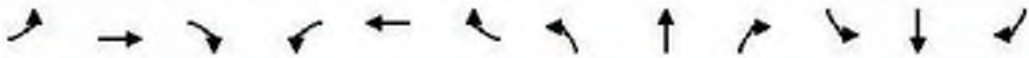
802: Snohomish PUD & 75th St
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
 2037 Future Improved Conditions PM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	545	25	5	280	15	50
Future Volume (vph)	545	25	5	280	15	50
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	11	11	12	12	11	11
Total Lost time (s)	5.0		4.0	5.0	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	2823		1457	2911	1531	1369
Flt Permitted	1.00		0.43	1.00	0.95	1.00
Satd. Flow (perm)	2823		652	2911	1531	1369
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	574	26	5	295	16	53
RTOR Reduction (vph)	3	0	0	0	0	46
Lane Group Flow (vph)	597	0	5	295	16	7
Confl. Peds. (#/hr)		7	7		6	
Heavy Vehicles (%)	13%	13%	14%	14%	5%	5%
Bus Blockages (#/hr)	0	0	0	1	0	0
Turn Type	NA		custom	NA	Prot	Perm
Protected Phases	2 4 9		1	6	3	
Permitted Phases			2 4			3
Actuated Green, G (s)	42.7		36.3	29.5	10.1	10.1
Effective Green, g (s)	38.7		36.3	29.5	10.1	10.1
Actuated g/C Ratio	0.53		0.50	0.41	0.14	0.14
Clearance Time (s)			4.0	5.0	5.0	5.0
Vehicle Extension (s)			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1508		333	1186	213	190
v/s Ratio Prot	c0.21		c0.00	0.10	c0.01	
v/s Ratio Perm			0.01			0.01
v/c Ratio	0.40		0.02	0.25	0.08	0.04
Uniform Delay, d1	9.9		9.1	14.1	27.1	27.0
Progression Factor	0.23		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.0	0.1	0.2	0.1
Delay (s)	2.5		9.1	14.3	27.2	27.0
Level of Service	A		A	B	C	C
Approach Delay (s)	2.5			14.2	27.1	
Approach LOS	A			B	C	
Intersection Summary						
HCM 2000 Control Delay			7.8		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.33			
Actuated Cycle Length (s)			72.4		Sum of lost time (s)	23.0
Intersection Capacity Utilization			31.4%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

803: Hardeson Rd & 75th St/Sievers Duecy Blvd
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
 2037 Future Improved Conditions PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕		↕	↕↕		↕	↕		↕	↕	
Traffic Volume (vph)	115	465	105	140	60	25	45	175	245	50	275	95
Future Volume (vph)	115	465	105	140	60	25	45	175	245	50	275	95
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	12	12	12	12	12	12
Grade (%)		-4%			0%			0%			0%	
Total Lost time (s)		5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lane Util. Factor		0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.98		1.00	0.96		1.00	0.91		1.00	0.96	
Flt Protected		0.99		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2954		1502	2853		1554	1476		1525	1531	
Flt Permitted		0.87		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2601		1502	2853		1554	1476		1525	1531	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	121	489	111	147	63	26	47	184	258	53	289	100
RTOR Reduction (vph)	0	11	0	0	13	0	0	36	0	0	9	0
Lane Group Flow (vph)	0	710	0	147	76	0	47	406	0	53	380	0
Confl. Peds. (#/hr)	3		2	2		3	2		6	6		2
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	1	0
Turn Type	custom	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases		8 9		7	4 9		5	2		1	6	
Permitted Phases		8										
Actuated Green, G (s)		33.0		16.1	53.1		6.2	33.7		6.4	33.9	
Effective Green, g (s)		29.0		16.1	53.1		6.2	33.7		6.4	33.9	
Actuated g/C Ratio		0.27		0.15	0.50		0.06	0.31		0.06	0.32	
Clearance Time (s)				4.0			4.0	5.0		4.0	5.0	
Vehicle Extension (s)				3.0			2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		703		225	1413		89	464		91	484	
v/s Ratio Prot				c0.10	0.03		0.03	c0.28		c0.03	0.25	
v/s Ratio Perm		c0.27										
v/c Ratio		1.01		0.65	0.05		0.53	0.88		0.58	0.79	
Uniform Delay, d1		39.1		42.9	14.0		49.1	34.8		49.1	33.3	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		36.4		6.7	0.0		2.6	16.2		6.0	7.6	
Delay (s)		75.5		49.6	14.0		51.7	51.0		55.1	40.9	
Level of Service		E		D	B		D	D		E	D	
Approach Delay (s)		75.5			36.2			51.1			42.6	
Approach LOS		E			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			56.6			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			107.2			Sum of lost time (s)			22.0			
Intersection Capacity Utilization			75.5%			ICU Level of Service			D			
Analysis Period (min)			15									

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔	↗		↔	
Traffic Vol, veh/h	10	560	20	5	230	5	30	5	25	15	5	30
Future Vol, veh/h	10	560	20	5	230	5	30	5	25	15	5	30
Conflicting Peds, #/hr	2	0	3	3	0	2	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-5	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	11	11	11	17	17	17	6	6	6	2	2	2
Mvmt Flow	11	589	21	5	242	5	32	5	26	16	5	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	249	0	0	613	0	0	759	884	309	577	892	126
Stage 1	-	-	-	-	-	-	625	625	-	257	257	-
Stage 2	-	-	-	-	-	-	134	259	-	320	635	-
Critical Hdwy	4.32	-	-	4.44	-	-	7.62	6.62	7.02	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.62	5.62	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.62	5.62	-	6.54	5.54	-
Follow-up Hdwy	2.31	-	-	2.37	-	-	3.56	4.06	3.36	3.52	4.02	3.32
Pot Cap-1 Maneuver	1251	-	-	867	-	-	288	276	675	400	280	901
Stage 1	-	-	-	-	-	-	430	466	-	725	694	-
Stage 2	-	-	-	-	-	-	844	682	-	666	471	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1248	-	-	865	-	-	269	269	672	372	273	899
Mov Cap-2 Maneuver	-	-	-	-	-	-	269	269	-	372	273	-
Stage 1	-	-	-	-	-	-	423	459	-	713	687	-
Stage 2	-	-	-	-	-	-	802	675	-	624	463	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			16.4			12.3		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	269	672	1248	-	-	865	-	-	543
HCM Lane V/C Ratio	0.137	0.039	0.008	-	-	0.006	-	-	0.097
HCM Control Delay (s)	20.5	10.6	7.9	0	-	9.2	0	-	12.3
HCM Lane LOS	C	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0.1	0	-	-	0	-	-	0.3

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑	
Traffic Vol, veh/h	630	0	0	210	20	20
Future Vol, veh/h	630	0	0	210	20	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	11	11	17	17	3	3
Mvmt Flow	663	0	0	221	21	21
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	663	0	774	332
Stage 1	-	-	-	-	663	-
Stage 2	-	-	-	-	111	-
Critical Hdwy	-	-	4.44	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.37	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	828	-	333	661
Stage 1	-	-	-	-	471	-
Stage 2	-	-	-	-	898	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	828	-	333	661
Mov Cap-2 Maneuver	-	-	-	-	333	-
Stage 1	-	-	-	-	471	-
Stage 2	-	-	-	-	898	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0		14		
HCM LOS				B		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	443	-	-	828	-	
HCM Lane V/C Ratio	0.095	-	-	-	-	
HCM Control Delay (s)	14	-	-	0	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	0.3	-	-	0	-	

801: Seaway Blvd & 75th St
HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
2046 Future Improved Conditions AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	5	45	220	35	70	530	1475	305	15	375	35
Future Volume (vph)	30	5	45	220	35	70	530	1475	305	15	375	35
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	4.5	4.5	4.0	4.5	4.5		5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.91	0.91		0.97	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	2941	3032	1357	1219	2359		3027	3029		2860	2908	
Flt Permitted	0.95	1.00	1.00	0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	2941	3032	1357	1219	2359		3027	3029		2860	2908	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	5	47	232	37	74	558	1553	321	16	395	37
RTOR Reduction (vph)	0	0	0	0	41	0	0	8	0	0	4	0
Lane Group Flow (vph)	32	5	47	116	186	0	558	1866	0	16	428	0
Confl. Peds. (#/hr)	8					8			6	6		
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	6%	6%	6%	20%	20%	20%	3%	3%	3%	9%	9%	9%
Turn Type	Split	NA	Free	Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases			Free									
Actuated Green, G (s)	4.1	4.1	140.0	18.8	18.8		30.3	95.6		2.5	67.8	
Effective Green, g (s)	4.1	4.1	140.0	18.8	18.8		30.3	95.6		2.5	67.8	
Actuated g/C Ratio	0.03	0.03	1.00	0.13	0.13		0.22	0.68		0.02	0.48	
Clearance Time (s)	4.5	4.5		4.5	4.5		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	2.0		3.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	86	88	1357	163	316		655	2068		51	1408	
v/s Ratio Prot	c0.01	0.00		c0.10	0.08		0.18	c0.62		0.01	c0.15	
v/s Ratio Perm			0.03									
v/c Ratio	0.37	0.06	0.03	0.71	0.59		0.85	0.90		0.31	0.30	
Uniform Delay, d1	66.7	66.1	0.0	58.0	57.0		52.7	18.3		67.9	21.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.1	0.0	13.7	2.8		10.0	7.0		1.3	0.6	
Delay (s)	67.7	66.2	0.0	71.7	59.8		62.7	25.3		69.2	22.4	
Level of Service	E	E	A	E	E		E	C		E	C	
Approach Delay (s)		29.7			63.8			33.9			24.1	
Approach LOS		C			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			35.6			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)				19.0		
Intersection Capacity Utilization			86.9%			ICU Level of Service				E		
Analysis Period (min)			15									

c Critical Lane Group

802: Snohomish PUD & 75th St
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
 2046 Future Improved Conditions AM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	305	20	10	295	30	10
Future Volume (vph)	305	20	10	295	30	10
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	11	11	12	12	11	11
Total Lost time (s)	5.0		4.0	5.0	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	2718		1432	2861	992	871
Flt Permitted	1.00		0.55	1.00	0.95	1.00
Satd. Flow (perm)	2718		823	2861	992	871
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	321	21	11	311	32	11
RTOR Reduction (vph)	5	0	0	0	0	9
Lane Group Flow (vph)	337	0	11	311	32	2
Confl. Peds. (#/hr)		2	2			2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	17%	17%	16%	16%	62%	62%
Bus Blockages (#/hr)	0	0	0	1	0	0
Turn Type	NA		custom	NA	Prot	Perm
Protected Phases	2 4 9		1	6	3	
Permitted Phases			2 4			3
Actuated Green, G (s)	30.5		24.2	20.9	10.6	10.6
Effective Green, g (s)	26.5		24.2	20.9	10.6	10.6
Actuated g/C Ratio	0.44		0.40	0.34	0.17	0.17
Clearance Time (s)			4.0	5.0	5.0	5.0
Vehicle Extension (s)			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1186		334	985	173	152
v/s Ratio Prot	c0.12		c0.00	c0.11	c0.03	
v/s Ratio Perm			0.01			0.00
v/c Ratio	0.28		0.03	0.32	0.18	0.01
Uniform Delay, d1	11.0		11.1	14.6	21.4	20.7
Progression Factor	0.21		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		0.0	0.2	0.5	0.0
Delay (s)	2.4		11.2	14.8	21.9	20.8
Level of Service	A		B	B	C	C
Approach Delay (s)	2.4			14.7	21.6	
Approach LOS	A			B	C	
Intersection Summary						
HCM 2000 Control Delay			9.2		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.30			
Actuated Cycle Length (s)			60.7		Sum of lost time (s)	23.0
Intersection Capacity Utilization			25.0%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

803: Hardeson Rd & 75th St/Sievers Duecy Blvd
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
 2046 Future Improved Conditions AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↔	↔↔		↔	↔		↔	↔	
Traffic Volume (vph)	80	105	40	145	180	15	90	195	80	10	155	55
Future Volume (vph)	80	105	40	145	180	15	90	195	80	10	155	55
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	12	12	12	12	12	12
Grade (%)		-4%			0%			0%			0%	
Total Lost time (s)		5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lane Util. Factor		0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.97		1.00	0.99		1.00	0.96		1.00	0.96	
Flt Protected		0.98		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2539		1531	3027		1554	1564		1397	1407	
Flt Permitted		0.78		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2015		1531	3027		1554	1564		1397	1407	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	82	108	41	149	186	15	93	201	82	10	160	57
RTOR Reduction (vph)	0	17	0	0	5	0	0	10	0	0	11	0
Lane Group Flow (vph)	0	214	0	149	196	0	93	273	0	10	206	0
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	23%	23%	23%	5%	5%	5%	7%	7%	7%	19%	19%	19%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	1	0
Turn Type	custom	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases		8 9		7	4 9		5	2		1	6	
Permitted Phases	8											
Actuated Green, G (s)		20.9		14.1	39.0		7.8	26.5		0.9	19.6	
Effective Green, g (s)		16.9		14.1	39.0		7.8	26.5		0.9	19.6	
Actuated g/C Ratio		0.21		0.18	0.49		0.10	0.33		0.01	0.24	
Clearance Time (s)				4.0			4.0	5.0		4.0	5.0	
Vehicle Extension (s)				3.0			2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		423		268	1468		150	515		15	343	
v/s Ratio Prot				c0.10	0.06		c0.06	0.17		0.01	c0.15	
v/s Ratio Perm		c0.11										
v/c Ratio		0.51		0.56	0.13		0.62	0.53		0.67	0.60	
Uniform Delay, d1		28.1		30.3	11.4		34.9	21.9		39.6	26.9	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3		2.5	0.0		5.3	0.5		62.4	2.0	
Delay (s)		28.4		32.8	11.4		40.2	22.3		102.0	29.0	
Level of Service		C		C	B		D	C		F	C	
Approach Delay (s)		28.4			20.5			26.8			32.2	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			26.3			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			80.4			Sum of lost time (s)			22.0			
Intersection Capacity Utilization			52.7%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔	↗		↔	
Traffic Vol, veh/h	15	250	30	5	305	5	10	0	5	5	0	0
Future Vol, veh/h	15	250	30	5	305	5	10	0	5	5	0	0
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-5	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	21	21	21	13	13	13	30	30	30	0	0	0
Mvmt Flow	16	263	32	5	321	5	11	0	5	5	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	327	0	0	295	0	0	482	648	148	499	662	164
Stage 1	-	-	-	-	-	-	311	311	-	335	335	-
Stage 2	-	-	-	-	-	-	171	337	-	164	327	-
Critical Hdwy	4.52	-	-	4.36	-	-	8.1	7.1	7.5	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	7.1	6.1	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.1	6.1	-	6.5	5.5	-
Follow-up Hdwy	2.41	-	-	2.33	-	-	3.8	4.3	3.6	3.5	4	3.3
Pot Cap-1 Maneuver	1103	-	-	1187	-	-	409	335	790	459	385	858
Stage 1	-	-	-	-	-	-	602	592	-	658	646	-
Stage 2	-	-	-	-	-	-	739	575	-	828	651	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1102	-	-	1187	-	-	402	327	790	448	376	857
Mov Cap-2 Maneuver	-	-	-	-	-	-	402	327	-	448	376	-
Stage 1	-	-	-	-	-	-	592	582	-	646	642	-
Stage 2	-	-	-	-	-	-	735	572	-	809	640	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.1			12.7			13.1		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	402	790	1102	-	-	1187	-	-	448
HCM Lane V/C Ratio	0.026	0.007	0.014	-	-	0.004	-	-	0.012
HCM Control Delay (s)	14.2	9.6	8.3	0.1	-	8	0	-	13.1
HCM Lane LOS	B	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	0	-	-	0	-	-	0

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	Y	
Traffic Vol, veh/h	220	40	10	310	5	5
Future Vol, veh/h	220	40	10	310	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	21	21	13	13	3	3
Mvmt Flow	232	42	11	326	5	5
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	274	0	438	137
Stage 1	-	-	-	-	253	-
Stage 2	-	-	-	-	185	-
Critical Hdwy	-	-	4.36	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.33	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1210	-	544	883
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	825	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1210	-	538	883
Mov Cap-2 Maneuver	-	-	-	-	538	-
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	816	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.3	10.5			
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	669	-	-	1210	-	
HCM Lane V/C Ratio	0.016	-	-	0.009	-	
HCM Control Delay (s)	10.5	-	-	8	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0	-	

801: Seaway Blvd & 75th St
HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
2046 Future Improved Conditions PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	105	495	245	10	35	30	445	330	130	1120	20
Future Volume (vph)	70	105	495	245	10	35	30	445	330	130	1120	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	4.5	4.5	4.0	4.5	4.5		5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.91	0.91		0.97	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.94		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3087	3182	1424	1250	2437		2860	2710		3057	3142	
Flt Permitted	0.95	1.00	1.00	0.95	0.96		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3087	3182	1424	1250	2437		2860	2710		3057	3142	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	74	111	521	258	11	37	32	468	347	137	1179	21
RTOR Reduction (vph)	0	0	0	0	17	0	0	72	0	0	0	0
Lane Group Flow (vph)	74	111	521	129	160	0	32	743	0	137	1200	0
Confl. Peds. (#/hr)	17					17			16	16		
Confl. Bikes (#/hr)												4
Heavy Vehicles (%)	1%	1%	1%	17%	17%	17%	9%	9%	9%	2%	2%	2%
Turn Type	Split	NA	Free	Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases			Free									
Actuated Green, G (s)	9.6	9.6	150.0	20.8	20.8		4.2	69.0		31.6	96.4	
Effective Green, g (s)	9.6	9.6	150.0	20.8	20.8		4.2	69.0		31.6	96.4	
Actuated g/C Ratio	0.06	0.06	1.00	0.14	0.14		0.03	0.46		0.21	0.64	
Clearance Time (s)	4.5	4.5		4.5	4.5		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	2.0		3.0	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	197	203	1424	173	337		80	1246		644	2019	
v/s Ratio Prot	0.02	c0.03		c0.10	0.07		0.01	c0.27		0.04	c0.38	
v/s Ratio Perm			0.37									
v/c Ratio	0.38	0.55	0.37	0.75	0.47		0.40	0.60		0.21	0.59	
Uniform Delay, d1	67.3	68.1	0.0	62.1	59.6		71.7	30.1		48.9	15.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.6	0.7	16.0	1.1		1.2	2.1		0.1	1.3	
Delay (s)	67.8	69.7	0.7	78.0	60.6		72.9	32.2		49.0	16.8	
Level of Service	E	E	A	E	E		E	C		D	B	
Approach Delay (s)		18.6			67.9			33.8			20.1	
Approach LOS		B			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			28.0			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			150.0			Sum of lost time (s)				19.0		
Intersection Capacity Utilization			68.0%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group

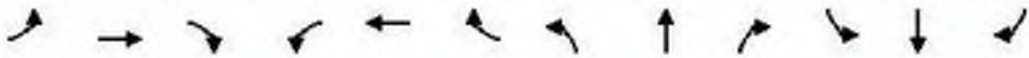
802: Snohomish PUD & 75th St
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
 2046 Future Improved Conditions PM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	540	25	5	275	15	50
Future Volume (vph)	540	25	5	275	15	50
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	11	11	12	12	11	11
Total Lost time (s)	5.0		4.0	5.0	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	2822		1457	2911	1531	1369
Flt Permitted	1.00		0.43	1.00	0.95	1.00
Satd. Flow (perm)	2822		656	2911	1531	1369
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	568	26	5	289	16	53
RTOR Reduction (vph)	3	0	0	0	0	46
Lane Group Flow (vph)	591	0	5	289	16	7
Confl. Peds. (#/hr)		7	7		6	
Heavy Vehicles (%)	13%	13%	14%	14%	5%	5%
Bus Blockages (#/hr)	0	0	0	1	0	0
Turn Type	NA		custom	NA	Prot	Perm
Protected Phases	2 4 9		1	6	3	
Permitted Phases			2 4			3
Actuated Green, G (s)	42.1		35.7	28.9	10.0	10.0
Effective Green, g (s)	38.1		35.7	28.9	10.0	10.0
Actuated g/C Ratio	0.53		0.50	0.40	0.14	0.14
Clearance Time (s)			4.0	5.0	5.0	5.0
Vehicle Extension (s)			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1499		333	1173	213	190
v/s Ratio Prot	c0.21		c0.00	0.10	c0.01	
v/s Ratio Perm			0.01			0.01
v/c Ratio	0.39		0.02	0.25	0.08	0.04
Uniform Delay, d1	10.0		9.1	14.2	26.8	26.7
Progression Factor	0.23		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.0	0.1	0.2	0.1
Delay (s)	2.5		9.1	14.3	27.0	26.8
Level of Service	A		A	B	C	C
Approach Delay (s)	2.5			14.2	26.8	
Approach LOS	A			B	C	
Intersection Summary						
HCM 2000 Control Delay			7.8		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.32			
Actuated Cycle Length (s)			71.7		Sum of lost time (s)	23.0
Intersection Capacity Utilization			31.3%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

803: Hardeson Rd & 75th St/Sievers Duecy Blvd
 HCM Signalized Intersection Capacity Analysis

Everett Link Extension Project
 2046 Future Improved Conditions PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↔	↔↔		↔	↔		↔	↔	
Traffic Volume (vph)	115	460	100	135	60	25	45	175	240	50	275	95
Future Volume (vph)	115	460	100	135	60	25	45	175	240	50	275	95
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	11	11	11	11	12	12	12	12	12	12
Grade (%)		-4%			0%			0%			0%	
Total Lost time (s)		5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lane Util. Factor		0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.98		1.00	0.96		1.00	0.91		1.00	0.96	
Flt Protected		0.99		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2956		1502	2853		1554	1477		1525	1531	
Flt Permitted		0.87		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2600		1502	2853		1554	1477		1525	1531	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	121	484	105	142	63	26	47	184	253	53	289	100
RTOR Reduction (vph)	0	10	0	0	13	0	0	35	0	0	9	0
Lane Group Flow (vph)	0	700	0	142	76	0	47	402	0	53	380	0
Confl. Peds. (#/hr)	3		2	2		3	2		6	6		2
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	1	0
Turn Type	custom	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases		8 9		7	4 9		5	2		1	6	
Permitted Phases	8											
Actuated Green, G (s)		32.9		15.7	52.6		6.1	33.1		6.4	33.4	
Effective Green, g (s)		28.9		15.7	52.6		6.1	33.1		6.4	33.4	
Actuated g/C Ratio		0.27		0.15	0.50		0.06	0.31		0.06	0.31	
Clearance Time (s)				4.0			4.0	5.0		4.0	5.0	
Vehicle Extension (s)				3.0			2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		708		222	1414		89	460		91	481	
v/s Ratio Prot				c0.09	0.03		0.03	c0.27		c0.03	0.25	
v/s Ratio Perm		c0.27										
v/c Ratio		0.99		0.64	0.05		0.53	0.87		0.58	0.79	
Uniform Delay, d1		38.4		42.5	13.9		48.6	34.5		48.5	33.2	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		30.5		5.9	0.0		2.6	16.1		6.0	8.1	
Delay (s)		69.0		48.5	13.9		51.2	50.7		54.5	41.2	
Level of Service		E		D	B		D	D		D	D	
Approach Delay (s)		69.0			35.1			50.7			42.8	
Approach LOS		E			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			53.9			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			106.1			Sum of lost time (s)			22.0			
Intersection Capacity Utilization			74.8%			ICU Level of Service			D			
Analysis Period (min)			15									

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔	↗		↔	
Traffic Vol, veh/h	10	550	20	5	230	5	25	5	25	15	5	30
Future Vol, veh/h	10	550	20	5	230	5	25	5	25	15	5	30
Conflicting Peds, #/hr	2	0	3	3	0	2	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	5	-	-	-5	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	11	11	11	17	17	17	6	6	6	2	2	2
Mvmt Flow	11	579	21	5	242	5	26	5	26	16	5	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	249	0	0	603	0	0	749	874	304	572	882	126
Stage 1	-	-	-	-	-	-	615	615	-	257	257	-
Stage 2	-	-	-	-	-	-	134	259	-	315	625	-
Critical Hdwy	4.32	-	-	4.44	-	-	7.62	6.62	7.02	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.62	5.62	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.62	5.62	-	6.54	5.54	-
Follow-up Hdwy	2.31	-	-	2.37	-	-	3.56	4.06	3.36	3.52	4.02	3.32
Pot Cap-1 Maneuver	1251	-	-	875	-	-	293	279	680	403	284	901
Stage 1	-	-	-	-	-	-	436	471	-	725	694	-
Stage 2	-	-	-	-	-	-	844	682	-	671	475	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1248	-	-	873	-	-	274	272	677	374	277	899
Mov Cap-2 Maneuver	-	-	-	-	-	-	274	272	-	374	277	-
Stage 1	-	-	-	-	-	-	429	463	-	713	687	-
Stage 2	-	-	-	-	-	-	802	675	-	629	467	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			15.6			12.3		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	274	677	1248	-	-	873	-	-	546
HCM Lane V/C Ratio	0.115	0.039	0.008	-	-	0.006	-	-	0.096
HCM Control Delay (s)	19.8	10.5	7.9	0	-	9.1	0	-	12.3
HCM Lane LOS	C	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0.1	0	-	-	0	-	-	0.3

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	Y	
Traffic Vol, veh/h	620	0	0	210	20	20
Future Vol, veh/h	620	0	0	210	20	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	11	11	17	17	3	3
Mvmt Flow	653	0	0	221	21	21
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	653	0	764	327
Stage 1	-	-	-	-	653	-
Stage 2	-	-	-	-	111	-
Critical Hdwy	-	-	4.44	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.37	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	835	-	338	666
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	898	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	835	-	338	666
Mov Cap-2 Maneuver	-	-	-	-	338	-
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	898	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0		13.9		
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	448	-	-	835	-	
HCM Lane V/C Ratio	0.094	-	-	-	-	
HCM Control Delay (s)	13.9	-	-	0	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	0.3	-	-	0	-	