

Appendix B-3: PM Peak Hour Level of Service Worksheets
Existing (2009), 2018 Forecasts, 2028 Forecasts

HCM Unsignalized Intersection Capacity Analysis 1: Penny Rd & Lower Sunnyslope Rd

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Volume (veh/h)	5	10	10	0	5	10
Sign Control	Stop	Free	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63
Hourly flow rate (vph)	8	16	16	0	8	16
Pedestrians	5	5	5	5	5	5
Lane Width (ft)	12.0	12.0	12.0	12.0	12.0	12.0
Walking Speed (ft/s)	4.0	4.0	4.0	4.0	4.0	4.0
Percent Blockage	0	0	0	0	0	0
Right turn flare (veh)						
Median type		None		None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	58	26			21	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	58	26			21	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	98			100	
cM capacity (veh/h)	937	1041			1588	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	24	16	24			
Volume Left	8	0	8			
Volume Right	16	0	0			
cSH	1004	1700	1588			
Volume to Capacity	0.02	0.01	0.00			
Queue Length 95th (ft)	2	0	0			
Control Delay (s)	8.7	0.0	2.5			
Lane LOS	A		A			
Approach Delay (s)	8.7	0.0	2.5			
Approach LOS	A					
Intersection Summary						
Average Delay			4.2			
Intersection Capacity Utilization			16.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 2: SR 2 & School St

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		T	T	T	T	T			T	T	T	T
Volume (veh/h)	0	890	5	5	1095	115	0	0	5	0	0	20
Sign Control		Free	Free		Free	Free		Stop			Stop	
Grade		0%	0%		0%	0%		0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	967	5	5	1190	125	0	0	5	0	0	22
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1320			978			1608	2306	496	1700	2184	605
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1320			978			1608	2306	496	1700	2184	605
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	99	100	100	95
cM capacity (veh/h)	517			698			65	37	515	58	45	437
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1				
Volume Total	645	328	5	595	595	125	5	22				
Volume Left	0	0	5	0	0	0	0	0				
Volume Right	0	5	0	0	0	125	5	22				
cSH	1700	1700	698	1700	1700	1700	515	437				
Volume to Capacity	0.38	0.19	0.01	0.35	0.35	0.07	0.01	0.05				
Queue Length 95th (ft)	0	0	1	0	0	0	1	4				
Control Delay (s)	0.0	0.0	10.2	0.0	0.0	0.0	12.1	13.7				
Lane LOS			B				B	B				
Approach Delay (s)	0.0		0.0				12.1	13.7				
Approach LOS							B	B				
Intersection Summary												
Average Delay				0.2								
Intersection Capacity Utilization				41.8%			ICU Level of Service	A				
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis 3: Melody Ln & School St

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T		L	T
Volume (veh/h)	15	0	135	0	10	10
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	18	0	163	0	12	12
Pedestrians	5		5		5	
Lane Width (ft)	12.0		12.0		12.0	
Walking Speed (ft/s)	4.0		4.0		4.0	
Percent Blockage	0		0		0	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	209	173			168	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	209	173			168	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			99	
cM capacity (veh/h)	766	864			1404	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	18	163	24			
Volume Left	18	0	12			
Volume Right	0	0	0			
cSH	766	1700	1404			
Volume to Capacity	0.02	0.10	0.01			
Queue Length 95th (ft)	2	0	1			
Control Delay (s)	9.8	0.0	3.8			
Lane LOS	A		A			
Approach Delay (s)	9.8	0.0	3.8			
Approach LOS	A					
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			21.0%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 4: Peters St & School St

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T		L	T
Volume (veh/h)	5	5	100	20	5	15
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	5	106	21	5	16
Pedestrians	5		5		5	
Lane Width (ft)	12.0		12.0		12.0	
Walking Speed (ft/s)	4.0		4.0		4.0	
Percent Blockage	0		0		0	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	154	127			133	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	154	127			133	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			100	
cM capacity (veh/h)	828	916			1446	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	11	128	21			
Volume Left	5	0	5			
Volume Right	5	21	0			
cSH	870	1700	1446			
Volume to Capacity	0.01	0.08	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	9.2	0.0	1.9			
Lane LOS	A		A			
Approach Delay (s)	9.2	0.0	1.9			
Approach LOS	A					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			19.1%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 5: Easy St & School St

N Wenatchee Ave
2009 Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	105	5	5	95	35	60	55	10	55	5	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	5	109	5	5	99	36	62	57	10	57	5	5
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	140			120			268	278	122	299	263	127
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	140			120			268	278	122	299	263	127
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			91	91	99	90	99	99
cM capacity (veh/h)	1437			1462			663	620	921	588	633	915
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	120	141	130	68								
Volume Left	5	5	62	57								
Volume Right	5	36	10	5								
cSH	1437	1462	658	608								
Volume to Capacity	0.00	0.00	0.20	0.11								
Queue Length 95th (ft)	0	0	18	9								
Control Delay (s)	0.4	0.3	11.8	11.7								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.4	0.3	11.8	11.7								
Approach LOS		B		B								
Intersection Summary												
Average Delay				5.3								
Intersection Capacity Utilization	24.1%			ICU Level of Service					A			
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 6: Peters St & Easy St

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (veh/h)	0	5	30	70	10	25	25	135	110	15	185	0	
Sign Control		Stop			Stop			Free			Free		
Grade		0%			0%			0%			0%		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Hourly flow rate (vph)	0	5	32	75	11	27	27	145	118	16	199	0	
Pedestrians		5			5			5			5		
Lane Width (ft)		12.0			12.0			12.0			12.0		
Walking Speed (ft/s)		4.0			4.0			4.0			4.0		
Percent Blockage		0			0			0			0		
Right turn flare (veh)													
Median type	None								None				
Median storage (veh)													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	532	558	209	534	499	214	204			268			
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	532	558	209	534	499	214	204			268			
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1			
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2			
p0 queue free %	100	99	96	82	98	97	98			99			
cM capacity (veh/h)	419	420	824	418	454	819	1362			1290			
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	38	113	290	215									
Volume Left	0	75	27	16									
Volume Right	32	27	118	0									
cSH	725	477	1362	1290									
Volume to Capacity	0.05	0.24	0.02	0.01									
Queue Length 95th (ft)	4	23	2	1									
Control Delay (s)	10.2	14.9	0.9	0.7									
Lane LOS	B	B	A	A									
Approach Delay (s)	10.2	14.9	0.9	0.7									
Approach LOS	B	B											
Intersection Summary													
Average Delay				3.8									
Intersection Capacity Utilization				40.7%	ICU Level of Service						A		
Analysis Period (min)				15									

HCM Unsignalized Intersection Capacity Analysis 7: Ohme Garden Rd & Easy St

N Wenatchee Ave
2009 Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	5	30	165	5	10	20	295	110	5	300	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	6	33	183	6	11	22	328	122	6	333	6
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								401				
pX, platoon unblocked	0.90	0.90		0.90	0.90	0.90				0.90		
vC, conflicting volume	804	852	346	827	793	399	344			455		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	726	779	346	751	714	275	344			338		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	98	95	31	98	98	98			99		
cM capacity (veh/h)	287	285	691	267	311	681	1210			1094		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	44	200	472	344								
Volume Left	6	183	22	6								
Volume Right	33	11	122	6								
cSH	510	277	1210	1094								
Volume to Capacity	0.09	0.72	0.02	0.01								
Queue Length 95th (ft)	7	127	1	0								
Control Delay (s)	12.7	45.5	0.6	0.2								
Lane LOS	B	E	A	A								
Approach Delay (s)	12.7	45.5	0.6	0.2								
Approach LOS	B	E										
Intersection Summary												
Average Delay	9.4											
Intersection Capacity Utilization	57.3%			ICU Level of Service						B		
Analysis Period (min)	15											

HCM Signalized Intersection Capacity Analysis 8: SR 2 & Easy St

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↕	↕	↔	↕↕	↕	↔	↕	↕	↕	↕	↕
Volume (vph)	70	565	35	65	705	105	110	195	195	110	100	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1558	1770	3539	1540	1770	1863	1555	1770	1863	1553
Fit Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1558	1770	3539	1540	1770	1863	1555	1770	1863	1553
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	78	628	39	72	783	117	122	217	217	122	111	344
RTOR Reduction (vph)	0	0	22	0	0	62	0	0	173	0	0	245
Lane Group Flow (vph)	78	628	17	72	783	55	122	217	44	122	111	99
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Actuated Green, G (s)	8.9	32.8	32.8	8.6	32.5	32.5	12.9	19.0	19.0	12.8	18.9	18.9
Effective Green, g (s)	8.9	32.8	32.8	8.6	32.5	32.5	12.9	19.0	19.0	12.8	18.9	18.9
Actuated g/C Ratio	0.09	0.35	0.35	0.09	0.35	0.35	0.14	0.20	0.20	0.14	0.20	0.20
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0	5.0	5.0	4.0	5.0	5.0	3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)	167	1232	542	162	1221	531	242	376	314	241	374	312
v/s Ratio Prot	c0.04	0.18		0.04	c0.22		c0.07	c0.12		0.07	0.06	
v/s Ratio Perm			0.01			0.04			0.03			0.06
v/c Ratio	0.47	0.51	0.03	0.44	0.64	0.10	0.50	0.58	0.14	0.51	0.30	0.32
Uniform Delay, d1	40.4	24.3	20.2	40.5	25.9	21.0	37.7	34.0	30.9	37.8	32.0	32.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.8	0.7	0.0	2.6	1.6	0.2	1.7	2.6	0.3	1.7	0.6	0.8
Delay (s)	43.2	25.0	20.3	43.2	27.5	21.1	39.3	36.5	31.2	39.4	32.6	33.0
Level of Service	D	C	C	D	C	C	D	D	C	D	C	C
Approach Delay (s)	26.7				27.9		35.1				34.3	
Approach LOS	C				C		D				C	
Intersection Summary												
HCM Average Control Delay	30.3			HCM Level of Service					C			
HCM Volume to Capacity ratio	0.54											
Actuated Cycle Length (s)	94.2			Sum of lost time (s)					16.0			
Intersection Capacity Utilization	59.7%			ICU Level of Service					B			
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 9: Penny Rd & Easy St

N Wenatchee Ave
2009 Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	0	0	285	95	115	390	200	45	0	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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			0.95	0.95
Frpb, ped/bikes		1.00			1.00	0.98		0.99			0.99	0.98
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	1.00
Frt		1.00			1.00	0.85		0.96			0.91	0.85
Flt Protected		0.97			1.00	1.00		0.99			0.98	1.00
Satd. Flow (prot)		1799			1863	1554		3332			1556	1471
Flt Permitted		0.69			1.00	1.00		0.99			0.98	1.00
Satd. Flow (perm)		1283			1863	1554		3332			1556	1471
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	26	13	0	0	365	122	147	500	256	58	0	231
RTOR Reduction (vph)	0	0	0	0	0	87	0	35	0	0	57	120
Lane Group Flow (vph)	0	39	0	0	365	35	0	868	0	0	91	21
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm				Perm		Split	Split		Split	Perm	
Protected Phases	6				2		4	4		8	8	
Permitted Phases	6				2							8
Actuated Green, G (s)	20.5				20.5		20.5	27.7		10.6	10.6	
Effective Green, g (s)	20.5				20.5		20.5	27.7		10.6	10.6	
Actuated g/C Ratio	0.28				0.28		0.28	0.38		0.15	0.15	
Clearance Time (s)	4.5				4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.5				2.5		2.5	3.0		2.5	2.5	
Lane Grp Cap (vph)	364				528		441	1277		228	216	
v/s Ratio Prot					c0.20			c0.26		c0.06		
v/s Ratio Perm	0.03						0.02				0.01	
v/c Ratio	0.11				0.69		0.08	0.68		0.40	0.10	
Uniform Delay, d1	19.1				23.1		19.0	18.6		28.0	26.7	
Progression Factor	1.00				1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1				3.6		0.1	1.5		0.8	0.1	
Delay (s)	19.2				26.7		19.0	20.1		28.8	26.8	
Level of Service	B				C		B	C		C	C	
Approach Delay (s)	19.2				24.8			20.1		27.8		
Approach LOS	B				C			C		C		
Intersection Summary												
HCM Average Control Delay	22.7				HCM Level of Service				C			
HCM Volume to Capacity ratio	0.63											
Actuated Cycle Length (s)	72.3				Sum of lost time (s)				13.5			
Intersection Capacity Utilization	57.8%				ICU Level of Service				B			
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 10: Horan Rd & SR 285 Off-Ramp

N Wenatchee Ave
2009 Existing PM Peak Hour

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis 11: Cordell Ave & Penny Rd

N Wenatchee Ave
2009 Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	15	15	420	55	40	0	0	0	10	15	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0						3.5	
Lane Util. Factor		1.00		0.95	0.95						1.00	
Frpb, ped/bikes		0.98		1.00	1.00						1.00	
Flpb, ped/bikes		1.00		1.00	1.00						1.00	
Frt		0.93		1.00	0.98						1.00	
Flt Protected		1.00		0.95	0.97						0.98	
Satd. Flow (prot)		1704		1681	1669						1826	
Flt Permitted		1.00		0.95	0.97						0.98	
Satd. Flow (perm)		1704		1681	1669						1826	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	0	19	19	538	71	51	0	0	0	13	19	0
RTOR Reduction (vph)	0	18	0	0	4	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	20	0	334	322	0	0	0	0	0	32	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Split			Split						Split		
Protected Phases	6	6		2	2					8	8	
Permitted Phases												
Actuated Green, G (s)		2.0		25.7	25.7						3.5	
Effective Green, g (s)		2.5		26.2	26.2						4.0	
Actuated g/C Ratio		0.06		0.59	0.59						0.09	
Clearance Time (s)		4.5		4.5	4.5						4.0	
Vehicle Extension (s)		2.5		2.5	2.5						2.5	
Lane Grp Cap (vph)	96			996	989						165	
v/s Ratio Prot		c0.01		c0.20	0.19						c0.02	
v/s Ratio Perm												
v/c Ratio		0.21		0.34	0.33						0.19	
Uniform Delay, d1		19.9		4.6	4.5						18.6	
Progression Factor		1.00		1.00	1.00						1.00	
Incremental Delay, d2		0.8		0.1	0.1						0.4	
Delay (s)		20.7		4.7	4.7						19.0	
Level of Service		C		A	A						B	
Approach Delay (s)		20.7			4.7			0.0			19.0	
Approach LOS		C			A			A			B	
Intersection Summary												
HCM Average Control Delay			6.2	HCM Level of Service					A			
HCM Volume to Capacity ratio			0.31									
Actuated Cycle Length (s)			44.2	Sum of lost time (s)					11.5			
Intersection Capacity Utilization			36.9%	ICU Level of Service					A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 12: Peters St & Burch Mountain Rd

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Volume (veh/h)	125	15	30	5	5	75
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	129	15	31	5	5	77
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	41				317	44
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	41				317	44
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				99	92
cM capacity (veh/h)	1562				615	1018
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	144	36	82			
Volume Left	129	0	5			
Volume Right	0	5	77			
cSH	1562	1700	978			
Volume to Capacity	0.08	0.02	0.08			
Queue Length 95th (ft)	7	0	7			
Control Delay (s)	6.8	0.0	9.0			
Lane LOS	A		A			
Approach Delay (s)	6.8	0.0	9.0			
Approach LOS			A			
Intersection Summary						
Average Delay		6.5				
Intersection Capacity Utilization		27.7%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 13: Peters St & Ohme Garden Rd

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (veh/h)	0	0	0	0	0	0	0	90	0	5	65	0
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	0	0	0	0	0	0	101	0	6	73	0
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	195	195	83	195	195	111	78			106		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	195	195	83	195	195	111	78			106		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	750	692	968	750	692	934	1514			1479		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	0	0	101	79								
Volume Left	0	0	0	6								
Volume Right	0	0	0	0								
cSH	1700	1700	1514	1479								
Volume to Capacity	0.00	0.00	0.00	0.00								
Queue Length 95th (ft)	0	0	0	0								
Control Delay (s)	0.0	0.0	0.0	0.6								
Lane LOS	A	A		A								
Approach Delay (s)	0.0	0.0	0.0	0.6								
Approach LOS	A	A										
Intersection Summary												
Average Delay			0.2									
Intersection Capacity Utilization			20.0%			ICU Level of Service				A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 14: Ohme Garden Rd & Ohme Rd

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (veh/h)	10	35	70	10	35	0	80	0	10	10	0	0
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	11	38	77	11	38	0	88	0	11	11	0	0
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	43			120			169	169	87	180	208	48
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	43			120			169	169	87	180	208	48
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			89	100	99	99	100	100
cM capacity (veh/h)	1559			1461			774	707	964	753	673	1012
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	126	49	99	11								
Volume Left	11	11	88	11								
Volume Right	77	0	11	0								
cSH	1559	1461	791	753								
Volume to Capacity	0.01	0.01	0.12	0.01								
Queue Length 95th (ft)	1	1	11	1								
Control Delay (s)	0.7	1.7	10.2	9.9								
Lane LOS	A	A	B	A								
Approach Delay (s)	0.7	1.7	10.2	9.9								
Approach LOS			B	A								
Intersection Summary												
Average Delay			4.5									
Intersection Capacity Utilization			21.3%			ICU Level of Service				A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 15: Gunn Rd & Euclid Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	75	15	15	400	185	55
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	96	19	19	513	237	71
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	834	282	313			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	834	282	313			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	71	97	98			
cM capacity (veh/h)	330	750	1242			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	96	19	19	513	308	
Volume Left	96	0	19	0	0	
Volume Right	0	19	0	0	71	
cSH	330	750	1242	1700	1700	
Volume to Capacity	0.29	0.03	0.02	0.30	0.18	
Queue Length 95th (ft)	30	2	1	0	0	
Control Delay (s)	20.3	9.9	7.9	0.0	0.0	
Lane LOS	C	A	A			
Approach Delay (s)	18.6		0.3		0.0	
Approach LOS	C					
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			33.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 16: Penny Rd & Euclid Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	210	40	45	165	80	75
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	280	53	60	220	107	100
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			338		657	317
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			338		657	317
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		74	86
cM capacity (veh/h)			1216		405	718
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	333	60	220	207		
Volume Left	0	60	0	107		
Volume Right	53	0	0	100		
cSH	1700	1216	1700	513		
Volume to Capacity	0.20	0.05	0.13	0.40		
Queue Length 95th (ft)	0	4	0	48		
Control Delay (s)	0.0	8.1	0.0	16.7		
Lane LOS		A		C		
Approach Delay (s)	0.0	1.7		16.7		
Approach LOS				C		
Intersection Summary						
Average Delay			4.8			
Intersection Capacity Utilization			36.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis 17: Horse Lake Rd & Wenatchee Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	155	0	30	30	5	15	40	1585	5	10	1590	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.98		1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1759	1554		1778	1554	1770	3539	1583	1770	3539	1583	1583
Flt Permitted	0.73	1.00		0.64	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1357	1554		1179	1554	1770	3539	1583	1770	3539	1583	1583
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)	163	0	32	32	5	16	42	1668	5	11	1674	216
RTOR Reduction (vph)	0	0	27	0	0	13	0	0	1	0	0	63
Lane Group Flow (vph)	0	163	5	0	37	3	42	1668	4	11	1674	153
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm		Perm	Perm		Perm	Prot		Prot	Prot		Prot
Protected Phases		4			8		5	2	2	1	6	6
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	16.6	16.6		16.6	16.6		5.4	70.9	70.9	1.5	67.0	67.0
Effective Green, g (s)	16.6	16.6		16.6	16.6		5.4	70.9	70.9	1.5	67.0	67.0
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.05	0.68	0.68	0.01	0.64	0.64
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	215	246		186	246		91	2390	1069	25	2258	1010
v/s Ratio Prot							c0.02	c0.47	0.00	0.01	c0.47	0.10
v/s Ratio Perm	c0.12	0.00		0.03	0.00							
v/c Ratio	0.76	0.02		0.20	0.01		0.46	0.70	0.00	0.44	0.74	0.15
Uniform Delay, d1	42.3	37.3		38.4	37.3		48.4	10.5	5.6	51.3	13.0	7.6
Progression Factor	1.00	1.00		1.00	1.00		1.05	0.97	0.81	1.00	1.00	1.00
Incremental Delay, d2	14.2	0.0		0.5	0.0		3.7	1.7	0.0	11.9	2.2	0.3
Delay (s)	56.4	37.4		38.9	37.3		54.5	11.8	4.5	63.2	15.3	7.9
Level of Service	E	D		D	D		B	B	A	E	B	A
Approach Delay (s)	53.3			38.4			12.9				14.7	
Approach LOS	D			D			B				B	

Intersection Summary			
HCM Average Control Delay	16.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 18: REF Dwy 1 & Wenatchee Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	1685	0	0	1680
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	6740	0	0	6720
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	388			343		
pX, platoon unblocked	0.77	0.76		0.76		
vC, conflicting volume	10110	3380		6745		
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	10829	3501		7938		
tC, single (s)	6.8	6.9		4.1		
tC, 2 stage (s)						
tF (s)	3.5	3.3		2.2		
p0 queue free %	100	100		100		
cM capacity (veh/h)	0	3		1		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	0	4493	2247	0	3360	3360
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	2.64	1.32	0.00	1.98	1.98
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0		0.0		
Approach LOS	A					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis 19: Maiden Ln & Wenatchee Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	230	0	185	15	5	10	190	1445	10	0	1450	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00		1.00	0.95		0.95	1.00	
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	0.90		1.00	1.00		1.00	0.85	
Flt Protected	0.95	0.95	1.00	0.95	1.00		0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1681	1681	1583	1770	1656		1770	3535		3539	1583	
Flt Permitted	0.95	0.95	1.00	0.95	1.00		0.95	1.00		1.00	1.00	
Satd. Flow (perm)	1681	1681	1583	1770	1656		1770	3535		3539	1583	
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)	240	0	193	16	5	10	198	1505	10	0	1510	240
RTOR Reduction (vph)	0	0	168	0	10	0	0	0	0	0	0	89
Lane Group Flow (vph)	120	120	25	16	5	0	198	1515	0	0	1510	151
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Split		Prot	Split		Prot			Prot		Prot	
Protected Phases	4	4	4	8	8		5	2		1	6	6
Permitted Phases												
Actuated Green, G (s)	13.4	13.4	13.4	4.9	4.9		20.0	73.7			48.7	48.7
Effective Green, g (s)	13.4	13.4	13.4	4.9	4.9		20.0	73.7			48.7	48.7
Actuated g/C Ratio	0.13	0.13	0.13	0.05	0.05		0.19	0.70			0.46	0.46
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	215	215	202	83	77		337	2481			1641	734
v/s Ratio Prot	c0.07	0.07	0.02	c0.01	0.00		0.11	c0.43			c0.43	0.10
v/s Ratio Perm												
v/c Ratio	0.56	0.56	0.12	0.19	0.07		0.59	0.61			0.92	0.21
Uniform Delay, d1	43.0	43.0	40.6	48.1	47.9		38.7	8.2			26.3	16.7
Progression Factor	0.89	0.89	0.78	1.00	1.00		0.97	0.94			1.02	1.28
Incremental Delay, d2	3.1	3.1	0.3	1.1	0.4		2.6	1.1			9.8	0.6
Delay (s)	41.4	41.4	31.8	49.3	48.3		40.2	8.8			36.7	21.9
Level of Service	D	D	C	D	D		D	A			D	C
Approach Delay (s)		37.1			48.8			12.4			34.6	
Approach LOS		D			D			B			C	
Intersection Summary												
HCM Average Control Delay			25.3			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			105.0			Sum of lost time (s)				18.0		
Intersection Capacity Utilization			76.6%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 20: REF Dwy 2 & Wenatchee Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (veh/h)	0	0	0	0	0	0	0	1785	0	0	1580	0
Sign Control	Stop			Stop				Free			Free	
Grade	0%			0%				0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	7140	0	0	6320	0
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								1063			770	
pX, platoon unblocked	0.78	0.78	0.58	0.78	0.78	0.60	0.58			0.60		
vC, conflicting volume	9900	13470	3170	10310	13470	3580	6325			7145		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	9551	14130	3293	10077	14130	3964	8727			9888		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	0	0	3	0	0	1	0			0		
Direction, Lane #												
Volume Total	0	0	0	4760	2380	0	4213	2107				
Volume Left	0	0	0	0	0	0	0	0				
Volume Right	0	0	0	0	0	0	0	0				
cSH	1700	1700	1700	1700	1700	1700	1700	1700			1700	
Volume to Capacity	0.00	0.00	0.00	2.80	1.40	0.00	2.48	1.24				
Queue Length 95th (ft)	0	0	0	0	0	0	0	0			0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	
Lane LOS	A	A										
Approach Delay (s)	0.0	0.0			0.0							
Approach LOS	A	A										
Intersection Summary												
Average Delay				0.0								
Intersection Capacity Utilization				60.9%			ICU Level of Service			B		
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis 21: Hawley St & Wenatchee Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	20	50	55	20	205	65	1535	35	150	1415	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flt	1.00	0.85		1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	
Flt Protected	0.97	1.00		0.96	1.00	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1794	1555		1790	1571	1770	3525	1770	3532	1770	3532	
Flt Permitted	0.75	1.00		0.74	1.00	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	1395	1555		1373	1571	1770	3525	1770	3532	1770	3532	
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)	47	21	53	58	21	216	68	1616	37	158	1489	16
RTOR Reduction (vph)	0	0	47	0	0	8	0	1	0	0	0	0
Lane Group Flow (vph)	0	68	6	0	79	208	68	1652	0	158	1505	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm		Perm	Perm		pm+ov	Prot		Prot			
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8		8	4		4						
Actuated Green, G (s)	12.4	12.4		12.4	28.9	9.7	64.1		16.5	70.9		
Effective Green, g (s)	12.4	12.4		12.4	28.9	9.7	64.1		16.5	70.9		
Actuated g/C Ratio	0.12	0.12		0.12	0.28	0.09	0.61		0.16	0.68		
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0		
Lane Grp Cap (vph)	165	184		162	492	164	2152		278	2385		
v/s Ratio Prot					0.07	0.04	c0.47		c0.09	0.43		
v/s Ratio Perm	0.05	0.00		c0.06	0.07							
v/c Ratio	0.41	0.03		0.49	0.42	0.41	0.77		0.57	0.63		
Uniform Delay, d1	42.9	41.0		43.3	31.2	45.0	15.0		41.0	9.6		
Progression Factor	1.00	1.00		1.00	1.00	0.99	0.99		1.06	0.71		
Incremental Delay, d2	3.5	0.2		4.8	1.2	3.5	2.7		4.3	1.3		
Delay (s)	46.4	41.2		48.1	32.4	47.9	17.6		47.9	8.2		
Level of Service	D	D		D	C	D	B		D	A		
Approach Delay (s)	44.1			36.6			18.8			11.9		
Approach LOS	D			D			B			B		

Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 22: REF Dwy 3 & Wenatchee Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	1600	0	0	1490	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	6400	0	0	5960	0
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											548	
pX, platoon unblocked	0.74	0.74	0.74	0.74	0.74		0.74					
vC, conflicting volume	9170	12370	2990	9390	12370	3210	5965			6405		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	11382	15729	2986	11680	15729	3210	7028			6405		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	0	0	7	0	0	7	2			4		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	0	0	0	4267	2133	0	3973	1987
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	2.51	1.25	0.00	2.34	1.17
Queue Length 95th (ft)	0	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	A						
Approach Delay (s)	0.0	0.0	0.0			0.0		
Approach LOS	A	A						

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	55.8%	ICU Level of Service	
Analysis Period (min)	15	B	

HCM Unsignalized Intersection Capacity Analysis 23: McKittrick St & Wenatchee Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	70	65	1590	1445	45
Sign Control	Stop		Free	Free		
Grade	0%		0%	0%		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	
Hourly flow rate (vph)	10	73	68	1656	1505	47
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				1107		
pX, platoon unblocked						
vC, conflicting volume	2502	786	1557			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2502	786	1557			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	47	78	84			
cM capacity (veh/h)	20	332	419			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	83	68	828	828	1003	549
Volume Left	10	68	0	0	0	0
Volume Right	73	0	0	0	0	47
cSH	111	419	1700	1700	1700	1700
Volume to Capacity	0.75	0.16	0.49	0.49	0.59	0.32
Queue Length 95th (ft)	103	14	0	0	0	0
Control Delay (s)	100.0	15.2	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	100.0	0.6			0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			2.8			
Intersection Capacity Utilization		61.6%		ICU Level of Service	B	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 24: REF Dwy 4 & Wenatchee Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	1565	0	0	1560	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	6260	0	0	6240	0
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								836				
pX, platoon unblocked	0.74	0.74		0.74	0.74	0.74				0.74		
vC, conflicting volume	9380	12510	3130	9390	12510	3140	6245			6265		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	11597	15815	3130	11611	15815	3189	6245			7400		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	0	0	8	0	0	5	5			1		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	0	0	0	4173	2087	0	4160	2080				
Volume Left	0	0	0	0	0	0	0	0				
Volume Right	0	0	0	0	0	0	0	0				
cSH	1700	1700	1700	1700	1700	1700	1700	1700				
Volume to Capacity	0.00	0.00	0.00	2.45	1.23	0.00	2.45	1.22				
Queue Length 95th (ft)	0	0	0	0	0	0	0	0				
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Lane LOS	A	A										
Approach Delay (s)	0.0	0.0	0.0			0.0						
Approach LOS	A	A										
Intersection Summary												
Average Delay				0.0								
Intersection Capacity Utilization			54.8%		ICU Level of Service	A						
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
25: Maple St & Wenatchee Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	185	45	115	115	60	35	145	1345	10	35	1380	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.89		1.00	0.94		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1760	1641		1762	1746		1770	3535		1770	4998	
Flt Permitted	0.67	1.00		0.51	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1234	1641		946	1746		1770	3535		1770	4998	
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)	189	46	117	117	61	36	148	1372	10	36	1408	148
RTOR Reduction (vph)	0	89	0	0	21	0	0	0	0	0	11	0
Lane Group Flow (vph)	189	74	0	117	76	0	148	1382	0	36	1545	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases	8			4			1		6	5		2
Permitted Phases	8			4			1		6	5		2
Actuated Green, G (s)	20.2	20.2		20.2	20.2		13.9	66.4		6.4	58.9	
Effective Green, g (s)	20.2	20.2		20.2	20.2		13.9	66.4		6.4	58.9	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.13	0.63		0.06	0.56	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	237	316		182	336		234	2235		108	2804	
v/s Ratio Prot		0.05			0.04		c0.08	c0.39		0.02	0.31	
v/s Ratio Perm	c0.15			0.12								
v/c Ratio	0.80	0.23		0.64	0.23		0.63	0.62		0.33	0.55	
Uniform Delay, d1	40.4	35.9		39.1	35.8		43.1	11.6		47.3	14.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.01	0.99	
Incremental Delay, d2	19.0	0.8		10.2	0.7		7.5	1.3		3.8	0.8	
Delay (s)	59.5	36.7		49.3	36.5		50.7	12.9		51.6	15.3	
Level of Service	E	D		D	D		D	B		D	B	
Approach Delay (s)	48.9			43.5			16.6			16.1		
Approach LOS	D			D			B			B		
Intersection Summary												
HCM Average Control Delay	21.0			HCM Level of Service			C					
HCM Volume to Capacity ratio	0.65											
Actuated Cycle Length (s)	105.0			Sum of lost time (s)			8.0					
Intersection Capacity Utilization	73.0%			ICU Level of Service			D					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
26: Wenatchee Ave & Miller St

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕	↗↗		↕↕		↗	↕	↗			
Volume (vph)	0	455	1175	0	545	15	1200	75	15	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0			
Lane Util. Factor		0.95	0.88		0.95		0.95	0.95	1.00			
Frpb, ped/bikes		1.00	0.98		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	0.85		1.00		1.00	1.00	0.85			
Flt Protected		1.00	1.00		1.00		0.95	0.96	1.00			
Satd. Flow (prot)		3539	2724		3522		1681	1695	1561			
Flt Permitted		1.00	1.00		1.00		0.95	0.96	1.00			
Satd. Flow (perm)		3539	2724		3522		1681	1695	1561			
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	506	1306	0	606	17	1333	83	17	0	0	0
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	5	0	0	0
Lane Group Flow (vph)	0	506	1306	0	620	0	706	710	12	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type		Free			Split		Perm					
Protected Phases		2			6		8		8			
Permitted Phases		Free			Free		8		8			
Actuated Green, G (s)		23.4	80.0		23.4		48.6	48.6	48.6			
Effective Green, g (s)		23.4	80.0		23.4		48.6	48.6	48.6			
Actuated g/C Ratio		0.29	1.00		0.29		0.61	0.61	0.61			
Clearance Time (s)		4.0			4.0		4.0	4.0	4.0			
Vehicle Extension (s)		5.0			5.0		5.0	5.0	5.0			
Lane Grp Cap (vph)		1035	2724		1030		1021	1030	948			
v/s Ratio Prot		0.14			c0.18		c0.42	0.42				
v/s Ratio Perm			0.48						0.01			
v/c Ratio		0.49	0.48		0.60		0.69	0.69	0.01			
Uniform Delay, d1		23.4	0.0		24.3		10.6	10.6	6.2			
Progression Factor		1.00	1.00		1.00		0.90	0.90	0.89			
Incremental Delay, d2		0.8	0.6		1.5		3.8	3.8	0.0			
Delay (s)		24.1	0.6		25.8		13.4	13.3	5.5			
Level of Service		C	A		C		B	B	A			
Approach Delay (s)		7.2			25.8		13.3			0.0		
Approach LOS		A			C		B			A		
Intersection Summary												
HCM Average Control Delay		12.4		HCM Level of Service				B				
HCM Volume to Capacity ratio		0.66										
Actuated Cycle Length (s)		80.0		Sum of lost time (s)				8.0				
Intersection Capacity Utilization		64.1%		ICU Level of Service				C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 27: REF Dwy 5 & Miller St

N Wenatchee Ave
2009 Existing PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	0	1515	1155	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	6060	4620	0
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				413	518	
pX, platoon unblocked	0.88					
vC, conflicting volume	7660	2320	4625			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	8272	2320	4625			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	0	30	24			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	3030	3030	2310	2310
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	1.78	1.78	1.36	1.36
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0			0.0	
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			53.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis 28: Albertsons/Mission St & Miller St

N Wenatchee Ave
2009 Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	0	85	90	130	925	25	535	0	0	1145	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor	1.00		1.00		1.00	0.88	1.00	0.95				0.91
Frpb, ped/bikes	1.00		0.98		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
Flt	1.00		0.85		1.00	0.85	1.00	1.00				1.00
Fit Protected	0.95		1.00		0.98	1.00	0.95	1.00				1.00
Satd. Flow (prot)	1770		1557		1825	2787	1770	3539				5077
Fit Permitted	0.95		1.00		0.98	1.00	0.95	1.00				1.00
Satd. Flow (perm)	1770		1557		1825	2787	1770	3539				5077
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	89	95	137	974	26	563	0	0	1205	11
RTOR Reduction (vph)	0	0	81	0	0	277	0	0	0	0	1	0
Lane Group Flow (vph)	58	0	8	0	232	697	26	563	0	0	1215	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot		custom	Split		custom	Prot					
Protected Phases	3			4	4	4 5	1	6			2	
Permitted Phases			3									
Actuated Green, G (s)	7.2		7.2		19.7	33.4	1.2	27.4			35.9	
Effective Green, g (s)	7.2		7.2		19.7	33.4	1.2	27.4			35.9	
Actuated g/C Ratio	0.09		0.09		0.25	0.42	0.02	0.34			0.45	
Clearance Time (s)	4.0		4.0		4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0		3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	159		140		449	1164	27	1212			2278	
v/s Ratio Prot	c0.03				0.13	c0.25	0.01	0.16			c0.24	
v/s Ratio Perm			0.01									
v/c Ratio	0.36		0.06		0.52	0.60	0.96	0.46			0.53	
Uniform Delay, d1	34.2		33.3		26.0	18.1	39.4	20.6			16.0	
Progression Factor	1.00		1.00		1.00	1.00	1.59	0.40			1.00	
Incremental Delay, d2	1.4		0.2		1.0	0.8	138.5	1.0			0.9	
Delay (s)	35.7		33.5		27.0	18.9	201.3	9.3			16.9	
Level of Service	D		C		C	B	F	A			B	
Approach Delay (s)		34.3			20.5			17.7			16.9	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM Average Control Delay			19.2		HCM Level of Service				B			
HCM Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			80.0		Sum of lost time (s)				8.0			
Intersection Capacity Utilization			69.4%		ICU Level of Service				C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
29: Springwater St & Miller St

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔				↔	↔		↔	↔	
Volume (vph)	50	195	130	0	0	0	265	540	40	830	480	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00					1.00	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	0.98					1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00					1.00	1.00		1.00	1.00	
Frt	1.00	0.85					1.00	0.99		1.00	0.98	
Flt Protected	0.99	1.00					0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1844	1557					1770	3498		3433	3445	
Flt Permitted	0.99	1.00					0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1844	1557					1770	3498		3433	3445	
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)	52	203	135	0	0	0	276	562	42	865	500	89
RTOR Reduction (vph)	0	0	107	0	0	0	0	7	0	0	16	0
Lane Group Flow (vph)	0	255	28	0	0	0	276	597	0	865	573	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Split	Perm					Split			Split		
Protected Phases	8	8					1	1		2	2	
Permitted Phases			8									
Actuated Green, G (s)		16.4	16.4				19.4	19.4		32.2	32.2	
Effective Green, g (s)		16.4	16.4				19.4	19.4		32.2	32.2	
Actuated g/C Ratio		0.20	0.20				0.24	0.24		0.40	0.40	
Clearance Time (s)		4.0	4.0				4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0				3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		378	319				429	848		1382	1387	
v/s Ratio Prot		c0.14					0.16	c0.17		c0.25	0.17	
v/s Ratio Perm			0.02									
v/c Ratio		0.67	0.09				0.64	0.70		0.63	0.41	
Uniform Delay, d1		29.3	25.7				27.2	27.7		19.1	17.1	
Progression Factor		1.00	1.00				1.00	1.00		0.42	0.33	
Incremental Delay, d2		4.7	0.1				3.3	2.7		2.0	0.8	
Delay (s)		34.0	25.9				30.5	30.4		9.9	6.5	
Level of Service		C	C				C	C		A	A	
Approach Delay (s)		31.2			0.0			30.4			8.5	
Approach LOS		C			A			C			A	
Intersection Summary												
HCM Average Control Delay		18.8				HCM Level of Service				B		
HCM Volume to Capacity ratio		0.66										
Actuated Cycle Length (s)		80.0				Sum of lost time (s)				12.0		
Intersection Capacity Utilization		70.7%				ICU Level of Service				C		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
30: 9th St & Chelan Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↔	↔		↔	↔
Volume (vph)	0	155	135	155	375	0	0	0	0	85	1005	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5						5.1	
Lane Util. Factor		0.95			0.95						0.91	
Frpb, ped/bikes		0.99			1.00						1.00	
Flpb, ped/bikes		1.00			1.00						1.00	
Frt		0.93			1.00						0.99	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		3266			3485						5028	
Flt Permitted		1.00			0.76						1.00	
Satd. Flow (perm)		3266			2671						5028	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	168	147	168	408	0	0	0	0	92	1092	54
RTOR Reduction (vph)	0	27	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	288	0	0	576	0	0	0	0	0	1230	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type		Perm								Perm		
Protected Phases		8			4						2	
Permitted Phases				4								
Actuated Green, G (s)		22.0			22.0						27.4	
Effective Green, g (s)		22.0			22.0						27.4	
Actuated g/C Ratio		0.37			0.37						0.46	
Clearance Time (s)		5.5			5.5						5.1	
Lane Grp Cap (vph)		1198			979						2296	
v/s Ratio Prot		0.09										
v/s Ratio Perm					c0.22						0.24	
v/c Ratio		0.24			0.59						0.54	
Uniform Delay, d1		13.2			15.3						11.7	
Progression Factor		1.00			1.10						1.00	
Incremental Delay, d2		0.5			2.4						0.9	
Delay (s)		13.7			19.2						12.6	
Level of Service		B			B						B	
Approach Delay (s)		13.7			19.2			0.0			12.6	
Approach LOS		B			B			A			B	
Intersection Summary												
HCM Average Control Delay		14.6			HCM Level of Service					B		
HCM Volume to Capacity ratio		0.56										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)					10.6		
Intersection Capacity Utilization		67.9%			ICU Level of Service					C		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 31: 5th St & Chelan Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑						↑↑	
Volume (vph)	0	195	305	110	465	0	0	0	0	80	1260	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		5.5			5.5						5.1	
Lane Util. Factor		0.95			0.95						0.91	
Frpb, ped/bikes		0.99			1.00						1.00	
Flpb, ped/bikes		1.00			1.00						1.00	
Frt		0.91			1.00						0.99	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		2674			2944						4055	
Flt Permitted		1.00			0.72						1.00	
Satd. Flow (perm)		2674			2149						4055	
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	205	321	116	489	0	0	0	0	84	1326	142
RTOR Reduction (vph)	0	13	0	0	0	0	0	0	0	0	20	0
Lane Group Flow (vph)	0	513	0	0	605	0	0	0	0	0	1532	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Parking (#/hr)										0	0	0
Turn Type			Perm							Perm		
Protected Phases		8			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		22.0			22.0						27.4	
Effective Green, g (s)		22.0			22.0						27.4	
Actuated g/C Ratio		0.37			0.37						0.46	
Clearance Time (s)		5.5			5.5						5.1	
Lane Grp Cap (vph)		980			788						1852	
v/s Ratio Prot		0.19										
v/s Ratio Perm					c0.28						0.38	
v/c Ratio		0.52			0.77						0.83	
Uniform Delay, d1		14.9			16.7						14.2	
Progression Factor		1.00			1.00						0.62	
Incremental Delay, d2		2.0			4.9						4.0	
Delay (s)		16.9			21.6						12.8	
Level of Service		B			C						B	
Approach Delay (s)		16.9			21.6			0.0			12.8	
Approach LOS		B			C			A			B	
Intersection Summary												
HCM Average Control Delay		15.6			HCM Level of Service					B		
HCM Volume to Capacity ratio		0.80										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)				10.6			
Intersection Capacity Utilization		82.9%			ICU Level of Service				E			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 32: 9th St & Mission St

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑			↑↑			↑↑	
Volume (vph)	55	185	0	0	285	65	255	1015	110	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9			4.9				
Lane Util. Factor		0.95			0.95			0.91				
Frpb, ped/bikes		1.00			1.00			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.97			0.99				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		3497			3429			4967				
Flt Permitted		0.80			1.00			0.99				
Satd. Flow (perm)		2839			3429			4967				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	201	0	0	310	71	277	1103	120	0	0	0
RTOR Reduction (vph)	0	0	0	0	33	0	0	17	0	0	0	0
Lane Group Flow (vph)	0	261	0	0	348	0	0	1483	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type		Perm					Perm					
Protected Phases		4			8			6				
Permitted Phases							6					
Actuated Green, G (s)		19.1			19.1			31.1				
Effective Green, g (s)		19.1			19.1			31.1				
Actuated g/C Ratio		0.32			0.32			0.52				
Clearance Time (s)		4.9			4.9			4.9				
Lane Grp Cap (vph)		904			1092			2575				
v/s Ratio Prot					c0.10							
v/s Ratio Perm		0.09						0.30				
v/c Ratio		0.29			0.32			0.58				
Uniform Delay, d1		15.4			15.5			9.9				
Progression Factor		1.03			1.00			0.30				
Incremental Delay, d2		0.8			0.8			0.4				
Delay (s)		16.5			16.3			3.4				
Level of Service		B			B			A				
Approach Delay (s)		16.5			16.3			3.4			0.0	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM Average Control Delay		7.3			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.48										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)			9.8				
Intersection Capacity Utilization		71.7%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 33: 5th St & Mission St

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔↔				
Volume (vph)	65	175	0	0	240	55	340	1280	80	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.9			4.9			4.9				
Lane Util. Factor		0.95			0.95			0.91				
Frpb, ped/bikes		1.00			1.00			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.97			0.99				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		2931			2881			4053				
Flt Permitted		0.78			1.00			0.99				
Satd. Flow (perm)		2313			2881			4053				
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	77	208	0	0	286	65	405	1524	95	0	0	0
RTOR Reduction (vph)	0	0	0	0	13	0	0	9	0	0	0	0
Lane Group Flow (vph)	0	285	0	0	338	0	0	2015	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Parking (#/hr)							0	0	0			
Turn Type	Perm					Perm						
Protected Phases		8			4			6				
Permitted Phases	8					6						
Actuated Green, G (s)		19.1			19.1			31.1				
Effective Green, g (s)		19.1			19.1			31.1				
Actuated g/C Ratio		0.32			0.32			0.52				
Clearance Time (s)		4.9			4.9			4.9				
Lane Grp Cap (vph)		736			917			2101				
v/s Ratio Prot					0.12							
v/s Ratio Perm		c0.12						0.50				
v/c Ratio		0.39			0.37			0.96				
Uniform Delay, d1		15.9			15.8			13.8				
Progression Factor		1.00			1.00			1.00				
Incremental Delay, d2		1.5			1.1			12.1				
Delay (s)		17.4			16.9			26.0				
Level of Service		B			B			C				
Approach Delay (s)		17.4			16.9			26.0			0.0	
Approach LOS		B			B			C			A	
Intersection Summary												
HCM Average Control Delay		23.9			HCM Level of Service			C				
HCM Volume to Capacity ratio		0.74										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)			9.8				
Intersection Capacity Utilization		81.6%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 34: 9th St & Wenatchee Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔↔			↔↔	
Volume (vph)	60	135	65	60	220	35	70	445	75	15	445	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			0.95	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.96			0.98			1.00			0.98	
Flt Protected		0.99			0.99			0.95			0.95	
Satd. Flow (prot)		3354			3440			1770			3455	
Flt Permitted		0.82			0.85			0.95			0.95	
Satd. Flow (perm)		2788			2954			1770			3437	
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)	63	142	68	63	232	37	74	468	79	16	468	100
RTOR Reduction (vph)	0	36	0	0	11	0	0	12	0	0	19	0
Lane Group Flow (vph)	0	237	0	0	321	0	74	535	0	16	549	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)		14.0			14.0		5.3	20.6		1.1	16.4	
Effective Green, g (s)		14.0			14.0		5.3	20.6		1.1	16.4	
Actuated g/C Ratio		0.29			0.29		0.11	0.43		0.02	0.34	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		4.0			4.0		5.0	3.0		5.0	3.0	
Lane Grp Cap (vph)		818			867		197	1492		41	1182	
v/s Ratio Prot							c0.04	0.15		0.01	c0.16	
v/s Ratio Perm		0.09			c0.11							
v/c Ratio		0.29			0.37		0.38	0.36		0.39	0.46	
Uniform Delay, d1		13.0			13.4		19.7	9.1		23.0	12.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3			0.4		2.5	0.1		12.4	0.3	
Delay (s)		13.3			13.7		22.2	9.3		35.3	12.5	
Level of Service		B			B		C	A		D	B	
Approach Delay (s)		13.3			13.7			10.8			13.1	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM Average Control Delay		12.5			HCM Level of Service			B				
HCM Volume to Capacity ratio		0.41										
Actuated Cycle Length (s)		47.7			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		54.7%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 35: 5th St & Wenatchee Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Volume (vph)	70	90	70	25	85	80	100	460	30	65	445	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
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		0.95			0.94		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)		3310			3272		1770	3504		1770	3446	
Flt Permitted		0.81			0.89		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2714			2943		1770	3504		1770	3446	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	78	100	78	28	94	89	111	511	33	72	494	94
RTOR Reduction (vph)	0	59	0	0	67	0	0	4	0	0	17	0
Lane Group Flow (vph)	0	197	0	0	144	0	111	540	0	72	571	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)		11.0			11.0		7.0	17.9		4.5	15.4	
Effective Green, g (s)		11.0			11.0		7.0	17.9		4.5	15.4	
Actuated g/C Ratio		0.24			0.24		0.15	0.39		0.10	0.34	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		658			713		273	1382		175	1169	
v/s Ratio Prot							c0.06	0.15		0.04	c0.17	
v/s Ratio Perm		c0.07			0.05							
v/c Ratio		0.30			0.20		0.41	0.39		0.41	0.49	
Uniform Delay, d1		14.1			13.7		17.3	9.8		19.2	11.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3			0.1		1.0	0.2		1.6	0.3	
Delay (s)		14.3			13.8		18.3	10.0		20.8	12.2	
Level of Service		B			B		B	B		C	B	
Approach Delay (s)		14.3			13.8			11.4			13.1	
Approach LOS		B			B			B			B	

Intersection Summary												
HCM Average Control Delay		12.8		HCM Level of Service				B				
HCM Volume to Capacity ratio		0.40										
Actuated Cycle Length (s)		45.4		Sum of lost time (s)				12.0				
Intersection Capacity Utilization		52.5%		ICU Level of Service				A				
Analysis Period (min)		15										

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 36: Walla Walla Ave & Miller St

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Volume (veh/h)	35	150	45	80	135	40
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	43	183	55	98	165	49
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	492	114			157	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	492	114			157	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	80			88	
cM capacity (veh/h)	470	931			1416	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	226	152	213			
Volume Left	43	0	165			
Volume Right	183	98	0			
cSH	785	1700	1416			
Volume to Capacity	0.29	0.09	0.12			
Queue Length 95th (ft)	30	0	10			
Control Delay (s)	11.4	0.0	6.3			
Lane LOS	B		A			
Approach Delay (s)	11.4	0.0	6.3			
Approach LOS	B					

Intersection Summary			
Average Delay		6.6	
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis 37: 5th St & Piere St

N Wenatchee Ave
2009 Existing PM Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	60	150	160	50	135	60
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	68	170	182	57	153	68
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		628				
pX, platoon unblocked						
vC, conflicting volume	244				527	220
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	244				527	220
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				68	92
cM capacity (veh/h)	1317				481	813
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	68	170	239	222		
Volume Left	68	0	0	153		
Volume Right	0	0	57	68		
cSH	1317	1700	1700	550		
Volume to Capacity	0.05	0.10	0.14	0.40		
Queue Length 95th (ft)	4	0	0	48		
Control Delay (s)	7.9	0.0	0.0	15.9		
Lane LOS	A			C		
Approach Delay (s)	2.3		0.0	15.9		
Approach LOS				C		
Intersection Summary						
Average Delay			5.8			
Intersection Capacity Utilization			36.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 38: Walnut St & Pine St

N Wenatchee Ave
2009 Existing PM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	85	15	15	80	20	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	96	17	17	90	22	34
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)				396		
pX, platoon unblocked						
vC, conflicting volume			117		238	114
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			117		238	114
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		97	96
cM capacity (veh/h)			1465		736	931
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	112	17	90	56		
Volume Left	0	17	0	22		
Volume Right	17	0	0	34		
cSH	1700	1465	1700	842		
Volume to Capacity	0.07	0.01	0.05	0.07		
Queue Length 95th (ft)	0	1	0	5		
Control Delay (s)	0.0	7.5	0.0	9.6		
Lane LOS		A		A		
Approach Delay (s)	0.0	1.2		9.6		
Approach LOS				A		
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			19.0%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 39: McKittrick St & Pine St

N Wenatchee Ave
2009 Existing PM Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	95	130	35	20	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	11	106	144	39	22	11
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	188				302	174
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	188				302	174
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	99
cM capacity (veh/h)	1380				679	862
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	117	183	33			
Volume Left	11	0	22			
Volume Right	0	39	11			
cSH	1380	1700	731			
Volume to Capacity	0.01	0.11	0.05			
Queue Length 95th (ft)	1	0	4			
Control Delay (s)	0.8	0.0	10.2			
Lane LOS	A		B			
Approach Delay (s)	0.8	0.0	10.2			
Approach LOS			B			
Intersection Summary						
Average Delay		1.3				
Intersection Capacity Utilization		24.9%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 40: Maple St & Princeton Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	145	60	100	200	10	65	0	85	5	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	0	169	70	116	233	12	76	0	99	6	0	0
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)					909							
pX, platoon unblocked												
vC, conflicting volume	249			243			679	690	213	748	719	248
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	249			243			679	690	213	748	719	248
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			91			78	100	88	98	100	100
cM capacity (veh/h)	1311			1317			336	333	820	265	320	784
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1					
Volume Total	0	238	116	244	76	99	6					
Volume Left	0	0	116	0	76	0	6					
Volume Right	0	70	0	12	0	99	0					
cSH	1700	1700	1317	1700	336	820	265					
Volume to Capacity	0.00	0.14	0.09	0.14	0.22	0.12	0.02					
Queue Length 95th (ft)	0	0	7	0	21	10	2					
Control Delay (s)	0.0	0.0	8.0	0.0	18.8	10.0	18.9					
Lane LOS			A		C	A	C					
Approach Delay (s)	0.0		2.6		13.8		18.9					
Approach LOS					B		C					
Intersection Summary												
Average Delay			4.4									
Intersection Capacity Utilization			34.2%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 41: Springwater St & Princeton Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (veh/h)	45	145	5	30	225	95	5	65	30	80	60	55	
Sign Control		Free			Free			Stop			Stop		
Grade		0%			0%			0%			0%		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
Hourly flow rate (vph)	51	165	6	34	256	108	6	74	34	91	68	62	
Pedestrians		5			5			5			5		
Lane Width (ft)		12.0			12.0			12.0			12.0		
Walking Speed (ft/s)		4.0			4.0			4.0			4.0		
Percent Blockage		0			0			0			0		
Right turn flare (veh)													
Median type		None			None								
Median storage (veh)													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	369			175			754	712	178	729	661	320	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	369			175			754	712	178	729	661	320	
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)													
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	96			98			98	78	96	64	81	91	
cM capacity (veh/h)	1185			1395			237	331	858	252	354	715	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2								
Volume Total	222	398	114	91	131								
Volume Left	51	34	6	91	0								
Volume Right	6	108	34	0	62								
cSH	1185	1395	396	252	467								
Volume to Capacity	0.04	0.02	0.29	0.36	0.28								
Queue Length 95th (ft)	3	2	29	39	28								
Control Delay (s)	2.2	0.9	17.7	27.1	15.7								
Lane LOS	A	A	C	D	C								
Approach Delay (s)	2.2	0.9	17.7	20.4									
Approach LOS			C	C									
Intersection Summary													
Average Delay	7.7												
Intersection Capacity Utilization	39.4%				ICU Level of Service				A				
Analysis Period (min)	15												

HCM Unsignalized Intersection Capacity Analysis 42: 9th St & Princeton Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	35	125	0	10	185	35	5	30	10	25	45	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	38	137	0	11	203	38	5	33	11	27	49	27
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	247			142			521	488	147	496	469	233
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	247			142			521	488	147	496	469	233
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			99	93	99	94	89	97
cM capacity (veh/h)	1314			1434			397	459	892	433	470	800
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	176	253	49	104								
Volume Left	38	11	5	27								
Volume Right	0	38	11	27								
cSH	1314	1434	504	514								
Volume to Capacity	0.03	0.01	0.10	0.20								
Queue Length 95th (ft)	2	1	8	19								
Control Delay (s)	1.9	0.4	12.9	13.8								
Lane LOS	A	A	B	B								
Approach Delay (s)	1.9	0.4	12.9	13.8								
Approach LOS			B	B								
Intersection Summary												
Average Delay	4.3											
Intersection Capacity Utilization	38.7%			ICU Level of Service			A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 43: 5th St & Princeton Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	285	5	25	535	20	10	30	15	15	25	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	12	331	6	29	622	23	12	35	17	17	29	23
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	650			342			1097	1071	344	1094	1062	644
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	650			342			1097	1071	344	1094	1062	644
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			93	83	97	89	86	95
cM capacity (veh/h)	932			1212			155	211	693	156	214	469
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	349	674	64	70								
Volume Left	12	29	12	17								
Volume Right	6	23	17	23								
cSH	932	1212	241	235								
Volume to Capacity	0.01	0.02	0.27	0.30								
Queue Length 95th (ft)	1	2	26	30								
Control Delay (s)	0.4	0.6	25.2	26.7								
Lane LOS	A	A	D	D								
Approach Delay (s)	0.4	0.6	25.2	26.7								
Approach LOS			D	D								
Intersection Summary												
Average Delay				3.5								
Intersection Capacity Utilization				53.0%	ICU Level of Service		A					
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis 45: 5th St & Miller St

N Wenatchee Ave
2009 Existing PM Peak Hour

															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Volume (vph)	90	250	55	200	375	60	80	595	90	70	490	110			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00			
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	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	1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	1.00	1.00	1.00	0.85			
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00	1.00			
Satd. Flow (prot)	1770	1863	1535	1770	1863	1554	1770	3455	1770	1863	1535	1535			
Fit Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00	1.00			
Satd. Flow (perm)	1770	1863	1535	1770	1863	1554	1770	3455	1770	1863	1535	1535			
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)	95	263	58	211	395	63	84	626	95	74	516	116			
RTOR Reduction (vph)	0	0	23	0	0	15	0	6	0	0	0	41			
Lane Group Flow (vph)	95	263	35	211	395	48	84	715	0	74	516	75			
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5			
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm			
Protected Phases	3	8		7	4		1	6		5	2				
Permitted Phases			8			4						2			
Actuated Green, G (s)	11.9	24.7	24.7	19.4	32.2	32.2	11.2	43.8		8.9	41.5	41.5			
Effective Green, g (s)	11.9	24.7	24.7	19.4	32.2	32.2	11.2	43.8		8.9	41.5	41.5			
Actuated g/C Ratio	0.11	0.22	0.22	0.17	0.29	0.29	0.10	0.39		0.08	0.37	0.37			
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0			
Lane Grp Cap (vph)	187	408	336	304	532	444	176	1342		140	685	565			
v/s Ratio Prot	0.05	0.14		c0.12	c0.21		c0.05	0.21		0.04	c0.28				
v/s Ratio Perm			0.02			0.03						0.05			
v/c Ratio	0.51	0.64	0.11	0.69	0.74	0.11	0.48	0.53		0.53	0.75	0.13			
Uniform Delay, d1	47.7	40.1	35.2	43.9	36.5	29.7	48.0	26.6		49.9	31.2	23.7			
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00			
Incremental Delay, d2	2.2	3.5	0.1	6.7	5.5	0.1	2.0	0.4		3.6	4.7	0.1			
Delay (s)	49.8	43.5	35.4	50.6	42.1	29.8	50.1	27.0		53.5	35.9	23.8			
Level of Service	D	D	D	D	D	C	D	C		D	D	C			
Approach Delay (s)		43.8			43.6		29.4				35.7				
Approach LOS		D			D		C				D				
Intersection Summary															
HCM Average Control Delay			37.1		HCM Level of Service				D						
HCM Volume to Capacity ratio			0.69												
Actuated Cycle Length (s)			112.8		Sum of lost time (s)				12.0						
Intersection Capacity Utilization			69.1%		ICU Level of Service				C						
Analysis Period (min)			15												
c Critical Lane Group															

HCM Signalized Intersection Capacity Analysis 46: 9th St & Miller St

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↱	↱	↰	↑	↱	↰	↑	↱
Volume (vph)	45	120	65	95	185	80	60	580	90	75	595	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00		0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		0.97		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1767	1863	1561		3365		1768	3457		1767	3498	
Flt Permitted	0.52	1.00	1.00		0.85		0.36	1.00		0.34	1.00	
Satd. Flow (perm)	969	1863	1561		2889		671	3457		636	3498	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	130	71	103	201	87	65	630	98	82	647	49
RTOR Reduction (vph)	0	0	47	0	37	0	0	15	0	0	7	0
Lane Group Flow (vph)	49	130	24	0	354	0	65	713	0	82	689	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm		Perm	Perm		Perm		Perm		Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4			6			2		2
Actuated Green, G (s)	11.9	11.9	11.9		11.9		15.7	15.7		15.7	15.7	
Effective Green, g (s)	11.9	11.9	11.9		11.9		15.7	15.7		15.7	15.7	
Actuated g/C Ratio	0.33	0.33	0.33		0.33		0.44	0.44		0.44	0.44	
Clearance Time (s)	4.0	4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	324	623	522		966		296	1525		280	1543	
v/s Ratio Prot		0.07						c0.21			0.20	
v/s Ratio Perm	0.05		0.02		c0.12		0.10			0.13		
v/c Ratio	0.15	0.21	0.05		0.37		0.22	0.47		0.29	0.45	
Uniform Delay, d1	8.3	8.5	8.0		9.0		6.2	7.0		6.4	6.9	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.2	0.0		0.2		0.4	0.2		0.6	0.2	
Delay (s)	8.5	8.6	8.0		9.2		6.5	7.2		7.0	7.1	
Level of Service	A	A	A		A		A	A		A	A	
Approach Delay (s)		8.5			9.2			7.2			7.1	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM Average Control Delay			7.7		HCM Level of Service					A		
HCM Volume to Capacity ratio			0.42									
Actuated Cycle Length (s)			35.6		Sum of lost time (s)					8.0		
Intersection Capacity Utilization			57.8%		ICU Level of Service					B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 47: Maiden Ln & WalMart/Home Depot Dwy

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↱	↱	↰	↑	↱	↰	↑	↱
Volume (vph)	20	185	30	85	190	140	25	30	100	140	30	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	0.98		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	0.99	1.00		0.99	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.89		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1756	1816		1757	1863	1536	1753	1611		1756	1752	
Flt Permitted	0.63	1.00		0.62	1.00	1.00	0.73	1.00		0.56	1.00	
Satd. Flow (perm)	1169	1816		1141	1863	1536	1339	1611		1027	1752	
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	195	32	89	200	147	26	32	105	147	32	16
RTOR Reduction (vph)	0	2	0	0	0	37	0	87	0	0	13	0
Lane Group Flow (vph)	21	225	0	89	200	110	26	50	0	147	35	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8		2				6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)	78.6	78.6		78.6	78.6	78.6	18.4	18.4		18.4	18.4	
Effective Green, g (s)	78.6	78.6		78.6	78.6	78.6	18.4	18.4		18.4	18.4	
Actuated g/C Ratio	0.75	0.75		0.75	0.75	0.75	0.18	0.18		0.18	0.18	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	875	1359		854	1395	1150	235	282		180	307	
v/s Ratio Prot		c0.12			0.11		0.03				0.02	
v/s Ratio Perm	0.02			0.08		0.07	0.02			c0.14		
v/c Ratio	0.02	0.17		0.10	0.14	0.10	0.11	0.18		0.82	0.11	
Uniform Delay, d1	3.4	3.8		3.6	3.7	3.6	36.4	36.9		41.7	36.4	
Progression Factor	1.00	1.00		0.56	0.55	0.02	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.2	0.2	0.2	0.2	0.3		24.0	0.2	
Delay (s)	3.4	4.1		2.2	2.3	0.2	36.6	37.2		65.7	36.6	
Level of Service	A	A		A	A	A	D	D		E	D	
Approach Delay (s)		4.0			1.6		37.1				58.5	
Approach LOS		A			A		D				E	
Intersection Summary												
HCM Average Control Delay			18.4		HCM Level of Service					B		
HCM Volume to Capacity ratio			0.29									
Actuated Cycle Length (s)			105.0		Sum of lost time (s)					8.0		
Intersection Capacity Utilization			57.7%		ICU Level of Service					B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
48: Maiden Ln & Dawn Terr

N Wenatchee Ave
2009 Existing PM Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	95	200	235	5	5	185
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	102	215	253	5	5	199
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	263				685	265
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	263				685	265
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				99	74
cM capacity (veh/h)	1296				378	767
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	102	215	258	204		
Volume Left	102	0	0	5		
Volume Right	0	0	5	199		
cSH	1296	1700	1700	747		
Volume to Capacity	0.08	0.13	0.15	0.27		
Queue Length 95th (ft)	6	0	0	28		
Control Delay (s)	8.0	0.0	0.0	11.6		
Lane LOS	A			B		
Approach Delay (s)	2.6		0.0	11.6		
Approach LOS				B		
Intersection Summary						
Average Delay			4.1			
Intersection Capacity Utilization			40.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
49: Maiden Ln & Western Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	15	65	85	280	365	35
Sign Control	Stop			Free	Free	
Grade		0%		0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	17	72	94	311	406	39
Pedestrians		5		5	5	
Lane Width (ft)		12.0		12.0	12.0	
Walking Speed (ft/s)		4.0		4.0	4.0	
Percent Blockage		0		0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	935	435	449			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	935	435	449			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	88	91			
cM capacity (veh/h)	267	616	1106			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	17	72	94	311	444	
Volume Left	17	0	94	0	0	
Volume Right	0	72	0	0	39	
cSH	267	616	1106	1700	1700	
Volume to Capacity	0.06	0.12	0.09	0.18	0.26	
Queue Length 95th (ft)	5	10	7	0	0	
Control Delay (s)	19.4	11.6	8.6	0.0	0.0	
Lane LOS	C	B	A			
Approach Delay (s)	13.1		2.0		0.0	
Approach LOS	B					
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization			41.0%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 50: Walnut St & Western Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔		↔	↔
Volume (veh/h)	45	20	340	35	5	385
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	54	24	405	42	6	458
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	906	436			451	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	906	436			451	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	82	96			99	
cM capacity (veh/h)	302	615			1104	
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2	
Volume Total	54	24	446	6	458	
Volume Left	54	0	0	6	0	
Volume Right	0	24	42	0	0	
cSH	302	615	1700	1104	1700	
Volume to Capacity	0.18	0.04	0.26	0.01	0.27	
Queue Length 95th (ft)	16	3	0	0	0	
Control Delay (s)	19.4	11.1	0.0	8.3	0.0	
Lane LOS	C	B		A		
Approach Delay (s)	16.9		0.0	0.1		
Approach LOS	C					
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			31.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 51: McKittrick St & Western Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔		↔	↔
Volume (veh/h)	45	10	395	45	10	455
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	55	12	482	55	12	555
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1098	519			542	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1098	519			542	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	76	98			99	
cM capacity (veh/h)	231	552			1023	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	67	537	12	555		
Volume Left	55	0	12	0		
Volume Right	12	55	0	0		
cSH	258	1700	1023	1700		
Volume to Capacity	0.26	0.32	0.01	0.33		
Queue Length 95th (ft)	25	0	1	0		
Control Delay (s)	23.8	0.0	8.6	0.0		
Lane LOS	C		A			
Approach Delay (s)	23.8	0.0	0.2			
Approach LOS	C					
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			35.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 52: Maple St & Western Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (veh/h)	0	5	10	60	5	85	15	340	65	40	500	5	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Hourly flow rate (vph)	0	6	12	71	6	100	18	400	76	47	588	6	
Pedestrians	5			5			5			5			
Lane Width (ft)	12.0			12.0			12.0			12.0			
Walking Speed (ft/s)	4.0			4.0			4.0			4.0			
Percent Blockage	0			0			0			0			
Right turn flare (veh)													
Median type							None			None			
Median storage (veh)													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	1234	1207	601	1181	1172	448	599				481		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1234	1207	601	1181	1172	448	599				481		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1		
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2		
p0 queue free %	100	97	98	53	97	83	98				96		
cM capacity (veh/h)	117	171	496	149	179	605	974				1077		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total	0	18	71	106	18	476	47	594					
Volume Left	0	0	71	0	18	0	47	0					
Volume Right	0	12	0	100	0	76	0	6					
cSH	1700	303	149	535	974	1700	1077	1700					
Volume to Capacity	0.00	0.06	0.47	0.20	0.02	0.28	0.04	0.35					
Queue Length 95th (ft)	0	5	55	18	1	0	3	0					
Control Delay (s)	0.0	17.6	49.1	13.4	8.8	0.0	8.5	0.0					
Lane LOS	A	C	E	B	A		A						
Approach Delay (s)	17.6		27.7		0.3		0.6						
Approach LOS	C		D										
Intersection Summary													
Average Delay				4.3									
Intersection Capacity Utilization				50.4%	ICU Level of Service			A					
Analysis Period (min)				15									

HCM Unsignalized Intersection Capacity Analysis 53: Springwater St & Western Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	5	5	50	10	80	10	350	80	70	485	35
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	5	5	5	55	11	88	11	385	88	77	533	38
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1260	1211	562	1175	1186	439	576			478		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1260	1211	562	1175	1186	439	576			478		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	97	99	63	94	86	99			93		
cM capacity (veh/h)	111	166	522	150	172	613	993			1080		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	16	154	484	648								
Volume Left	5	55	11	77								
Volume Right	5	88	88	38								
cSH	177	268	993	1080								
Volume to Capacity	0.09	0.57	0.01	0.07								
Queue Length 95th (ft)	8	82	1	6								
Control Delay (s)	27.4	35.0	0.3	1.8								
Lane LOS	D	D	A	A								
Approach Delay (s)	27.4	35.0	0.3	1.8								
Approach LOS	D	D										
Intersection Summary												
Average Delay				5.5								
Intersection Capacity Utilization				77.2%	ICU Level of Service		D					
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis 54: 9th St & Western Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	5	5	85	5	70	5	480	65	40	505	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Grade (%)	-6%			4%			0%				0%	
Total Lost time (s)	3.5			3.5	3.5		3.5	3.5		3.5	3.5	
Lane Util. Factor	1.00			1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	0.98			1.00	0.97		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00			0.99	1.00		1.00	1.00		1.00	1.00	
Frt	0.93			1.00	0.86		1.00	0.98		1.00	1.00	
Flt Protected	1.00			0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1702			1658	1475		1711	1762		1711	1801	
Flt Permitted	1.00			0.75	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1702			1308	1475		1711	1762		1711	1801	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	6	6	96	6	79	6	539	73	45	567	0
RTOR Reduction (vph)	0	5	0	0	69	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	7	0	96	16	0	6	608	0	45	567	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		9.0		9.0	9.0		1.2	47.5		4.8	51.1	
Effective Green, g (s)		9.5		9.5	9.5		1.7	48.0		5.3	51.6	
Actuated g/C Ratio		0.13		0.13	0.13		0.02	0.65		0.07	0.70	
Clearance Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		221		170	191		40	1154		124	1268	
v/s Ratio Prot		0.00			0.01		0.00	c0.35		c0.03	0.31	
v/s Ratio Perm				c0.07								
v/c Ratio		0.03		0.56	0.09		0.15	0.53		0.36	0.45	
Uniform Delay, d1		27.9		30.0	28.1		35.1	6.7		32.4	4.7	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1		4.2	0.2		1.7	1.7		1.8	1.1	
Delay (s)		27.9		34.2	28.3		36.8	8.4		34.2	5.8	
Level of Service		C		C	C		D	A		C	A	
Approach Delay (s)		27.9			31.4			8.7			7.9	
Approach LOS		C			C			A			A	

Intersection Summary												
HCM Average Control Delay		11.4		HCM Level of Service				B				
HCM Volume to Capacity ratio		0.52										
Actuated Cycle Length (s)		73.3		Sum of lost time (s)				10.5				
Intersection Capacity Utilization		51.6%		ICU Level of Service				A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 55: 5th St & Western Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	75	60	135	150	75	70	405	60	60	450	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Grade (%)	-4%			4%			0%				0%	
Total Lost time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	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	
Frt	1.00	0.93		1.00	0.95		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	1690		1676	1659		1711	1759		1711	1749	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1745	1690		1676	1659		1711	1759		1711	1749	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	118	88	71	159	176	88	82	476	71	71	529	100
RTOR Reduction (vph)	0	39	0	0	23	0	0	6	0	0	7	0
Lane Group Flow (vph)	118	120	0	159	241	0	82	541	0	71	622	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	7.4	11.1		10.6	14.3		6.9	27.1		6.6	26.8	
Effective Green, g (s)	7.9	11.6		11.1	14.8		7.4	27.6		7.1	27.3	
Actuated g/C Ratio	0.11	0.16		0.16	0.21		0.10	0.39		0.10	0.38	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	193	275		261	344		177	680		170	669	
v/s Ratio Prot	0.07	0.07		c0.09	c0.15		c0.05	0.31		0.04	c0.36	
v/s Ratio Perm												
v/c Ratio	0.61	0.44		0.61	0.70		0.46	0.80		0.42	0.93	
Uniform Delay, d1	30.3	27.0		28.1	26.2		30.1	19.4		30.2	21.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.6	1.1		4.0	6.3		1.9	9.3		1.7	21.2	
Delay (s)	35.9	28.1		32.1	32.6		32.0	28.7		31.9	42.3	
Level of Service	D	C		C	C		C	C		C	D	
Approach Delay (s)		31.4			32.4			29.2			41.3	
Approach LOS		C			C			C			D	

Intersection Summary												
HCM Average Control Delay		34.3		HCM Level of Service				C				
HCM Volume to Capacity ratio		0.78										
Actuated Cycle Length (s)		71.4		Sum of lost time (s)				14.0				
Intersection Capacity Utilization		64.4%		ICU Level of Service				C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 57: Euclid Ave &

N Wenatchee Ave
2009 Existing PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SEB
Lane Configurations						
Volume (veh/h)	0	0	35	395	330	0
Sign Control	Stop		Free	Free		
Grade	0%		0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	38	429	359	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None	None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	649	179	359			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	649	179	359			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	97			
cM capacity (veh/h)	389	833	1197			
Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	
Volume Total	38	215	215	179	179	
Volume Left	38	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1197	1700	1700	1700	1700	
Volume to Capacity	0.03	0.13	0.13	0.11	0.11	
Queue Length 95th (ft)	2	0	0	0	0	
Control Delay (s)	8.1	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s)	0.7			0.0		
Approach LOS						
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			19.1%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 58: WB SR 2 Off-Ramp & Euclid Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	60	70	320	0	0	330
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	76	348	0	0	359
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	527	174			348	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	527	174			348	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	86	91			100	
cM capacity (veh/h)	481	839			1208	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	141	174	174	179	179	
Volume Left	65	0	0	0	0	
Volume Right	76	0	0	0	0	
cSH	624	1700	1700	1700	1700	
Volume to Capacity	0.23	0.10	0.10	0.11	0.11	
Queue Length 95th (ft)	22	0	0	0	0	
Control Delay (s)	12.4	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	12.4	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization			23.4%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
63: EB SR 2 Ramps & Euclid Ave

N Wenatchee Ave
2009 Existing PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	W	W	W
Volume (veh/h)	40	10	170	305	235	155
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	11	185	332	255	168
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None	None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	957	255	424			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	957	255	424			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	82	99	84			
cM capacity (veh/h)	240	783	1135			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	54	185	332	255	168	
Volume Left	43	185	0	0	0	
Volume Right	11	0	0	0	168	
cSH	278	1135	1700	1700	1700	
Volume to Capacity	0.20	0.16	0.20	0.15	0.10	
Queue Length 95th (ft)	18	15	0	0	0	
Control Delay (s)	21.1	8.8	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	21.1	3.1		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay		2.8				
Intersection Capacity Utilization		35.1%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

1: Penny Rd & Lower Sunnyslope Rd

N Wenatchee Ave
2018 PM Peak Hour - Baseline

	↙	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	5	69	10	0	38	10
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63
Hourly flow rate (vph)	8	110	16	0	60	16
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	162	26			21	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	162	26			21	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	89			96	
cM capacity (veh/h)	790	1041			1588	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	117	16	76			
Volume Left	8	0	60			
Volume Right	110	0	0			
cSH	1019	1700	1588			
Volume to Capacity	0.12	0.01	0.04			
Queue Length 95th (ft)	10	0	3			
Control Delay (s)	9.0	0.0	5.9			
Lane LOS	A		A			
Approach Delay (s)	9.0	0.0	5.9			
Approach LOS	A					
Intersection Summary						
Average Delay			7.2			
Intersection Capacity Utilization		22.3%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

2: SR 2 & School St

N Wenatchee Ave
2018 PM Peak Hour - Baseline

[illegible]

HCM Unsignalized Intersection Capacity Analysis 3: Melody Ln & School St

N Wenatchee Ave
2018 PM Peak Hour - Baseline

	↙	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	17	1	296	0	10	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	20	1	357	0	12	0
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	391	367			362	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	391	367			362	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			99	
cM capacity (veh/h)	602	673			1192	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	22	357	12			
Volume Left	20	0	12			
Volume Right	1	0	0			
cSH	606	1700	1192			
Volume to Capacity	0.04	0.21	0.01			
Queue Length 95th (ft)	3	0	1			
Control Delay (s)	11.2	0.0	8.1			
Lane LOS	B		A			
Approach Delay (s)	11.2	0.0	8.1			
Approach LOS	B					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization		27.1%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

N Wenatchee Ave
2018 PM Peak Hour - Baseline

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	5	7	260	23	6	25
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	7	277	24	6	27
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	338	299			306	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	338	299			306	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			99	
cM capacity (veh/h)	649	735			1249	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	13	301	33			
Volume Left	5	0	6			
Volume Right	7	24	0			
cSH	696	1700	1249			
Volume to Capacity	0.02	0.18	0.01			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	10.3	0.0	1.6			
Lane LOS	B		A			
Approach Delay (s)	10.3	0.0	1.6			
Approach LOS	B					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization		26.7%		ICU Level of Service		A
Analysis Period (min)			15			

5: Easy St & School St

N Wenatchee Ave

2018 PM Peak Hour - Baseline

[illegible]

HCM Unsignalized Intersection Capacity Analysis

6: Peters St & Easy St

N Wenatchee Ave

2018 PM Peak Hour - Baseline

[illegible]

7: Ohme Garden Rd & Easy St

2018 PM Peak Hour - Baseline

M:\08\08271 SR 285 N Wenatchee Ave TMP\Traffic Operations\Synchro\2018 Interim 2010-09-22\2018 PM Baseline 2010-09-22\2010
Synchro 7 - Report Page 7

8: SR 2 & Easy St

2018 PM Peak Hour - Baseline

M:\08\08271 SR 285 N Wenatchee Ave TMP\Traffic Operations\Synchro\2018 Interim 2010-09-22\2018 PM Baseline 2010-09-22\2010 Synchro 7 - Report Page 8

HCM Signalized Intersection Capacity Analysis

9: Penny Rd & Easy St

N Wenatchee Ave
2018 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	15	0	0	321	108	160	373	276	58	0	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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			0.95	0.95
Frpb, ped/bikes		1.00			1.00	0.98		0.99			0.99	0.98
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	1.00
Frt		1.00			1.00	0.85		0.95			0.91	0.85
Flt Protected		0.96			1.00	1.00		0.99			0.98	1.00
Satd. Flow (prot)		1793			1863	1552		3288			1562	1471
Flt Permitted		0.44			1.00	1.00		0.99			0.98	1.00
Satd. Flow (perm)		820			1863	1552		3288			1562	1471
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	54	19	0	0	412	138	205	478	354	74	0	272
RTOR Reduction (vph)	0	0	0	0	0	98	0	54	0	0	51	144
Lane Group Flow (vph)	0	73	0	0	412	40	0	983	0	0	126	25
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm					Perm	Split			Split		Perm
Protected Phases		6			2		4	4		8	8	
Permitted Phases	6					2						8
Actuated Green, G (s)		24.4			24.4	24.4		33.2			12.6	12.6
Effective Green, g (s)		24.4			24.4	24.4		33.2			12.6	12.6
Actuated g/C Ratio		0.29			0.29	0.29		0.40			0.15	0.15
Clearance Time (s)		4.5			4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)		2.5			2.5	2.5		3.0			2.5	2.5
Lane Grp Cap (vph)		239			543	452		1304			235	221
v/s Ratio Prot					c0.22			c0.30			c0.08	
v/s Ratio Perm		0.09				0.03						0.02
v/c Ratio		0.31			0.76	0.09		0.75			0.54	0.12
Uniform Delay, d1		23.1			27.0	21.6		21.7			32.9	30.7
Progression Factor		1.00			1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2		0.5			5.7	0.1		2.5			1.8	0.2
Delay (s)		23.6			32.7	21.6		24.2			34.7	30.9
Level of Service		C			C	C		C			C	C
Approach Delay (s)		23.6			29.9			24.2			32.8	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			27.3		HCM Level of Service					C		
HCM Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)		83.7			Sum of lost time (s)					13.5		
Intersection Capacity Utilization		72.3%			ICU Level of Service					C		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

10: Horan Rd & SR 285 Off-Ramp

N Wenatchee Ave
2018 PM Peak Hour - Baseline

Intersection Sign configuration not allowed in HCM analysis.

11: Cordell Ave & Penny Rd

2018 PM Peak Hour - Baseline

c Critical Lane Group

12: Peters St & Burch Mountain Rd

2018 PM Peak Hour - Baseline

HCM Unsignalized Intersection Capacity Analysis 13: Peters St & Ohme Garden Rd

N Wenatchee Ave
2018 PM Peak Hour - Baseline

[illegible]

HCM Unsignalized Intersection Capacity Analysis

N Wenatchee Ave
2018 PM Peak Hour - Baseline

[illegible]

HCM Unsignalized Intersection Capacity Analysis

15: Gunn Rd & Euclid Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	91	19	17	505	211	65
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	117	24	22	647	271	83
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1013	322	359			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1013	322	359			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	55	97	98			
cM capacity (veh/h)	258	713	1195			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	117	24	22	647	354	
Volume Left	117	0	22	0	0	
Volume Right	0	24	0	0	83	
cSH	258	713	1195	1700	1700	
Volume to Capacity	0.45	0.03	0.02	0.38	0.21	
Queue Length 95th (ft)	55	3	1	0	0	
Control Delay (s)	30.0	10.2	8.1	0.0	0.0	
Lane LOS	D	B	A			
Approach Delay (s)	26.6		0.3		0.0	
Approach LOS	D					
Intersection Summary						
Average Delay			3.4			
Intersection Capacity Utilization			39.6%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

16: Penny Rd & Euclid Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	307	46	51	190	80	85
Sign Control	Free			Free	Stop	Stop
Grade	0%			0%	0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	409	61	68	253	107	113
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			476		839	450
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			476		839	450
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		66	81
cM capacity (veh/h)			1082		312	604
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	471	68	253	220		
Volume Left	0	68	0	107		
Volume Right	61	0	0	113		
cSH	1700	1082	1700	415		
Volume to Capacity	0.28	0.06	0.15	0.53		
Queue Length 95th (ft)	0	5	0	75		
Control Delay (s)	0.0	8.6	0.0	23.0		
Lane LOS		A		C		
Approach Delay (s)	0.0	1.8		23.0		
Approach LOS				C		
Intersection Summary						
Average Delay		5.6				
Intersection Capacity Utilization		42.8%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Signalized Intersection Capacity Analysis

17: Horse Lake Rd & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Volume (vph)	185	0	24	30	5	17	40	1866	4	12	1869	144			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00
Frbp, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85	1.00
Flt Protected		0.95	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1759	1554		1779	1554	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.73	1.00		0.60	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1357	1554		1113	1554	1770	3539	1583	1770	3539	1583	1770	3539	1583
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	0.95	0.95	0.95
Adj. Flow (vph)	195	0	25	32	5	18	42	1964	4	13	1967	152			
RTOR Reduction (vph)	0	0	21	0	0	15	0	0	1	0	0	39			
Lane Group Flow (vph)	0	195	4	0	37	3	42	1964	3	13	1967	113			
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5			
Turn Type	Perm		Perm	Perm		Perm	Prot		Prot	Prot		Prot			
Protected Phases		4			8		5	2	2	1	6	6			
Permitted Phases	4		4	8		8									
Actuated Green, G (s)		18.2	18.2		18.2	18.2	5.4	69.2	69.2	1.6	65.4	65.4			
Effective Green, g (s)		18.2	18.2		18.2	18.2	5.4	69.2	69.2	1.6	65.4	65.4			
Actuated g/C Ratio		0.17	0.17		0.17	0.17	0.05	0.66	0.66	0.02	0.62	0.62			
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0			
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)		235	269		193	269	91	2332	1043	27	2204	986			
v/s Ratio Prot							c0.02	c0.55	0.00	0.01	c0.56	0.07			
v/s Ratio Perm		c0.14	0.00		0.03	0.00									
v/c Ratio		0.83	0.02		0.19	0.01	0.46	0.84	0.00	0.48	0.89	0.11			
Uniform Delay, d1		41.9	36.0		37.1	35.9	48.4	13.7	6.1	51.3	16.8	8.0			
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2		20.9	0.0		0.5	0.0	3.7	3.9	0.0	12.9	6.0	0.2			
Delay (s)		62.8	36.0		37.6	36.0	52.1	17.6	6.1	64.2	22.8	8.3			
Level of Service		E	D		D	D	D	B	A	E	C	A			
Approach Delay (s)		59.7			37.1			18.3			22.1				
Approach LOS		E			D			B			C				
Intersection Summary															
HCM Average Control Delay			22.4		HCM Level of Service					C					
HCM Volume to Capacity ratio			0.92												
Actuated Cycle Length (s)			105.0		Sum of lost time (s)					22.0					
Intersection Capacity Utilization			83.3%		ICU Level of Service					E					
Analysis Period (min)			15												
c Critical Lane Group															

HCM Unsignalized Intersection Capacity Analysis

N Wenatchee Ave
2018 PM Peak Hour - Baseline

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	0	0	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			388			343
pX, platoon unblocked						
vC, conflicting volume	10	10			5	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vC3, unblocked vol	10	10			5	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	1000	1060			1608	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			16.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

19: Maiden Ln & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	271	0	202	15	5	11	209	1642	10	1	1605	347	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		5.0	5.0		5.0	5.0	5.0	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.90		1.00	1.00		1.00	1.00	0.85	
Flt Protected	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	1681	1681	1583	1770	1650		1770	3536		1770	3539	1583	
Flt Permitted	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (perm)	1681	1681	1583	1770	1650		1770	3536		1770	3539	1583	
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)	282	0	210	16	5	11	218	1710	10	1	1672	361	
RTOR Reduction (vph)	0	0	181	0	10	0	0	0	0	0	0	125	
Lane Group Flow (vph)	141	141	29	16	6	0	218	1720	0	1	1672	236	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5	
Turn Type	Split		Prot	Split			Prot			Prot		Prot	
Protected Phases	4	4	4	8	8		5	2		1	6	6	
Permitted Phases													
Actuated Green, G (s)	14.5	14.5	14.5	4.9	4.9		21.1	66.4		1.2	46.5	46.5	
Effective Green, g (s)	14.5	14.5	14.5	4.9	4.9		21.1	66.4		1.2	46.5	46.5	
Actuated g/C Ratio	0.14	0.14	0.14	0.05	0.05		0.20	0.63		0.01	0.44	0.44	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		5.0	5.0		5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	232	232	219	83	77		356	2236		20	1567	701	
v/s Ratio Prot	c0.08	0.08	0.02	c0.01	0.00		c0.12	c0.49		0.00	c0.47	0.15	
v/s Ratio Perm													
v/c Ratio	0.61	0.61	0.13	0.19	0.07		0.61	0.77		0.05	1.07	0.34	
Uniform Delay, d1	42.6	42.6	39.7	48.1	47.9		38.2	13.8		51.3	29.2	19.1	
Progression Factor	0.92	0.92	0.96	1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d2	4.4	4.4	0.3	1.1	0.4		3.1	2.6		1.0	43.0	1.3	
Delay (s)	43.5	43.5	38.5	49.3	48.3		41.3	16.4		52.4	72.2	20.4	
Level of Service	D	D	D	D	D		D	B		D	E	C	
Approach Delay (s)		41.4			48.8			19.2			63.0		
Approach LOS		D			D			B			E		
Intersection Summary													
HCM Average Control Delay			41.7		HCM Level of Service					D			
HCM Volume to Capacity ratio			0.91										
Actuated Cycle Length (s)			105.0		Sum of lost time (s)					23.0			
Intersection Capacity Utilization			82.9%		ICU Level of Service					E			
Analysis Period (min)			15										
c Critical Lane Group													

HCM Unsignalized Intersection Capacity Analysis

N Wenatchee Ave
2018 PM Peak Hour - Baseline

[illegible]

HCM Signalized Intersection Capacity Analysis

21: Hawley St & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	82	21	45	55	21	292	66	1571	35	182	1379	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		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	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1784	1555		1791	1570	1770	3525		1770	3476	
Flt Permitted		0.71	1.00		0.69	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1316	1555		1280	1570	1770	3525		1770	3476	
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)	86	22	47	58	22	307	69	1654	37	192	1452	160
RTOR Reduction (vph)	0	0	40	0	0	7	0	1	0	0	6	0
Lane Group Flow (vph)	0	108	7	0	80	300	69	1690	0	192	1606	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm		Perm	Perm		pm+ov	Prot			Prot		
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8		8	4		4						
Actuated Green, G (s)		15.8	15.8		15.8	33.6	9.8	59.4		17.8	67.4	
Effective Green, g (s)		15.8	15.8		15.8	33.6	9.8	59.4		17.8	67.4	
Actuated g/C Ratio		0.15	0.15		0.15	0.32	0.09	0.57		0.17	0.64	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		198	234		193	562	165	1994		300	2231	
v/s Ratio Prot						c0.09	0.04	c0.48		c0.11	0.46	
v/s Ratio Perm		0.08	0.00		0.06	0.10						
v/c Ratio		0.55	0.03		0.41	0.53	0.42	0.85		0.64	0.72	
Uniform Delay, d1		41.3	38.1		40.4	29.3	44.9	19.0		40.6	12.5	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		5.3	0.1		3.0	1.8	3.6	4.7		6.2	2.0	
Delay (s)		46.6	38.2		43.4	31.1	48.5	23.7		46.9	14.6	
Level of Service		D	D		D	C	D	C		D	B	
Approach Delay (s)		44.0			33.6			24.7			18.0	
Approach LOS		D			C			C			B	
Intersection Summary												
HCM Average Control Delay	23.3			HCM Level of Service					C			
HCM Volume to Capacity ratio	0.73											
Actuated Cycle Length (s)	105.0			Sum of lost time (s)					8.0			
Intersection Capacity Utilization	81.3%			ICU Level of Service					D			
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

N Wenatchee Ave
2018 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop				Stop				Free			
Grade	0%				0%				0%			
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	5				5				5			
Lane Width (ft)	12.0				12.0				12.0			
Walking Speed (ft/s)	4.0				4.0				4.0			
Percent Blockage	0				0				0			
Right turn flare (veh)												
Median type	TWLTL								None			
Median storage (veh)	2											
Upstream signal (ft)	548											
pX, platoon unblocked												
vC, conflicting volume	10	10	10	10	10	10	5			5		
vC1, stage 1 conf vol	5	5		5	5							
vC2, stage 2 conf vol	5	5		5	5							
vCu, unblocked vol	10	10	10	10	10	10	5			5		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	981	863	1060	981	863	1060	1608			1608		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	0	0	0	0	0	0	0	0				
Volume Left	0	0	0	0	0	0	0	0				
Volume Right	0	0	0	0	0	0	0	0				
cSH	1700	1700	1700	1700	1700	1700	1700	1700				
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Queue Length 95th (ft)	0	0	0	0	0	0	0	0				
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Lane LOS	A	A										
Approach Delay (s)	0.0	0.0	0.0			0.0						
Approach LOS	A	A										
Intersection Summary												
Average Delay	0.0											
Intersection Capacity Utilization	16.4%			ICU Level of Service					A			
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

23: McKittrick St & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

							
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Volume (veh/h)	50	88	81	1586	1463	0	
Sign Control	Stop			Free	Free		
Grade	0%			0%	0%		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	
Hourly flow rate (vph)	52	92	84	1652	1524	0	
Pedestrians	5			5	5		
Lane Width (ft)	12.0			12.0	12.0		
Walking Speed (ft/s)	4.0			4.0	4.0		
Percent Blockage	0			0	0		
Right turn flare (veh)							
Median type				TWLT	TWLT		
Median storage (veh)				2	2		
Upstream signal (ft)					1107		
pX, platoon unblocked							
vC, conflicting volume	2529	772	1529				
vC1, stage 1 conf vol	1529						
vC2, stage 2 conf vol	1000						
vCu, unblocked vol	2529	772	1529				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)	5.8						
tF (s)	3.5	3.3	2.2				
p0 queue free %	61	73	80				
cM capacity (veh/h)	133	339	430				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	52	92	84	826	826	1016	508
Volume Left	52	0	84	0	0	0	0
Volume Right	0	92	0	0	0	0	0
cSH	133	339	430	1700	1700	1700	1700
Volume to Capacity	0.39	0.27	0.20	0.49	0.49	0.60	0.30
Queue Length 95th (ft)	41	27	18	0	0	0	0
Control Delay (s)	48.5	19.5	15.4	0.0	0.0	0.0	0.0
Lane LOS	E	C	C				
Approach Delay (s)	30.0		0.7			0.0	
Approach LOS	D						
Intersection Summary							
Average Delay			1.6				
Intersection Capacity Utilization			59.8%		ICU Level of Service		B
Analysis Period (min)			15				

HCM Unsignalized Intersection Capacity Analysis

24: REF Dwy 4 & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

[illegible]

HCM Signalized Intersection Capacity Analysis

25: Maple St & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Volume (vph)	170	48	135	110	66	32	164	1374	10	37	1406	155			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0				
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.91				
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00				
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00				
Frt	1.00	0.89		1.00	0.95		1.00	1.00		1.00	0.99				
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00				
Satd. Flow (prot)	1760	1635		1762	1759		1770	3535		1770	4995				
Flt Permitted	0.66	1.00		0.45	1.00		0.95	1.00		0.95	1.00				
Satd. Flow (perm)	1216	1635		829	1759		1770	3535		1770	4995				
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)	173	49	138	112	67	33	167	1402	10	38	1435	158			
RTOR Reduction (vph)	0	99	0	0	17	0	0	0	0	0	12	0			
Lane Group Flow (vph)	173	88	0	112	83	0	167	1412	0	38	1581	0			
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5			
Turn Type	Perm			Perm			Prot			Prot					
Protected Phases	8						1			6					
Permitted Phases	8			4						5					
Actuated Green, G (s)	19.6	19.6		19.6	19.6		14.3	66.9		6.5	59.1				
Effective Green, g (s)	19.6	19.6		19.6	19.6		14.3	66.9		6.5	59.1				
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.14	0.64		0.06	0.56				
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0				
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0				
Lane Grp Cap (vph)	227	305		155	328		241	2252		110	2811				
v/s Ratio Prot		0.05			0.05		c0.09	c0.40		0.02	0.32				
v/s Ratio Perm	c0.14			0.14											
v/c Ratio	0.76	0.29		0.72	0.25		0.69	0.63		0.35	0.56				
Uniform Delay, d1	40.5	36.7		40.1	36.4		43.3	11.5		47.2	14.7				
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00				
Incremental Delay, d2	16.3	1.1		18.4	0.9		10.5	1.3		3.9	0.8				
Delay (s)	56.8	37.8		58.6	37.3		53.7	12.8		51.1	15.5				
Level of Service	E	D		E	D		D	B		D	B				
Approach Delay (s)	46.9			48.5			17.2			16.3					
Approach LOS	D			D			B			B					
Intersection Summary															
HCM Average Control Delay	21.4			HCM Level of Service					C						
HCM Volume to Capacity ratio	0.65														
Actuated Cycle Length (s)	105.0			Sum of lost time (s)					8.0						
Intersection Capacity Utilization	74.7%			ICU Level of Service					D						
Analysis Period (min)	15														
c Critical Lane Group															

HCM Signalized Intersection Capacity Analysis

26: Wenatchee Ave & Miller St

N Wenatchee Ave
2018 PM Peak Hour - Baseline

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	1	497	1172	0	475	12	1319	84	34	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0				
Lane Util. Factor		0.95	0.88		0.95		0.95	0.95	1.00				
Frpb, ped/bikes		1.00	0.98		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	0.85		1.00		1.00	1.00	0.85				
Flt Protected		1.00	1.00		1.00		0.95	0.96	1.00				
Satd. Flow (prot)		3539	2724		3524		1681	1695	1560				
Flt Permitted		0.95	1.00		1.00		0.95	0.96	1.00				
Satd. Flow (perm)		3378	2724		3524		1681	1695	1560				
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Adj. Flow (vph)	1	552	1302	0	528	13	1466	93	38	0	0	0	
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	11	0	0	0	
Lane Group Flow (vph)	0	553	1302	0	539	0	777	782	27	0	0	0	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5	
Turn Type	Free						Split		Perm				
Protected Phases	2			6			8		8				
Permitted Phases	Free								8				
Actuated Green, G (s)	28.3			28.3			43.7		43.7		43.7		
Effective Green, g (s)	28.3			28.3			43.7		43.7		43.7		
Actuated g/C Ratio	0.35			0.35			0.55		0.55		0.55		
Clearance Time (s)	4.0			4.0			4.0		4.0		4.0		
Vehicle Extension (s)	5.0			5.0			5.0		5.0		5.0		
Lane Grp Cap (vph)	1195			2724			1247		918		852		
v/s Ratio Prot				0.15			c0.46		0.46				
v/s Ratio Perm	0.16			c0.48							0.02		
v/c Ratio	0.46			0.48			0.43		0.85		0.84		
Uniform Delay, d1	20.0			0.0		19.7		15.3		15.3		8.4	
Progression Factor	1.00			1.00		1.00		1.00		1.00		1.00	
Incremental Delay, d2	0.6			0.6		0.5		9.5		9.3		0.1	
Delay (s)	20.6			0.6		20.2		24.8		24.6		8.5	
Level of Service	C			A		C		C		C		A	
Approach Delay (s)	6.6			20.2			24.3			0.0			
Approach LOS	A			C			C			A			
Intersection Summary													
HCM Average Control Delay	15.5			HCM Level of Service						B			
HCM Volume to Capacity ratio	0.69												
Actuated Cycle Length (s)	80.0			Sum of lost time (s)						4.0			
Intersection Capacity Utilization	66.5%			ICU Level of Service						C			
Analysis Period (min)	15												
c Critical Lane Group													

27: REF Dwy 5 & Miller St

2018 PM Peak Hour - Baseline

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 			 	 	
Volume (veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				413	518	
pX, platoon unblocked						
vC, conflicting volume	10	10	5			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	10	10	5			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1000	1060	1608			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0			0.0	
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization		16.4%		ICU Level of Service		A
Analysis Period (min)			15			

28: Albertsons/Mission St & Miller St

2018 PM Peak Hour - Baseline

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Volume (vph)	56	0	87	97	130	1077	26	526	0	0	1141	11		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)	4.0		4.0		4.0	4.0	4.0	4.0			4.0			
Lane Util. Factor	1.00		1.00		1.00	0.88	1.00	0.95			0.91			
Frbp, ped/bikes	1.00		0.98		1.00	1.00	1.00	1.00			1.00			
Flpb, ped/bikes	1.00		1.00		1.00	1.00	1.00	1.00			1.00			
Frt	1.00		0.85		1.00	0.85	1.00	1.00			1.00			
Flt Protected	0.95		1.00		0.98	1.00	0.95	1.00			1.00			
Satd. Flow (prot)	1770		1557		1824	2787	1770	3539			5076			
Flt Permitted	0.95		1.00		0.98	1.00	0.95	1.00			1.00			
Satd. Flow (perm)	1770		1557		1824	2787	1770	3539			5076			
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)	59	0	92	102	137	1134	27	554	0	0	1201	12		
RTOR Reduction (vph)	0	0	84	0	0	260	0	0	0	0	1	0		
Lane Group Flow (vph)	59	0	8	0	239	874	27	554	0	0	1212	0		
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5		
Turn Type	Prot		custom	Split		custom	Prot							
Protected Phases	3			4	4	4 5	1	6			2			
Permitted Phases			3											
Actuated Green, G (s)	7.2		7.2		21.2	36.1	1.2	24.7			34.4			
Effective Green, g (s)	7.2		7.2		21.2	36.1	1.2	24.7			34.4			
Actuated g/C Ratio	0.09		0.09		0.26	0.45	0.02	0.31			0.43			
Clearance Time (s)	4.0		4.0		4.0		4.0	4.0			4.0			
Vehicle Extension (s)	3.0		3.0		3.0		3.0	3.0			3.0			
Lane Grp Cap (vph)	159		140		483	1258	27	1093			2183			
v/s Ratio Prot	c0.03				0.13	c0.31	0.02	0.16			c0.24			
v/s Ratio Perm			0.01											
v/c Ratio	0.37		0.06		0.49	0.70	1.00	0.51			0.56			
Uniform Delay, d1	34.3		33.3		24.9	17.5	39.4	22.7			17.1			
Progression Factor	1.00		1.00		1.00	1.00	1.57	0.40			1.00			
Incremental Delay, d2	1.5		0.2		0.8	1.7	154.4	1.3			1.0			
Delay (s)	35.7		33.5		25.7	19.2	216.4	10.4			18.1			
Level of Service	D		C		C	B	F	B			B			
Approach Delay (s)		34.4			20.4			20.0			18.1			
Approach LOS		C			C			C			B			
Intersection Summary														
HCM Average Control Delay			20.1		HCM Level of Service					C				
HCM Volume to Capacity ratio			0.60											
Actuated Cycle Length (s)			80.0		Sum of lost time (s)					8.0				
Intersection Capacity Utilization			74.7%		ICU Level of Service					D				
Analysis Period (min)			15											
c Critical Lane Group														

HCM Signalized Intersection Capacity Analysis

29: Springwater St & Miller St

N Wenatchee Ave
2018 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	236	139	0	0	0	301	530	42	817	476	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0				4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00				1.00	0.95		0.97	0.95	
Frpb, ped/bikes		1.00	0.98				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	0.85				1.00	0.99		1.00	0.97	
Flt Protected		0.99	1.00				0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1846	1557				1770	3496		3433	3424	
Flt Permitted		0.99	1.00				0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1846	1557				1770	3496		3433	3424	
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)	53	246	145	0	0	0	314	552	44	851	496	112
RTOR Reduction (vph)	0	0	113	0	0	0	0	8	0	0	21	0
Lane Group Flow (vph)	0	299	32	0	0	0	314	588	0	851	587	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Split		Perm				Split			Split		
Protected Phases	8	8					1	1		2	2	
Permitted Phases			8									
Actuated Green, G (s)		17.7	17.7				19.4	19.4		30.9	30.9	
Effective Green, g (s)		17.7	17.7				19.4	19.4		30.9	30.9	
Actuated g/C Ratio		0.22	0.22				0.24	0.24		0.39	0.39	
Clearance Time (s)		4.0	4.0				4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0				3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		408	344				429	848		1326	1323	
v/s Ratio Prot		c0.16					c0.18	0.17		c0.25	0.17	
v/s Ratio Perm			0.02									
v/c Ratio		0.73	0.09				0.73	0.69		0.64	0.44	
Uniform Delay, d1		29.0	24.8				27.9	27.6		20.0	18.2	
Progression Factor		1.00	1.00				1.00	1.00		0.43	0.34	
Incremental Delay, d2		6.7	0.1				6.3	2.5		2.2	1.0	
Delay (s)		35.6	24.9				34.2	30.1		10.7	7.2	
Level of Service		D	C				C	C		B	A	
Approach Delay (s)		32.1			0.0			31.5			9.2	
Approach LOS		C			A			C			A	
Intersection Summary												
HCM Average Control Delay			20.0		HCM Level of Service					C		
HCM Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			80.0		Sum of lost time (s)					12.0		
Intersection Capacity Utilization			72.1%		ICU Level of Service					C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

N Wenatchee Ave
2018 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	151	163	140	382	0	0	0	0	86	1034	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5						5.1	
Lane Util. Factor		0.95			0.95						0.91	
Frpb, ped/bikes		0.99			1.00						1.00	
Flpb, ped/bikes		1.00			1.00						1.00	
Frt		0.92			1.00						0.99	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		3235			3489						5027	
Flt Permitted		1.00			0.76						1.00	
Satd. Flow (perm)		3235			2679						5027	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	164	177	152	415	0	0	0	0	93	1124	57
RTOR Reduction (vph)	0	24	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	317	0	0	567	0	0	0	0	0	1266	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm					Perm						
Protected Phases	8			4			2					
Permitted Phases				4			2					
Actuated Green, G (s)	22.0			22.0			27.4					
Effective Green, g (s)	22.0			22.0			27.4					
Actuated g/C Ratio	0.37			0.37			0.46					
Clearance Time (s)	5.5			5.5			5.1					
Lane Grp Cap (vph)	1186			982			2296					
v/s Ratio Prot	0.10											
v/s Ratio Perm				c0.21			0.25					
v/c Ratio	0.27			0.58			0.55					
Uniform Delay, d1	13.3			15.3			11.8					
Progression Factor	1.00			1.10			1.00					
Incremental Delay, d2	0.6			2.2			1.0					
Delay (s)	13.9			19.0			12.8			12.8		
Level of Service	B			B						B		
Approach Delay (s)	13.9			19.0			0.0			12.8		
Approach LOS	B			B			A			B		
Intersection Summary												
HCM Average Control Delay	14.6			HCM Level of Service						B		
HCM Volume to Capacity ratio	0.56											
Actuated Cycle Length (s)	60.0			Sum of lost time (s)						10.6		
Intersection Capacity Utilization	68.5%			ICU Level of Service						C		
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

31: 5th St & Chelan Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	0	197	326	107	453	0	0	0	0	89	1271	146	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10	
Total Lost time (s)		5.5			5.5						5.1		
Lane Util. Factor		0.95			0.95						0.91		
Frpb, ped/bikes		0.99			1.00						1.00		
Flpb, ped/bikes		1.00			1.00						1.00		
Frt		0.91			1.00						0.99		
Flt Protected		1.00			0.99						1.00		
Satd. Flow (prot)		2667			2944						4050		
Flt Permitted		1.00			0.71						1.00		
Satd. Flow (perm)		2667			2115						4050		
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	207	343	113	477	0	0	0	0	94	1338	154	
RTOR Reduction (vph)	0	13	0	0	0	0	0	0	0	0	22	0	
Lane Group Flow (vph)	0	537	0	0	590	0	0	0	0	0	1564	0	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5	
Parking (#/hr)										0	0	0	
Turn Type	Perm					Perm							
Protected Phases	8					4							
Permitted Phases	4					2							
Actuated Green, G (s)	22.0					27.4							
Effective Green, g (s)	22.0					27.4							
Actuated g/C Ratio	0.37					0.46							
Clearance Time (s)	5.5					5.1							
Lane Grp Cap (vph)	978					1850							
v/s Ratio Prot	0.20												
v/s Ratio Perm						0.39							
v/c Ratio	0.55					0.85							
Uniform Delay, d1	15.1					14.4							
Progression Factor	1.00					0.62							
Incremental Delay, d2	2.2					4.5							
Delay (s)	17.3					13.5							
Level of Service	B					B							
Approach Delay (s)	17.3					13.5							
Approach LOS	B					B							
Intersection Summary													
HCM Average Control Delay	15.5					HCM Level of Service				B			
HCM Volume to Capacity ratio	0.81												
Actuated Cycle Length (s)	60.0					Sum of lost time (s)				10.6			
Intersection Capacity Utilization	84.0%					ICU Level of Service				E			
Analysis Period (min)	15												
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

32: 9th St & Mission St

N Wenatchee Ave
2018 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 				
Volume (vph)	61	177	0	0	270	70	264	1159	94	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9			4.9				
Lane Util. Factor		0.95			0.95			0.91				
Frpb, ped/bikes		1.00			1.00			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.97			0.99				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		3492			3418			4985				
Flt Permitted		0.79			1.00			0.99				
Satd. Flow (perm)		2791			3418			4985				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	192	0	0	293	76	287	1260	102	0	0	0
RTOR Reduction (vph)	0	0	0	0	27	0	0	12	0	0	0	0
Lane Group Flow (vph)	0	258	0	0	342	0	0	1637	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm				Perm				Perm			
Protected Phases									6			
Permitted Phases	4								6			
Actuated Green, G (s)	19.1				19.1				31.1			
Effective Green, g (s)	19.1				19.1				31.1			
Actuated g/C Ratio	0.32				0.32				0.52			
Clearance Time (s)	4.9				4.9				4.9			
Lane Grp Cap (vph)	888				1088				2584			
v/s Ratio Prot					c0.10							
v/s Ratio Perm	0.09								0.33			
v/c Ratio	0.29				0.31				0.63			
Uniform Delay, d1	15.4				15.5				10.4			
Progression Factor	1.02				1.00				0.30			
Incremental Delay, d2	0.8				0.8				0.3			
Delay (s)	16.4				16.2				3.4			
Level of Service	B				B				A			
Approach Delay (s)	16.4				16.2				3.4		0.0	
Approach LOS	B				B				A		A	
Intersection Summary												
HCM Average Control Delay	7.0				HCM Level of Service				A			
HCM Volume to Capacity ratio	0.51											
Actuated Cycle Length (s)	60.0				Sum of lost time (s)				9.8			
Intersection Capacity Utilization	74.3%				ICU Level of Service				D			
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 33: 5th St & Mission St

N Wenatchee Ave
2018 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			  				
Volume (vph)	70	182	0	0	212	51	355	1404	85	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.9			4.9			4.9				
Lane Util. Factor		0.95			0.95			0.91				
Frbp, ped/bikes		1.00			1.00			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.97			0.99				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		2930			2877			4055				
Flt Permitted		0.78			1.00			0.99				
Satd. Flow (perm)		2322			2877			4055				
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	83	217	0	0	252	61	423	1671	101	0	0	0
RTOR Reduction (vph)	0	0	0	0	9	0	0	9	0	0	0	0
Lane Group Flow (vph)	0	300	0	0	304	0	0	2186	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Parking (#/hr)							0	0	0			
Turn Type	Perm				Perm							
Protected Phases	8				4				6			
Permitted Phases	8								6			
Actuated Green, G (s)	19.1				19.1				31.1			
Effective Green, g (s)	19.1				19.1				31.1			
Actuated g/C Ratio	0.32				0.32				0.52			
Clearance Time (s)	4.9				4.9				4.9			
Lane Grp Cap (vph)	739				916				2102			
v/s Ratio Prot					0.11							
v/s Ratio Perm	c0.13								0.54			
v/c Ratio	0.41				0.33				1.04			
Uniform Delay, d1	16.0				15.6				14.4			
Progression Factor	1.00				1.00				1.00			
Incremental Delay, d2	1.7				1.0				31.0			
Delay (s)	17.7				16.6				45.4			
Level of Service	B				B				D			
Approach Delay (s)	17.7				16.6				45.4			
Approach LOS	B				B				D			
Intersection Summary												
HCM Average Control Delay	39.3				HCM Level of Service				D			
HCM Volume to Capacity ratio	0.80											
Actuated Cycle Length (s)	60.0				Sum of lost time (s)				9.8			
Intersection Capacity Utilization	84.7%				ICU Level of Service				E			
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

34: 9th St & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	109	62	60	195	14	73	386	47	0	523	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95			0.95	
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		0.96			0.99		1.00	0.98			0.97	
Flt Protected		0.99			0.99		0.95	1.00			1.00	
Satd. Flow (prot)		3340			3468		1770	3477			3441	
Flt Permitted		0.81			0.84		0.95	1.00			1.00	
Satd. Flow (perm)		2751			2955		1770	3477			3441	
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	115	65	63	205	15	77	406	49	0	551	112
RTOR Reduction (vph)	0	40	0	0	4	0	0	7	0	0	18	0
Lane Group Flow (vph)	0	208	0	0	279	0	77	448	0	0	645	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)		13.6			13.6		5.4	25.6			16.2	
Effective Green, g (s)		13.6			13.6		5.4	25.6			16.2	
Actuated g/C Ratio		0.29			0.29		0.11	0.54			0.34	
Clearance Time (s)		4.0			4.0		4.0	4.0			4.0	
Vehicle Extension (s)		4.0			4.0		5.0	3.0			3.0	
Lane Grp Cap (vph)		793			851		203	1886			1181	
v/s Ratio Prot							c0.04	0.13			c0.19	
v/s Ratio Perm		0.08			c0.09							
v/c Ratio		0.26			0.33		0.38	0.24			0.55	
Uniform Delay, d1		12.9			13.2		19.3	5.7			12.5	
Progression Factor		1.00			1.00		1.00	1.00			1.00	
Incremental Delay, d2		0.2			0.3		2.5	0.1			0.5	
Delay (s)		13.2			13.5		21.8	5.7			13.0	
Level of Service		B			B		C	A			B	
Approach Delay (s)		13.2			13.5			8.1			13.0	
Approach LOS		B			B			A			B	
Intersection Summary												
HCM Average Control Delay			11.6		HCM Level of Service					B		
HCM Volume to Capacity ratio			0.44									
Actuated Cycle Length (s)			47.2		Sum of lost time (s)					12.0		
Intersection Capacity Utilization			55.0%		ICU Level of Service					B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

35: 5th St & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

[illegible]

HCM Unsignalized Intersection Capacity Analysis

N Wenatchee Ave
2018 PM Peak Hour - Baseline

	↖	↗	↑	↘	↙	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	38	229	52	84	176	33
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	46	279	63	102	215	40
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	594	125			171	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	594	125			171	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	70			85	
cM capacity (veh/h)	393	918			1400	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	326	166	255			
Volume Left	46	0	215			
Volume Right	279	102	0			
cSH	771	1700	1400			
Volume to Capacity	0.42	0.10	0.15			
Queue Length 95th (ft)	53	0	14			
Control Delay (s)	13.0	0.0	7.0			
Lane LOS	B		A			
Approach Delay (s)	13.0	0.0	7.0			
Approach LOS	B					
Intersection Summary						
Average Delay			8.1			
Intersection Capacity Utilization		47.2%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

37: 5th St & Piere St

N Wenatchee Ave
2018 PM Peak Hour - Baseline

									
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations					 				
Volume (veh/h)	56	139	132	7	108	57			
Sign Control	Free		Free		Stop				
Grade	0%		0%		0%				
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88			
Hourly flow rate (vph)	64	158	150	8	123	65			
Pedestrians	5		5		5				
Lane Width (ft)	12.0		12.0		12.0				
Walking Speed (ft/s)	4.0		4.0		4.0				
Percent Blockage	0		0		0				
Right turn flare (veh)									
Median type	None		None						
Median storage (veh)									
Upstream signal (ft)	628								
pX, platoon unblocked									
vC, conflicting volume	163				449	164			
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	163				449	164			
tC, single (s)	4.1				6.4	6.2			
tC, 2 stage (s)									
tF (s)	2.2				3.5	3.3			
p0 queue free %	95				77	93			
cM capacity (veh/h)	1410				537	873			
Direction, Lane #	EB 1	EB 2	WB 1	SB 1					
Volume Total	64	158	158	188					
Volume Left	64	0	0	123					
Volume Right	0	0	8	65					
cSH	1410	1700	1700	620					
Volume to Capacity	0.05	0.09	0.09	0.30					
Queue Length 95th (ft)	4	0	0	32					
Control Delay (s)	7.7	0.0	0.0	13.3					
Lane LOS	A			B					
Approach Delay (s)	2.2			0.0	13.3				
Approach LOS				B					
Intersection Summary									
Average Delay				5.3					
Intersection Capacity Utilization	31.9%			ICU Level of Service	A				
Analysis Period (min)	15								

HCM Unsignalized Intersection Capacity Analysis

N Wenatchee Ave
2018 PM Peak Hour - Baseline

	→	↘	↙	←	↗	↖
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↖		↘	↗	↖	
Volume (veh/h)	87	27	137	95	30	62
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	98	30	154	107	34	70
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)				396		
pX, platoon unblocked						
vC, conflicting volume			133		538	123
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			133		538	123
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			89		92	92
cM capacity (veh/h)			1446		447	920
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	128	154	107	103		
Volume Left	0	154	0	34		
Volume Right	30	0	0	70		
cSH	1700	1446	1700	684		
Volume to Capacity	0.08	0.11	0.06	0.15		
Queue Length 95th (ft)	0	9	0	13		
Control Delay (s)	0.0	7.8	0.0	11.2		
Lane LOS		A		B		
Approach Delay (s)	0.0	4.6		11.2		
Approach LOS				B		
Intersection Summary						
Average Delay			4.8			
Intersection Capacity Utilization			27.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

39: McKittrick St & Pine St

N Wenatchee Ave
2018 PM Peak Hour - Baseline

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	28	105	144	60	134	31
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	31	117	160	67	149	34
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	232				382	203
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	232				382	203
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				75	96
cM capacity (veh/h)	1330				601	830
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	148	227	183			
Volume Left	31	0	149			
Volume Right	0	67	34			
cSH	1330	1700	634			
Volume to Capacity	0.02	0.13	0.29			
Queue Length 95th (ft)	2	0	30			
Control Delay (s)	1.8	0.0	13.0			
Lane LOS	A		B			
Approach Delay (s)	1.8	0.0	13.0			
Approach LOS			B			
Intersection Summary						
Average Delay			4.7			
Intersection Capacity Utilization			38.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

40: Maple St & Princeton Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	164	99	102	229	13	116	0	70	6	1	2
Sign Control	Free				Free			Stop			Stop	
Grade	0%				0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	0	191	115	119	266	15	135	0	81	7	1	2
Pedestrians	5				5			5			5	
Lane Width (ft)	12.0				12.0			12.0			12.0	
Walking Speed (ft/s)	4.0				4.0			4.0			4.0	
Percent Blockage	0				0			0			0	
Right turn flare (veh)												
Median type	None			None								
Median storage veh												
Upstream signal (ft)	909											
pX, platoon unblocked												
vC, conflicting volume	286			311			765	777	258	793	827	284
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	286			311			765	777	258	793	827	284
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			90			54	100	89	97	100	100
cM capacity (veh/h)	1270			1244			291	294	774	250	275	749
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1					
Volume Total	0	306	119	281	135	81	10					
Volume Left	0	0	119	0	135	0	7					
Volume Right	0	115	0	15	0	81	2					
cSH	1700	1700	1244	1700	291	774	297					
Volume to Capacity	0.00	0.18	0.10	0.17	0.46	0.11	0.04					
Queue Length 95th (ft)	0	0	8	0	58	9	3					
Control Delay (s)	0.0	0.0	8.2	0.0	27.7	10.2	17.5					
Lane LOS			A	D		B	C					
Approach Delay (s)	0.0		2.4	21.1		17.5						
Approach LOS				C		C						
Intersection Summary												
Average Delay			6.1									
Intersection Capacity Utilization			40.0%		ICU Level of Service		A					
Analysis Period (min)			15									

41: Springwater St & Princeton Ave

2018 PM Peak Hour - Baseline

M:\08\08271 SR 285 N Wenatchee Ave TMP\Traffic Operations\Synchro\2018 Interim 2010-09-22\2018 PM Baseline 2010-09-22\2010
Synchro 7 - Report Page 41

42: 9th St & Princeton Ave

2018 PM Peak Hour - Baseline

M:\08\08271 SR 285 N Wenatchee Ave TMP\Traffic Operations\Synchro\2018 Interim 2010-09-22\2018 PM Baseline 2010-09-22\2010
Synchro 7 - Report Page 42

HCM Unsignalized Intersection Capacity Analysis

43: 5th St & Princeton Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	303	4	18	539	35	5	41	16	17	27	43
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	12	352	5	21	627	41	6	48	19	20	31	50
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	672			362			1143	1097	365	1119	1079	657
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	672			362			1143	1097	365	1119	1079	657
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			96	77	97	86	85	89
cM capacity (veh/h)	914			1192			135	205	675	142	210	461

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	369	688	72	101
Volume Left	12	21	6	20
Volume Right	5	41	19	50
cSH	914	1192	238	254
Volume to Capacity	0.01	0.02	0.30	0.40
Queue Length 95th (ft)	1	1	31	45
Control Delay (s)	0.4	0.5	26.6	28.2
Lane LOS	A	A	D	D
Approach Delay (s)	0.4	0.5	26.6	28.2
Approach LOS			D	D

Intersection Summary

Average Delay	4.3		
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis

N Wenatchee Ave
2018 PM Peak Hour - Baseline

															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Volume (vph)	99	246	56	207	376	60	92	587	95	75	498	92			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	1.00	1.00			
Frpb, ped/bikes	1.00	1.00	0.97	1.00	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	1.00		1.00	1.00	1.00			
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00			
Satd. Flow (prot)	1770	1863	1535	1770	1863	1554	1770	3450		1770	1863	1535			
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00			
Satd. Flow (perm)	1770	1863	1535	1770	1863	1554	1770	3450		1770	1863	1535			
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)	104	259	59	218	396	63	97	618	100	79	524	97			
RTOR Reduction (vph)	0	0	23	0	0	15	0	6	0	0	0	35			
Lane Group Flow (vph)	104	259	36	218	396	48	97	712	0	79	524	62			
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5			
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm			
Protected Phases	3	8		7	4		1	6		5	2				
Permitted Phases			8			4						2			
Actuated Green, G (s)	12.6	25.3	25.3	20.1	32.8	32.8	12.2	41.8		11.0	40.6	40.6			
Effective Green, g (s)	12.6	25.3	25.3	20.1	32.8	32.8	12.2	41.8		11.0	40.6	40.6			
Actuated g/C Ratio	0.11	0.22	0.22	0.18	0.29	0.29	0.11	0.37		0.10	0.36	0.36			
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0			
Lane Grp Cap (vph)	195	413	340	312	535	446	189	1263		170	662	546			
v/s Ratio Prot	0.06	0.14		c0.12	c0.21		c0.05	0.21		0.04	c0.28				
v/s Ratio Perm			0.02			0.03						0.04			
v/c Ratio	0.53	0.63	0.10	0.70	0.74	0.11	0.51	0.56		0.46	0.79	0.11			
Uniform Delay, d1	48.0	40.2	35.4	44.2	36.8	29.9	48.2	28.9		48.8	33.0	24.7			
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00			
Incremental Delay, d2	2.8	3.0	0.1	6.7	5.5	0.1	2.3	0.6		2.0	6.4	0.1			
Delay (s)	50.8	43.2	35.6	50.9	42.3	30.0	50.5	29.5		50.8	39.4	24.8			
Level of Service	D	D	D	D	D	C	D	C		D	D	C			
Approach Delay (s)		44.0			43.9			32.0			38.7				
Approach LOS		D			D			C			D				

Intersection Summary

HCM Average Control Delay	38.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	114.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

46: 9th St & Miller St

N Wenatchee Ave
2018 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	118	67	95	186	80	70	562	114	86	589	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00		0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		0.97		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1767	1863	1561		3365		1768	3436		1767	3497	
Flt Permitted	0.52	1.00	1.00		0.85		0.36	1.00		0.34	1.00	
Satd. Flow (perm)	968	1863	1561		2890		678	3436		630	3497	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	128	73	103	202	87	76	611	124	93	640	50
RTOR Reduction (vph)	0	0	49	0	37	0	0	19	0	0	7	0
Lane Group Flow (vph)	49	128	24	0	355	0	76	716	0	93	683	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	11.9	11.9	11.9		11.9		16.0	16.0		16.0	16.0	
Effective Green, g (s)	11.9	11.9	11.9		11.9		16.0	16.0		16.0	16.0	
Actuated g/C Ratio	0.33	0.33	0.33		0.33		0.45	0.45		0.45	0.45	
Clearance Time (s)	4.0	4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	321	618	517		958		302	1531		281	1559	
v/s Ratio Prot		0.07						c0.21			0.20	
v/s Ratio Perm	0.05		0.02		c0.12		0.11			0.15		
v/c Ratio	0.15	0.21	0.05		0.37		0.25	0.47		0.33	0.44	
Uniform Delay, d1	8.4	8.6	8.1		9.1		6.2	7.0		6.5	6.9	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.2	0.0		0.2		0.4	0.2		0.7	0.2	
Delay (s)	8.7	8.8	8.2		9.4		6.7	7.2		7.2	7.1	
Level of Service	A	A	A		A		A	A		A	A	
Approach Delay (s)		8.6			9.4			7.1			7.1	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM Average Control Delay	7.7			HCM Level of Service					A			
HCM Volume to Capacity ratio	0.43											
Actuated Cycle Length (s)	35.9			Sum of lost time (s)					8.0			
Intersection Capacity Utilization	58.6%			ICU Level of Service					B			
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

N Wenatchee Ave
2018 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	17	246	35	94	332	126	27	30	113	122	30	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	0.98		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	0.99	1.00		0.99	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.88		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1759	1821		1758	1863	1536	1753	1604		1756	1757	
Flt Permitted	0.54	1.00		0.57	1.00	1.00	0.73	1.00		0.51	1.00	
Satd. Flow (perm)	995	1821		1059	1863	1536	1340	1604		935	1757	
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)	18	259	37	99	349	133	28	32	119	128	32	15
RTOR Reduction (vph)	0	2	0	0	0	21	0	100	0	0	13	0
Lane Group Flow (vph)	18	294	0	99	349	112	28	51	0	128	34	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm		Perm		Perm		Perm		
Protected Phases			4			8			2			
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	79.8	79.8		79.8	79.8	79.8	17.2	17.2		17.2	17.2	
Effective Green, g (s)	79.8	79.8		79.8	79.8	79.8	17.2	17.2		17.2	17.2	
Actuated g/C Ratio	0.76	0.76		0.76	0.76	0.76	0.16	0.16		0.16	0.16	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	756	1384		805	1416	1167	220	263		153	288	
v/s Ratio Prot		0.16			c0.19			0.03			0.02	
v/s Ratio Perm	0.02			0.09		0.07	0.02			c0.14		
v/c Ratio	0.02	0.21		0.12	0.25	0.10	0.13	0.20		0.84	0.12	
Uniform Delay, d1	3.1	3.6		3.3	3.7	3.3	37.5	37.9		42.5	37.4	
Progression Factor	1.00	1.00		0.55	0.54	0.21	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.4		0.3	0.4	0.1	0.3	0.4		30.9	0.2	

HCM Unsignalized Intersection Capacity Analysis

48: Maiden Ln & Dawn Terr

N Wenatchee Ave
2018 PM Peak Hour - Baseline

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	140	255	345	28	8	115
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	151	274	371	30	9	124
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	406				971	396
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	406				971	396
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				96	81
cM capacity (veh/h)	1148				242	648
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	151	274	401	132		
Volume Left	151	0	0	9		
Volume Right	0	0	30	124		
cSH	1148	1700	1700	584		
Volume to Capacity	0.13	0.16	0.24	0.23		
Queue Length 95th (ft)	11	0	0	22		
Control Delay (s)	8.6	0.0	0.0	13.0		
Lane LOS	A			B		
Approach Delay (s)	3.1		0.0	13.0		
Approach LOS				B		
Intersection Summary						
Average Delay			3.1			
Intersection Capacity Utilization			46.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

49: Maiden Ln & Western Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	17	69	89	378	400	39
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	19	77	99	420	444	43
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1094	476	493			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1094	476	493			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	87	91			
cM capacity (veh/h)	213	584	1066			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	19	77	99	420	488	
Volume Left	19	0	99	0	0	
Volume Right	0	77	0	0	43	
cSH	213	584	1066	1700	1700	
Volume to Capacity	0.09	0.13	0.09	0.25	0.29	
Queue Length 95th (ft)	7	11	8	0	0	
Control Delay (s)	23.5	12.1	8.7	0.0	0.0	
Lane LOS	C	B	A			
Approach Delay (s)	14.4		1.7		0.0	
Approach LOS	B					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			43.3%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

50: Walnut St & Western Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	54	22	443	39	5	426
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	64	26	527	46	6	507
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1080	561			579	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1080	561			579	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	73	95			99	
cM capacity (veh/h)	238	523			991	
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2	
Volume Total	64	26	574	6	507	
Volume Left	64	0	0	6	0	
Volume Right	0	26	46	0	0	
cSH	238	523	1700	991	1700	
Volume to Capacity	0.27	0.05	0.34	0.01	0.30	
Queue Length 95th (ft)	26	4	0	0	0	
Control Delay (s)	25.6	12.2	0.0	8.7	0.0	
Lane LOS	D	B		A		
Approach Delay (s)	21.7		0.0	0.1		
Approach LOS	C					
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			37.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

51: McKittrick St & Western Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	52	14	499	47	12	504
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	63	17	609	57	15	615
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1291	647			671	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1291	647			671	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	64	96			98	
cM capacity (veh/h)	176	467			916	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	80	666	15	615		
Volume Left	63	0	15	0		
Volume Right	17	57	0	0		
cSH	203	1700	916	1700		
Volume to Capacity	0.40	0.39	0.02	0.36		
Queue Length 95th (ft)	44	0	1	0		
Control Delay (s)	34.0	0.0	9.0	0.0		
Lane LOS	D		A			
Approach Delay (s)	34.0	0.0	0.2			
Approach LOS	D					
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization		41.1%		ICU Level of Service		A
Analysis Period (min)			15			

52: Maple St & Western Ave

2018 PM Peak Hour - Baseline

M:\08108271 SR 285 N Wenatchee Ave TMP\Traffic Operations\Synchro\2018 Interim 2010-09-22\2018 PM Baseline 2010-09-22\9/29/2010
Synchro 7 - Report Page 51

53: Springwater St & Western Ave

2018 PM Peak Hour - Baseline

M:\08\08271 SR 285 N Wenatchee Ave TMP\Traffic Operations\Synchro\2018 Interim 2010-09-22\2018 PM Baseline 2010-09-22\2010
Synchro 7 - Report Page 52

HCM Signalized Intersection Capacity Analysis

54: 9th St & Western Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Volume (vph)	18	24	22	86	16	74	44	511	67	37	490	20			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11			
Grade (%)		-6%			4%			0%			0%				
Total Lost time (s)		3.5		3.5	3.5		3.5	3.5		3.5	3.5				
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00				
Frpb, ped/bikes		0.99		1.00	0.97		1.00	1.00		1.00	1.00				
Flpb, ped/bikes		1.00		0.99	1.00		1.00	1.00		1.00	1.00				
Frt		0.95		1.00	0.88		1.00	0.98		1.00	0.99				
Flt Protected		0.99		0.95	1.00		0.95	1.00		0.95	1.00				
Satd. Flow (prot)		1720		1661	1508		1711	1763		1711	1788				
Flt Permitted		0.90		0.77	1.00		0.95	1.00		0.95	1.00				
Satd. Flow (perm)		1569		1347	1508		1711	1763		1711	1788				
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Adj. Flow (vph)	20	27	25	97	18	83	49	574	75	42	551	22			
RTOR Reduction (vph)	0	22	0	0	72	0	0	4	0	0	1	0			
Lane Group Flow (vph)	0	50	0	97	29	0	49	645	0	42	572	0			
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5			
Turn Type	Perm			Perm			Prot			Prot					
Protected Phases		4			8		5	2		1	6				
Permitted Phases	4			8											
Actuated Green, G (s)		9.0		9.0	9.0		4.8	44.9		4.6	44.7				
Effective Green, g (s)		9.5		9.5	9.5		5.3	45.4		5.1	45.2				
Actuated g/C Ratio		0.13		0.13	0.13		0.08	0.64		0.07	0.64				
Clearance Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0				
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0				
Lane Grp Cap (vph)		211		182	203		129	1135		124	1146				
v/s Ratio Prot					0.02		c0.03	c0.37		0.02	0.32				
v/s Ratio Perm		0.03		c0.07											
v/c Ratio		0.24		0.53	0.14		0.38	0.57		0.34	0.50				
Uniform Delay, d1		27.3		28.4	26.9		31.0	7.0		31.1	6.7				
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00				
Incremental Delay, d2		0.6		3.0	0.3		1.9	2.1		1.6	1.6				
Delay (s)		27.9		31.4	27.2		32.9	9.1		32.7	8.2				
Level of Service		C		C	C		C	A		C	A				
Approach Delay (s)		27.9			29.3			10.8			9.9				
Approach LOS		C			C			B			A				
Intersection Summary															
HCM Average Control Delay			13.5		HCM Level of Service					B					
HCM Volume to Capacity ratio			0.52												
Actuated Cycle Length (s)			70.5		Sum of lost time (s)					7.0					
Intersection Capacity Utilization			55.0%		ICU Level of Service					A					
Analysis Period (min)			15												
c Critical Lane Group															

HCM Signalized Intersection Capacity Analysis

55: 5th St & Western Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	108	85	66	142	167	83	81	461	63	51	475	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Grade (%)		-4%			4%			0%			0%	
Total Lost time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	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	
Frt	1.00	0.93		1.00	0.95		1.00	0.98		1.00	0.98	
Fit Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	1692		1676	1659		1711	1762		1711	1758	
Fit Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1745	1692		1676	1659		1711	1762		1711	1758	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	127	100	78	167	196	98	95	542	74	60	559	85
RTOR Reduction (vph)	0	36	0	0	22	0	0	5	0	0	6	0
Lane Group Flow (vph)	127	142	0	167	272	0	95	611	0	60	638	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	7.8	14.8		10.3	17.3		7.4	28.8		5.2	26.6	
Effective Green, g (s)	8.3	15.3		10.8	17.8		7.9	29.3		5.7	27.1	
Actuated g/C Ratio	0.11	0.20		0.14	0.24		0.11	0.39		0.08	0.36	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	193	345		241	393		180	687		130	634	
v/s Ratio Prot	0.07	0.08		c0.10	c0.16		c0.06	0.35		0.04	c0.36	
v/s Ratio Perm												
v/c Ratio	0.66	0.41		0.69	0.69		0.53	0.89		0.46	1.01	
Uniform Delay, d1	32.0	26.0		30.6	26.1		31.8	21.4		33.2	24.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.9	0.8		8.3	5.2		2.8	15.9		2.6	37.1	
Delay (s)	39.9	26.8		38.9	31.3		34.6	37.3		35.8	61.1	
Level of Service	D	C		D	C		C	D		D	E	

HCM Unsignalized Intersection Capacity Analysis

56: Ohme Gardens Rd & Euclid Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

[illegible]

HCM Unsignalized Intersection Capacity Analysis

57: WB SR 2 On-Ramp & Euclid Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	18	418	236	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	20	454	257	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	523	128	257			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	523	128	257			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	477	898	1305			
Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	
Volume Total	20	227	227	128	128	
Volume Left	20	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1305	1700	1700	1700	1700	
Volume to Capacity	0.01	0.13	0.13	0.08	0.08	
Queue Length 95th (ft)	1	0	0	0	0	
Control Delay (s)	7.8	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s)	0.3			0.0		
Approach LOS						
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			16.5%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 58: WB SR 2 Off-Ramp & Euclid Ave

N Wenatchee Ave
2018 PM Peak Hour - Baseline

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	67	184	252	0	0	236
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	73	200	274	0	0	257
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	402	137			274	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	402	137			274	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	77			100	
cM capacity (veh/h)	576	886			1286	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	273	137	137	128	128	
Volume Left	73	0	0	0	0	
Volume Right	200	0	0	0	0	
cSH	775	1700	1700	1700	1700	
Volume to Capacity	0.35	0.08	0.08	0.08	0.08	
Queue Length 95th (ft)	40	0	0	0	0	
Control Delay (s)	12.1	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	12.1	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			4.1			
Intersection Capacity Utilization			28.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

N Wenatchee Ave
2018 PM Peak Hour - Baseline

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	15	133	209	85	217
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	16	145	227	92	236
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	609	92	328			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	609	92	328			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	88			
cM capacity (veh/h)	405	965	1231			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	16	145	227	92	236	
Volume Left	0	145	0	0	0	
Volume Right	16	0	0	0	236	
cSH	965	1231	1700	1700	1700	
Volume to Capacity	0.02	0.12	0.13	0.05	0.14	
Queue Length 95th (ft)	1	10	0	0	0	
Control Delay (s)	8.8	8.3	0.0	0.0	0.0	
Lane LOS	A	A				
Approach Delay (s)	8.8	3.2		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			27.5%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 1: Penny Rd & Lower Sunnyslope Rd

N Wenatchee Ave
2018 PM Peak Hour - Full Build

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	5	70	10	0	38	10
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63
Hourly flow rate (vph)	8	111	16	0	60	16
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	162	26			21	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	162	26			21	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	89			96	
cM capacity (veh/h)	790	1041			1588	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	119	16	76			
Volume Left	8	0	60			
Volume Right	111	0	0			
cSH	1020	1700	1588			
Volume to Capacity	0.12	0.01	0.04			
Queue Length 95th (ft)	10	0	3			
Control Delay (s)	9.0	0.0	5.9			
Lane LOS	A		A			
Approach Delay (s)	9.0	0.0	5.9			
Approach LOS	A					
Intersection Summary						
Average Delay		7.2				
Intersection Capacity Utilization		22.3%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 2: SR 2 & School St

N Wenatchee Ave
2018 PM Peak Hour - Full Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1003	14	5	1348	277	0	0	5	0	0	0
Sign Control		Free			Free			Stop				Stop
Grade		0%			0%			0%				0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1090	15	5	1465	301	0	0	5	0	0	0
Pedestrians		5			5			5				5
Lane Width (ft)		12.0			12.0			12.0				12.0
Walking Speed (ft/s)		4.0			4.0			4.0				4.0
Percent Blockage		0			0			0				0
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1771			1110			1851	2885	563	2037	2592	743
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1771			1110			1851	2885	563	2037	2592	743
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	99	100	100	100
cM capacity (veh/h)	346			622			45	16	466	32	24	355
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1				
Volume Total	727	379	5	733	733	301	5	0				
Volume Left	0	0	5	0	0	0	0	0				
Volume Right	0	15	0	0	0	301	5	0				
cSH	1700	1700	622	1700	1700	1700	466	1700				
Volume to Capacity	0.43	0.22	0.01	0.43	0.43	0.18	0.01	0.00				
Queue Length 95th (ft)	0	0	1	0	0	0	1	0				
Control Delay (s)	0.0	0.0	10.8	0.0	0.0	0.0	12.8	0.0				
Lane LOS			B				B	A				
Approach Delay (s)	0.0		0.0				12.8	0.0				
Approach LOS							B	A				
Intersection Summary												
Average Delay			0.0									
Intersection Capacity Utilization			48.8%	ICU Level of Service					A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 3: Melody Ln & School St

N Wenatchee Ave
2018 PM Peak Hour - Full Build

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	17	1	297	0	10	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	20	1	358	0	12	0
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	392	368			363	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	392	368			363	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			99	
cM capacity (veh/h)	601	672			1191	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	22	358	12			
Volume Left	20	0	12			
Volume Right	1	0	0			
cSH	605	1700	1191			
Volume to Capacity	0.04	0.21	0.01			
Queue Length 95th (ft)	3	0	1			
Control Delay (s)	11.2	0.0	8.1			
Lane LOS	B		A			
Approach Delay (s)	11.2	0.0	8.1			
Approach LOS	B					
Intersection Summary						
Average Delay		0.9				
Intersection Capacity Utilization		27.2%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 4: Peters St & School St

N Wenatchee Ave
2018 PM Peak Hour - Full Build

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	5	7	260	23	6	25
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	7	277	24	6	27
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	338	299			306	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	338	299			306	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			99	
cM capacity (veh/h)	649	735			1249	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	13	301	33			
Volume Left	5	0	6			
Volume Right	7	24	0			
cSH	696	1700	1249			
Volume to Capacity	0.02	0.18	0.01			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	10.3	0.0	1.6			
Lane LOS	B		A			
Approach Delay (s)	10.3	0.0	1.6			
Approach LOS	B					
Intersection Summary						
Average Delay		0.5				
Intersection Capacity Utilization		26.7%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

5: Easy St & School St

N Wenatchee Ave

2018 PM Peak Hour - Full Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	15	180	6	6	60	72	177	100	10	105	15	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	16	188	6	6	62	75	184	104	10	109	16	7
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	142			199			359	382	201	407	348	110
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	142			199			359	382	201	407	348	110
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			67	81	99	76	97	99
cM capacity (veh/h)	1434			1368			564	538	833	454	562	936
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	209	144	299	132								
Volume Left	16	6	184	109								
Volume Right	6	75	10	7								
cSH	1434	1368	561	479								
Volume to Capacity	0.01	0.00	0.53	0.28								
Queue Length 95th (ft)	1	0	78	28								
Control Delay (s)	0.6	0.4	18.5	15.4								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.6	0.4	18.5	15.4								
Approach LOS			C	C								
Intersection Summary												
Average Delay	9.9											
Intersection Capacity Utilization	37.8%			ICU Level of Service			A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

6: Peters St & Easy St

N Wenatchee Ave

2018 PM Peak Hour - Full Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	6	35	53	5	37	30	137	96	26	307	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	6	38	57	5	40	32	147	103	28	330	0
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	702	711	340	700	659	209	335			256		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	702	711	340	700	659	209	335			256		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	98	95	82	99	95	97			98		
cM capacity (veh/h)	315	338	696	313	362	824	1219			1304		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	44	102	283	358								
Volume Left	0	57	32	28								
Volume Right	38	40	103	0								
cSH	603	417	1219	1304								
Volume to Capacity	0.07	0.25	0.03	0.02								
Queue Length 95th (ft)	6	24	2	2								
Control Delay (s)	11.4	16.4	1.1	0.8								
Lane LOS	B	C	A	A								
Approach Delay (s)	11.4	16.4	1.1	0.8								
Approach LOS	B	C										
Intersection Summary												
Average Delay	3.5											
Intersection Capacity Utilization	41.0%			ICU Level of Service			A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

7: Ohme Garden Rd & Easy St

N Wenatchee Ave

2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	5	36	124	5	10	29	296	98	5	412	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	6	40	138	6	11	32	329	109	6	458	7
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								401				
pX, platoon unblocked	0.96	0.96		0.96	0.96	0.96				0.96		
vC, conflicting volume	944	984	471	973	933	393	469			443		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	920	963	471	950	909	346	469			398		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	98	93	32	98	98	97			99		
cM capacity (veh/h)	224	235	588	202	252	663	1088			1109		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	51	154	470	470								
Volume Left	6	138	32	6								
Volume Right	40	11	109	7								
cSH	439	214	1088	1109								
Volume to Capacity	0.12	0.72	0.03	0.01								
Queue Length 95th (ft)	10	119	2	0								
Control Delay (s)	14.3	55.9	0.9	0.2								
Lane LOS	B	F	A	A								
Approach Delay (s)	14.3	55.9	0.9	0.2								
Approach LOS	B	F										
Intersection Summary												
Average Delay		8.6										
Intersection Capacity Utilization		61.3%		ICU Level of Service					B			
Analysis Period (min)		15										

HCM Signalized Intersection Capacity Analysis

8: SR 2 & Easy St

N Wenatchee Ave

2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	115	650	49	113	896	143	143	110	266	106	127	363
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1557	1770	3539	1540	1770	1863	1550	1770	1863	1557
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1557	1770	3539	1540	1770	1863	1550	1770	1863	1557
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	128	722	54	126	996	159	159	122	296	118	141	403
RTOR Reduction (vph)	0	0	28	0	0	61	0	0	189	0	0	0
Lane Group Flow (vph)	128	722	26	126	996	98	159	122	107	118	141	403
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Actuated Green, G (s)	14.4	45.9	45.9	16.1	47.6	47.6	17.2	45.4	45.4	14.4	42.6	42.6
Effective Green, g (s)	14.4	45.9	45.9	16.1	47.6	47.6	17.2	45.4	45.4	14.4	42.6	42.6
Actuated g/C Ratio	0.10	0.32	0.32	0.11	0.33	0.33	0.12	0.32	0.32	0.10	0.30	0.30
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0	5.0	5.0	4.0	5.0	5.0	3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)	178	1138	500	200	1180	513	213	592	493	178	556	464
v/s Ratio Prot	c0.07	0.20		0.07	c0.28		c0.09	0.07		0.07	0.08	
v/s Ratio Perm			0.02			0.06			c0.07			c0.26
v/c Ratio	0.72	0.63	0.05	0.63	0.84	0.19	0.75	0.21	0.22	0.66	0.25	0.87
Uniform Delay, d1	62.2	41.3	33.4	60.5	44.2	33.9	60.7	35.5	35.7	61.9	38.0	47.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.9	1.6	0.1	7.1	6.3	0.4	13.3	0.2	0.3	8.9	0.3	16.2
Delay (s)	76.1	42.9	33.5	67.6	50.4	34.3	74.0	35.8	36.0	70.8	38.4	63.6
Level of Service	E	D	C	E	D	C	E	D	D	E	D	E
Approach Delay (s)		47.1			50.1			46.4			59.5	
Approach LOS		D			D			D			E	
Intersection Summary												
HCM Average Control Delay		50.5			HCM Level of Service			D				
HCM Volume to Capacity ratio		0.82										
Actuated Cycle Length (s)		142.8			Sum of lost time (s)			20.0				
Intersection Capacity Utilization		69.0%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 9: Penny Rd & Easy St

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱	↱		↰			↰	↱
Volume (vph)	42	15	0	0	356	108	0	0	0	58	0	209
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5					4.5	4.5
Lane Util. Factor		1.00			1.00	1.00					0.95	0.95
Flpb, ped/bikes		1.00			1.00	0.98					0.99	0.98
Flpb, ped/bikes		1.00			1.00	1.00					1.00	1.00
Frt		1.00			1.00	0.85					0.91	0.85
Flt Protected		0.96			1.00	1.00					0.98	1.00
Satd. Flow (prot)		1793			1863	1556					1564	1474
Flt Permitted		0.62			1.00	1.00					0.98	1.00
Satd. Flow (perm)		1154			1863	1556					1564	1474
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	54	19	0	0	456	138	0	0	0	74	0	268
RTOR Reduction (vph)	0	0	0	0	0	84	0	0	0	0	48	134
Lane Group Flow (vph)	0	73	0	0	456	54	0	0	0	0	128	32
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm				Perm	Split		Split		Split		Perm
Protected Phases		6			2		4	4		8	8	
Permitted Phases	6					2						8
Actuated Green, G (s)		21.5			21.5	21.5				10.4	10.4	
Effective Green, g (s)		21.5			21.5	21.5				10.4	10.4	
Actuated g/C Ratio		0.39			0.39	0.39				0.19	0.19	
Clearance Time (s)		4.5			4.5	4.5				4.5	4.5	
Vehicle Extension (s)		2.5			2.5	2.5				2.5	2.5	
Lane Grp Cap (vph)		453			731	610				297	280	
v/s Ratio Prot					c0.24					c0.08		
v/s Ratio Perm		0.06				0.03						0.02
v/c Ratio		0.16			0.62	0.09				0.43	0.11	
Uniform Delay, d1		10.8			13.4	10.5				19.6	18.4	
Progression Factor		1.00			1.00	1.00				1.00	1.00	
Incremental Delay, d2		0.1			1.4	0.0				0.7	0.1	
Delay (s)		10.9			14.8	10.5				20.3	18.5	
Level of Service		B			B	B				C	B	
Approach Delay (s)		10.9			13.8			0.0		19.4		
Approach LOS		B			B			A		B		
Intersection Summary												
HCM Average Control Delay		15.5			HCM Level of Service					B		
HCM Volume to Capacity ratio		0.56										
Actuated Cycle Length (s)		54.8			Sum of lost time (s)				22.9			
Intersection Capacity Utilization		52.1%			ICU Level of Service				A			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 10: Technology center Dr & SR 285 Off-Ramp

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↰	↱			
Volume (veh/h)	0	54	612	70	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	62	703	80	0	0
Pedestrians		5				5
Lane Width (ft)	12.0		12.0			0.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type		None				None
Median storage (veh)						
Upstream signal (ft)						831
pX, platoon unblocked						
vC, conflicting volume	754	754			789	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	754	754			789	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	85			100	
cM capacity (veh/h)	374	408			827	
Direction, Lane #						
	WB 1	NB 1				
Volume Total	62	784				
Volume Left	0	0				
Volume Right	62	80				
cSH	408	1700				
Volume to Capacity	0.15	0.46				
Queue Length 95th (ft)	13	0				
Control Delay (s)	15.4	0.0				
Lane LOS	C					
Approach Delay (s)	15.4	0.0				
Approach LOS	C					
Intersection Summary						
Average Delay		1.1				
Intersection Capacity Utilization		48.5%			ICU Level of Service	A
Analysis Period (min)		15				

HCM Signalized Intersection Capacity Analysis

11: Cordell Ave & Penny Rd

N Wenatchee Ave

2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	25	22	455	78	96	0	0	0	27	31	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0						3.5	
Lane Util. Factor		1.00		0.95	0.95						1.00	
Flpb, ped/bikes		0.99		1.00	0.99						1.00	
Flpb, ped/bikes		1.00		1.00	1.00						1.00	
Frt		0.94		1.00	0.95						0.99	
Flt Protected		1.00		0.95	0.98						0.98	
Satd. Flow (prot)		1722		1681	1637						1802	
Flt Permitted		1.00		0.95	0.98						0.98	
Satd. Flow (perm)		1722		1681	1637						1802	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	0	32	28	583	100	123	0	0	0	35	40	6
RTOR Reduction (vph)	0	25	0	0	11	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	35	0	408	387	0	0	0	0	0	78	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Split			Split						Split		
Protected Phases	6	6		2	2					8	8	
Permitted Phases												
Actuated Green, G (s)		3.8		24.0	24.0						7.2	
Effective Green, g (s)		4.3		24.5	24.5						7.7	
Actuated g/C Ratio		0.09		0.51	0.51						0.16	
Clearance Time (s)		4.5		4.5	4.5						4.0	
Vehicle Extension (s)		2.5		2.5	2.5						2.5	
Lane Grp Cap (vph)		154		858	836						289	
v/s Ratio Prot		c0.02		c0.24	0.24						c0.04	
v/s Ratio Perm												
v/c Ratio		0.22		0.48	0.46						0.27	
Uniform Delay, d1		20.3		7.6	7.5						17.7	
Progression Factor		1.00		1.00	1.00						1.00	
Incremental Delay, d2		0.5		0.3	0.3						0.4	
Delay (s)		20.8		7.9	7.8						18.1	
Level of Service		C		A	A						B	
Approach Delay (s)		20.8			7.9			0.0			18.1	
Approach LOS		C			A			A			B	
Intersection Summary												
HCM Average Control Delay			9.6			HCM Level of Service			A			
HCM Volume to Capacity ratio			0.40									
Actuated Cycle Length (s)			48.0			Sum of lost time (s)			11.5			
Intersection Capacity Utilization			42.0%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

12: Peters St & Burch Mountain Rd

N Wenatchee Ave

2018 PM Peak Hour - Full Build

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	112	26	25	4	4	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	115	27	26	4	4	5
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	35				296	38
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	35				296	38
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				99	99
cM capacity (veh/h)	1570				639	1026
Direction, Lane #						
Volume Total	142	30	9			
Volume Left	115	0	4			
Volume Right	0	4	5			
cSH	1570	1700	808			
Volume to Capacity	0.07	0.02	0.01			
Queue Length 95th (ft)	6	0	1			
Control Delay (s)	6.2	0.0	9.5			
Lane LOS	A		A			
Approach Delay (s)	6.2	0.0	9.5			
Approach LOS			A			
Intersection Summary						
Average Delay			5.3			
Intersection Capacity Utilization			25.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 13: Peters St & Ohme Garden Rd

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (veh/h)	10	0	0	0	0	0	0	78	0	5	65	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	11	0	0	0	0	0	0	88	0	6	73	0
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	182	182	83	182	182	98	78			93		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	182	182	83	182	182	98	78			93		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	100	100	100	100			100		
cM capacity (veh/h)	766	704	968	766	704	950	1514			1496		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	11	0	88	79								
Volume Left	11	0	0	6								
Volume Right	0	0	0	0								
cSH	766	1700	1514	1496								
Volume to Capacity	0.01	0.00	0.00	0.00								
Queue Length 95th (ft)	1	0	0	0								
Control Delay (s)	9.8	0.0	0.0	0.6								
Lane LOS	A	A		A								
Approach Delay (s)	9.8	0.0	0.0	0.6								
Approach LOS	A	A										
Intersection Summary												
Average Delay			0.9									
Intersection Capacity Utilization			20.0%			ICU Level of Service		A				
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 14: Ohme Garden Rd & Ohme Rd

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (veh/h)	10	47	70	10	49	1	80	0	10	34	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	11	52	77	11	54	1	88	0	11	37	0	0
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	60			134			198	199	100	209	237	64
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	60			134			198	199	100	209	237	64
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			88	100	99	95	100	100
cM capacity (veh/h)	1537			1445			741	681	947	720	649	992
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	140	66	99	37								
Volume Left	11	11	88	37								
Volume Right	77	1	11	0								
cSH	1537	1445	759	720								
Volume to Capacity	0.01	0.01	0.13	0.05								
Queue Length 95th (ft)	1	1	11	4								
Control Delay (s)	0.6	1.3	10.5	10.3								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.6	1.3	10.5	10.3								
Approach LOS			B	B								
Intersection Summary												
Average Delay			4.7									
Intersection Capacity Utilization			22.1%			ICU Level of Service		A				
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
15: Gunn Rd & Euclid Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	91	19	17	510	210	64
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	117	24	22	654	269	82
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1018	320	356			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1018	320	356			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	54	97	98			
cM capacity (veh/h)	256	715	1197			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	117	24	22	654	351	
Volume Left	117	0	22	0	0	
Volume Right	0	24	0	0	82	
cSH	256	715	1197	1700	1700	
Volume to Capacity	0.46	0.03	0.02	0.38	0.21	
Queue Length 95th (ft)	56	3	1	0	0	
Control Delay (s)	30.3	10.2	8.1	0.0	0.0	
Lane LOS	D	B	A			
Approach Delay (s)	26.8		0.3		0.0	
Approach LOS	D					
Intersection Summary						
Average Delay			3.4			
Intersection Capacity Utilization			39.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
16: Penny Rd & Euclid Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	312	0	50	189	80	85
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	416	0	67	252	107	113
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			421		811	426
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			421		811	426
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		67	82
cM capacity (veh/h)			1133		325	623
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	416	67	252	220		
Volume Left	0	67	0	107		
Volume Right	0	0	0	113		
cSH	1700	1133	1700	432		
Volume to Capacity	0.24	0.06	0.15	0.51		
Queue Length 95th (ft)	0	5	0	70		
Control Delay (s)	0.0	8.4	0.0	21.7		
Lane LOS		A		C		
Approach Delay (s)	0.0	1.8		21.7		
Approach LOS				C		
Intersection Summary						
Average Delay			5.6			
Intersection Capacity Utilization			40.2%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis
17: Horse Lake Rd & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	143	0	23	35	29	212	40	1733	0	14	1708	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	6.0		5.0	6.0	6.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Flpb, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1757	1552		1808	1552	1770	3539		1770	3539	1583
Flt Permitted		0.71	1.00		0.64	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1318	1552		1197	1552	1770	3539		1770	3539	1583
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)	151	0	24	37	31	223	42	1824	0	15	1798	305
RTOR Reduction (vph)	0	0	20	0	0	73	0	0	0	0	0	70
Lane Group Flow (vph)	0	151	4	0	68	150	42	1824	0	15	1798	235
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm		Perm	Perm		Perm	Prot		Prot	Prot		Prot
Protected Phases		4			8		5	2	2	1	6	6
Permitted Phases	4		4	8		8						
Actuated Green, G (s)		19.2	19.2		19.2	19.2	6.5	92.7		2.1	88.3	88.3
Effective Green, g (s)		19.2	19.2		19.2	19.2	6.5	92.7		2.1	88.3	88.3
Actuated g/C Ratio		0.15	0.15		0.15	0.15	0.05	0.71		0.02	0.68	0.68
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	6.0		5.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		195	229		177	229	89	2524		29	2404	1075
v/s Ratio Prot							c0.02	c0.52		0.01	c0.51	0.15
v/s Ratio Perm		c0.11	0.00		0.06	0.10						
v/c Ratio		0.77	0.02		0.38	0.65	0.47	0.72		0.52	0.75	0.22
Uniform Delay, d1		53.3	47.3		50.1	52.3	60.1	11.0		63.4	13.6	7.9
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		17.3	0.0		1.4	6.6	3.9	1.8		14.7	2.2	0.5
Delay (s)		70.6	47.4		51.4	58.8	64.0	12.9		78.1	15.8	8.3
Level of Service		E	D		D	E	E	B		E	B	A
Approach Delay (s)		67.4			57.1			14.0			15.1	
Approach LOS		E			E			B			B	
Intersection Summary												
HCM Average Control Delay			19.5		HCM Level of Service					B		
HCM Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			130.0		Sum of lost time (s)					22.0		
Intersection Capacity Utilization			85.7%		ICU Level of Service					E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
18: REF Dwy 1 & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↰	↱	↰	↱
Volume (veh/h)	0	0	0	0	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			388			343
pX, platoon unblocked						
vC, conflicting volume	10	10			5	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	10	10			5	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	1000	1060			1608	
Direction, Lane #						
	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization		16.4%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Signalized Intersection Capacity Analysis

19: Maiden Ln & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

						
Movement	EBL	EBR	NBL	NBT	SBL	SBR
Lane Configurations						
Volume (vph)	370	174	25	192	1414	1600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		5.0	5.0	5.0
Lane Util. Factor	0.97	1.00		*0.75	0.95	1.00
Frbp, 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	1.00	0.85		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1583		2654	3539	1555
Flt Permitted	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1583		2654	3539	1555
Peak-hour factor, PHF	0.96	0.96	0.92	0.96	0.96	0.96
Adj. Flow (vph)	385	181	27	200	1473	1667
RTOR Reduction (vph)	0	134	0	0	0	52
Lane Group Flow (vph)	385	47	0	227	1473	154
Confl. Peds. (#/hr)	5	5	5	5		5
Turn Type		Prot	Prot	Prot		Perm
Protected Phases	4	4	5	5	2	6
Permitted Phases						6
Actuated Green, G (s)	20.4	20.4		15.6	100.6	80.0
Effective Green, g (s)	20.4	20.4		15.6	100.6	80.0
Actuated g/C Ratio	0.16	0.16		0.12	0.77	0.62
Clearance Time (s)	4.0	4.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	539	248		318	2739	2178
v/s Ratio Prot	c0.11	0.03		c0.09	0.42	c0.47
v/s Ratio Perm						0.10
v/c Ratio	0.71	0.19		0.71	0.54	0.77
Uniform Delay, d1	52.0	47.6		55.1	5.7	18.2
Progression Factor	0.99	1.22		1.00	1.00	1.00
Incremental Delay, d2	4.4	0.4		7.4	0.8	2.6
Delay (s)	56.0	58.7		62.4	6.5	20.8
Level of Service	E	E		E	A	C
Approach Delay (s)	56.9				13.9	19.7
Approach LOS	E				B	B
Intersection Summary						
HCM Average Control Delay			22.4		HCM Level of Service	C
HCM Volume to Capacity ratio			0.75			
Actuated Cycle Length (s)			130.0		Sum of lost time (s)	14.0
Intersection Capacity Utilization			78.8%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

20: REF Dwy 2 & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

[illegible]

HCM Signalized Intersection Capacity Analysis 21: Hawley St & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	21	45	55	21	285	66	1568	35	179	1366	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Flpb, ped/bikes		1.00	0.98		1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1782	1553		1790	1569	1770	3525		1770	3477	
Flt Permitted		0.67	1.00		0.63	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1239	1553		1166	1569	1770	3525		1770	3477	
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)	84	22	47	58	22	300	69	1651	37	188	1438	155
RTOR Reduction (vph)	0	0	41	0	0	13	0	1	0	0	5	0
Lane Group Flow (vph)	0	106	6	0	80	287	69	1687	0	188	1588	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm		Perm	Perm		pm+ov	Prot			Prot		
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8		8	4		4						
Actuated Green, G (s)		17.9	17.9		17.9	37.8	9.4	80.2		19.9	90.7	
Effective Green, g (s)		17.9	17.9		17.9	37.8	9.4	80.2		19.9	90.7	
Actuated g/C Ratio		0.14	0.14		0.14	0.29	0.07	0.62		0.15	0.70	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		171	214		161	504	128	2175		271	2426	
v/s Ratio Prot						c0.09	0.04	c0.48		c0.11	0.46	
v/s Ratio Perm		c0.09	0.00		0.07	0.10						
v/c Ratio		0.62	0.03		0.50	0.57	0.54	0.78		0.69	0.65	
Uniform Delay, d1		52.8	48.5		51.9	39.2	58.2	18.3		52.2	10.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		9.3	0.1		5.0	2.4	7.8	2.8		9.4	1.4	
Delay (s)		62.2	48.7		56.9	41.6	66.0	21.1		61.6	12.3	
Level of Service		E	D		E	D	E	C		E	B	
Approach Delay (s)		58.0			44.8			22.8			17.5	
Approach LOS		E			D			C			B	
Intersection Summary												
HCM Average Control Delay	23.9			HCM Level of Service					C			
HCM Volume to Capacity ratio	0.71											
Actuated Cycle Length (s)	130.0			Sum of lost time (s)					8.0			
Intersection Capacity Utilization	80.7%			ICU Level of Service					D			
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 22: REF Dwy 3 & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								559			548	
pX, platoon unblocked												
vC, conflicting volume	10	10	10	10	10	10	5			5		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	10	10	10	10	10	10	5			5		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	992	877	1060	992	877	1060	1608			1608		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	0	0	0	0	0	0	0	0		0		
Volume Left	0	0	0	0	0	0	0	0		0		
Volume Right	0	0	0	0	0	0	0	0		0		
cSH	1700	1700	1700	1700	1700	1700	1700	1700		1700		
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		
Queue Length 95th (ft)	0	0	0	0	0	0	0	0		0		
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		
Lane LOS	A	A										
Approach Delay (s)	0.0	0.0	0.0			0.0						
Approach LOS	A	A										
Intersection Summary												
Average Delay			0.0									
Intersection Capacity Utilization			16.4%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis 23: McKittrick St & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	39	1	89	5	5	5	107	1594	25	5	1468	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	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	0.98		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.92		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1762	1556		1770	1723		1770	3531		1770	3528	
Flt Permitted	0.43	1.00		0.70	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	798	1556		1297	1723		1770	3531		1770	3528	
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Adj. Flow (vph)	41	1	93	5	5	5	111	1660	27	5	1529	26
RTOR Reduction (vph)	0	82	0	0	5	0	0	1	0	0	1	0
Lane Group Flow (vph)	41	12	0	5	5	0	111	1686	0	5	1554	0
Confl. Peds. (#/hr)	5		5				5					5
Turn Type	pm+pt			pm+pt			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	21.9	15.6		8.0	6.7		12.6	91.7		1.4	80.5	
Effective Green, g (s)	21.9	15.6		8.0	6.7		12.6	91.7		1.4	80.5	
Actuated g/C Ratio	0.17	0.12		0.06	0.05		0.10	0.71		0.01	0.62	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	210	187		85	89		172	2491		19	2185	
v/s Ratio Prot	c0.02	0.01		0.00	0.00		c0.06	c0.48		0.00	c0.44	
v/s Ratio Perm	c0.02			0.00								
v/c Ratio	0.20	0.07		0.06	0.06		0.65	0.68		0.26	0.71	
Uniform Delay, d1	46.1	50.7		57.4	58.7		56.5	10.8		63.8	16.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1		0.3	0.3		8.0	1.5		7.3	2.0	
Delay (s)	46.6	50.9		57.7	58.9		64.6	12.3		71.1	18.8	
Level of Service	D	D		E	E		E	B		E	B	
Approach Delay (s)		49.6			58.5			15.5			19.0	
Approach LOS		D			E			B			B	
Intersection Summary												
HCM Average Control Delay		18.6			HCM Level of Service			B				
HCM Volume to Capacity ratio		0.63										
Actuated Cycle Length (s)		130.0			Sum of lost time (s)			20.0				
Intersection Capacity Utilization		71.5%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 24: REF Dwy 4 & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								836			786	
pX, platoon unblocked												
vC, conflicting volume	10	10	10	10	10	10	5			5		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	10	10	10	10	10	10	5			5		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	992	877	1060	992	877	1060	1608			1608		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	0	0	0	0	0	0	0	0				
Volume Left	0	0	0	0	0	0	0	0				
Volume Right	0	0	0	0	0	0	0	0				
cSH	1700	1700	1700	1700	1700	1700	1700	1700				
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Queue Length 95th (ft)	0	0	0	0	0	0	0	0				
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Lane LOS	A	A										
Approach Delay (s)	0.0	0.0	0.0			0.0						
Approach LOS	A	A										
Intersection Summary												
Average Delay		0.0										
Intersection Capacity Utilization		16.4%			ICU Level of Service			A				
Analysis Period (min)		15										

HCM Signalized Intersection Capacity Analysis 25: Maple St & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	46	147	0	0	57	181	1383	10	36	1415	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0				4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00				1.00	1.00	0.95		1.00	0.91	
Frpb, ped/bikes	1.00	0.99				0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00				1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.89				0.86	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00				1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1756	1626				1580	1770	3535		1770	4996	
Flt Permitted	0.95	1.00				1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1756	1626				1580	1770	3535		1770	4996	
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)	173	47	150	0	0	58	185	1411	10	37	1444	154
RTOR Reduction (vph)	0	97	0	0	0	49	0	0	0	0	8	0
Lane Group Flow (vph)	173	100	0	0	0	9	185	1421	0	37	1590	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm					custom	Prot			Prot		
Protected Phases		8					1	6		5	2	
Permitted Phases	8					8						
Actuated Green, G (s)	20.6	20.6				20.6	20.6	91.3		6.1	76.8	
Effective Green, g (s)	20.6	20.6				20.6	20.6	91.3		6.1	76.8	
Actuated g/C Ratio	0.16	0.16				0.16	0.16	0.70		0.05	0.59	
Clearance Time (s)	4.0	4.0				4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	5.0	5.0				5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	278	258				250	280	2483		83	2951	
v/s Ratio Prot		0.06					c0.10	c0.40		0.02	0.32	
v/s Ratio Perm	c0.10					0.01						
v/c Ratio	0.62	0.39				0.04	0.66	0.57		0.45	0.54	
Uniform Delay, d1	51.1	49.1				46.3	51.4	9.6		60.3	16.0	
Progression Factor	1.00	1.00				1.00	1.10	0.42		1.00	1.00	
Incremental Delay, d2	6.0	2.0				0.1	4.7	0.6		7.8	0.7	
Delay (s)	57.1	51.1				46.4	61.1	4.6		68.1	16.7	
Level of Service	E	D				D	E	A		E	B	
Approach Delay (s)		53.9			46.4			11.1			17.8	
Approach LOS		D			D			B			B	
Intersection Summary												
HCM Average Control Delay		19.0			HCM Level of Service			B				
HCM Volume to Capacity ratio		0.59										
Actuated Cycle Length (s)		130.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		66.1%			ICU Level of Service			C				
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis 26: Wenatchee Ave & Miller St

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	470	1116	0	492	13	1325	87	47	49	113	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	5.0	5.0	
Lane Util. Factor		0.95	0.88		0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.98		1.00		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00	1.00		1.00		0.95	0.96	1.00	0.95	1.00	
Satd. Flow (prot)		3539	2724		3523		1681	1695	1560	1770	1853	
Flt Permitted		1.00	1.00		1.00		0.95	0.96	1.00	0.95	1.00	
Satd. Flow (perm)		3539	2724		3523		1681	1695	1560	1770	1853	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	522	1240	0	547	14	1472	97	52	54	126	4
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	9	0	1	0
Lane Group Flow (vph)	0	522	1240	0	559	0	780	789	43	54	129	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type			Free				Split		Perm	Split		
Protected Phases		2			6		8	8		4	4	
Permitted Phases			Free						8			
Actuated Green, G (s)		26.1	130.0		26.1		78.2	78.2	78.2	12.7	12.7	
Effective Green, g (s)		26.1	130.0		26.1		78.2	78.2	78.2	12.7	12.7	
Actuated g/C Ratio		0.20	1.00		0.20		0.60	0.60	0.60	0.10	0.10	
Clearance Time (s)		4.0			4.0		4.0	4.0	4.0	5.0	5.0	
Vehicle Extension (s)		5.0			5.0		5.0	5.0	5.0	3.0	3.0	
Lane Grp Cap (vph)		711	2724		707		1011	1020	938	173	181	
v/s Ratio Prot		0.15			c0.16		0.46	c0.47		0.03	c0.07	
v/s Ratio Perm			0.46						0.03			
v/c Ratio		0.73	0.46		0.79		0.77	0.77	0.05	0.31	0.71	
Uniform Delay, d1		48.7	0.0		49.4		19.3	19.3	10.6	54.6	56.9	
Progression Factor		0.72	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		4.3	0.5		6.9		5.7	5.7	0.1	1.0	12.5	
Delay (s)		39.6	0.5		56.3		25.0	25.0	10.7	55.6	69.4	
Level of Service		D	A		E		C	C	B	E	E	
Approach Delay (s)		12.1			56.3			24.5			65.3	
Approach LOS		B			E			C			E	
Intersection Summary												
HCM Average Control Delay			25.3				HCM Level of Service			C		
HCM Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			130.0				Sum of lost time (s)			13.0		
Intersection Capacity Utilization			66.3%				ICU Level of Service			C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 27: REF Dwy 5 & Miller St

N Wenatchee Ave
2018 PM Peak Hour - Full Build

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				413	518	
pX, platoon unblocked						
vC, conflicting volume	10	10	5			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	10	10	5			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1000	1060	1608			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0			0.0	
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			16.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis 28: Albertsons/Mission St & Miller St

N Wenatchee Ave
2018 PM Peak Hour - Full Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	56	0	87	89	130	1089	25	527	0	0	1190	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor	1.00		1.00		1.00	0.88	1.00	0.95			0.91	
Flpb, ped/bikes	1.00		0.98		1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes	1.00		1.00		1.00	1.00	1.00	1.00			1.00	
Frt	1.00		0.85		1.00	0.85	1.00	1.00			1.00	
Flt Protected	0.95		1.00		0.98	1.00	0.95	1.00			1.00	
Satd. Flow (prot)	1770		1557		1826	2787	1770	3539			5077	
Flt Permitted	0.95		1.00		0.98	1.00	0.95	1.00			1.00	
Satd. Flow (perm)	1770		1557		1826	2787	1770	3539			5077	
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)	59	0	92	94	137	1146	26	555	0	0	1253	12
RTOR Reduction (vph)	0	0	84	0	0	257	0	0	0	0	1	0
Lane Group Flow (vph)	59	0	8	0	231	889	26	555	0	0	1264	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot		custom	Split		custom	Prot					
Protected Phases	3			4	4	4 5	1	6			2	
Permitted Phases			3									
Actuated Green, G (s)	7.2		7.2		21.3	36.4	1.2	24.4			34.3	
Effective Green, g (s)	7.2		7.2		21.3	36.4	1.2	24.4			34.3	
Actuated g/C Ratio	0.09		0.09		0.27	0.45	0.02	0.30			0.43	
Clearance Time (s)	4.0		4.0		4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0		3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	159		140		486	1268	27	1079			2177	
v/s Ratio Prot	c0.03				0.13	c0.32	0.01	0.16			c0.25	
v/s Ratio Perm			0.01									
v/c Ratio	0.37		0.06		0.48	0.70	0.96	0.51			0.58	
Uniform Delay, d1	34.3		33.3		24.7	17.4	39.4	22.9			17.4	
Progression Factor	1.00		1.00		1.00	1.00	1.57	0.42			1.00	
Incremental Delay, d2	1.5		0.2		0.7	1.8	138.8	1.4			1.1	
Delay (s)	35.7		33.5		25.4	19.2	200.5	11.0			18.5	
Level of Service	D		C		C	B	F	B			B	
Approach Delay (s)		34.4			20.3			19.5			18.5	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM Average Control Delay			20.1		HCM Level of Service			C				
HCM Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			80.0		Sum of lost time (s)			8.0				
Intersection Capacity Utilization			75.2%		ICU Level of Service			D				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
29: Springwater St & Miller St

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱				↰	↱		↰	↱	
Volume (vph)	55	225	139	0	0	0	299	528	42	818	489	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0				4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00				1.00	0.95		0.97	0.95	
Frpb, ped/bikes		1.00	0.98				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	0.85				1.00	0.99		1.00	0.97	
Flt Protected		0.99	1.00				0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1845	1557				1770	3496		3433	3403	
Flt Permitted		0.99	1.00				0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1845	1557				1770	3496		3433	3403	
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)	57	234	145	0	0	0	311	550	44	852	509	142
RTOR Reduction (vph)	0	0	113	0	0	0	0	8	0	0	28	0
Lane Group Flow (vph)	0	291	32	0	0	0	311	586	0	852	623	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Split		Perm				Split			Split		
Protected Phases	8	8					1	1		2	2	
Permitted Phases			8									
Actuated Green, G (s)		17.5	17.5				19.4	19.4		31.1	31.1	
Effective Green, g (s)		17.5	17.5				19.4	19.4		31.1	31.1	
Actuated g/C Ratio		0.22	0.22				0.24	0.24		0.39	0.39	
Clearance Time (s)		4.0	4.0				4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0				3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		404	341				429	848		1335	1323	
v/s Ratio Prot		c0.16					c0.18	0.17		c0.25	0.18	
v/s Ratio Perm			0.02									
v/c Ratio		0.72	0.09				0.72	0.69		0.64	0.47	
Uniform Delay, d1		29.0	24.9				27.8	27.6		19.9	18.3	
Progression Factor		1.00	1.00				1.00	1.00		0.40	0.32	
Incremental Delay, d2		6.2	0.1				6.0	2.5		2.1	1.1	
Delay (s)		35.2	25.0				33.8	30.0		10.1	6.8	
Level of Service		D	C				C	C		B	A	
Approach Delay (s)		31.8			0.0		31.3			8.7		
Approach LOS		C			A		C			A		
Intersection Summary												
HCM Average Control Delay		19.4			HCM Level of Service					B		
HCM Volume to Capacity ratio		0.68										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		71.7%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
30: 9th St & Chelan Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱		↰	↱		↰	↱
Volume (vph)	0	150	163	137	377	0	0	0	0	86	1023	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5						5.1	
Lane Util. Factor		0.95			0.95						0.91	
Frpb, ped/bikes		0.99			1.00						1.00	
Flpb, ped/bikes		1.00			1.00						1.00	
Frt		0.92			1.00						0.99	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		3234			3490						5027	
Flt Permitted		1.00			0.76						1.00	
Satd. Flow (perm)		3234			2682						5027	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	163	177	149	410	0	0	0	0	93	1112	57
RTOR Reduction (vph)	0	25	0	0	0	0	0	0	0	0	9	0
Lane Group Flow (vph)	0	315	0	0	559	0	0	0	0	0	1253	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type				Perm						Perm		
Protected Phases		8			4						2	
Permitted Phases				4							2	
Actuated Green, G (s)		22.0			22.0						27.4	
Effective Green, g (s)		22.0			22.0						27.4	
Actuated g/C Ratio		0.37			0.37						0.46	
Clearance Time (s)		5.5			5.5						5.1	
Lane Grp Cap (vph)		1186			983						2296	
v/s Ratio Prot		0.10										
v/s Ratio Perm					c0.21						0.25	
v/c Ratio		0.27			0.57						0.55	
Uniform Delay, d1		13.3			15.2						11.8	
Progression Factor		1.00			1.10						1.00	
Incremental Delay, d2		0.5			2.1						0.9	
Delay (s)		13.9			18.8						12.7	
Level of Service		B			B						B	
Approach Delay (s)		13.9			18.8			0.0			12.7	
Approach LOS		B			B			A			B	
Intersection Summary												
HCM Average Control Delay		14.5			HCM Level of Service					B		
HCM Volume to Capacity ratio		0.56										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)			10.6				
Intersection Capacity Utilization		68.3%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 31: 5th St & Chelan Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑						↑↑	
Volume (vph)	0	198	322	115	455	0	0	0	0	83	1261	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		5.5			5.5						5.1	
Lane Util. Factor		0.95			0.95						0.91	
Frpb, ped/bikes		0.99			1.00						1.00	
Flpb, ped/bikes		1.00			1.00						1.00	
Frt		0.91			1.00						0.98	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		2669			2942						4049	
Flt Permitted		1.00			0.71						1.00	
Satd. Flow (perm)		2669			2102						4049	
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	208	339	121	479	0	0	0	0	87	1327	158
RTOR Reduction (vph)	0	13	0	0	0	0	0	0	0	0	23	0
Lane Group Flow (vph)	0	534	0	0	600	0	0	0	0	0	1549	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Parking (#/hr)										0	0	0
Turn Type		Perm								Perm		
Protected Phases		8			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		22.0			22.0						27.4	
Effective Green, g (s)		22.0			22.0						27.4	
Actuated g/C Ratio		0.37			0.37						0.46	
Clearance Time (s)		5.5			5.5						5.1	
Lane Grp Cap (vph)		979			771						1849	
v/s Ratio Prot		0.20										
v/s Ratio Perm					c0.29						0.38	
v/c Ratio		0.55			0.78						0.84	
Uniform Delay, d1		15.0			16.8						14.3	
Progression Factor		1.00			0.93						0.62	
Incremental Delay, d2		2.2			4.7						4.3	
Delay (s)		17.2			20.4						13.2	
Level of Service		B			C						B	
Approach Delay (s)		17.2			20.4		0.0				13.2	
Approach LOS		B			C		A				B	
Intersection Summary												
HCM Average Control Delay		15.6			HCM Level of Service		B					
HCM Volume to Capacity ratio		0.81										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)		10.6					
Intersection Capacity Utilization		84.0%			ICU Level of Service		E					
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 32: 9th St & Mission St

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑			↑↑↑				
Volume (vph)	61	176	0	0	262	70	264	1163	95	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9			4.9				
Lane Util. Factor		0.95			0.95			0.91				
Frpb, ped/bikes		1.00			1.00			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.97			0.99				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		3492			3415			4985				
Flt Permitted		0.79			1.00			0.99				
Satd. Flow (perm)		2796			3415			4985				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	191	0	0	285	76	287	1264	103	0	0	0
RTOR Reduction (vph)	0	0	0	0	27	0	0	13	0	0	0	0
Lane Group Flow (vph)	0	257	0	0	334	0	0	1641	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm					Perm						
Protected Phases		4			8			6				
Permitted Phases	4							6				
Actuated Green, G (s)		19.1			19.1			31.1				
Effective Green, g (s)		19.1			19.1			31.1				
Actuated g/C Ratio		0.32			0.32			0.52				
Clearance Time (s)		4.9			4.9			4.9				
Lane Grp Cap (vph)		890			1087			2584				
v/s Ratio Prot					c0.10							
v/s Ratio Perm		0.09						0.33				
v/c Ratio		0.29			0.31			0.64				
Uniform Delay, d1		15.4			15.5			10.4				
Progression Factor		1.02			1.00			0.31				
Incremental Delay, d2		0.8			0.7			0.3				
Delay (s)		16.4			16.2			3.5				
Level of Service		B			B			A				
Approach Delay (s)		16.4			16.2			3.5			0.0	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM Average Control Delay		6.9			HCM Level of Service		A					
HCM Volume to Capacity ratio		0.51										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)		9.8					
Intersection Capacity Utilization		74.4%			ICU Level of Service		D					
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 33: 5th St & Mission St

N Wenatchee Ave
2018 PM Peak Hour - Full Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			  				
Volume (vph)	70	177	0	0	218	53	357	1408	83	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.9			4.9			4.9				
Lane Util. Factor		0.95			0.95			0.91				
Frpb, ped/bikes		1.00			1.00			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.97			0.99				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		2929			2876			4055				
Flt Permitted		0.78			1.00			0.99				
Satd. Flow (perm)		2307			2876			4055				
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	83	211	0	0	260	63	425	1676	99	0	0	0
RTOR Reduction (vph)	0	0	0	0	9	0	0	8	0	0	0	0
Lane Group Flow (vph)	0	294	0	0	314	0	0	2192	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Parking (#/hr)							0	0	0			
Turn Type	Perm						Perm					
Protected Phases	8			4			6					
Permitted Phases	8						6					
Actuated Green, G (s)	19.1			19.1			31.1					
Effective Green, g (s)	19.1			19.1			31.1					
Actuated g/C Ratio	0.32			0.32			0.52					
Clearance Time (s)	4.9			4.9			4.9					
Lane Grp Cap (vph)	734			916			2102					
v/s Ratio Prot				0.11								
v/s Ratio Perm	c0.13						0.54					
v/c Ratio	0.40			0.34			1.04					
Uniform Delay, d1	16.0			15.6			14.4					
Progression Factor	1.00			1.00			1.00					
Incremental Delay, d2	1.6			1.0			31.8					
Delay (s)	17.6			16.7			46.3					
Level of Service	B			B			D					
Approach Delay (s)	17.6			16.7			46.3			0.0		
Approach LOS	B			B			D			A		
Intersection Summary												
HCM Average Control Delay	39.9			HCM Level of Service			D					
HCM Volume to Capacity ratio	0.80											
Actuated Cycle Length (s)	60.0			Sum of lost time (s)			9.8					
Intersection Capacity Utilization	84.8%			ICU Level of Service			E					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 34: 9th St & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Volume (vph)	64	108	64	60	190	15	69	402	42	2	549	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Flrb, 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		0.96			0.99		1.00	0.99		1.00	0.98	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3335			3465		1770	3484		1770	3444	
Flt Permitted		0.81			0.84		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2751			2943		1770	3484		1770	3444	
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)	67	114	67	63	200	16	73	423	44	2	578	113
RTOR Reduction (vph)	0	43	0	0	5	0	0	7	0	0	16	0
Lane Group Flow (vph)	0	205	0	0	274	0	73	460	0	2	675	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)		13.6			13.6		5.3	22.3		1.0	18.0	
Effective Green, g (s)		13.6			13.6		5.3	22.3		1.0	18.0	
Actuated g/C Ratio		0.28			0.28		0.11	0.46		0.02	0.37	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		4.0			4.0		5.0	3.0		5.0	3.0	
Lane Grp Cap (vph)		765			819		192	1589		36	1268	
v/s Ratio Prot							c0.04	0.13		0.00	c0.20	
v/s Ratio Perm		0.07			c0.09							
v/c Ratio		0.27			0.33		0.38	0.29		0.06	0.53	
Uniform Delay, d1		13.8			14.0		20.3	8.3		23.5	12.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3			0.3		2.6	0.1		1.3	0.4	
Delay (s)		14.0			14.4		22.9	8.4		24.8	12.6	
Level of Service		B			B		C	A		C	B	
Approach Delay (s)		14.0			14.4			10.4			12.6	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM Average Control Delay			12.4		HCM Level of Service					B		
HCM Volume to Capacity ratio			0.44									
Actuated Cycle Length (s)			48.9		Sum of lost time (s)					12.0		
Intersection Capacity Utilization			55.6%		ICU Level of Service					B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 35: 5th St & Wenatchee Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Volume (vph)	55	98	82	44	80	66	87	414	30	70	464	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0		4.0		
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Flpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.95			0.95		1.00	0.99		1.00	0.98	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3297			3299		1770	3500		1770	3456	
Flt Permitted		0.84			0.84		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2818			2811		1770	3500		1770	3456	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	61	109	91	49	89	73	97	460	33	78	516	86
RTOR Reduction (vph)	0	68	0	0	54	0	0	5	0	0	14	0
Lane Group Flow (vph)	0	193	0	0	157	0	97	488	0	78	588	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)		11.0			11.0		4.8	15.2		4.4	14.8	
Effective Green, g (s)		11.0			11.0		4.8	15.2		4.4	14.8	
Actuated g/C Ratio		0.26			0.26		0.11	0.36		0.10	0.35	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		728			726		199	1249		183	1201	
v/s Ratio Prot							c0.05	0.14		0.04	c0.17	
v/s Ratio Perm		c0.07			0.06							
v/c Ratio		0.27			0.22		0.49	0.39		0.43	0.49	
Uniform Delay, d1		12.6			12.4		17.7	10.2		17.9	10.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			0.2		1.9	0.2		1.6	0.3	
Delay (s)		12.8			12.6		19.6	10.4		19.5	11.2	
Level of Service		B			B		B	B		B	B	
Approach Delay (s)		12.8			12.6			12.0			12.2	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM Average Control Delay		12.2			HCM Level of Service			B				
HCM Volume to Capacity ratio		0.41										
Actuated Cycle Length (s)		42.6			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		52.1%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 36: Walla Walla Ave & Miller St

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Volume (veh/h)	38	223	52	84	156	49
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	46	272	63	102	190	60
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	565	125			171	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	565	125			171	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	70			86	
cM capacity (veh/h)	417	918			1400	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	318	166	250			
Volume Left	46	0	190			
Volume Right	272	102	0			
cSH	781	1700	1400			
Volume to Capacity	0.41	0.10	0.14			
Queue Length 95th (ft)	50	0	12			
Control Delay (s)	12.7	0.0	6.3			
Lane LOS	B		A			
Approach Delay (s)	12.7	0.0	6.3			
Approach LOS	B					
Intersection Summary						
Average Delay		7.7				
Intersection Capacity Utilization		46.6%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 37: 5th St & Piere St

N Wenatchee Ave
2018 PM Peak Hour - Full Build

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	56	143	137	7	108	57
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	64	162	156	8	123	65
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		628				
pX, platoon unblocked						
vC, conflicting volume	169				459	170
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	169				459	170
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				77	93
cM capacity (veh/h)	1403				530	867
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	64	162	164	188		
Volume Left	64	0	0	123		
Volume Right	0	0	8	65		
cSH	1403	1700	1700	612		
Volume to Capacity	0.05	0.10	0.10	0.31		
Queue Length 95th (ft)	4	0	0	32		
Control Delay (s)	7.7	0.0	0.0	13.5		
Lane LOS	A			B		
Approach Delay (s)	2.2		0.0	13.5		
Approach LOS				B		
Intersection Summary						
Average Delay			5.2			
Intersection Capacity Utilization			32.1%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 38: Walnut St & Pine St

N Wenatchee Ave
2018 PM Peak Hour - Full Build

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	83	27	137	89	31	63
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	93	30	154	100	35	71
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)				396		
pX, platoon unblocked						
vC, conflicting volume			129		526	118
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			129		526	118
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			89		92	92
cM capacity (veh/h)			1451		454	926
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	124	154	100	106		
Volume Left	0	154	0	35		
Volume Right	30	0	0	71		
cSH	1700	1451	1700	689		
Volume to Capacity	0.07	0.11	0.06	0.15		
Queue Length 95th (ft)	0	9	0	13		
Control Delay (s)	0.0	7.8	0.0	11.2		
Lane LOS		A		B		
Approach Delay (s)	0.0	4.7		11.2		
Approach LOS				B		
Intersection Summary						
Average Delay			4.9			
Intersection Capacity Utilization			28.0%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 39: McKittrick St & Pine St

N Wenatchee Ave
2018 PM Peak Hour - Full Build

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	28	105	157	62	135	31
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	31	117	174	69	150	34
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	248				398	219
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	248				398	219
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				75	96
cM capacity (veh/h)	1312				588	814
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	148	243	184			
Volume Left	31	0	150			
Volume Right	0	69	34			
cSH	1312	1700	620			
Volume to Capacity	0.02	0.14	0.30			
Queue Length 95th (ft)	2	0	31			
Control Delay (s)	1.8	0.0	13.2			
Lane LOS	A		B			
Approach Delay (s)	1.8	0.0	13.2			
Approach LOS			B			
Intersection Summary						
Average Delay		4.7				
Intersection Capacity Utilization		39.5%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 40: Maple St & Princeton Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	173	83	98	228	11	108	0	69	6	1	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	0	201	97	114	265	13	126	0	80	7	1	2
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)					909							
pX, platoon unblocked												
vC, conflicting volume	283			303			755	765	259	791	807	282
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	283			303			755	765	259	791	807	282
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			91			58	100	90	97	100	100
cM capacity (veh/h)	1274			1253			296	300	773	253	284	751
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1					
Volume Total	0	298	114	278	126	80	10					
Volume Left	0	0	114	0	126	0	7					
Volume Right	0	97	0	13	0	80	2					
cSH	1700	1700	1253	1700	296	773	301					
Volume to Capacity	0.00	0.18	0.09	0.16	0.42	0.10	0.03					
Queue Length 95th (ft)	0	0	7	0	50	9	3					
Control Delay (s)	0.0	0.0	8.2	0.0	25.8	10.2	17.4					
Lane LOS			A		D	B	C					
Approach Delay (s)	0.0		2.4		19.7		17.4					
Approach LOS					C		C					
Intersection Summary												
Average Delay			5.7									
Intersection Capacity Utilization			38.7%		ICU Level of Service			A				
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 41: Springwater St & Princeton Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	31	180	6	30	286	120	6	94	30	87	74	56
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	35	205	7	34	325	136	7	107	34	99	84	64
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	466			216			855	818	218	837	753	403
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	466			216			855	818	218	837	753	403
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			97			96	63	96	47	73	90
cM capacity (veh/h)	1091			1348			188	291	815	185	317	642
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total	247	495	148	99	148							
Volume Left	35	34	7	99	0							
Volume Right	7	136	34	0	64							
cSH	1091	1348	331	185	405							
Volume to Capacity	0.03	0.03	0.45	0.53	0.36							
Queue Length 95th (ft)	3	2	55	69	41							
Control Delay (s)	1.5	0.8	24.3	44.7	18.9							
Lane LOS	A	A	C	E	C							
Approach Delay (s)	1.5	0.8	24.3	29.3								
Approach LOS			C	D								
Intersection Summary												
Average Delay			10.2									
Intersection Capacity Utilization			54.2%	ICU Level of Service					A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 42: 9th St & Princeton Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

																		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations																		
Volume (veh/h)	37	145	0	12	195	36	2	55	0	26	56	28						
Sign Control		Free			Free			Stop			Stop							
Grade		0%			0%			0%			0%							
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91						
Hourly flow rate (vph)	41	159	0	13	214	40	2	60	0	29	62	31						
Pedestrians		5			5			5			5							
Lane Width (ft)		12.0			12.0			12.0			12.0							
Walking Speed (ft/s)		4.0			4.0			4.0			4.0							
Percent Blockage		0			0			0			0							
Right turn flare (veh)																		
Median type		None			None													
Median storage (veh)																		
Upstream signal (ft)																		
pX, platoon unblocked																		
vC, conflicting volume	259			164				573	531	169	541	511	244					
vC1, stage 1 conf vol																		
vC2, stage 2 conf vol																		
vCu, unblocked vol	259			164				573	531	169	541	511	244					
tC, single (s)	4.1			4.1				7.1	6.5	6.2	7.1	6.5	6.2					
tC, 2 stage (s)																		
tF (s)	2.2			2.2				3.5	4.0	3.3	3.5	4.0	3.3					
p0 queue free %	97			99				99	86	100	93	86	96					
cM capacity (veh/h)	1300			1408				353	432	867	385	443	788					
Direction, Lane #	EB 1	WB 1	NB 1	SB 1														
Volume Total	200	267	63	121														
Volume Left	41	13	2	29														
Volume Right	0	40	0	31														
cSH	1300	1408	429	480														
Volume to Capacity	0.03	0.01	0.15	0.25														
Queue Length 95th (ft)	2	1	13	25														
Control Delay (s)	1.8	0.5	14.8	15.0														
Lane LOS	A	A	B	C														
Approach Delay (s)	1.8	0.5	14.8	15.0														
Approach LOS			B	C														
Intersection Summary																		
Average Delay			5.0															
Intersection Capacity Utilization			41.6%		ICU Level of Service					A								
Analysis Period (min)			15															

HCM Unsignalized Intersection Capacity Analysis 43: 5th St & Princeton Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	295	4	18	551	36	8	38	15	16	25	30
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	12	343	5	21	641	42	9	44	17	19	29	35
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	688			353			1132	1103	355	1122	1084	672
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	688			353			1132	1103	355	1122	1084	672
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			94	78	97	87	86	92
cM capacity (veh/h)	903			1201			143	203	683	143	208	452
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	359	703	71	83								
Volume Left	12	21	9	19								
Volume Right	5	42	17	35								
cSH	903	1201	230	238								
Volume to Capacity	0.01	0.02	0.31	0.35								
Queue Length 95th (ft)	1	1	31	37								
Control Delay (s)	0.4	0.5	27.4	27.9								
Lane LOS	A	A	D	D								
Approach Delay (s)	0.4	0.5	27.4	27.9								
Approach LOS			D	D								
Intersection Summary												
Average Delay			3.9									
Intersection Capacity Utilization			53.3%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis 45: 5th St & Miller St

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	94	242	56	211	380	59	90	585	97	74	493	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	0.97	1.00	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	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1535	1770	1863	1554	1770	3449		1770	1863	1535
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1535	1770	1863	1554	1770	3449		1770	1863	1535
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)	99	255	59	222	400	62	95	616	102	78	519	108
RTOR Reduction (vph)	0	0	24	0	0	15	0	6	0	0	0	39
Lane Group Flow (vph)	99	255	35	222	400	47	95	712	0	78	519	69
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot		Perm	Prot		Perm	Prot		Prot		Perm	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						2
Actuated Green, G (s)	12.3	25.3	25.3	20.3	33.3	33.3	12.0	41.6		10.9	40.5	40.5
Effective Green, g (s)	12.3	25.3	25.3	20.3	33.3	33.3	12.0	41.6		10.9	40.5	40.5
Actuated g/C Ratio	0.11	0.22	0.22	0.18	0.29	0.29	0.11	0.36		0.10	0.35	0.35
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	191	413	340	315	544	454	186	1257		169	661	545
v/s Ratio Prot	0.06	0.14		c0.13	c0.21		c0.05	0.21		0.04	c0.28	
v/s Ratio Perm			0.02			0.03						0.04
v/c Ratio	0.52	0.62	0.10	0.70	0.74	0.10	0.51	0.57		0.46	0.79	0.13
Uniform Delay, d1	48.1	40.0	35.4	44.1	36.4	29.5	48.3	29.0		48.8	32.9	24.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.4	2.7	0.1	7.0	5.1	0.1	2.4	0.6		2.0	6.1	0.1
Delay (s)	50.5	42.8	35.5	51.1	41.6	29.6	50.6	29.6		50.8	39.0	25.0
Level of Service	D	D	D	D	D	C	D	C		D	D	C
Approach Delay (s)		43.6			43.6			32.1			38.2	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM Average Control Delay			38.5		HCM Level of Service			D				
HCM Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			114.1		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			70.1%		ICU Level of Service			C				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

46: 9th St & Miller St

N Wenatchee Ave

2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	46	122	67	93	183	80	71	557	111	86	599	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00		0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		0.97		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1767	1863	1561		3364		1768	3437		1767	3496	
Flt Permitted	0.52	1.00	1.00		0.85		0.36	1.00		0.34	1.00	
Satd. Flow (perm)	973	1863	1561		2889		664	3437		640	3496	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	133	73	101	199	87	77	605	121	93	651	52
RTOR Reduction (vph)	0	0	49	0	37	0	0	19	0	0	7	0
Lane Group Flow (vph)	50	133	24	0	350	0	77	707	0	93	696	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm		Perm	Perm		Perm		Perm		Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	11.9	11.9	11.9		11.9		16.0	16.0		16.0	16.0	
Effective Green, g (s)	11.9	11.9	11.9		11.9		16.0	16.0		16.0	16.0	
Actuated g/C Ratio	0.33	0.33	0.33		0.33		0.45	0.45		0.45	0.45	
Clearance Time (s)	4.0	4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	323	618	517		958		296	1532		285	1558	
v/s Ratio Prot		0.07						0.21			0.20	
v/s Ratio Perm	0.05		0.02		0.12		0.12			0.15		
v/c Ratio	0.15	0.22	0.05		0.36		0.26	0.46		0.33	0.45	
Uniform Delay, d1	8.5	8.6	8.1		9.1		6.2	6.9		6.5	6.9	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.2	0.0		0.2		0.5	0.2		0.7	0.2	
Delay (s)	8.7	8.8	8.2		9.4		6.7	7.2		7.1	7.1	
Level of Service	A	A	A		A		A	A		A	A	
Approach Delay (s)		8.6			9.4			7.1			7.1	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM Average Control Delay		7.7			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.42										
Actuated Cycle Length (s)		35.9			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		58.5%			ICU Level of Service			B				
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

47: Maiden Ln & WalMart/Home Depot Dwy

N Wenatchee Ave

2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	17	316	34	94	163	126	28	0	113	122	0	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	0.97		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.99	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1761	1831		1763	1863	1542	1759	1542		1760	1542	
Flt Permitted	0.65	1.00		0.53	1.00	1.00	0.75	1.00		0.68	1.00	
Satd. Flow (perm)	1202	1831		977	1863	1542	1384	1542		1261	1542	
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)	18	333	36	99	172	133	29	0	119	128	0	15
RTOR Reduction (vph)	0	3	0	0	42	0	96	0	0	12	0	0
Lane Group Flow (vph)	18	366	0	99	172	91	29	23	0	128	3	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8		2			6		
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	44.6	44.6		44.6	44.6	44.6	12.4	12.4		12.4	12.4	
Effective Green, g (s)	44.6	44.6		44.6	44.6	44.6	12.4	12.4		12.4	12.4	
Actuated g/C Ratio	0.69	0.69		0.69	0.69	0.69	0.19	0.19		0.19	0.19	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	825	1256		670	1278	1058	264	294		241	294	
v/s Ratio Prot		0.20			0.09		0.01			0.00		
v/s Ratio Perm	0.01			0.10		0.06	0.02			0.10		
v/c Ratio	0.02	0.29		0.15	0.13	0.09	0.11	0.08		0.53	0.01	
Uniform Delay, d1	3.2	4.0		3.6	3.5	3.4	21.7	21.6		23.7	21.3	
Progression Factor	1.00	1.00		0.69	0.69	0.84	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.6		0.4	0.2	0.1	0.2	0.1		2.2	0.0	
Delay (s)	3.3	4.6		2.9	2.6	3.0	21.9	21.7		25.9	21.3	
Level of Service	A	A		A	A	A	C	C		C	C	
Approach Delay (s)		4.5			2.8		21.8			25.4		
Approach LOS		A			A		C			C		
Intersection Summary												
HCM Average Control Delay		9.0			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.34										
Actuated Cycle Length (s)		65.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		51.6%			ICU Level of Service			A				
Analysis Period (min)		15										

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
48: Maiden Ln & Dawn Terr

N Wenatchee Ave
2018 PM Peak Hour - Full Build

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	96	323	200	4	8	262
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	103	347	215	4	9	282
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	224				781	227
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	224				781	227
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				97	65
cM capacity (veh/h)	1339				333	805
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	103	347	219	290		
Volume Left	103	0	0	9		
Volume Right	0	0	4	282		
cSH	1339	1700	1700	773		
Volume to Capacity	0.08	0.20	0.13	0.38		
Queue Length 95th (ft)	6	0	0	44		
Control Delay (s)	7.9	0.0	0.0	12.4		
Lane LOS	A			B		
Approach Delay (s)	1.8		0.0	12.4		
Approach LOS				B		
Intersection Summary						
Average Delay			4.6			
Intersection Capacity Utilization			43.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
49: Maiden Ln & Western Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	17	69	89	403	403	39
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	19	77	99	448	448	43
Pedestrians		5		5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1125	479	496			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1125	479	496			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	87	91			
cM capacity (veh/h)	204	581	1063			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	19	77	99	448	491	
Volume Left	19	0	99	0	0	
Volume Right	0	77	0	0	43	
cSH	204	581	1063	1700	1700	
Volume to Capacity	0.09	0.13	0.09	0.26	0.29	
Queue Length 95th (ft)	8	11	8	0	0	
Control Delay (s)	24.4	12.1	8.7	0.0	0.0	
Lane LOS	C	B	A			
Approach Delay (s)	14.6		1.6		0.0	
Approach LOS		B				
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			43.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
50: Walnut St & Western Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	49	26	463	39	5	428
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	58	31	551	46	6	510
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1106	584			603	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1106	584			603	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	75	94			99	
cM capacity (veh/h)	230	507			971	
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2	
Volume Total	58	31	598	6	510	
Volume Left	58	0	0	6	0	
Volume Right	0	31	46	0	0	
cSH	230	507	1700	971	1700	
Volume to Capacity	0.25	0.06	0.35	0.01	0.30	
Queue Length 95th (ft)	24	5	0	0	0	
Control Delay (s)	25.9	12.6	0.0	8.7	0.0	
Lane LOS	D	B		A		
Approach Delay (s)	21.3		0.0	0.1		
Approach LOS	C					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			38.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
51: McKittrick St & Western Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	52	15	517	62	12	500
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	63	18	630	76	15	610
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1317	678			711	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1317	678			711	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	63	96			98	
cM capacity (veh/h)	169	448			885	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	82	706	15	610		
Volume Left	63	0	15	0		
Volume Right	18	76	0	0		
cSH	197	1700	885	1700		
Volume to Capacity	0.42	0.42	0.02	0.36		
Queue Length 95th (ft)	47	0	1	0		
Control Delay (s)	35.7	0.0	9.1	0.0		
Lane LOS	E		A			
Approach Delay (s)	35.7	0.0	0.2			
Approach LOS	E					
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utilization			43.1%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

52: Maple St & Western Ave

N Wenatchee Ave

2018 PM Peak Hour - Full Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	9	8	24	62	8	92	28	471	75	49	544	12
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	11	9	28	73	9	108	33	554	88	58	640	14
Pedestrians	5			5			5			5		
Lane Width (ft)	12.0			12.0			12.0			12.0		
Walking Speed (ft/s)	4.0			4.0			4.0			4.0		
Percent Blockage	0			0			0			0		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1505	1481	657	1462	1444	608	659				647	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1505	1481	657	1462	1444	608	659				647	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	84	92	94	15	92	78	96				94	
cM capacity (veh/h)	67	113	461	86	118	491	925				934	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total	11	38	73	118	33	642	58	654				
Volume Left	11	0	73	0	33	0	58	0				
Volume Right	0	28	0	108	0	88	0	14				
cSH	67	260	86	393	925	1700	934	1700				
Volume to Capacity	0.16	0.14	0.85	0.30	0.04	0.38	0.06	0.38				
Queue Length 95th (ft)	13	12	112	31	3	0	5	0				
Control Delay (s)	68.9	21.2	144.6	18.0	9.0	0.0	9.1	0.0				
Lane LOS	F	C	F	C	A		A					
Approach Delay (s)	31.7		66.5		0.4		0.7					
Approach LOS	D		F									
Intersection Summary												
Average Delay	9.2											
Intersection Capacity Utilization	53.3%			ICU Level of Service					A			
Analysis Period (min)	15											

HCM Signalized Intersection Capacity Analysis

53: Springwater St & Western Ave

N Wenatchee Ave

2018 PM Peak Hour - Full Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	7	5	54	13	135	10	455	89	94	490	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			5.0			5.0			5.0		
Lane Util. Factor	1.00			1.00			1.00			1.00		
Frpb, ped/bikes	0.99			0.98			1.00			1.00		
Flpb, ped/bikes	1.00			1.00			1.00			1.00		
Frt	0.97			0.91			0.98			0.99		
Flt Protected	0.98			0.99			1.00			0.99		
Satd. Flow (prot)	1754			1637			1812			1816		
Flt Permitted	0.89			0.90			0.99			0.85		
Satd. Flow (perm)	1595			1496			1791			1553		
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	8	8	5	59	14	148	11	500	98	103	538	79
RTOR Reduction (vph)	0	4	0	0	81	0	0	10	0	0	6	0
Lane Group Flow (vph)	0	17	0	0	140	0	0	599	0	0	714	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm		Perm		Perm		Perm					
Protected Phases	4			8			2			6		
Permitted Phases	4											
Actuated Green, G (s)	10.3			10.3			34.8			34.8		
Effective Green, g (s)	10.3			10.3			34.8			34.8		
Actuated g/C Ratio	0.19			0.19			0.63			0.63		
Clearance Time (s)	5.0			5.0			5.0			5.0		
Vehicle Extension (s)	3.0			3.0			3.0			3.0		
Lane Grp Cap (vph)	298			280			1131			981		
v/s Ratio Prot												
v/s Ratio Perm	0.01			0.09			0.33			0.46		
v/c Ratio	0.06			0.50			0.53			0.73		
Uniform Delay, d1	18.4			20.1			5.6			6.9		
Progression Factor	1.00			1.00			1.00			1.00		
Incremental Delay, d2	0.1			1.4			0.5			2.7		
Delay (s)	18.5			21.5			6.1			9.6		
Level of Service	B			C			A			A		
Approach Delay (s)	18.5			21.5			6.1			9.6		
Approach LOS	B			C			A			A		
Intersection Summary												
HCM Average Control Delay	10.0			HCM Level of Service					B			
HCM Volume to Capacity ratio	0.68											
Actuated Cycle Length (s)	55.1			Sum of lost time (s)					10.0			
Intersection Capacity Utilization	92.4%			ICU Level of Service					F			
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
54: 9th St & Western Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	18	24	22	86	16	73	44	532	66	37	472	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Grade (%)		-6%			4%			0%			0%	
Total Lost time (s)		3.5		3.5	3.5		3.5	3.5		3.5	3.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99		1.00	0.97		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt		0.95		1.00	0.88		1.00	0.98		1.00	0.99	
Flt Protected		0.99		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1720		1661	1508		1711	1765		1711	1788	
Flt Permitted		0.90		0.77	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1569		1347	1508		1711	1765		1711	1788	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	20	27	25	97	18	82	49	598	74	42	530	22
RTOR Reduction (vph)	0	22	0	0	71	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	50	0	97	29	0	49	668	0	42	551	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		9.0		9.0	9.0		4.8	45.0		4.6	44.8	
Effective Green, g (s)		9.5		9.5	9.5		5.3	45.5		5.1	45.3	
Actuated g/C Ratio		0.13		0.13	0.13		0.08	0.64		0.07	0.64	
Clearance Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	211		181	203		128	1138		124	1147		
v/s Ratio Prot				0.02		c0.03	c0.38		0.02	0.31		
v/s Ratio Perm	0.03		c0.07									
v/c Ratio	0.24		0.54	0.14		0.38	0.59		0.34	0.48		
Uniform Delay, d1	27.3		28.5	27.0		31.1	7.2		31.1	6.6		
Progression Factor	1.00		1.00	1.00		1.00	1.00		1.00	1.00		
Incremental Delay, d2	0.6		3.0	0.3		1.9	2.2		1.6	1.4		
Delay (s)	27.9		31.5	27.3		33.0	9.4		32.8	8.0		
Level of Service	C		C	C		C	A		C	A		
Approach Delay (s)	27.9			29.4			11.0			9.7		
Approach LOS	C			C			B			A		
Intersection Summary												
HCM Average Control Delay		13.6				HCM Level of Service			B			
HCM Volume to Capacity ratio		0.53										
Actuated Cycle Length (s)		70.6				Sum of lost time (s)			7.0			
Intersection Capacity Utilization		55.0%				ICU Level of Service			A			
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
55: 5th St & Western Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	111	85	65	142	168	87	81	473	63	46	472	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Grade (%)		-4%			4%			0%			0%	
Total Lost time (s)		3.5		3.5	3.5		3.5	3.5		3.5	3.5	
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	1.00		1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		1.00		0.94	1.00		0.95	1.00		0.98	1.00	
Flt Protected		0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Satd. Flow (prot)		1745		1694	1676		1657	1711		1762	1711	
Flt Permitted		0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Satd. Flow (perm)		1745		1694	1676		1657	1711		1762	1711	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	131	100	76	167	198	102	95	556	74	54	555	73
RTOR Reduction (vph)	0	35	0	0	23	0	0	5	0	0	6	0
Lane Group Flow (vph)	131	141	0	167	277	0	95	625	0	54	622	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	7.8	14.8		10.3	17.3		7.4	28.9		5.0	26.5	
Effective Green, g (s)	8.3	15.3		10.8	17.8		7.9	29.4		5.5	27.0	
Actuated g/C Ratio	0.11	0.20		0.14	0.24		0.11	0.39		0.07	0.36	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	193	346		241	393		180	691		125	635	
v/s Ratio Prot	0.08	0.08		c0.10	c0.17		c0.06	c0.35		0.03	0.35	
v/s Ratio Perm												
v/c Ratio	0.68	0.41		0.69	0.71		0.53	0.90		0.43	0.98	
Uniform Delay, d1	32.1	25.9		30.5	26.2		31.8	21.5		33.3	23.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.1	0.8		8.3	5.7		2.8	17.4		2.4	31.1	
Delay (s)	41.2	26.7		38.9	31.9		34.6	38.9		35.6	54.9	
Level of Service	D	C		D	C		C	D		D	D	
Approach Delay (s)		32.9			34.4			38.3			53.3	
Approach LOS		C			C			D			D	
Intersection Summary												
HCM Average Control Delay		41.4				HCM Level of Service			D			
HCM Volume to Capacity ratio		0.72										
Actuated Cycle Length (s)		75.0				Sum of lost time (s)			7.0			
Intersection Capacity Utilization		67.0%				ICU Level of Service			C			
Analysis Period (min)		15										

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 56: Ohme Gardens Rd & Euclid Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	34	0	37	43	0	39	4	337	28	30	360	27
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	0	40	47	0	42	4	366	30	33	391	29
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	705	877	210	691	876	198	421			397		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	705	877	210	691	876	198	421			397		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	88	100	95	85	100	95	100			97		
cM capacity (veh/h)	299	277	795	306	277	809	1135			1158		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	77	89	4	244	153	33	261	160				
Volume Left	37	47	4	0	0	33	0	0				
Volume Right	40	42	0	0	30	0	0	29				
cSH	443	435	1135	1700	1700	1158	1700	1700				
Volume to Capacity	0.17	0.20	0.00	0.14	0.09	0.03	0.15	0.09				
Queue Length 95th (ft)	16	19	0	0	0	2	0	0				
Control Delay (s)	14.8	15.4	8.2	0.0	0.0	8.2	0.0	0.0				
Lane LOS	B	C	A			A						
Approach Delay (s)	14.8	15.4	0.1			0.6						
Approach LOS	B	C										
Intersection Summary												
Average Delay			2.8									
Intersection Capacity Utilization			30.4%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 57: WB SR 2 On-Ramp & Euclid Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	18	418	236	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	20	454	257	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	523	128	257			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	523	128	257			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	477	898	1305			
Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	
Volume Total	20	227	227	128	128	
Volume Left	20	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1305	1700	1700	1700	1700	
Volume to Capacity	0.01	0.13	0.13	0.08	0.08	
Queue Length 95th (ft)	1	0	0	0	0	
Control Delay (s)	7.8	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s)	0.3			0.0		
Approach LOS						
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			16.5%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 58: WB SR 2 Off-Ramp & Euclid Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	67	183	253	0	0	236
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	73	199	275	0	0	257
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	403	138			275	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	403	138			275	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	78			100	
cM capacity (veh/h)	575	886			1285	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	272	138	138	128	128	
Volume Left	73	0	0	0	0	
Volume Right	199	0	0	0	0	
cSH	774	1700	1700	1700	1700	
Volume to Capacity	0.35	0.08	0.08	0.08	0.08	
Queue Length 95th (ft)	40	0	0	0	0	
Control Delay (s)	12.1	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	12.1	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay		4.1				
Intersection Capacity Utilization		28.6%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 63: EB SR 2 Ramps & Euclid Ave

N Wenatchee Ave
2018 PM Peak Hour - Full Build

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	15	134	213	85	218
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	16	146	232	92	237
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	615	92	329			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	615	92	329			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	88			
cM capacity (veh/h)	401	965	1230			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	16	146	232	92	237	
Volume Left	0	146	0	0	0	
Volume Right	16	0	0	0	237	
cSH	965	1230	1700	1700	1700	
Volume to Capacity	0.02	0.12	0.14	0.05	0.14	
Queue Length 95th (ft)	1	10	0	0	0	
Control Delay (s)	8.8	8.3	0.0	0.0	0.0	
Lane LOS	A	A				
Approach Delay (s)	8.8	3.2		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay		1.9				
Intersection Capacity Utilization		27.6%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 1: Penny Rd & Lower Sunnyslope Rd

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Volume (veh/h)	5	124	10	0	68	10
Sign Control	Stop	Free	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63
Hourly flow rate (vph)	8	197	16	0	108	16
Pedestrians	5	5	5	5	5	5
Lane Width (ft)	12.0	12.0	12.0	12.0	12.0	12.0
Walking Speed (ft/s)	4.0	4.0	4.0	4.0	4.0	4.0
Percent Blockage	0	0	0	0	0	0
Right turn flare (veh)						
Median type		None		None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	258	26			21	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	258	26			21	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	81			93	
cM capacity (veh/h)	676	1041			1588	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	205	16	124			
Volume Left	8	0	108			
Volume Right	197	0	0			
cSH	1020	1700	1588			
Volume to Capacity	0.20	0.01	0.07			
Queue Length 95th (ft)	19	0	5			
Control Delay (s)	9.4	0.0	6.5			
Lane LOS	A	A	A			
Approach Delay (s)	9.4	0.0	6.5			
Approach LOS	A					
Intersection Summary						
Average Delay		7.9				
Intersection Capacity Utilization		26.8%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 2: SR 2 & School St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		T	T	T	T	T			T	T	T	T
Volume (veh/h)	0	1087	22	15	1549	332	0	0	5	0	0	29
Sign Control		Free	Free		Free	Free		Stop			Stop	
Grade		0%	0%		0%	0%		0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1182	24	16	1684	361	0	0	5	0	0	32
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2050			1210			2109	3281	613	2322	2932	852
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2050			1210			2109	3281	613	2322	2932	852
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			97			100	100	99	100	100	90
cM capacity (veh/h)	269			570			25	8	432	19	14	300
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1				
Volume Total	788	418	16	842	842	361	5	32				
Volume Left	0	0	16	0	0	0	0	0				
Volume Right	0	24	0	0	0	361	5	32				
cSH	1700	1700	570	1700	1700	1700	432	300				
Volume to Capacity	0.46	0.25	0.03	0.50	0.50	0.21	0.01	0.10				
Queue Length 95th (ft)	0	0	2	0	0	0	1	9				
Control Delay (s)	0.0	0.0	11.5	0.0	0.0	0.0	13.4	18.4				
Lane LOS			B				B	C				
Approach Delay (s)	0.0		0.1				13.4	18.4				
Approach LOS							B	C				
Intersection Summary												
Average Delay			0.3									
Intersection Capacity Utilization		54.4%		ICU Level of Service	A							
Analysis Period (min)		15										

HCM Unsignalized Intersection Capacity Analysis 3: Melody Ln & School St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Volume (veh/h)	18	2	352	0	10	16
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	22	2	424	0	12	19
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	477	434			429	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	477	434			429	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	100			99	
cM capacity (veh/h)	536	617			1126	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	24	424	31			
Volume Left	22	0	12			
Volume Right	2	0	0			
cSH	543	1700	1126			
Volume to Capacity	0.04	0.25	0.01			
Queue Length 95th (ft)	3	0	1			
Control Delay (s)	11.9	0.0	3.2			
Lane LOS	B		A			
Approach Delay (s)	11.9	0.0	3.2			
Approach LOS	B					
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			30.1%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 4: Peters St & School St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Volume (veh/h)	5	8	313	26	8	57
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	9	333	28	9	61
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	434	357			366	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	434	357			366	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			99	
cM capacity (veh/h)	570	682			1188	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	14	361	69			
Volume Left	5	0	9			
Volume Right	9	28	0			
cSH	634	1700	1188			
Volume to Capacity	0.02	0.21	0.01			
Queue Length 95th (ft)	2	0	1			
Control Delay (s)	10.8	0.0	1.0			
Lane LOS	B		A			
Approach Delay (s)	10.8	0.0	1.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			29.6%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 5: Easy St & School St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	25	265	27	8	114	107	192	138	10	149	26	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	26	276	28	8	119	111	200	144	10	155	27	7
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	235			309			564	599	300	626	557	184
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	235			309			564	599	300	626	557	184
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			50	64	99	43	94	99
cM capacity (veh/h)	1327			1246			397	401	733	273	423	851
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	330	239	354	190								
Volume Left	26	8	200	155								
Volume Right	28	111	10	7								
cSH	1327	1246	404	296								
Volume to Capacity	0.02	0.01	0.88	0.64								
Queue Length 95th (ft)	2	1	220	102								
Control Delay (s)	0.8	0.3	51.5	36.6								
Lane LOS	A	A	F	E								
Approach Delay (s)	0.8	0.3	51.5	36.6								
Approach LOS		F	E									
Intersection Summary												
Average Delay				22.9								
Intersection Capacity Utilization	51.3%			ICU Level of Service					A			
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 6: Peters St & Easy St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	6	39	26	5	13	35	262	81	33	433	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	6	42	28	5	14	38	282	87	35	466	0
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type	None								None			
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	964	991	476	992	947	335	471			374		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	964	991	476	992	947	335	471			374		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	97	93	85	98	98	97			97		
cM capacity (veh/h)	212	229	584	191	242	701	1087			1180		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	48	47	406	501								
Volume Left	0	28	38	35								
Volume Right	42	14	87	0								
cSH	484	251	1087	1180								
Volume to Capacity	0.10	0.19	0.03	0.03								
Queue Length 95th (ft)	8	17	3	2								
Control Delay (s)	13.3	22.6	1.1	0.9								
Lane LOS	B	C	A	A								
Approach Delay (s)	13.3	22.6	1.1	0.9								
Approach LOS	B	C										
Intersection Summary												
Average Delay	2.6											
Intersection Capacity Utilization	47.0%				ICU Level of Service				A			
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 7: Ohme Garden Rd & Easy St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	5	41	63	5	10	38	417	80	5	519	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	6	46	70	6	11	42	463	89	6	577	8
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								401				
pX, platoon unblocked	0.93	0.93		0.93	0.93	0.93				0.93		
vC, conflicting volume	1208	1238	591	1242	1198	518	589			557		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1185	1218	591	1222	1174	440	589			483		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	96	91	43	97	98	96			99		
cM capacity (veh/h)	139	158	503	122	168	567	982			997		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	57	87	594	590								
Volume Left	6	70	42	6								
Volume Right	46	11	89	8								
cSH	342	138	982	997								
Volume to Capacity	0.17	0.63	0.04	0.01								
Queue Length 95th (ft)	15	83	3	0								
Control Delay (s)	17.6	67.2	1.1	0.2								
Lane LOS	C	F	A	A								
Approach Delay (s)	17.6	67.2	1.1	0.2								
Approach LOS	C	F										
Intersection Summary												
Average Delay				5.7								
Intersection Capacity Utilization				70.3%	ICU Level of Service						C	
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis 8: SR 2 & Easy St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	134	669	66	124	1043	193	183	152	334	119	156	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1558	1770	3539	1542	1770	1863	1551	1770	1863	1552
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1558	1770	3539	1542	1770	1863	1551	1770	1863	1552
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	149	743	73	138	1159	214	203	169	371	132	173	414
RTOR Reduction (vph)	0	0	34	0	0	71	0	0	270	0	0	189
Lane Group Flow (vph)	149	743	39	138	1159	143	203	169	101	132	173	225
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Actuated Green, G (s)	15.7	51.3	51.3	17.5	53.1	53.1	20.5	31.5	31.5	14.4	25.4	25.4
Effective Green, g (s)	15.7	51.3	51.3	17.5	53.1	53.1	20.5	31.5	31.5	14.4	25.4	25.4
Actuated g/C Ratio	0.12	0.38	0.38	0.13	0.39	0.39	0.15	0.23	0.23	0.11	0.19	0.19
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0	5.0	5.0	4.0	5.0	5.0	3.0	4.0	4.0	3.0	4.0	4.0
Lane Grp Cap (vph)	205	1338	589	228	1385	603	267	432	360	188	349	290
v/s Ratio Prot	c0.08	0.21		0.08	c0.33		c0.11	0.09		0.07	0.09	
v/s Ratio Perm			0.03			0.09			0.07			c0.14
v/c Ratio	0.73	0.56	0.07	0.61	0.84	0.24	0.76	0.39	0.28	0.70	0.50	0.77
Uniform Delay, d1	57.9	33.2	26.9	55.8	37.4	27.7	55.2	44.0	42.8	58.6	49.4	52.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.9	0.9	0.1	5.2	5.1	0.4	12.0	0.8	0.6	11.2	1.5	12.8
Delay (s)	70.8	34.1	27.0	61.0	42.5	28.1	67.3	44.8	43.4	69.8	50.9	65.3
Level of Service	E	C	C	E	D	C	E	D	D	E	D	E
Approach Delay (s)	39.2		42.1		50.2		62.6					
Approach LOS	D		D		D		D		E			
Intersection Summary												
HCM Average Control Delay			46.7			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			135.7			Sum of lost time (s)			15.0			
Intersection Capacity Utilization			75.9%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 9: Penny Rd & Easy St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	61	22	0	0	362	125	201	307	294	71	0	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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			0.95	0.95
Frpb, ped/bikes		1.00			1.00	0.98		0.99			0.99	0.98
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	1.00
Frt		1.00			1.00	0.85		0.95			0.92	0.85
Flt Protected		0.96			1.00	1.00		0.99			0.98	1.00
Satd. Flow (prot)		1797			1863	1551		3262			1573	1472
Flt Permitted		0.35			1.00	1.00		0.99			0.98	1.00
Satd. Flow (perm)		658			1863	1551		3262			1573	1472
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	78	28	0	0	464	160	258	394	377	91	0	286
RTOR Reduction (vph)	0	0	0	0	0	107	0	71	0	0	41	155
Lane Group Flow (vph)	0	106	0	0	464	53	0	958	0	0	153	28
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm						Perm	Split	Split			Perm
Protected Phases	6						2	4	4	8		
Permitted Phases	6						2	4	4	8		
Actuated Green, G (s)	30.4			30.4			30.4	33.8	33.8	14.1		
Effective Green, g (s)	30.4			30.4			30.4	33.8	33.8	14.1		
Actuated g/C Ratio	0.33			0.33			0.33	0.37	0.37	0.15		
Clearance Time (s)	4.5			4.5			4.5	4.5	4.5	4.5		
Vehicle Extension (s)	2.5			2.5			2.5	3.0	3.0	2.5		
Lane Grp Cap (vph)	218			617			514	1201	1201	242		
v/s Ratio Prot				c0.25				c0.29	c0.29	c0.10		
v/s Ratio Perm	0.16						0.03			0.02		
v/c Ratio	0.49			0.75			0.10	0.80	0.80	0.63		
Uniform Delay, d1	24.5			27.3			21.3	25.9	25.9	36.4		
Progression Factor	1.00			1.00			1.00	1.00	1.00	1.00		
Incremental Delay, d2	1.2			4.9			0.1	3.8	3.8	4.6		
Delay (s)	25.7			32.3			21.3	29.7	29.7	41.0		
Level of Service	C			C			C	C	C	D		
Approach Delay (s)	25.7			29.5				29.7	29.7	37.5		
Approach LOS	C			C				C	C	D		
Intersection Summary												
HCM Average Control Delay	30.8			HCM Level of Service			C					
HCM Volume to Capacity ratio	0.75											
Actuated Cycle Length (s)	91.8			Sum of lost time (s)			13.5					
Intersection Capacity Utilization	75.2%			ICU Level of Service			D					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 10: Horan Rd & SR 285 Off-Ramp

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

11: Cordell Ave & Penny Rd

N Wenatchee Ave

2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔						↔	
Volume (vph)	0	35	29	485	100	136	0	0	0	42	46	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0						3.5	
Lane Util. Factor		1.00		0.95	0.95						1.00	
Frpb, ped/bikes		0.99		1.00	0.99						1.00	
Flpb, ped/bikes		1.00		1.00	1.00						1.00	
Frt		0.94		1.00	0.94						0.99	
Flt Protected		1.00		0.95	0.98						0.98	
Satd. Flow (prot)		1730		1681	1622						1799	
Flt Permitted		1.00		0.95	0.98						0.98	
Satd. Flow (perm)		1730		1681	1622						1799	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	0	45	37	622	128	174	0	0	0	54	59	10
RTOR Reduction (vph)	0	28	0	0	16	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	54	0	473	435	0	0	0	0	0	120	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Split			Split						Split		
Protected Phases	6	6		2	2					8	8	
Permitted Phases												
Actuated Green, G (s)		5.8		25.7	25.7						8.2	
Effective Green, g (s)		6.3		26.2	26.2						8.7	
Actuated g/C Ratio		0.12		0.50	0.50						0.17	
Clearance Time (s)		4.5		4.5	4.5						4.0	
Vehicle Extension (s)		2.5		2.5	2.5						2.5	
Lane Grp Cap (vph)		207		836	806						297	
v/s Ratio Prot		c0.03		c0.28	0.27						c0.07	
v/s Ratio Perm												
v/c Ratio		0.26		0.57	0.54						0.41	
Uniform Delay, d1		21.1		9.3	9.1						19.7	
Progression Factor		1.00		1.00	1.00						1.00	
Incremental Delay, d2		0.5		0.7	0.6						0.7	
Delay (s)		21.6		10.0	9.7						20.3	
Level of Service		C		A	A						C	
Approach Delay (s)		21.6			9.8			0.0			20.3	
Approach LOS		C			A			A			C	
Intersection Summary												
HCM Average Control Delay			11.8			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			52.7			Sum of lost time (s)				11.5		
Intersection Capacity Utilization			46.2%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

12: Peters St & Burch Mountain Rd

N Wenatchee Ave

2028 PM Peak Hour - Baseline

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Volume (veh/h)	95	36	20	4	3	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	98	37	21	4	3	5
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	30				266	33
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	30				266	33
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				100	100
cM capacity (veh/h)	1577				673	1032
Direction, Lane #						
Volume Total	135	25	8			
Volume Left	98	0	3			
Volume Right	0	4	5			
cSH	1577	1700	860			
Volume to Capacity	0.06	0.01	0.01			
Queue Length 95th (ft)	5	0	1			
Control Delay (s)	5.5	0.0	9.2			
Lane LOS	A		A			
Approach Delay (s)	5.5	0.0	9.2			
Approach LOS			A			
Intersection Summary						
Average Delay			4.9			
Intersection Capacity Utilization			25.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 13: Peters St & Ohme Garden Rd

N Wenatchee Ave
2028 PM Peak Hour - Baseline

																		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations																		
Volume (veh/h)	19	0	0	0	0	0	0	60	0	5	65	0						
Sign Control		Stop			Stop			Free			Free							
Grade		0%			0%			0%			0%							
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89						
Hourly flow rate (vph)	21	0	0	0	0	0	0	67	0	6	73	0						
Pedestrians		5			5			5			5							
Lane Width (ft)		12.0			12.0			12.0			12.0							
Walking Speed (ft/s)		4.0			4.0			4.0			4.0							
Percent Blockage		0			0			0			0							
Right turn flare (veh)																		
Median type								None			None							
Median storage (veh)																		
Upstream signal (ft)																		
pX, platoon unblocked																		
vC, conflicting volume	162	162	83	162	162	77	78			72								
vC1, stage 1 conf vol																		
vC2, stage 2 conf vol																		
vCu, unblocked vol	162	162	83	162	162	77	78			72								
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1								
tC, 2 stage (s)																		
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2											
p0 queue free %	97	100	100	100	100	100	100	100		100								
cM capacity (veh/h)	790	722	968	790	722	975	1514			1521								
Direction, Lane #	EB 1	WB 1	NB 1	SB 1														
Volume Total	21	0	67	79														
Volume Left	21	0	0	6														
Volume Right	0	0	0	0														
cSH	790	1700	1514	1521														
Volume to Capacity	0.03	0.00	0.00	0.00														
Queue Length 95th (ft)	2	0	0	0														
Control Delay (s)	9.7	0.0	0.0	0.6														
Lane LOS	A	A		A														
Approach Delay (s)	9.7	0.0	0.0	0.6														
Approach LOS	A	A																
Intersection Summary																		
Average Delay				1.5														
Intersection Capacity Utilization				20.0%	ICU Level of Service			A										
Analysis Period (min)				15														

HCM Unsignalized Intersection Capacity Analysis 14: Ohme Garden Rd & Ohme Rd

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (veh/h)	10	57	70	10	35	1	80	0	10	38	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	11	63	77	11	38	1	88	0	11	42	0	0
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	45			145			194	195	111	205	233	49
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	45			145			194	195	111	205	233	49
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			88	100	99	94	100	100
cM capacity (veh/h)	1557			1432			746	685	934	725	652	1011
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	151	51	99	42								
Volume Left	11	11	88	42								
Volume Right	77	1	11	0								
cSH	1557	1432	763	725								
Volume to Capacity	0.01	0.01	0.13	0.06								
Queue Length 95th (ft)	1	1	11	5								
Control Delay (s)	0.6	1.7	10.4	10.3								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.6	1.7	10.4	10.3								
Approach LOS			B	B								
Intersection Summary												
Average Delay				4.8								
Intersection Capacity Utilization				22.2%	ICU Level of Service			A				
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis 15: Gunn Rd & Euclid Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	111	23	19	553	254	74
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	142	29	24	709	326	95
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1141	383	426			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1141	383	426			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	34	96	98			
cM capacity (veh/h)	215	659	1129			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	142	29	24	709	421	
Volume Left	142	0	24	0	0	
Volume Right	0	29	0	0	95	
cSH	215	659	1129	1700	1700	
Volume to Capacity	0.66	0.04	0.02	0.42	0.25	
Queue Length 95th (ft)	101	4	2	0	0	
Control Delay (s)	49.3	10.7	8.3	0.0	0.0	
Lane LOS	E	B	A			
Approach Delay (s)	42.7		0.3		0.0	
Approach LOS	E					
Intersection Summary						
Average Delay			5.7			
Intersection Capacity Utilization		43.0%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 16: Penny Rd & Euclid Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	347	52	56	231	80	95
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	463	69	75	308	107	127
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			537		965	507
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			537		965	507
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		59	77
cM capacity (veh/h)			1027		260	561
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	532	75	308	233		
Volume Left	0	75	0	107		
Volume Right	69	0	0	127		
cSH	1700	1027	1700	367		
Volume to Capacity	0.31	0.07	0.18	0.64		
Queue Length 95th (ft)	0	6	0	105		
Control Delay (s)	0.0	8.8	0.0	30.5		
Lane LOS		A		D		
Approach Delay (s)	0.0	1.7		30.5		
Approach LOS				D		
Intersection Summary						
Average Delay			6.8			
Intersection Capacity Utilization		45.8%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Signalized Intersection Capacity Analysis 17: Horse Lake Rd & Wenatchee Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	210	1	15	31	5	20	40	2062	4	13	2016	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.98		1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1763	1554		1779	1554	1770	3539	1583	1770	3539	1583	1583
Flt Permitted	0.70	1.00		0.57	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1294	1554		1049	1554	1770	3539	1583	1770	3539	1583	1583
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)	221	1	16	33	5	21	42	2171	4	14	2122	146
RTOR Reduction (vph)	0	0	13	0	0	17	0	0	1	0	0	36
Lane Group Flow (vph)	0	222	3	0	38	4	42	2171	3	14	2122	110
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm		Perm	Perm		Perm	Prot		Prot	Prot		Prot
Protected Phases		4			8		5	2	2	1	6	6
Permitted Phases	4		4	8		8						
Actuated Green, G (s)		19.5	19.5		19.5	19.5	5.4	66.5	66.5	3.0	64.1	64.1
Effective Green, g (s)		19.5	19.5		19.5	19.5	5.4	66.5	66.5	3.0	64.1	64.1
Actuated g/C Ratio		0.19	0.19		0.19	0.19	0.05	0.63	0.63	0.03	0.61	0.61
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		240	289		195	289	91	2241	1003	51	2160	966
v/s Ratio Prot							c0.02	c0.61	0.00	0.01	0.60	0.07
v/s Ratio Perm		c0.17	0.00		0.04	0.00						
v/c Ratio		0.93	0.01		0.19	0.01	0.46	0.97	0.00	0.27	0.98	0.11
Uniform Delay, d1		42.0	34.9		36.1	34.9	48.4	18.3	7.1	49.9	19.9	8.6
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		38.0	0.0		0.5	0.0	3.7	13.0	0.0	2.9	15.6	0.2
Delay (s)		80.0	34.9		36.6	34.9	52.1	31.2	7.1	52.8	35.5	8.8
Level of Service		E	C		D	C	D	C	A	D	D	A
Approach Delay (s)		77.0			36.0			31.6			33.9	
Approach LOS		E			D			C			C	
Intersection Summary												
HCM Average Control Delay		35.0			HCM Level of Service				D			
HCM Volume to Capacity ratio		0.89										
Actuated Cycle Length (s)		105.0			Sum of lost time (s)			10.0				
Intersection Capacity Utilization		89.9%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 18: REF Dwy 1 & Wenatchee Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Volume (veh/h)	0	0	0	0	0	0
Sign Control	Stop		Free		Free	Free
Grade	0%		0%		0%	0%
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians	5		5		5	5
Lane Width (ft)	12.0		12.0		12.0	12.0
Walking Speed (ft/s)	4.0		4.0		4.0	4.0
Percent Blockage	0		0		0	0
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)			388		343	
pX, platoon unblocked						
vC, conflicting volume	10	10			5	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	10	10			5	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	1000	1060			1608	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		16.4%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Signalized Intersection Capacity Analysis 19: Maiden Ln & Wenatchee Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↲	↰	↱	↲	↰	↱	↲	↰	↱	↲
Volume (vph)	281	1	219	16	5	14	195	1824	10	1	1722	368
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.89		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1686	1583	1770	1631		1770	3536		1770	3539	1583
Flt Permitted	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1686	1583	1770	1631		1770	3536		1770	3539	1583
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)	293	1	228	17	5	15	203	1900	10	1	1794	383
RTOR Reduction (vph)	0	0	196	0	14	0	0	0	0	0	0	122
Lane Group Flow (vph)	146	148	32	17	6	0	203	1910	0	1	1794	261
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Split		Prot	Split		Prot			Prot		Prot	
Protected Phases	4	4	4	8	8		5	2		1	6	6
Permitted Phases												
Actuated Green, G (s)	14.8	14.8	14.8	4.9	4.9		19.6	66.1		1.2	47.7	47.7
Effective Green, g (s)	14.8	14.8	14.8	4.9	4.9		19.6	66.1		1.2	47.7	47.7
Actuated g/C Ratio	0.14	0.14	0.14	0.05	0.05		0.19	0.63		0.01	0.45	0.45
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	237	238	223	83	76		330	2226		20	1608	719
v/s Ratio Prot	0.09	c0.09	0.02	c0.01	0.00		c0.11	c0.54		0.00	c0.51	0.17
v/s Ratio Perm												
v/c Ratio	0.62	0.62	0.14	0.20	0.07		0.62	0.86		0.05	1.12	0.36
Uniform Delay, d1	42.4	42.5	39.5	48.2	47.9		39.2	15.7		51.3	28.6	18.7
Progression Factor	0.96	0.96	1.17	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.6	4.9	0.3	1.2	0.4		3.4	4.6		1.0	61.2	1.4
Delay (s)	45.2	45.5	46.6	49.4	48.3		42.6	20.2		52.4	89.9	20.1
Level of Service	D	D	D	D	D		D	C		D	F	C
Approach Delay (s)		45.9			48.8			22.4			77.6	
Approach LOS		D			D			C			E	
Intersection Summary												
HCM Average Control Delay			49.9			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			105.0			Sum of lost time (s)			23.0			
Intersection Capacity Utilization			85.7%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 20: REF Dwy 2 & Wenatchee Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↲	↰	↱	↲	↰	↱	↲	↰	↱	↲
Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	5			5			5			5		
Lane Width (ft)	12.0			12.0			12.0			12.0		
Walking Speed (ft/s)	4.0			4.0			4.0			4.0		
Percent Blockage	0			0			0			0		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)							1063			770		
pX, platoon unblocked												
vC, conflicting volume	10	10	10	10	10	10	5			5		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	10	10	10	10	10	10	5			5		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	992	877	1060	992	877	1060	1608			1608		
Direction, Lane #												
Volume Total	0	0	0	0	0	0	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	A										
Approach Delay (s)	0.0	0.0	0.0			0.0						
Approach LOS	A	A										
Intersection Summary												
Average Delay			0.0									
Intersection Capacity Utilization			16.4%			ICU Level of Service				A		
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis 21: Hawley St & Wenatchee Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	92	22	45	55	22	332	65	1668	35	211	1433	199
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85		1.00	0.85	1.00	1.00	1.00	0.98	1.00	0.98	
Flt Protected	0.96	1.00		0.97	1.00	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1783	1555		1792	1570	1770	3526	1770	3462	1770	3462	
Flt Permitted	0.71	1.00		0.67	1.00	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	1308	1555		1248	1570	1770	3526	1770	3462	1770	3462	
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)	97	23	47	58	23	349	68	1756	37	222	1508	209
RTOR Reduction (vph)	0	0	40	0	0	5	0	1	0	0	7	0
Lane Group Flow (vph)	0	120	7	0	81	344	68	1792	0	222	1710	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm	Perm	Perm	pm+ov	Prot	Prot						
Protected Phases	8			4	5	1	6			5	2	
Permitted Phases	8		8	4	4							
Actuated Green, G (s)	16.5	16.5		16.5	35.8	9.7	57.2			19.3	66.8	
Effective Green, g (s)	16.5	16.5		16.5	35.8	9.7	57.2			19.3	66.8	
Actuated g/C Ratio	0.16	0.16		0.16	0.34	0.09	0.54			0.18	0.64	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0			4.0	4.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	5.0			5.0	5.0	
Lane Grp Cap (vph)	206	244		196	595	164	1921			325	2202	
v/s Ratio Prot				c0.11	0.04	c0.51				c0.13	0.49	
v/s Ratio Perm	0.09	0.00		0.06	0.11							
v/c Ratio	0.58	0.03		0.41	0.58	0.41	0.93			0.68	0.78	
Uniform Delay, d1	41.1	37.5		39.9	28.4	45.0	22.1			40.0	13.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00			1.00	1.00	
Incremental Delay, d2	6.4	0.1		2.9	2.2	3.5	9.8			7.4	2.8	
Delay (s)	47.4	37.6		42.8	30.6	48.5	31.9			47.4	16.5	
Level of Service	D	D		D	C	D	C			D	B	
Approach Delay (s)	44.7			32.9		32.5				20.0		
Approach LOS	D			C		C				C		
Intersection Summary												
HCM Average Control Delay		27.5		HCM Level of Service					C			
HCM Volume to Capacity ratio		0.80										
Actuated Cycle Length (s)		105.0		Sum of lost time (s)					8.0			
Intersection Capacity Utilization		86.9%		ICU Level of Service					E			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 22: REF Dwy 3 & Wenatchee Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	5			5			5			5			
Lane Width (ft)	12.0			12.0			12.0			12.0			
Walking Speed (ft/s)	4.0			4.0			4.0			4.0			
Percent Blockage	0			0			0			0			
Right turn flare (veh)													
Median type	None								None				
Median storage (veh)													
Upstream signal (ft)	559								548				
pX, platoon unblocked													
vC, conflicting volume	10	10	10	10	10	10	5				5		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	10	10	10	10	10	10	5				5		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1				4.1		
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2		
p0 queue free %	100	100	100	100	100	100	100				100		
cM capacity (veh/h)	992	877	1060	992	877	1060	1608				1608		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3					
Volume Total	0	0	0	0	0	0	0	0					
Volume Left	0	0	0	0	0	0	0	0					
Volume Right	0	0	0	0	0	0	0	0					
cSH	1700	1700	1700	1700	1700	1700	1700	1700					
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Queue Length 95th (ft)	0	0	0	0	0	0	0	0					
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Lane LOS	A	A											
Approach Delay (s)	0.0	0.0	0.0	0.0									
Approach LOS	A	A		C									
Intersection Summary													
Average Delay	0.0												
Intersection Capacity Utilization	16.4%			ICU Level of Service				A					
Analysis Period (min)	15												

HCM Signalized Intersection Capacity Analysis 23: McKittrick St & Wenatchee Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱	↰	↱	↱	↰
Volume (vph)	73	101	99	1663	1505	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1555	1768	3539	3521	
Flt Permitted	0.95	1.00	0.13	1.00	1.00	
Satd. Flow (perm)	1770	1555	235	3539	3521	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	76	105	103	1732	1568	47
RTOR Reduction (vph)	0	38	0	0	1	0
Lane Group Flow (vph)	76	67	103	1732	1614	0
Confl. Peds. (#/hr)	5	5	5			5
Turn Type	Perm		Perm			
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	12.4	12.4	82.6	82.6	82.6	
Effective Green, g (s)	12.4	12.4	82.6	82.6	82.6	
Actuated g/C Ratio	0.12	0.12	0.79	0.79	0.79	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	209	184	185	2784	2770	
v/s Ratio Prot	0.04			c0.49	0.46	
v/s Ratio Perm		c0.04	0.44			
v/c Ratio	0.36	0.36	0.56	0.62	0.58	
Uniform Delay, d1	42.7	42.7	4.3	4.7	4.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.1	1.2	11.6	1.1	0.9	
Delay (s)	43.7	43.9	15.8	5.7	5.3	
Level of Service	D	D	B	A	A	
Approach Delay (s)	43.8			6.3	5.3	
Approach LOS	D			A	A	

Intersection Summary					
HCM Average Control Delay		7.7	HCM Level of Service	A	
HCM Volume to Capacity ratio		0.59			
Actuated Cycle Length (s)		105.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization		67.8%	ICU Level of Service	C	
Analysis Period (min)		15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 24: REF Dwy 4 & Wenatchee Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								836			786	
pX, platoon unblocked												
vC, conflicting volume	10	10	10	10	10	10	5			5		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	10	10	10	10	10	10	5			5		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	992	877	1060	992	877	1060	1608			1608		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	0	0	0	0	0	0	0	0				
Volume Left	0	0	0	0	0	0	0	0				
Volume Right	0	0	0	0	0	0	0	0				
cSH	1700	1700	1700	1700	1700	1700	1700	1700				
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Queue Length 95th (ft)	0	0	0	0	0	0	0	0				
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Lane LOS	A	A										
Approach Delay (s)	0.0	0.0	0.0			0.0						
Approach LOS	A	A										

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization	16.4%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis 25: Maple St & Wenatchee Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	174	51	140	114	73	33	181	1466	10	37	1453	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.89		1.00	0.95		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1761	1636		1762	1764		1770	3535		1770	4994	
Flt Permitted	0.64	1.00		0.44	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1184	1636		808	1764		1770	3535		1770	4994	
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)	178	52	143	116	74	34	185	1496	10	38	1483	164
RTOR Reduction (vph)	0	96	0	0	16	0	0	0	0	0	12	0
Lane Group Flow (vph)	178	99	0	116	92	0	185	1506	0	38	1635	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases	8			4			1		6	5		2
Permitted Phases	8			4			1		6	5		2
Actuated Green, G (s)	20.1	20.1		20.1	20.1		14.7	66.4		6.5	58.2	
Effective Green, g (s)	20.1	20.1		20.1	20.1		14.7	66.4		6.5	58.2	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.14	0.63		0.06	0.55	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	227	313		155	338		248	2235		110	2768	
v/s Ratio Prot		0.06			0.05		c0.10	c0.43		0.02	0.33	
v/s Ratio Perm	c0.15			0.14								
v/c Ratio	0.78	0.32		0.75	0.27		0.75	0.67		0.35	0.59	
Uniform Delay, d1	40.4	36.5		40.1	36.2		43.4	12.4		47.2	15.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	18.4	1.2		21.0	0.9		13.7	1.6		3.9	0.9	
Delay (s)	58.8	37.7		61.0	37.1		57.1	14.0		51.1	16.4	
Level of Service	E	D		E	D		E	B		D	B	
Approach Delay (s)	47.8			49.5			18.7			17.2		
Approach LOS	D			D			B			B		
Intersection Summary												
HCM Average Control Delay	22.5			HCM Level of Service			C					
HCM Volume to Capacity ratio	0.70											
Actuated Cycle Length (s)	105.0			Sum of lost time (s)			8.0					
Intersection Capacity Utilization	77.9%			ICU Level of Service			D					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 26: Wenatchee Ave & Miller St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↘	↖	↗			
Volume (vph)	2	531	1196	0	503	27	1398	88	44	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0		
Lane Util. Factor		0.95	0.88		0.95		0.95	0.95		1.00		
Frpb, ped/bikes		1.00	0.98		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	0.85		0.99		1.00	1.00		0.85		
Flt Protected		1.00	1.00		1.00		0.95	0.96		1.00		
Satd. Flow (prot)		3539	2724		3507		1681	1695		1560		
Flt Permitted		0.95	1.00		1.00		0.95	0.96		1.00		
Satd. Flow (perm)		3376	2724		3507		1681	1695		1560		
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	590	1329	0	559	30	1553	98	49	0	0	0
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	13	0	0	0
Lane Group Flow (vph)	0	592	1329	0	584	0	823	828	36	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type		Free			Split		Perm					
Protected Phases		2			6		8		8			
Permitted Phases		Free			Free		8					
Actuated Green, G (s)		29.0	80.0		29.0		43.0	43.0	43.0			
Effective Green, g (s)		29.0	80.0		29.0		43.0	43.0	43.0			
Actuated g/C Ratio		0.36	1.00		0.36		0.54	0.54	0.54			
Clearance Time (s)		4.0			4.0		4.0	4.0	4.0			
Vehicle Extension (s)		5.0			5.0		5.0	5.0	5.0			
Lane Grp Cap (vph)		1224	2724		1271		904	911	839			
v/s Ratio Prot					0.17		c0.49	0.49				
v/s Ratio Perm		0.18	c0.49						0.02			
v/c Ratio		0.48	0.49		0.46		0.91	0.91	0.04			
Uniform Delay, d1		19.7	0.0		19.5		16.8	16.7	8.8			
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00			
Incremental Delay, d2		0.6	0.6		0.6		14.8	14.5	0.1			
Delay (s)		20.3	0.6		20.1		31.6	31.3	8.9			
Level of Service		C	A		C		C	C	A			
Approach Delay (s)		6.7			20.1		30.8			0.0		
Approach LOS		A			C		C			A		
Intersection Summary												
HCM Average Control Delay		18.3		HCM Level of Service				B				
HCM Volume to Capacity ratio		0.73										
Actuated Cycle Length (s)		80.0		Sum of lost time (s)				4.0				
Intersection Capacity Utilization		70.4%		ICU Level of Service				C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 27: REF Dwy 5 & Miller St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				413	518	
pX, platoon unblocked						
vC, conflicting volume	10	10	5			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	10	10	5			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1000	1060	1608			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0			0.0	
Approach LOS	A					
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		16.4%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Signalized Intersection Capacity Analysis 28: Albertsons/Mission St & Miller St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	57	0	89	116	131	1158	26	536	0	0	1166	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor	1.00		1.00		1.00	0.88	1.00	0.95				
Frpb, ped/bikes	1.00		0.98		1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes	1.00		1.00		1.00	1.00	1.00	1.00			1.00	
Frt	1.00		0.85		1.00	0.85	1.00	1.00			1.00	
Flt Protected	0.95		1.00		0.98	1.00	0.95	1.00			1.00	
Satd. Flow (prot)	1770		1557		1820	2787	1770	3539			5076	
Flt Permitted	0.95		1.00		0.98	1.00	0.95	1.00			1.00	
Satd. Flow (perm)	1770		1557		1820	2787	1770	3539			5076	
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)	60	0	94	122	138	1219	27	564	0	0	1227	13
RTOR Reduction (vph)	0	0	86	0	0	245	0	0	0	0	1	0
Lane Group Flow (vph)	60	0	8	0	260	974	27	564	0	0	1239	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot		custom	Split		custom	Prot					
Protected Phases	3			4	4	4 5	1	6			2	
Permitted Phases			3									
Actuated Green, G (s)	7.2		7.2		21.7	38.0	1.2	22.8			33.9	
Effective Green, g (s)	7.2		7.2		21.7	38.0	1.2	22.8			33.9	
Actuated g/C Ratio	0.09		0.09		0.27	0.48	0.01	0.29			0.42	
Clearance Time (s)	4.0		4.0		4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0		3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	159		140		494	1324	27	1009			2151	
v/s Ratio Prot	c0.03				0.14	c0.35	0.02	0.16			c0.24	
v/s Ratio Perm			0.01									
v/c Ratio	0.38		0.06		0.53	0.74	1.00	0.56			0.58	
Uniform Delay, d1	34.3		33.3		24.8	16.9	39.4	24.3			17.6	
Progression Factor	1.00		1.00		1.00	1.00	1.57	0.38			1.00	
Incremental Delay, d2	1.5		0.2		1.0	2.2	151.6	1.7			1.1	
Delay (s)	35.8		33.5		25.8	19.1	213.5	10.8			18.7	
Level of Service	D		C		C	B	F	B			B	
Approach Delay (s)		34.4			20.3			20.1			18.7	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM Average Control Delay		20.3		HCM Level of Service				C				
HCM Volume to Capacity ratio		0.63										
Actuated Cycle Length (s)		80.0		Sum of lost time (s)				8.0				
Intersection Capacity Utilization		77.6%		ICU Level of Service				D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
29: Springwater St & Miller St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔				↔	↔		↔	↔	
Volume (vph)	45	295	149	0	0	0	337	548	45	826	489	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00					1.00	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	0.98					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	0.85					1.00	0.99		1.00	0.97	
Flt Protected	0.99	1.00					0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1850	1557					1770	3494		3433	3407	
Flt Permitted	0.99	1.00					0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1850	1557					1770	3494		3433	3407	
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)	47	307	155	0	0	0	351	571	47	860	509	136
RTOR Reduction (vph)	0	0	118	0	0	0	0	8	0	0	28	0
Lane Group Flow (vph)	0	354	37	0	0	0	351	611	0	860	617	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Split		Perm				Split			Split		
Protected Phases	8	8					1	1		2	2	
Permitted Phases			8									
Actuated Green, G (s)		19.3	19.3				20.0	20.0		28.7	28.7	
Effective Green, g (s)		19.3	19.3				20.0	20.0		28.7	28.7	
Actuated g/C Ratio		0.24	0.24				0.25	0.25		0.36	0.36	
Clearance Time (s)		4.0	4.0				4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0				3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		446	376				443	874		1232	1222	
v/s Ratio Prot		c0.19					c0.20	0.17		c0.25	0.18	
v/s Ratio Perm			0.02									
v/c Ratio		0.79	0.10				0.79	0.70		0.70	0.51	
Uniform Delay, d1		28.5	23.6				28.1	27.3		21.9	20.1	
Progression Factor		1.00	1.00				1.00	1.00		0.47	0.38	
Incremental Delay, d2		9.4	0.1				9.4	2.5		2.9	1.3	
Delay (s)		37.9	23.7				37.4	29.7		13.2	8.9	
Level of Service		D	C				D	C		B	A	
Approach Delay (s)		33.6			0.0			32.5			11.3	
Approach LOS		C			A			C			B	
Intersection Summary												
HCM Average Control Delay		22.0			HCM Level of Service					C		
HCM Volume to Capacity ratio		0.75										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		75.6%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
30: 9th St & Chelan Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↔	↔	↔	↔	
Volume (vph)	0	155	192	146	397	0	0	0	0	105	1086	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5						5.1	
Lane Util. Factor		0.95			0.95						0.91	
Frpb, ped/bikes		0.99			1.00						1.00	
Flpb, ped/bikes		1.00			1.00						1.00	
Frt		0.92			1.00						0.99	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		3215			3489						5025	
Flt Permitted		1.00			0.75						1.00	
Satd. Flow (perm)		3215			2638						5025	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	168	209	159	432	0	0	0	0	114	1180	59
RTOR Reduction (vph)	0	20	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	357	0	0	591	0	0	0	0	0	1345	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type				Perm						Perm		
Protected Phases		8			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		22.0			22.0						27.4	
Effective Green, g (s)		22.0			22.0						27.4	
Actuated g/C Ratio		0.37			0.37						0.46	
Clearance Time (s)		5.5			5.5						5.1	
Lane Grp Cap (vph)		1179			967						2295	
v/s Ratio Prot		0.11										
v/s Ratio Perm					c0.22						0.27	
v/c Ratio		0.30			0.61						0.59	
Uniform Delay, d1		13.5			15.5						12.1	
Progression Factor		1.00			1.09						1.00	
Incremental Delay, d2		0.7			2.5						1.1	
Delay (s)		14.2			19.5						13.2	
Level of Service		B			B						B	
Approach Delay (s)		14.2			19.5			0.0			13.2	
Approach LOS		B			B			A			B	
Intersection Summary												
HCM Average Control Delay		15.0			HCM Level of Service					B		
HCM Volume to Capacity ratio		0.60										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)			10.6				
Intersection Capacity Utilization		70.2%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 31: 5th St & Chelan Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑						↑↑	
Volume (vph)	0	201	355	111	454	0	0	0	0	77	1353	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		5.5			5.5						5.1	
Lane Util. Factor		0.95			0.95						0.91	
Frpb, ped/bikes		0.99			1.00						1.00	
Flpb, ped/bikes		1.00			1.00						1.00	
Frt		0.90			1.00						0.98	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		2660			2943						4048	
Flt Permitted		1.00			0.69						1.00	
Satd. Flow (perm)		2660			2055						4048	
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	212	374	117	478	0	0	0	0	81	1424	175
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	0	0	24	0
Lane Group Flow (vph)	0	577	0	0	595	0	0	0	0	0	1656	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Parking (#/hr)										0	0	0
Turn Type			Perm							Perm		
Protected Phases		8			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		22.0			22.0						27.4	
Effective Green, g (s)		22.0			22.0						27.4	
Actuated g/C Ratio		0.37			0.37						0.46	
Clearance Time (s)		5.5			5.5						5.1	
Lane Grp Cap (vph)		975			754						1849	
v/s Ratio Prot		0.22										
v/s Ratio Perm					c0.29						0.41	
v/c Ratio		0.59			0.79						0.90	
Uniform Delay, d1		15.4			16.9						15.0	
Progression Factor		1.00			0.91						0.64	
Incremental Delay, d2		2.6			4.7						6.4	
Delay (s)		18.0			20.2						16.0	
Level of Service		B			C						B	
Approach Delay (s)		18.0			20.2			0.0			16.0	
Approach LOS		B			C			A			B	
Intersection Summary												
HCM Average Control Delay		17.3			HCM Level of Service					B		
HCM Volume to Capacity ratio		0.85										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)				10.6			
Intersection Capacity Utilization		87.3%			ICU Level of Service				E			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 32: 9th St & Mission St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑						↑↑	
Volume (vph)	65	196	0	0	272	74	283	1246	96	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9						4.9	
Lane Util. Factor		0.95			0.95						0.91	
Frpb, ped/bikes		1.00			1.00						1.00	
Flpb, ped/bikes		1.00			1.00						1.00	
Frt		1.00			0.97						0.99	
Flt Protected		0.99			1.00						0.99	
Satd. Flow (prot)		3493			3414						4988	
Flt Permitted		0.79			1.00						0.99	
Satd. Flow (perm)		2777			3414						4988	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	213	0	0	296	80	308	1354	104	0	0	0
RTOR Reduction (vph)	0	0	0	0	21	0	0	12	0	0	0	0
Lane Group Flow (vph)	0	284	0	0	355	0	0	1754	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type		Perm					Perm					
Protected Phases		4			8			6				
Permitted Phases								6				
Actuated Green, G (s)		19.1			19.1			31.1				
Effective Green, g (s)		19.1			19.1			31.1				
Actuated g/C Ratio		0.32			0.32			0.52				
Clearance Time (s)		4.9			4.9			4.9				
Lane Grp Cap (vph)		884			1087			2585				
v/s Ratio Prot					c0.10							
v/s Ratio Perm		0.10						0.35				
v/c Ratio		0.32			0.33			0.68				
Uniform Delay, d1		15.5			15.6			10.7				
Progression Factor		0.98			1.00			0.32				
Incremental Delay, d2		0.9			0.8			0.1				
Delay (s)		16.0			16.4			3.5				
Level of Service		B			B			A				
Approach Delay (s)		16.0			16.4			3.5			0.0	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM Average Control Delay		7.0			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.54										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)			9.8				
Intersection Capacity Utilization		76.4%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 33: 5th St & Mission St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔↔				
Volume (vph)	78	171	0	0	210	55	363	1490	73	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.9			4.9			4.9				
Lane Util. Factor		0.95			0.95			0.91				
Frpb, ped/bikes		1.00			1.00			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.97			0.99				
Flt Protected		0.98			1.00			0.99				
Satd. Flow (prot)		2924			2871			4061				
Flt Permitted		0.76			1.00			0.99				
Satd. Flow (perm)		2258			2871			4061				
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	93	204	0	0	250	65	432	1774	87	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	297	0	0	308	0	0	2286	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Parking (#/hr)							0	0	0			
Turn Type	Perm					Perm						
Protected Phases		8			4			6				
Permitted Phases	8					6						
Actuated Green, G (s)		19.1			19.1			31.1				
Effective Green, g (s)		19.1			19.1			31.1				
Actuated g/C Ratio		0.32			0.32			0.52				
Clearance Time (s)		4.9			4.9			4.9				
Lane Grp Cap (vph)		719			914			2105				
v/s Ratio Prot					0.11							
v/s Ratio Perm		c0.13						0.56				
v/c Ratio		0.41			0.34			1.09				
Uniform Delay, d1		16.1			15.6			14.4				
Progression Factor		1.00			1.00			1.00				
Incremental Delay, d2		1.8			1.0			47.5				
Delay (s)		17.8			16.6			62.0				
Level of Service		B			B			E				
Approach Delay (s)		17.8			16.6			62.0		0.0		
Approach LOS		B			B			E		A		
Intersection Summary												
HCM Average Control Delay		52.6			HCM Level of Service			D				
HCM Volume to Capacity ratio		0.83										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)			9.8				
Intersection Capacity Utilization		86.4%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 34: 9th St & Wenatchee Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔↔				
Volume (vph)	72	105	80	60	197	6	63	433	31	0	575	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0				4.0
Lane Util. Factor		0.95			0.95			1.00	0.95			0.95
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		0.95			1.00			1.00	0.99			0.97
Flt Protected		0.99			0.99			0.95	1.00			1.00
Satd. Flow (prot)		3311			3485			1770	3500			3439
Flt Permitted		0.81			0.83			0.95	1.00			1.00
Satd. Flow (perm)		2706			2943			1770	3500			3439
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)	76	111	84	63	207	6	66	456	33	0	605	126
RTOR Reduction (vph)	0	58	0	0	1	0	0	4	0	0	18	0
Lane Group Flow (vph)	0	213	0	0	275	0	66	485	0	0	713	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm			Prot		Prot			
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)		13.7			13.7		5.2	26.4			17.2	
Effective Green, g (s)		13.7			13.7		5.2	26.4			17.2	
Actuated g/C Ratio		0.28			0.28		0.11	0.55			0.36	
Clearance Time (s)		4.0			4.0		4.0	4.0			4.0	
Vehicle Extension (s)		4.0			4.0		5.0	3.0			3.0	
Lane Grp Cap (vph)		771			838		191	1921			1230	
v/s Ratio Prot							c0.04	0.14			c0.21	
v/s Ratio Perm		0.08			c0.09							
v/c Ratio		0.28			0.33		0.35	0.25			0.58	
Uniform Delay, d1		13.4			13.6		19.9	5.7			12.5	
Progression Factor		1.00			1.00		1.00	1.00			1.00	
Incremental Delay, d2		0.3			0.3		2.3	0.1			0.7	
Delay (s)		13.6			13.9		22.1	5.8			13.2	
Level of Service		B			B		C	A			B	
Approach Delay (s)		13.6			13.9			7.7			13.2	
Approach LOS		B			B			A			B	
Intersection Summary												
HCM Average Control Delay		11.7			HCM Level of Service			B				
HCM Volume to Capacity ratio		0.45										
Actuated Cycle Length (s)		48.1			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		57.0%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 35: 5th St & Wenatchee Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 			 		 	 		
Volume (vph)	42	85	93	12	74	65	104	459	36	51	518	59	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0		
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95		
Frpb, ped/bikes		0.99			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		0.94			0.94		1.00	0.99		1.00	0.98		
Flt Protected		0.99			1.00		0.95	1.00		0.95	1.00		
Satd. Flow (prot)		3262			3276		1770	3497		1770	3479		
Flt Permitted		0.87			0.92		0.95	1.00		0.95	1.00		
Satd. Flow (perm)		2871			3037		1770	3497		1770	3479		
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Adj. Flow (vph)	47	94	103	13	82	72	116	510	40	57	576	66	
RTOR Reduction (vph)	0	80	0	0	56	0	0	5	0	0	9	0	
Lane Group Flow (vph)	0	164	0	0	111	0	116	545	0	57	633	0	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5	
Turn Type	Perm			Perm			Prot			Prot			
Protected Phases		8			4		1	6		5	2		
Permitted Phases	8			4									
Actuated Green, G (s)		10.3			10.3		7.2	19.7		4.3	16.8		
Effective Green, g (s)		10.3			10.3		7.2	19.7		4.3	16.8		
Actuated g/C Ratio		0.22			0.22		0.16	0.43		0.09	0.36		
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0		
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		639			676		275	1488		164	1262		
v/s Ratio Prot							c0.07	c0.16		0.03	c0.18		
v/s Ratio Perm		c0.06			0.04								
v/c Ratio		0.26			0.16		0.42	0.37		0.35	0.50		
Uniform Delay, d1		14.8			14.5		17.7	9.1		19.7	11.5		
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00		
Incremental Delay, d2		0.2			0.1		1.0	0.2		1.3	0.3		
Delay (s)		15.1			14.6		18.7	9.2		21.0	11.8		
Level of Service		B			B		B	A		C	B		
Approach Delay (s)		15.1			14.6			10.9			12.6		
Approach LOS		B			B			B			B		
Intersection Summary													
HCM Average Control Delay			12.5		HCM Level of Service					B			
HCM Volume to Capacity ratio			0.45										
Actuated Cycle Length (s)			46.3		Sum of lost time (s)					16.0			
Intersection Capacity Utilization			52.6%		ICU Level of Service					A			
Analysis Period (min)			15										
c Critical Lane Group													

HCM Unsignalized Intersection Capacity Analysis 36: Walla Walla Ave & Miller St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Volume (veh/h)	43	252	70	88	205	35
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	52	307	85	107	250	43
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type	None				None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	692	149			198	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	692	149			198	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	65			82	
cM capacity (veh/h)	332	890			1369	
Direction, Lane #						
Volume Total	360	193	293			
Volume Left	52	0	250			
Volume Right	307	107	0			
cSH	715	1700	1369			
Volume to Capacity	0.50	0.11	0.18			
Queue Length 95th (ft)	71	0	17			
Control Delay (s)	15.0	0.0	7.2			
Lane LOS	C		A			
Approach Delay (s)	15.0	0.0	7.2			
Approach LOS	C					
Intersection Summary						
Average Delay	8.9					
Intersection Capacity Utilization	51.6%		ICU Level of Service		A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 37: 5th St & Pierce St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	56	160	137	13	108	57
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	64	182	156	15	123	65
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		628				
pX, platoon unblocked						
vC, conflicting volume	175				482	173
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	175				482	173
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				76	92
cM capacity (veh/h)	1395				514	863
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	64	182	170	188		
Volume Left	64	0	0	123		
Volume Right	0	0	15	65		
cSH	1395	1700	1700	598		
Volume to Capacity	0.05	0.11	0.10	0.31		
Queue Length 95th (ft)	4	0	0	33		
Control Delay (s)	7.7	0.0	0.0	13.8		
Lane LOS	A			B		
Approach Delay (s)	2.0		0.0	13.8		
Approach LOS				B		
Intersection Summary						
Average Delay			5.1			
Intersection Capacity Utilization			32.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 38: Walnut St & Pine St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	94	34	163	116	44	65
Sign Control	Free		Free	Free	Stop	
Grade	0%		0%	0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	106	38	183	130	49	73
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)				396		
pX, platoon unblocked						
vC, conflicting volume			149		631	135
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			149		631	135
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			87		87	92
cM capacity (veh/h)			1427		384	907
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	144	183	130	122		
Volume Left	0	183	0	49		
Volume Right	38	0	0	73		
cSH	1700	1427	1700	586		
Volume to Capacity	0.08	0.13	0.08	0.21		
Queue Length 95th (ft)	0	11	0	20		
Control Delay (s)	0.0	7.9	0.0	12.8		
Lane LOS		A		B		
Approach Delay (s)	0.0	4.6		12.8		
Approach LOS				B		
Intersection Summary						
Average Delay			5.2			
Intersection Capacity Utilization			34.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 39: McKittrick St & Pine St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	37	115	154	68	152	49
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	41	128	171	76	169	54
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	252				429	219
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	252				429	219
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				70	93
cM capacity (veh/h)	1308				560	814
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	169	247	223			
Volume Left	41	0	169			
Volume Right	0	76	54			
cSH	1308	1700	606			
Volume to Capacity	0.03	0.15	0.37			
Queue Length 95th (ft)	2	0	42			
Control Delay (s)	2.1	0.0	14.4			
Lane LOS	A		B			
Approach Delay (s)	2.1	0.0	14.4			
Approach LOS			B			
Intersection Summary						
Average Delay			5.6			
Intersection Capacity Utilization			42.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 40: Maple St & Princeton Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	172	126	108	254	15	130	1	72	7	3	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	1	200	147	126	295	17	151	1	84	8	3	6
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)					909							
pX, platoon unblocked												
vC, conflicting volume	318			352			840	850	283	852	914	314
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	318			352			840	850	283	852	914	314
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			90			40	100	89	96	99	99
cM capacity (veh/h)	1237			1202			253	264	749	224	242	720
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1					
Volume Total	1	347	126	313	151	85	17					
Volume Left	1	0	126	0	151	0	8					
Volume Right	0	147	0	17	0	84	6					
cSH	1237	1700	1202	1700	253	731	297					
Volume to Capacity	0.00	0.20	0.10	0.18	0.60	0.12	0.06					
Queue Length 95th (ft)	0	0	9	0	87	10	5					
Control Delay (s)	7.9	0.0	8.3	0.0	38.2	10.6	17.9					
Lane LOS	A		A		E	B	C					
Approach Delay (s)	0.0		2.4		28.3		17.9					
Approach LOS					D		C					
Intersection Summary												
Average Delay				7.7								
Intersection Capacity Utilization				46.5%	ICU Level of Service				A			
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis 41: Springwater St & Princeton Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	32	239	6	30	323	123	5	103	30	105	105	41
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	36	272	7	34	367	140	6	117	34	119	119	47
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	512			283			969	933	285	955	866	447
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	512			283			969	933	285	955	866	447
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			97			96	53	95	12	56	92
cM capacity (veh/h)	1049			1274			133	248	748	135	271	606
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total	315	541	157	119	166							
Volume Left	36	34	6	119	0							
Volume Right	7	140	34	0	47							
cSH	1049	1274	280	135	321							
Volume to Capacity	0.03	0.03	0.56	0.88	0.52							
Queue Length 95th (ft)	3	2	79	144	70							
Control Delay (s)	1.3	0.8	33.1	111.7	27.6							
Lane LOS	A	A	D	F	D							
Approach Delay (s)	1.3	0.8	33.1	62.8								
Approach LOS			D	F								
Intersection Summary												
Average Delay				18.4								
Intersection Capacity Utilization	58.1%			ICU Level of Service					B			
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 42: 9th St & Princeton Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Volume (veh/h)	36	160	2	16	203	36	2	64	0	28	82	34		
Sign Control		Free			Free			Stop			Stop			
Grade		0%			0%			0%			0%			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91		
Hourly flow rate (vph)	40	176	2	18	223	40	2	70	0	31	90	37		
Pedestrians		5			5			5			5			
Lane Width (ft)		12.0			12.0			12.0			12.0			
Walking Speed (ft/s)		4.0			4.0			4.0			4.0			
Percent Blockage		0			0			0			0			
Right turn flare (veh)														
Median type	None			None										
Median storage (veh)														
Upstream signal (ft)														
pX, platoon unblocked														
vC, conflicting volume	268				183				626	564	187	579	545	253
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	268				183				626	564	187	579	545	253
tC, single (s)	4.1				4.1				7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)														
tF (s)	2.2				2.2				3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97				99				99	83	100	91	79	95
cM capacity (veh/h)	1291				1386				301	413	848	353	423	779
Direction, Lane #	EB 1	WB 1	NB 1	SB 1										
Volume Total	218	280	73	158										
Volume Left	40	18	2	31										
Volume Right	2	40	0	37										
cSH	1291	1386	408	455										
Volume to Capacity	0.03	0.01	0.18	0.35										
Queue Length 95th (ft)	2	1	16	38										
Control Delay (s)	1.7	0.6	15.7	17.1										
Lane LOS	A	A	C	C										
Approach Delay (s)	1.7	0.6	15.7	17.1										
Approach LOS			C	C										
Intersection Summary														
Average Delay				6.0										
Intersection Capacity Utilization	41.9%			ICU Level of Service					A					
Analysis Period (min)	15													

HCM Unsignalized Intersection Capacity Analysis 43: 5th St & Princeton Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	296	5	18	556	34	21	42	15	17	40	42
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	12	344	6	21	647	40	24	49	17	20	47	49
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	691			355			1161	1108	357	1130	1091	676
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	691			355			1161	1108	357	1130	1091	676
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			80	76	97	86	77	89
cM capacity (veh/h)	900			1199			122	202	681	138	206	449
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	362	707	91	115								
Volume Left	12	21	24	20								
Volume Right	6	40	17	49								
cSH	900	1199	194	241								
Volume to Capacity	0.01	0.02	0.47	0.48								
Queue Length 95th (ft)	1	1	56	59								
Control Delay (s)	0.4	0.5	38.8	32.8								
Lane LOS	A	A	E	D								
Approach Delay (s)	0.4	0.5	38.8	32.8								
Approach LOS			E	D								
Intersection Summary												
Average Delay			6.1									
Intersection Capacity Utilization			53.5%		ICU Level of Service		A					
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis 45: 5th St & Miller St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	92	247	57	220	397	63	80	615	97	76	504	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	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	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1534	1770	1863	1554	1770	3452		1770	1863	1534
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1534	1770	1863	1554	1770	3452		1770	1863	1534
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)	97	260	60	232	418	66	84	647	102	80	531	103
RTOR Reduction (vph)	0	0	24	0	0	14	0	6	0	0	0	37
Lane Group Flow (vph)	97	260	36	232	418	52	84	743	0	80	531	66
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot		Perm	Prot		Perm	Prot		Prot		Perm	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						2
Actuated Green, G (s)	12.2	28.3	28.3	21.0	37.1	37.1	11.3	40.6		11.1	40.4	40.4
Effective Green, g (s)	12.2	28.3	28.3	21.0	37.1	37.1	11.3	40.6		11.1	40.4	40.4
Actuated g/C Ratio	0.10	0.24	0.24	0.18	0.32	0.32	0.10	0.35		0.09	0.35	0.35
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	185	451	371	318	591	493	171	1198		168	643	530
v/s Ratio Prot	0.05	0.14		c0.13	c0.22		c0.05	0.22		0.05	c0.29	
v/s Ratio Perm			0.02			0.03						0.04
v/c Ratio	0.52	0.58	0.10	0.73	0.71	0.10	0.49	0.62		0.48	0.83	0.13
Uniform Delay, d1	49.7	39.1	34.4	45.3	35.2	28.2	50.1	31.8		50.2	35.1	26.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.7	1.8	0.1	8.1	3.9	0.1	2.2	1.0		2.1	8.5	0.1
Delay (s)	52.3	40.9	34.6	53.4	39.0	28.3	52.3	32.8		52.3	43.6	26.3
Level of Service	D	D	C	D	D	C	D	C		D	D	C
Approach Delay (s)		42.6			42.7			34.8			42.1	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM Average Control Delay			40.1	HCM Level of Service				D				
HCM Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			117.0	Sum of lost time (s)				12.0				
Intersection Capacity Utilization			70.8%	ICU Level of Service				C				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 46: 9th St & Miller St

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑	↱	↰	↑	↱
Volume (vph)	47	142	67	97	195	80	74	592	116	102	597	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	0.97	1.00	0.98	1.00	0.98	1.00	0.99	1.00	0.99
Flt Protected	0.95	1.00	1.00	0.99	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1767	1863	1561	3369	1768	3439	1767	3498	1767	3498	1767	3498
Flt Permitted	0.51	1.00	1.00	0.84	0.36	1.00	0.32	1.00	0.32	1.00	0.32	1.00
Satd. Flow (perm)	957	1863	1561	2869	665	3439	595	3498	595	3498	595	3498
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	154	73	105	212	87	80	643	126	111	649	50
RTOR Reduction (vph)	0	0	49	0	35	0	0	18	0	0	6	0
Lane Group Flow (vph)	51	154	24	0	369	0	80	751	0	111	693	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm		Perm	Perm		Perm		Perm		Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4		6		6		2		2
Actuated Green, G (s)	12.7	12.7	12.7		12.7	17.9	17.9		17.9	17.9		17.9
Effective Green, g (s)	12.7	12.7	12.7		12.7	17.9	17.9		17.9	17.9		17.9
Actuated g/C Ratio	0.33	0.33	0.33		0.33	0.46	0.46		0.46	0.46		0.46
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	315	613	514		944	308	1595		276	1622		0.20
v/s Ratio Prot		0.08					c0.22					
v/s Ratio Perm	0.05		0.02		c0.13	0.12		0.19				
v/c Ratio	0.16	0.25	0.05		0.39	0.26	0.47		0.40	0.43		
Uniform Delay, d1	9.2	9.5	8.8		10.0	6.3	7.1		6.8	6.9		
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	0.2	0.2	0.0		0.3	0.5	0.2		1.0	0.2		
Delay (s)	9.4	9.7	8.9		10.2	6.8	7.3		7.8	7.1		
Level of Service	A	A	A		B	A	A		A	A		
Approach Delay (s)		9.4			10.2		7.3			7.2		
Approach LOS		A			B		A			A		
Intersection Summary												
HCM Average Control Delay			8.0		HCM Level of Service				A			
HCM Volume to Capacity ratio			0.44									
Actuated Cycle Length (s)			38.6		Sum of lost time (s)				8.0			
Intersection Capacity Utilization			61.6%		ICU Level of Service				B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 47: Maiden Ln & WalMart/Home Depot Dwy

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑	↱	↰	↑	↱
Volume (vph)	18	281	48	95	359	106	32	30	125	104	30	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97	1.00	0.98	1.00	0.99	1.00	0.99
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	0.99	1.00	0.99	1.00
Frt	1.00	0.98	1.00	1.00	1.00	0.85	1.00	0.88	1.00	0.88	1.00	0.96
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1760	1814	1759	1863	1536	1753	1598	1757	1772	1757	1772	1772
Flt Permitted	0.52	1.00	1.00	0.54	1.00	1.00	0.73	1.00	0.45	1.00	0.45	1.00
Satd. Flow (perm)	966	1814	1002	1863	1536	1344	1598	836	1772	836	1772	1772
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)	19	296	51	100	378	112	34	32	132	109	32	12
RTOR Reduction (vph)	0	2	0	0	16	0	112	0	0	10	0	0
Lane Group Flow (vph)	19	345	0	100	378	96	34	52	0	109	34	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm		Perm	Perm	Perm	Perm	Perm		Perm		Perm	
Protected Phases		4			8		2			6		6
Permitted Phases	4		8		8		2		6		6	
Actuated Green, G (s)	81.0	81.0	81.0	81.0	81.0	16.0	16.0		16.0	16.0		16.0
Effective Green, g (s)	81.0	81.0	81.0	81.0	81.0	16.0	16.0		16.0	16.0		16.0
Actuated g/C Ratio	0.77	0.77	0.77	0.77	0.77	0.15	0.15		0.15	0.15		0.15
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	745	1399	773	1437	1185	205	244		127	270		0.02
v/s Ratio Prot		0.19		c0.20			0.03					
v/s Ratio Perm	0.02		0.10		0.06	0.03		c0.13				
v/c Ratio	0.03	0.25	0.13	0.26	0.08	0.17	0.21		0.86	0.13		
Uniform Delay, d1	2.8	3.4	3.0	3.4	2.9	38.7	39.0		43.4	38.5		
Progression Factor	1.00	1.00	0.57	0.56	0.31	1.00	1.00		1.00	1.00		
Incremental Delay, d2	0.1	0.4	0.3	0.4	0.1	0.4	0.4		40.1	0.2		
Delay (s)	2.9	3.8	2.0	2.3	1.0	39.1	39.4		83.5	38.7		
Level of Service	A	A	A	A	A	D	D		F	D		
Approach Delay (s)		3.8		2.0		39.4				70.6		
Approach LOS		A		A		D				E		
Intersection Summary												
HCM Average Control Delay			16.2		HCM Level of Service				B			
HCM Volume to Capacity ratio			0.36									
Actuated Cycle Length (s)			105.0		Sum of lost time (s)				8.0			
Intersection Capacity Utilization			57.6%		ICU Level of Service				B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 48: Maiden Ln & Dawn Terr

N Wenatchee Ave
2028 PM Peak Hour - Baseline

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	168	305	368	33	11	115
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	181	328	396	35	12	124
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	436				1113	423
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	436				1113	423
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	84				94	80
cM capacity (veh/h)	1119				192	625
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	181	328	431	135		
Volume Left	181	0	0	12		
Volume Right	0	0	35	124		
cSH	1119	1700	1700	522		
Volume to Capacity	0.16	0.19	0.25	0.26		
Queue Length 95th (ft)	14	0	0	26		
Control Delay (s)	8.8	0.0	0.0	14.3		
Lane LOS	A			B		
Approach Delay (s)	3.1		0.0	14.3		
Approach LOS				B		
Intersection Summary						
Average Delay			3.3			
Intersection Capacity Utilization	49.7%		ICU Level of Service		A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 49: Maiden Ln & Western Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	18	74	94	455	422	42
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	20	82	104	506	469	47
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1217	502	521			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1217	502	521			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	85	90			
cM capacity (veh/h)	178	564	1041			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	20	82	104	506	516	
Volume Left	20	0	104	0	0	
Volume Right	0	82	0	0	47	
cSH	178	564	1041	1700	1700	
Volume to Capacity	0.11	0.15	0.10	0.30	0.30	
Queue Length 95th (ft)	9	13	8	0	0	
Control Delay (s)	27.7	12.5	8.8	0.0	0.0	
Lane LOS	D	B	A			
Approach Delay (s)	15.5		1.5		0.0	
Approach LOS	C					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization		44.9%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 50: Walnut St & Western Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↰		↰	↱
Volume (veh/h)	71	25	528	41	6	454
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	85	30	629	49	7	540
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1218	663			682	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1218	663			682	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	57	93			99	
cM capacity (veh/h)	196	457			907	
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2	
Volume Total	85	30	677	7	540	
Volume Left	85	0	0	7	0	
Volume Right	0	30	49	0	0	
cSH	196	457	1700	907	1700	
Volume to Capacity	0.43	0.07	0.40	0.01	0.32	
Queue Length 95th (ft)	50	5	0	1	0	
Control Delay (s)	36.5	13.4	0.0	9.0	0.0	
Lane LOS	E	B		A		
Approach Delay (s)	30.5		0.0	0.1		
Approach LOS	D					
Intersection Summary						
Average Delay			2.7			
Intersection Capacity Utilization			42.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 51: McKittrick St & Western Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰		↰		↰	↱
Volume (veh/h)	58	20	578	60	13	547
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	71	24	705	73	16	667
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1450	751			783	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1450	751			783	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	50	94			98	
cM capacity (veh/h)	140	407			832	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	95	778	16	667		
Volume Left	71	0	16	0		
Volume Right	24	73	0	0		
cSH	169	1700	832	1700		
Volume to Capacity	0.56	0.46	0.02	0.39		
Queue Length 95th (ft)	74	0	1	0		
Control Delay (s)	50.9	0.0	9.4	0.0		
Lane LOS	F		A			
Approach Delay (s)	50.9	0.0	0.2			
Approach LOS	F					
Intersection Summary						
Average Delay			3.2			
Intersection Capacity Utilization			46.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 52: Maple St & Western Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	17	9	40	73	3	94	50	527	91	43	605	19
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	20	11	47	86	4	111	59	620	107	51	712	22
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1684	1679	733	1666	1636	684	739			732		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1684	1679	733	1666	1636	684	739			732		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	59	87	89	0	96	75	93			94		
cM capacity (veh/h)	49	83	417	55	88	445	864			869		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total	20	58	86	114	59	727	51	734				
Volume Left	20	0	86	0	59	0	51	0				
Volume Right	0	47	0	111	0	107	0	22				
cSH	49	239	55	395	864	1700	869	1700				
Volume to Capacity	0.41	0.24	1.56	0.29	0.07	0.43	0.06	0.43				
Queue Length 95th (ft)	37	23	198	29	5	0	5	0				
Control Delay (s)	123.5	24.8	445.9	17.8	9.5	0.0	9.4	0.0				
Lane LOS	F	C	F	C	A		A					
Approach Delay (s)	50.2		201.6		0.7		0.6					
Approach LOS	F		F									
Intersection Summary												
Average Delay	24.5											
Intersection Capacity Utilization	57.8%			ICU Level of Service					B			
Analysis Period (min)	15											

HCM Signalized Intersection Capacity Analysis 53: Springwater St & Western Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	7	5	53	22	166	10	515	95	130	503	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			5.0			5.0			5.0		
Lane Util. Factor	1.00			1.00			1.00			1.00		
Frpb, ped/bikes	0.99			0.98			1.00			1.00		
Flpb, ped/bikes	1.00			1.00			1.00			1.00		
Frt	0.98			0.91			0.98			0.98		
Flt Protected	0.97			0.99			1.00			0.99		
Satd. Flow (prot)	1756			1632			1814			1798		
Flt Permitted	0.73			0.92			0.99			0.80		
Satd. Flow (perm)	1322			1511			1792			1447		
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	16	8	5	58	24	182	11	566	104	143	553	130
RTOR Reduction (vph)	0	4	0	0	89	0	0	8	0	0	8	0
Lane Group Flow (vph)	0	25	0	0	175	0	0	673	0	0	818	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	4			8			2			6		
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	12.5			12.5			46.2			46.2		
Effective Green, g (s)	12.5			12.5			46.2			46.2		
Actuated g/C Ratio	0.18			0.18			0.67			0.67		
Clearance Time (s)	5.0			5.0			5.0			5.0		
Vehicle Extension (s)	3.0			3.0			3.0			3.0		
Lane Grp Cap (vph)	241			275			1205			973		
v/s Ratio Prot												
v/s Ratio Perm	0.02			c0.12			0.38			c0.57		
v/c Ratio	0.10			0.64			0.56			0.84		
Uniform Delay, d1	23.4			26.0			5.9			8.5		
Progression Factor	1.00			1.00			1.00			1.00		
Incremental Delay, d2	0.2			4.8			0.6			6.6		
Delay (s)	23.6			30.7			6.5			15.1		
Level of Service	C			C			A			B		
Approach Delay (s)	23.6			30.7			6.5			15.1		
Approach LOS	C			C			A			B		
Intersection Summary												
HCM Average Control Delay	14.3			HCM Level of Service					B			
HCM Volume to Capacity ratio	0.80											
Actuated Cycle Length (s)	68.7			Sum of lost time (s)					10.0			
Intersection Capacity Utilization	101.9%			ICU Level of Service					G			
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 54: 9th St & Western Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	25	22	89	21	83	43	578	73	40	472	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Grade (%)	-6%			4%				0%				0%
Total Lost time (s)	3.5			3.5	3.5		3.5	3.5		3.5	3.5	
Lane Util. Factor	1.00			1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	0.99			1.00	0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00			0.99	1.00		1.00	1.00		1.00	1.00	
Frt	0.95			1.00	0.88		1.00	0.98		1.00	0.99	
Flt Protected	0.99			0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1723			1661	1516		1711	1764		1711	1786	
Flt Permitted	0.89			0.76	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1561			1334	1516		1711	1764		1711	1786	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	21	28	25	100	24	93	48	649	82	45	530	25
RTOR Reduction (vph)	0	22	0	0	80	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	52	0	100	37	0	48	727	0	45	554	0
Confl. Peds. (#/hr)	5			5	5		5	5		5	5	
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		9.2		9.2	9.2		4.7	44.6		4.7	44.6	
Effective Green, g (s)		9.7		9.7	9.7		5.2	45.1		5.2	45.1	
Actuated g/C Ratio		0.14		0.14	0.14		0.07	0.64		0.07	0.64	
Clearance Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		215		184	209		126	1128		126	1143	
v/s Ratio Prot				0.02			c0.03	c0.41		0.03	0.31	
v/s Ratio Perm		0.03		c0.07								
v/c Ratio		0.24		0.54	0.18		0.38	0.64		0.36	0.48	
Uniform Delay, d1		27.1		28.3	26.9		31.1	7.8		31.1	6.6	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6		3.3	0.4		1.9	2.8		1.7	1.5	
Delay (s)		27.7		31.6	27.3		33.0	10.6		32.8	8.1	
Level of Service		C		C	C		C	B		C	A	
Approach Delay (s)		27.7		29.3			12.0			10.0		
Approach LOS		C		C			B			A		
Intersection Summary												
HCM Average Control Delay		14.2		HCM Level of Service						B		
HCM Volume to Capacity ratio		0.61										
Actuated Cycle Length (s)		70.5		Sum of lost time (s)						10.5		
Intersection Capacity Utilization		54.3%		ICU Level of Service						A		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 55: 5th St & Western Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	118	93	72	150	186	94	90	511	63	47	510	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Grade (%)	-4%			4%				0%				0%
Total Lost time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	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	
Frt	1.00	0.93		1.00	0.95		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)	1745	1692		1676	1658		1711	1765		1711	1785	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1745	1692		1676	1658		1711	1765		1711	1785	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	139	109	85	176	219	111	106	601	74	55	600	31
RTOR Reduction (vph)	0	36	0	0	22	0	0	5	0	0	2	0
Lane Group Flow (vph)	139	158	0	176	308	0	106	670	0	55	629	0
Confl. Peds. (#/hr)	5			5	5		5	5		5	5	
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	7.9	15.3		10.5	17.9		7.5	29.0		5.1	26.6	
Effective Green, g (s)	8.4	15.8		11.0	18.4		8.0	29.5		5.6	27.1	
Actuated g/C Ratio	0.11	0.21		0.14	0.24		0.11	0.39		0.07	0.36	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	193	352		243	402		180	686		126	637	
v/s Ratio Prot	0.08	0.09		c0.10	c0.19		c0.06	c0.38		0.03	0.35	
v/s Ratio Perm												
v/c Ratio	0.72	0.45		0.72	0.77		0.59	0.98		0.44	0.99	
Uniform Delay, d1	32.6	26.3		31.0	26.7		32.4	22.9		33.6	24.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.4	0.9		10.2	8.5		4.9	29.1		2.4	32.7	
Delay (s)	45.0	27.2		41.2	35.2		37.2	52.0		36.1	57.0	
Level of Service	D	C		D	D		D	D		D	E	
Approach Delay (s)		34.6			37.3			50.0			55.3	
Approach LOS		C			D			D			E	
Intersection Summary												
HCM Average Control Delay		46.6		HCM Level of Service						D		
HCM Volume to Capacity ratio		0.82										
Actuated Cycle Length (s)		75.9		Sum of lost time (s)						10.5		
Intersection Capacity Utilization		69.7%		ICU Level of Service						C		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 56: Ohme Gardens Rd & Euclid Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Volume (veh/h)	39	0	46	43	0	39	5	372	28	30	427	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	42	0	50	47	0	42	5	404	30	33	464	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	792	982	239	778	974	217	478			435		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	792	982	239	778	974	217	478			435		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	84	100	93	82	100	95	99			97		
cM capacity (veh/h)	258	239	762	261	242	787	1080			1121		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	92	89	5	270	165	33	309	169				
Volume Left	42	47	5	0	0	33	0	0				
Volume Right	50	42	0	0	30	0	0	14				
cSH	402	382	1080	1700	1700	1121	1700	1700				
Volume to Capacity	0.23	0.23	0.01	0.16	0.10	0.03	0.18	0.10				
Queue Length 95th (ft)	22	22	0	0	0	2	0	0				
Control Delay (s)	16.6	17.3	8.3	0.0	0.0	8.3	0.0	0.0				
Lane LOS	C	C	A			A						
Approach Delay (s)	16.6	17.3	0.1			0.5						
Approach LOS	C	C										
Intersection Summary												
Average Delay	3.0											
Intersection Capacity Utilization	31.9%			ICU Level of Service					A			
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 57: WB SR 2 On-Ramp & Euclid Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Volume (veh/h)	0	0	26	467	287	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	28	508	312	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	622	156	312			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	622	156	312			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	98			
cM capacity (veh/h)	409	862	1245			
Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	
Volume Total	28	254	254	156	156	
Volume Left	28	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1245	1700	1700	1700	1700	
Volume to Capacity	0.02	0.15	0.15	0.09	0.09	
Queue Length 95th (ft)	2	0	0	0	0	
Control Delay (s)	8.0	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s)	0.4			0.0		
Approach LOS						
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			17.9%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 58: WB SR 2 Off-Ramp & Euclid Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	109	209	285	0	0	287
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	118	227	310	0	0	312
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None			None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	466	155			310	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	466	155			310	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	77	74			100	
cM capacity (veh/h)	526	863			1248	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	346	155	155	156	156	
Volume Left	118	0	0	0	0	
Volume Right	227	0	0	0	0	
cSH	707	1700	1700	1700	1700	
Volume to Capacity	0.49	0.09	0.09	0.09	0.09	
Queue Length 95th (ft)	68	0	0	0	0	
Control Delay (s)	14.9	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	14.9	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			5.3			
Intersection Capacity Utilization		33.5%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 63: EB SR 2 Ramps & Euclid Ave

N Wenatchee Ave
2028 PM Peak Hour - Baseline

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	20	171	238	133	262
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	22	186	259	145	285
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	775	145	429			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	775	145	429			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	84			
cM capacity (veh/h)	306	903	1130			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	22	186	259	145	285	
Volume Left	0	186	0	0	0	
Volume Right	22	0	0	0	285	
cSH	903	1130	1700	1700	1700	
Volume to Capacity	0.02	0.16	0.15	0.09	0.17	
Queue Length 95th (ft)	2	15	0	0	0	
Control Delay (s)	9.1	8.8	0.0	0.0	0.0	
Lane LOS	A	A				
Approach Delay (s)	9.1	3.7		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization		32.4%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 1: Penny Rd & Lower Sunnyslope Rd

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	5	0	10	0	0	10
Volume (veh/h)	5	0	10	0	0	10
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63
Hourly flow rate (vph)	8	0	16	0	0	16
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	42	26			21	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	42	26			21	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	961	1041			1588	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	8	16	16			
Volume Left	8	0	0			
Volume Right	0	0	0			
cSH	961	1700	1588			
Volume to Capacity	0.01	0.01	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.8	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.8	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization		16.4%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 2: SR 2 & School St

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		1208	3	78	1587	0	0	0	5	0	0	0
Volume (veh/h)		1208	3	78	1587	0	0	0	5	0	0	0
Sign Control		Free			Free			Stop				Stop
Grade		0%			0%			0%				0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1313	3	85	1725	0	0	0	5	0	0	0
Pedestrians		5			5			5				5
Lane Width (ft)		12.0			12.0			12.0				12.0
Walking Speed (ft/s)		4.0			4.0			4.0				4.0
Percent Blockage		0			0			0				0
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1730			1321			2357	3219	668	2567	3221	872
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1730			1321			2357	3219	668	2567	3221	872
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			84			100	100	99	100	100	100
cM capacity (veh/h)	359			517			16	8	397	11	8	291
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1				
Volume Total	875	441	85	862	862	0	5	0				
Volume Left	0	0	85	0	0	0	0	0				
Volume Right	0	3	0	0	0	0	5	0				
cSH	1700	1700	517	1700	1700	1700	397	1700				
Volume to Capacity	0.51	0.26	0.16	0.51	0.51	0.00	0.01	0.00				
Queue Length 95th (ft)	0	0	15	0	0	0	1	0				
Control Delay (s)	0.0	0.0	13.3	0.0	0.0	0.0	14.2	0.0				
Lane LOS			B				B	A				
Approach Delay (s)	0.0		0.6				14.2	0.0				
Approach LOS							B	A				
Intersection Summary												
Average Delay				0.4								
Intersection Capacity Utilization		55.4%			ICU Level of Service		B					
Analysis Period (min)		15										

HCM Unsignalized Intersection Capacity Analysis 3: Melody Ln & School St

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	0	0	10	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	0	0	0	0	12	0
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	34	10			5	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	34	10			5	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	964	1062			1610	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	0	0	12			
Volume Left	0	0	12			
Volume Right	0	0	0			
cSH	1700	1700	1610			
Volume to Capacity	0.00	0.00	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.0	7.3			
Lane LOS	A		A			
Approach Delay (s)	0.0	0.0	7.3			
Approach LOS	A					
Intersection Summary						
Average Delay			7.3			
Intersection Capacity Utilization		16.4%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 4: Peters St & School St

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	5	10	127	17	12	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	11	135	18	13	0
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	180	154			158	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	180	154			158	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			99	
cM capacity (veh/h)	796	884			1415	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	16	153	13			
Volume Left	5	0	13			
Volume Right	11	18	0			
cSH	853	1700	1415			
Volume to Capacity	0.02	0.09	0.01			
Queue Length 95th (ft)	1	0	1			
Control Delay (s)	9.3	0.0	7.6			
Lane LOS	A		A			
Approach Delay (s)	9.3	0.0	7.6			
Approach LOS	A					
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization		21.5%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

5: Easy St & School St

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	210	14	0	214	208	107	39	10	149	0	39
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	23	219	15	0	223	217	111	41	10	155	0	41
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	445			238			654	721	236	644	620	341
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	445			238			654	721	236	644	620	341
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			68	88	99	54	100	94
cM capacity (veh/h)	1111			1323			347	343	796	336	392	695
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	256	440	162	196								
Volume Left	23	0	111	155								
Volume Right	15	217	10	41								
cSH	1111	1323	359	376								
Volume to Capacity	0.02	0.00	0.45	0.52								
Queue Length 95th (ft)	2	0	57	72								
Control Delay (s)	0.9	0.0	23.1	24.5								
Lane LOS	A		C	C								
Approach Delay (s)	0.9	0.0	23.1	24.5								
Approach LOS			C	C								
Intersection Summary												
Average Delay	8.3											
Intersection Capacity Utilization	50.1%			ICU Level of Service			A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

6: Peters St & Easy St

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	6	40	10	10	43	39	434	69	40	381	0
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	6	43	11	11	46	42	467	74	43	410	0
Pedestrians	5			5			5			5		
Lane Width (ft)	12.0			12.0			12.0			12.0		
Walking Speed (ft/s)	4.0			4.0			4.0			4.0		
Percent Blockage	0			0			0			0		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)	432											
pX, platoon unblocked	0.86	0.86		0.86	0.86	0.86				0.86		
vC, conflicting volume	1145	1130	420	1140	1093	514	415			546		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1086	1069	420	1079	1025	349	415			386		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	96	93	92	94	92	96			96		
cM capacity (veh/h)	136	173	628	141	184	590	1140			1000		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	49	68	583	453								
Volume Left	0	11	42	43								
Volume Right	43	46	74	0								
cSH	468	318	1140	1000								
Volume to Capacity	0.11	0.21	0.04	0.04								
Queue Length 95th (ft)	9	20	3	3								
Control Delay (s)	13.6	19.4	1.0	1.3								
Lane LOS	B	C	A	A								
Approach Delay (s)	13.6	19.4	1.0	1.3								
Approach LOS	B	C										
Intersection Summary												
Average Delay	2.7											
Intersection Capacity Utilization	53.9%			ICU Level of Service			A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 7: Ohme Garden Rd & Easy St

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	17	42	24	652	487	22
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	19	47	27	724	541	24
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					506	
pX, platoon unblocked	0.92	0.92	0.92			
vC, conflicting volume	1341	563	571			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1327	479	487			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	91	97			
cM capacity (veh/h)	153	537	993			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	66	751	566			
Volume Left	19	27	0			
Volume Right	47	0	24			
cSH	312	993	1700			
Volume to Capacity	0.21	0.03	0.33			
Queue Length 95th (ft)	19	2	0			
Control Delay (s)	19.6	0.7	0.0			
Lane LOS	C	A				
Approach Delay (s)	19.6	0.7	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		1.3				
Intersection Capacity Utilization		65.8%		ICU Level of Service	C	
Analysis Period (min)		15				

HCM Signalized Intersection Capacity Analysis 9: Penny Rd & Easy St

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	131	0	0	387	227	34	559	62	244	0	715
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	5.0	4.5		5.0	4.5	4.5
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	0.95
Flpb, ped/bikes		1.00			1.00	0.97	1.00	1.00		1.00	0.98	0.98
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt		1.00			1.00	0.85	1.00	0.99		1.00	0.85	0.85
Flt Protected		1.00			1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1897			1900	1569	1805	3546		1805	1511	1511
Flt Permitted		0.86			1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1643			1900	1569	1805	3546		1805	1511	1511
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	5	168	0	0	496	291	44	717	79	313	0	917
RTOR Reduction (vph)	0	0	0	0	0	208	0	13	0	0	180	180
Lane Group Flow (vph)	0	173	0	0	496	83	44	783	0	313	279	278
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm				Perm		Prot			Prot		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4					8						6
Actuated Green, G (s)		18.4			18.4	18.4	4.6	19.4		12.7	27.5	27.5
Effective Green, g (s)		18.4			18.4	18.4	4.6	19.4		12.7	27.5	27.5
Actuated g/C Ratio		0.29			0.29	0.29	0.07	0.30		0.20	0.43	0.43
Clearance Time (s)		4.5			4.5	4.5	5.0	4.5		5.0	4.5	4.5
Vehicle Extension (s)		3.0			2.5	2.5	3.0	2.5		3.0	2.5	2.5
Lane Grp Cap (vph)	469				542	448	129	1067		355	644	644
v/s Ratio Prot					c0.26		0.02	c0.22		c0.17	0.18	
v/s Ratio Perm	0.11					0.05						0.18
v/c Ratio	0.37				0.92	0.19	0.34	0.73		0.88	0.43	0.43
Uniform Delay, d1	18.4				22.3	17.4	28.5	20.2		25.2	13.0	13.0
Progression Factor	1.00				1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5				20.1	0.1	1.6	2.5		21.7	0.3	0.3
Delay (s)	18.9				42.4	17.5	30.1	22.7		46.9	13.4	13.3
Level of Service	B				D	B	C	C		D	B	B
Approach Delay (s)	18.9				33.2			23.1			21.9	
Approach LOS	B				C			C			C	
Intersection Summary												
HCM Average Control Delay		25.0			HCM Level of Service			C				
HCM Volume to Capacity ratio		0.84										
Actuated Cycle Length (s)		64.5			Sum of lost time (s)			14.0				
Intersection Capacity Utilization		65.4%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
10: Horan Rd & SR 285 Off-Ramp

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis
11: Cordell Ave & Penny Rd

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕						↕	
Volume (vph)	0	57	134	474	293	0	0	0	0	72	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0						3.5	
Lane Util. Factor		1.00		0.95	0.95						1.00	
Flpb, ped/bikes		0.98		1.00	1.00						1.00	
Flpb, ped/bikes		1.00		1.00	1.00						1.00	
Frt		0.91		1.00	1.00						0.99	
Flt Protected		1.00		0.95	0.99						0.96	
Satd. Flow (prot)		1694		1715	1782						1791	
Flt Permitted		1.00		0.95	0.99						0.96	
Satd. Flow (perm)		1694		1715	1782						1791	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	0	73	172	608	376	0	0	0	0	92	0	9
RTOR Reduction (vph)	0	135	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	110	0	480	504	0	0	0	0	0	93	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split			Split						Split		
Protected Phases	6	6		2	2					8	8	
Permitted Phases												
Actuated Green, G (s)		6.6		20.7	20.7						5.8	
Effective Green, g (s)		7.1		21.2	21.2						6.3	
Actuated g/C Ratio		0.15		0.46	0.46						0.14	
Clearance Time (s)		4.5		4.5	4.5						4.0	
Vehicle Extension (s)		2.5		2.5	2.5						2.5	
Lane Grp Cap (vph)		261		789	819						245	
v/s Ratio Prot		c0.06		0.28	c0.28						c0.05	
v/s Ratio Perm												
v/c Ratio		0.42		0.61	0.62						0.38	
Uniform Delay, d1		17.6		9.3	9.4						18.1	
Progression Factor		1.00		1.00	1.00						1.00	
Incremental Delay, d2		0.8		1.1	1.2						0.7	
Delay (s)		18.4		10.5	10.6						18.8	
Level of Service		B		B	B						B	
Approach Delay (s)		18.4			10.5			0.0			18.8	
Approach LOS		B			B			A			B	
Intersection Summary												
HCM Average Control Delay			12.6			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			46.1			Sum of lost time (s)				11.5		
Intersection Capacity Utilization			54.6%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 12: Peters St & Burch Mountain Rd

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	92	33	38	6	28	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	95	34	39	6	29	5
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	50				276	52
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	50				276	52
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				96	99
cM capacity (veh/h)	1550				664	1007
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	129	45	34			
Volume Left	95	0	29			
Volume Right	0	6	5			
cSH	1550	1700	701			
Volume to Capacity	0.06	0.03	0.05			
Queue Length 95th (ft)	5	0	4			
Control Delay (s)	5.6	0.0	10.4			
Lane LOS	A		B			
Approach Delay (s)	5.6	0.0	10.4			
Approach LOS			B			
Intersection Summary						
Average Delay		5.2				
Intersection Capacity Utilization		25.0%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 13: Peters St & Ohme Garden Rd

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	41	0	0	0	0	0	0	0	0	5	65	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	46	0	0	0	0	0	0	0	0	6	73	0
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	94	94	83	94	94	10	78			5		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	94	94	83	94	94	10	78			5		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	100	100	100	100	100			100		
cM capacity (veh/h)	874	786	968	874	786	1062	1514			1610		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	46	0	0	79								
Volume Left	46	0	0	6								
Volume Right	0	0	0	0								
cSH	874	1700	1700	1610								
Volume to Capacity	0.05	0.00	0.00	0.00								
Queue Length 95th (ft)	4	0	0	0								
Control Delay (s)	9.3	0.0	0.0	0.5								
Lane LOS	A	A		A								
Approach Delay (s)	9.3	0.0	0.0	0.5								
Approach LOS	A	A										
Intersection Summary												
Average Delay				3.8								
Intersection Capacity Utilization			17.3%		ICU Level of Service	A						
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 14: Ohme Garden Rd & Ohme Rd

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	87	70	10	74	94	80	0	10	34	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	11	96	77	11	81	103	88	0	11	37	0	0
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	190			178			321	373	144	332	359	143
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	190			178			321	373	144	332	359	143
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			86	100	99	94	100	100
cM capacity (veh/h)	1378			1393			615	544	896	598	554	897
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	184	196	99	37								
Volume Left	11	11	88	37								
Volume Right	77	103	11	0								
cSH	1378	1393	637	598								
Volume to Capacity	0.01	0.01	0.16	0.06								
Queue Length 95th (ft)	1	1	14	5								
Control Delay (s)	0.5	0.5	11.7	11.4								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.5	0.5	11.7	11.4								
Approach LOS			B	B								
Intersection Summary												
Average Delay			3.4									
Intersection Capacity Utilization			25.9%	ICU Level of Service		A						
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 15: Gunn Rd & Euclid Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	89	0	0	1036	749	63
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	114	0	0	1328	960	81
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					560	
pX, platoon unblocked	0.52	0.52	0.52			
vC, conflicting volume	2339	1011	1046			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3106	563	631			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	100	100			
cM capacity (veh/h)	7	272	495			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	114	0	0	1328	1041	
Volume Left	114	0	0	0	0	
Volume Right	0	0	0	0	81	
cSH	7	1700	1700	1700	1700	
Volume to Capacity	17.18	0.00	0.00	0.78	0.61	
Queue Length 95th (ft)	Err	0	0	0	0	
Control Delay (s)	Err	0.0	0.0	0.0	0.0	
Lane LOS	F	A				
Approach Delay (s)	Err		0.0		0.0	
Approach LOS	F					
Intersection Summary						
Average Delay	459.4					
Intersection Capacity Utilization	67.4%			ICU Level of Service		C
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis
16: Penny Rd & Euclid Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	
Volume (vph)	150	20	41	1	22	51	236	719	1	21	477	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.97		1.00	1.00		1.00	1.00		1.00	1.00	0.96
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.89		1.00	0.90		1.00	1.00		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)	1759	1618		1770	1668		1770	1862		1770	1863	1523
Flt Permitted	0.47	1.00		0.71	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	868	1618		1317	1668		1770	1862		1770	1863	1523
Peak-hour factor, PHF	0.75	0.92	0.75	0.92	0.92	0.92	0.75	0.75	0.92	0.92	0.75	0.75
Adj. Flow (vph)	200	22	55	1	24	55	315	959	1	23	636	353
RTOR Reduction (vph)	0	46	0	0	50	0	0	0	0	0	0	113
Lane Group Flow (vph)	200	31	0	1	29	0	315	960	0	23	636	240
Confl. Peds. (#/hr)	5		5				5					5
Turn Type	pm+pt			pm+pt			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	25.4	19.5		10.8	9.9		26.2	71.8		4.4	50.0	50.0
Effective Green, g (s)	25.4	19.5		10.8	9.9		26.2	71.8		4.4	50.0	50.0
Actuated g/C Ratio	0.22	0.17		0.09	0.08		0.22	0.62		0.04	0.43	0.43
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	269	271		125	142		398	1147		67	799	653
v/s Ratio Prot	c0.07	0.02		0.00	0.02		c0.18	c0.52		0.01	0.34	
v/s Ratio Perm	c0.09			0.00								0.16
v/c Ratio	0.74	0.12		0.01	0.20		0.79	0.84		0.34	0.80	0.37
Uniform Delay, d1	40.9	41.2		48.0	49.7		42.6	17.8		54.7	28.9	22.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	10.6	0.2		0.0	0.7		10.3	5.5		3.1	5.5	0.4
Delay (s)	51.5	41.4		48.1	50.4		52.9	23.2		57.7	34.4	22.9
Level of Service	D	D		D	D		D	C		E	C	C
Approach Delay (s)		48.7			50.3			30.6			30.9	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM Average Control Delay		33.2			HCM Level of Service			C				
HCM Volume to Capacity ratio		0.82										
Actuated Cycle Length (s)		116.6			Sum of lost time (s)			15.0				
Intersection Capacity Utilization		68.7%			ICU Level of Service			C				
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
17: Horse Lake Rd & Wenatchee Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	
Volume (vph)	127	0	39	51	8	77	26	1624	1	16	1438	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.98		1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85		1.00	0.85	1.00	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1760	1556		1778	1556	1770	3539	1583	1770	3539	1583	1583
Flt Permitted	0.72	1.00		0.64	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1328	1556		1182	1556	1770	3539	1583	1770	3539	1583	1583
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)	134	0	41	54	8	81	27	1709	1	17	1514	225
RTOR Reduction (vph)	0	0	34	0	0	68	0	0	0	0	0	76
Lane Group Flow (vph)	0	134	7	0	62	14	27	1709	1	17	1514	149
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm		Perm	Perm		Perm	Prot		Prot	Prot		Prot
Protected Phases		4			8		5	2		2	1	6
Permitted Phases	4		4		8							6
Actuated Green, G (s)		15.0	15.0		15.0	15.0	2.5	56.6	56.6	2.4	56.5	56.5
Effective Green, g (s)		15.0	15.0		15.0	15.0	2.5	56.6	56.6	2.4	56.5	56.5
Actuated g/C Ratio		0.17	0.17		0.17	0.17	0.03	0.63	0.63	0.03	0.63	0.63
Clearance Time (s)		5.0	5.0		5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		221	259		197	259	49	2226	996	47	2222	994
v/s Ratio Prot							c0.02	c0.48	0.00	0.01	0.43	0.09
v/s Ratio Perm		c0.10	0.00		0.05	0.01						
v/c Ratio		0.61	0.03		0.31	0.05	0.55	0.77	0.00	0.36	0.68	0.15
Uniform Delay, d1		34.8	31.4		33.0	31.5	43.2	12.0	6.2	43.0	10.9	6.9
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		4.6	0.0		0.9	0.1	12.7	2.6	0.0	4.7	1.7	0.3
Delay (s)		39.4	31.4		33.9	31.6	55.9	14.6	6.2	47.7	12.6	7.2
Level of Service		D	C		C	C	E	B	A	D	B	A
Approach Delay (s)		37.5			32.6			15.2			12.3	
Approach LOS		D			C			B			B	
Intersection Summary												
HCM Average Control Delay		15.5			HCM Level of Service			B				
HCM Volume to Capacity ratio		0.67										
Actuated Cycle Length (s)		90.0			Sum of lost time (s)			10.0				
Intersection Capacity Utilization		74.8%			ICU Level of Service			D				
Analysis Period (min)		15										

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 18: REF Dwy 1 & Wenatchee Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕		↕	↕
Volume (veh/h)	0	0	0	0	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			388			343
pX, platoon unblocked						
vC, conflicting volume	10	10			5	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	10	10			5	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	1000	1060			1608	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			16.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis 19: Maiden Ln & Wenatchee Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔		↔	↕	↕	↔
Volume (vph)	372	155	25	224	1331	1306	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		5.0	5.0	5.0	5.0
Lane Util. Factor	0.97	1.00		*0.69	0.95	0.95	1.00
Flpb, 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	0.85		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	1.00
Satd. Flow (prot)	3433	1583		2442	3539	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	1.00
Satd. Flow (perm)	3433	1583		2442	3539	3539	1583
Peak-hour factor, PHF	0.96	0.96	0.92	0.96	0.96	0.96	0.96
Adj. Flow (vph)	388	161	27	233	1386	1360	265
RTOR Reduction (vph)	0	131	0	0	0	0	115
Lane Group Flow (vph)	388	30	0	260	1386	1360	150
Confl. Peds. (#/hr)	5	5	5	5			5
Turn Type		Prot		Prot			Prot
Protected Phases	4	4	5	5	2	6	6
Permitted Phases							
Actuated Green, G (s)	16.9	16.9		14.0	64.1	45.1	45.1
Effective Green, g (s)	16.9	16.9		14.0	64.1	45.1	45.1
Actuated g/C Ratio	0.19	0.19		0.16	0.71	0.50	0.50
Clearance Time (s)	4.0	4.0		5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	645	297		380	2521	1773	793
v/s Ratio Prot	c0.11	0.02		c0.11	0.39	c0.38	0.09
v/s Ratio Perm							
v/c Ratio	0.60	0.10		0.68	0.55	0.77	0.19
Uniform Delay, d1	33.5	30.3		35.9	6.1	18.2	12.4
Progression Factor	0.82	0.48		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.1		5.0	0.9	3.2	0.5
Delay (s)	28.9	14.8		40.9	7.0	21.4	12.9
Level of Service	C	B		D	A	C	B
Approach Delay (s)	24.7				12.4	20.0	
Approach LOS	C				B	C	
Intersection Summary							
HCM Average Control Delay			17.4		HCM Level of Service		B
HCM Volume to Capacity ratio			0.72				
Actuated Cycle Length (s)			90.0		Sum of lost time (s)		14.0
Intersection Capacity Utilization			70.1%		ICU Level of Service		C
Analysis Period (min)			15				

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis

20: REF Dwy 2 & Wenatchee Ave

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								1063			770	
pX, platoon unblocked												
vC, conflicting volume	10	10	10	10	10	10	5			5		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	10	10	10	10	10	10	5			5		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	992	877	1060	992	877	1060	1608			1608		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	0	0	0	0	0	0	0	0				
Volume Left	0	0	0	0	0	0	0	0				
Volume Right	0	0	0	0	0	0	0	0				
cSH	1700	1700	1700	1700	1700	1700	1700	1700				
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Queue Length 95th (ft)	0	0	0	0	0	0	0	0				
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Lane LOS	A	A										
Approach Delay (s)	0.0	0.0	0.0			0.0						
Approach LOS	A	A										
Intersection Summary												
Average Delay				0.0								
Intersection Capacity Utilization			16.4%			ICU Level of Service			A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

21: Hawley St & Wenatchee Ave

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔	↔	↔		↔	↔	
Volume (vph)	109	22	45	55	38	218	111	1385	35	139	983	249
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00		1.00	1.00	
Flpb, ped/bikes		1.00	0.98		1.00	0.99		1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85		1.00		1.00	0.97	
Flt Protected		0.96	1.00		0.97	1.00		0.95		1.00	0.95	
Satd. Flow (prot)		1782	1556		1805	1568		1770		3524	1770	3412
Flt Permitted		0.69	1.00		0.76	1.00		0.95		1.00	0.95	1.00
Satd. Flow (perm)		1275	1556		1407	1568		1770		3524	1770	3412
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)	115	23	47	58	40	229	117	1458	37	146	1035	262
RTOR Reduction (vph)	0	0	38	0	0	9	0	2	0	0	22	0
Lane Group Flow (vph)	0	138	9	0	98	220	117	1493	0	146	1275	0
Confl. Peds. (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm		pm+ov	Prot			Prot		
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8		8	4		4						
Actuated Green, G (s)		17.2	17.2		17.2	30.5	11.7	47.5		13.3	49.1	
Effective Green, g (s)		17.2	17.2		17.2	30.5	11.7	47.5		13.3	49.1	
Actuated g/C Ratio		0.19	0.19		0.19	0.34	0.13	0.53		0.15	0.55	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		244	297		269	601	230	1860		262	1861	
v/s Ratio Prot						0.05	0.07	c0.42		c0.08	0.37	
v/s Ratio Perm		c0.11	0.01		0.07	0.09						
v/c Ratio		0.57	0.03		0.36	0.37	0.51	0.80		0.56	0.69	
Uniform Delay, d1		33.0	29.6		31.6	22.5	36.5	17.4		35.6	14.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		4.9	0.1		1.8	0.8	3.7	3.8		4.3	2.1	
Delay (s)		37.9	29.7		33.4	23.3	40.1	21.2		39.9	16.9	
Level of Service		D	C		C	C	D	C		D	B	
Approach Delay (s)		35.8			26.3			22.6			19.2	
Approach LOS		D			C			C			B	
Intersection Summary												
HCM Average Control Delay			22.3			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			72.9%			ICU Level of Service			C			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

22: REF Dwy 3 & Wenatchee Ave

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								559			548	
pX, platoon unblocked												
vC, conflicting volume	10	10	10	10	10	10	5			5		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	10	10	10	10	10	10	5			5		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	992	877	1060	992	877	1060	1608			1608		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	0	0	0	0	0	0	0	0				
Volume Left	0	0	0	0	0	0	0	0				
Volume Right	0	0	0	0	0	0	0	0				
cSH	1700	1700	1700	1700	1700	1700	1700	1700				
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Queue Length 95th (ft)	0	0	0	0	0	0	0	0				
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Lane LOS	A	A										
Approach Delay (s)	0.0	0.0	0.0			0.0						
Approach LOS	A	A										
Intersection Summary												
Average Delay					0.0							
Intersection Capacity Utilization			16.4%			ICU Level of Service			A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

23: McKittrick St & Wenatchee Ave

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔		↔	↔		↔	↔	
Volume (vph)	104	1	88	15	8	22	82	1398	15	15	1090	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Flpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.89		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1755	1560		1770	1660		1770	3533		1770	3522	
Flt Permitted	0.74	1.00		0.70	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1359	1560		1298	1660		1770	3533		1770	3522	
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Adj. Flow (vph)	108	1	92	16	9	24	85	1456	16	16	1135	31
RTOR Reduction (vph)	0	78	0	0	20	0	0	1	0	0	2	0
Lane Group Flow (vph)	108	15	0	16	13	0	85	1471	0	16	1164	0
Confl. Peds. (#/hr)	5		5				5					5
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	14.1	14.1		14.1	14.1		7.8	60.1		0.8	53.1	
Effective Green, g (s)	14.1	14.1		14.1	14.1		7.8	60.1		0.8	53.1	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.09	0.67		0.01	0.59	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	213	244		203	260		153	2359		16	2078	
v/s Ratio Prot		0.01			0.01		c0.05	c0.42		0.01	0.33	
v/s Ratio Perm	c0.08			0.01								
v/c Ratio	0.51	0.06		0.08	0.05		0.56	0.62		1.00	0.56	
Uniform Delay, d1	34.8	32.3		32.4	32.3		39.4	8.5		44.6	11.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.9	0.1		0.2	0.1		4.3	1.3		225.0	1.1	
Delay (s)	36.7	32.4		32.6	32.3		43.8	9.8		269.6	12.4	
Level of Service	D	C		C	C		D	A		F	B	
Approach Delay (s)		34.7			32.4			11.6			15.9	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM Average Control Delay			15.2			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			15.0			
Intersection Capacity Utilization			68.8%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis

24: REF Dwy 4 & Wenatchee Ave

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop				Stop				Free				
Grade	0%				0%				0%				
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	5				5				5				
Lane Width (ft)	12.0				12.0				12.0				
Walking Speed (ft/s)	4.0				4.0				4.0				
Percent Blockage	0				0				0				
Right turn flare (veh)													
Median type									None		None		
Median storage (veh)													
Upstream signal (ft)									836		786		
pX, platoon unblocked													
vC, conflicting volume	10	10	10	10	10	10	5						5
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	10	10	10	10	10	10	5						5
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1						4.1
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2						2.2
p0 queue free %	100	100	100	100	100	100	100						100
cM capacity (veh/h)	992	877	1060	992	877	1060	1608						1608
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3					
Volume Total	0	0	0	0	0	0	0	0					
Volume Left	0	0	0	0	0	0	0	0					
Volume Right	0	0	0	0	0	0	0	0					
cSH	1700	1700	1700	1700	1700	1700	1700	1700					
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Queue Length 95th (ft)	0	0	0	0	0	0	0	0					
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Lane LOS	A	A											
Approach Delay (s)	0.0	0.0	0.0	0.0									
Approach LOS	A	A											
Intersection Summary													
Average Delay	0.0												
Intersection Capacity Utilization	16.4%				ICU Level of Service				A				
Analysis Period (min)	15												

HCM Signalized Intersection Capacity Analysis

25: Maple St & Wenatchee Ave

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	175	39	159	0	0	31	179	1121	10	25	35	964
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0				5.0	4.0	4.0			5.0	4.0
Lane Util. Factor	1.00	1.00				1.00	1.00	0.95			1.00	0.91
Frpb, ped/bikes	1.00	0.98				1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes	0.99	1.00				1.00	1.00	1.00			1.00	1.00
Frt	1.00	0.88				0.86	1.00	1.00			1.00	0.98
Flt Protected	0.95	1.00				1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1755	1614				1611	1770	3534			1770	4958
Flt Permitted	0.95	1.00				1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	1755	1614				1611	1770	3534			1770	4958
Peak-hour factor, PHF	0.98	0.92	0.98	0.98	0.98	0.98	0.98	0.98	0.92	0.92	0.92	0.98
Adj. Flow (vph)	179	42	162	0	0	32	183	1144	11	27	38	984
RTOR Reduction (vph)	0	133	0	0	0	26	0	0	0	0	0	20
Lane Group Flow (vph)	179	71	0	0	0	6	183	1155	0	0	65	1125
Confl. Peds. (#/hr)	5		5				5			5		
Turn Type	Perm					custom	Prot			Prot	Prot	
Protected Phases		4					1	6		5	5	2
Permitted Phases	4					8						
Actuated Green, G (s)	15.9	15.9				15.9	15.3	52.9			7.2	45.8
Effective Green, g (s)	15.9	15.9				15.9	15.3	52.9			7.2	45.8
Actuated g/C Ratio	0.18	0.18				0.18	0.17	0.59			0.08	0.51
Clearance Time (s)	5.0	5.0				5.0	4.0	4.0			5.0	4.0
Vehicle Extension (s)	3.0	3.0				5.0	5.0	5.0			3.0	5.0
Lane Grp Cap (vph)	310	285				285	301	2077			142	2523
v/s Ratio Prot		0.04					c0.10	c0.33			0.04	0.23
v/s Ratio Perm	c0.10					0.00						
v/c Ratio	0.58	0.25				0.02	0.61	0.56			0.46	0.45
Uniform Delay, d1	34.0	31.9				30.6	34.6	11.4			39.5	14.0
Progression Factor	1.00	1.00				1.00	0.90	0.97			1.00	1.00
Incremental Delay, d2	2.6	0.5				0.1	2.9	0.6			2.3	0.6
Delay (s)	36.6	32.4				30.7	34.0	11.6			41.9	14.6
Level of Service	D	C				C	C	B			D	B
Approach Delay (s)		34.3			30.7			14.7				16.1
Approach LOS		C			C			B				B
Intersection Summary												
HCM Average Control Delay	18.0			HCM Level of Service				B				
HCM Volume to Capacity ratio	0.56											
Actuated Cycle Length (s)	90.0			Sum of lost time (s)				9.0				
Intersection Capacity Utilization	64.3%			ICU Level of Service				C				
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

25: Maple St & Wenatchee Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement		SBR
Left		
Left C Configurations		
Volume (vph)	158	
Ideal Flow (vphpl)	1900	
Total Lost time (s)		
Lane Util. Factor		
Frb, ped/bikes		
Flpb, ped/bikes		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Peak-hour factor, PHF	0.98	
Adj. Flow (vph)	161	
RTOR Reduction (vph)	0	
Lane Group Flow (vph)	0	
Confl. Peds. (#/hr)	5	
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		

HCM Signalized Intersection Capacity Analysis

26: Wenatchee Ave & Miller St

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕	↗↗		↕↕		↗↗	↖		↗↗	↕↕	
Volume (vph)	0	396	841	0	442	261	1102	667	19	311	496	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		5.0	5.0	
Lane Util. Factor		0.95	0.88		0.95		0.97	1.00		0.97	0.95	
Frpb, ped/bikes		1.00	0.99		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	
Frt		1.00	0.85		0.94		1.00	1.00		1.00	1.00	
Flt Protected		1.00	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3539	2767		3303		3433	1854		3433	3530	
Flt Permitted		1.00	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3539	2767		3303		3433	1854		3433	3530	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	440	934	0	491	290	1224	741	21	346	551	9
RTOR Reduction (vph)	0	0	6	0	96	0	0	1	0	0	2	0
Lane Group Flow (vph)	0	440	928	0	685	0	1224	761	0	346	558	0
Conf. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type		pm+ov					Split			Split		
Protected Phases		2	8		6		8	8		4	4	
Permitted Phases			2									
Actuated Green, G (s)		19.0	62.0		19.0		43.0	43.0		15.0	15.0	
Effective Green, g (s)		19.0	62.0		19.0		43.0	43.0		15.0	15.0	
Actuated g/C Ratio		0.21	0.69		0.21		0.48	0.48		0.17	0.17	
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0		5.0	5.0	
Vehicle Extension (s)		5.0	5.0		5.0		5.0	5.0		3.0	3.0	
Lane Grp Cap (vph)		747	2029		697		1640	886		572	588	
v/s Ratio Prot		0.12	0.22		c0.21		0.36	c0.41		0.10	c0.16	
v/s Ratio Perm			0.12									
v/c Ratio		0.59	0.46		0.98		0.75	0.86		0.60	0.95	
Uniform Delay, d1		32.0	6.4		35.3		19.1	20.8		34.8	37.1	
Progression Factor		0.97	0.49		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.8	0.3		29.7		3.1	10.6		1.8	24.9	
Delay (s)		32.7	3.4		65.1		22.2	31.4		36.6	62.0	
Level of Service		C	A		E		C	C		D	E	
Approach Delay (s)		12.8			65.1			25.7			52.3	
Approach LOS		B			E			C			D	
Intersection Summary												
HCM Average Control Delay			33.1		HCM Level of Service				C			
HCM Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			90.0		Sum of lost time (s)				13.0			
Intersection Capacity Utilization			77.0%		ICU Level of Service				D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

27: REF Dwy 5 & Miller St

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				413	518	
pX, platoon unblocked						
vC, conflicting volume	10	10	5			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	10	10	5			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1000	1060	1608			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0			0.0	
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			16.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

28: Albertsons/Mission St & Miller St

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	59	0	88	99	131	1246	25	699	0	0	1300	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor	1.00		1.00		1.00	0.88	1.00	0.95			0.91	
Flpb, ped/bikes	1.00		0.98		1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes	1.00		1.00		1.00	1.00	1.00	1.00			1.00	
Frt	1.00		0.85		1.00	0.85	1.00	1.00			1.00	
Flt Protected	0.95		1.00		0.98	1.00	0.95	1.00			1.00	
Satd. Flow (prot)	1770		1556		1824	2787	1770	3539			5076	
Flt Permitted	0.95		1.00		0.98	1.00	0.95	1.00			1.00	
Satd. Flow (perm)	1770		1556		1824	2787	1770	3539			5076	
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)	62	0	93	104	138	1312	26	736	0	0	1368	14
RTOR Reduction (vph)	0	0	82	0	0	388	0	0	0	0	1	0
Lane Group Flow (vph)	62	0	11	0	242	924	26	736	0	0	1381	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot		custom	Split		custom	Prot					
Protected Phases	3			4	4	4 5	1	6			2	
Permitted Phases			3									
Actuated Green, G (s)	10.3		10.3		30.0	42.1	2.0	25.6			31.7	
Effective Green, g (s)	10.3		10.3		30.0	42.1	2.0	25.6			31.7	
Actuated g/C Ratio	0.11		0.11		0.33	0.47	0.02	0.28			0.35	
Clearance Time (s)	4.0		4.0		4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0		3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	203		178		608	1304	39	1007			1788	
v/s Ratio Prot	c0.04				0.13	c0.33	0.01	0.21			c0.27	
v/s Ratio Perm			0.01									
v/c Ratio	0.31		0.06		0.40	0.71	0.67	0.73			0.77	
Uniform Delay, d1	36.6		35.5		23.1	19.1	43.7	29.1			25.9	
Progression Factor	1.00		1.00		1.00	1.00	1.58	0.30			1.00	
Incremental Delay, d2	0.9		0.1		0.4	1.8	24.8	3.1			3.3	
Delay (s)	37.4		35.7		23.5	20.9	93.8	11.8			29.2	
Level of Service	D		D		C	C	F	B			C	
Approach Delay (s)		36.4			21.3			14.6			29.2	
Approach LOS		D			C			B			C	
Intersection Summary												
HCM Average Control Delay			23.4		HCM Level of Service			C				
HCM Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			90.0		Sum of lost time (s)			8.0				
Intersection Capacity Utilization			80.7%		ICU Level of Service			D				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

29: Springwater St & Miller St

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗	↘				↗	↘		↗	↘	
Volume (vph)	51	256	143	0	0	0	263	702	43	843	603	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0				4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00				1.00	0.95		0.97	0.95	
Frpb, ped/bikes		1.00	0.98				1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00				1.00	1.00		1.00	1.00	
Frt		1.00	0.85				1.00	0.99		1.00	0.98	
Flt Protected		0.99	1.00				0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1847	1556				1770	3505		3433	3438	
Flt Permitted		0.99	1.00				0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1847	1556				1770	3505		3433	3438	
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)	53	267	149	0	0	0	274	731	45	878	628	121
RTOR Reduction (vph)	0	0	115	0	0	0	0	5	0	0	16	0
Lane Group Flow (vph)	0	320	34	0	0	0	274	771	0	878	733	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Split		Perm				Split		Split			
Protected Phases	8	8					1	1		2	2	
Permitted Phases			8									
Actuated Green, G (s)		20.7	20.7				24.9	24.9		32.4	32.4	
Effective Green, g (s)		20.7	20.7				24.9	24.9		32.4	32.4	
Actuated g/C Ratio		0.23	0.23				0.28	0.28		0.36	0.36	
Clearance Time (s)		4.0	4.0				4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0				3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		425	358				490	970		1236	1238	
v/s Ratio Prot		c0.17					0.15	c0.22		c0.26	0.21	
v/s Ratio Perm			0.02									
v/c Ratio		0.75	0.10				0.56	0.79		0.71	0.59	
Uniform Delay, d1		32.3	27.3				27.9	30.2		24.8	23.4	
Progression Factor		1.00	1.00				1.00	1.00		0.29	0.24	
Incremental Delay, d2		7.4	0.1				1.4	4.6		2.7	1.6	
Delay (s)		39.7	27.4				29.2	34.7		9.9	7.2	
Level of Service		D	C				C	C		A	A	
Approach Delay (s)		35.8			0.0			33.3			8.7	
Approach LOS		D			A			C			A	
Intersection Summary												
HCM Average Control Delay		20.9			HCM Level of Service					C		
HCM Volume to Capacity ratio		0.75										
Actuated Cycle Length (s)		90.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		77.9%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

30: 9th St & Chelan Ave

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗	↘		↗	↘		↗	↘	↗	↘	↘
Volume (vph)	0	145	173	139	383	0	0	0	0	92	1076	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5							5.1
Lane Util. Factor		0.95			0.95							0.91
Frpb, ped/bikes		0.99			1.00							1.00
Flpb, ped/bikes		1.00			1.00							1.00
Frt		0.92			1.00							0.99
Flt Protected		1.00			0.99							1.00
Satd. Flow (prot)		3221			3490							5028
Flt Permitted		1.00			0.76							1.00
Satd. Flow (perm)		3221			2676							5028
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	158	188	151	416	0	0	0	0	100	1170	58
RTOR Reduction (vph)	0	21	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	325	0	0	567	0	0	0	0	0	1320	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type				Perm						Perm		
Protected Phases		8			4						2	
Permitted Phases				4							2	
Actuated Green, G (s)		22.0			22.0						27.4	
Effective Green, g (s)		22.0			22.0						27.4	
Actuated g/C Ratio		0.37			0.37						0.46	
Clearance Time (s)		5.5			5.5						5.1	
Lane Grp Cap (vph)		1181			981						2296	
v/s Ratio Prot		0.10										
v/s Ratio Perm					c0.21						0.26	
v/c Ratio		0.28			0.58						0.57	
Uniform Delay, d1		13.4			15.3						12.0	
Progression Factor		1.00			1.09						1.00	
Incremental Delay, d2		0.6			2.1						1.1	
Delay (s)		14.0			18.9						13.1	
Level of Service		B			B						B	
Approach Delay (s)		14.0			18.9			0.0			13.1	
Approach LOS		B			B			A			B	
Intersection Summary												
HCM Average Control Delay		14.7			HCM Level of Service					B		
HCM Volume to Capacity ratio		0.58										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)			10.6				
Intersection Capacity Utilization		69.5%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 31: 5th St & Chelan Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						  	
Volume (vph)	0	200	339	142	426	0	0	0	0	93	1332	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		5.5			5.5						5.1	
Lane Util. Factor		0.95			0.95						0.91	
Frpb, ped/bikes		0.99			1.00						1.00	
Flpb, ped/bikes		1.00			1.00						1.00	
Frt		0.91			1.00						0.99	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		2665			2935						4052	
Flt Permitted		1.00			0.67						1.00	
Satd. Flow (perm)		2665			2000						4052	
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	211	357	149	448	0	0	0	0	98	1402	157
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	0	0	21	0
Lane Group Flow (vph)	0	558	0	0	597	0	0	0	0	0	1636	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Parking (#/hr)										0	0	0
Turn Type	Perm				Perm				Perm			
Protected Phases	8				4				2			
Permitted Phases					4				2			
Actuated Green, G (s)	22.0				22.0				27.4			
Effective Green, g (s)	22.0				22.0				27.4			
Actuated g/C Ratio	0.37				0.37				0.46			
Clearance Time (s)	5.5				5.5				5.1			
Lane Grp Cap (vph)	977				733				1850			
v/s Ratio Prot	0.21											
v/s Ratio Perm					c0.30				0.40			
v/c Ratio	0.57				0.81				0.88			
Uniform Delay, d1	15.2				17.2				14.9			
Progression Factor	1.00				0.93				0.63			
Incremental Delay, d2	2.4				5.5				5.9			
Delay (s)	17.6				21.5				15.2			
Level of Service	B				C				B			
Approach Delay (s)	17.6				21.5				15.2			
Approach LOS	B				C				A			
Intersection Summary												
HCM Average Control Delay	17.0				HCM Level of Service				B			
HCM Volume to Capacity ratio	0.85											
Actuated Cycle Length (s)	60.0				Sum of lost time (s)				10.6			
Intersection Capacity Utilization	86.3%				ICU Level of Service				E			
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 32: 9th St & Mission St

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↖↑			↖↑			↖↑↗					
Volume (vph)	68	171	0	0	259	77	275	1311	90	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.9			4.9			4.9					
Lane Util. Factor		0.95			0.95			0.91					
Frpb, ped/bikes		1.00			1.00			1.00					
Flpb, ped/bikes		1.00			1.00			1.00					
Frt		1.00			0.97			0.99					
Flt Protected		0.99			1.00			0.99					
Satd. Flow (prot)		3487			3404			4995					
Flt Permitted		0.77			1.00			0.99					
Satd. Flow (perm)		2728			3404			4995					
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	74	186	0	0	282	84	299	1425	98	0	0	0	
RTOR Reduction (vph)	0	0	0	0	18	0	0	10	0	0	0	0	
Lane Group Flow (vph)	0	260	0	0	348	0	0	1812	0	0	0	0	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5	
Turn Type	Perm				Perm								
Protected Phases	4				8				6				
Permitted Phases	4								6				
Actuated Green, G (s)	19.1				19.1				31.1				
Effective Green, g (s)	19.1				19.1				31.1				
Actuated g/C Ratio	0.32				0.32				0.52				
Clearance Time (s)	4.9				4.9				4.9				
Lane Grp Cap (vph)	868				1084				2589				
v/s Ratio Prot					c0.10								
v/s Ratio Perm	0.10								0.36				
v/c Ratio	0.30				0.32				0.70				
Uniform Delay, d1	15.4				15.5				10.9				
Progression Factor	0.99				1.00				0.31				
Incremental Delay, d2	0.8				0.8				0.1				
Delay (s)	16.2				16.3				3.6				
Level of Service	B				B				A				
Approach Delay (s)	16.2				16.3				3.6				0.0
Approach LOS	B				B				A				A
Intersection Summary													
HCM Average Control Delay	6.8				HCM Level of Service				A				
HCM Volume to Capacity ratio	0.56												
Actuated Cycle Length (s)	60.0				Sum of lost time (s)				9.8				
Intersection Capacity Utilization	77.4%				ICU Level of Service				D				
Analysis Period (min)	15												
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis 33: 5th St & Mission St

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			  				
Volume (vph)	78	185	0	0	217	53	361	1521	81	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.9			4.9			4.9				
Lane Util. Factor		0.95			0.95			0.91				
Frpb, ped/bikes		1.00			1.00			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.97			0.99				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		2927			2876			4060				
Flt Permitted		0.76			1.00			0.99				
Satd. Flow (perm)		2271			2876			4060				
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	93	220	0	0	258	63	430	1811	96	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	8	0	0	0	0
Lane Group Flow (vph)	0	313	0	0	315	0	0	2329	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Parking (#/hr)							0	0	0			
Turn Type	Perm					Perm						
Protected Phases	8				4			6				
Permitted Phases	8							6				
Actuated Green, G (s)	19.1				19.1			31.1				
Effective Green, g (s)	19.1				19.1			31.1				
Actuated g/C Ratio	0.32				0.32			0.52				
Clearance Time (s)	4.9				4.9			4.9				
Lane Grp Cap (vph)	723				916			2104				
v/s Ratio Prot					0.11							
v/s Ratio Perm	c0.14							0.57				
v/c Ratio	0.43				0.34			1.11				
Uniform Delay, d1	16.2				15.7			14.4				
Progression Factor	1.00				1.00			1.00				
Incremental Delay, d2	1.9				1.0			55.8				
Delay (s)	18.1				16.7			70.3				
Level of Service	B				B			E				
Approach Delay (s)	18.1				16.7			70.3			0.0	
Approach LOS	B				B			E			A	
Intersection Summary												
HCM Average Control Delay	59.0		HCM Level of Service		E							
HCM Volume to Capacity ratio	0.85											
Actuated Cycle Length (s)	60.0		Sum of lost time (s)		9.8							
Intersection Capacity Utilization	87.3%		ICU Level of Service		E							
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 34: 9th St & Wenatchee Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↗	↔↔		↗	↔↔	
Volume (vph)	71	100	55	60	179	13	58	584	30	3	685	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Flrb, 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		0.96			0.99		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)		3343			3465		1770	3510		1770	3443	
Flt Permitted		0.79			0.84		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2694			2930		1770	3510		1770	3443	
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)	75	105	58	63	188	14	61	615	32	3	721	142
RTOR Reduction (vph)	0	36	0	0	4	0	0	3	0	0	15	0
Lane Group Flow (vph)	0	202	0	0	261	0	61	644	0	3	848	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)		13.4			13.4		5.1	24.8		1.0	20.7	
Effective Green, g (s)		13.4			13.4		5.1	24.8		1.0	20.7	
Actuated g/C Ratio		0.26			0.26		0.10	0.48		0.02	0.40	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		4.0			4.0		5.0	3.0		5.0	3.0	
Lane Grp Cap (vph)		705			767		176	1700		35	1392	
v/s Ratio Prot							c0.03	0.18		0.00	c0.25	
v/s Ratio Perm		0.07			c0.09							
v/c Ratio		0.29			0.34		0.35	0.38		0.09	0.61	
Uniform Delay, d1		15.1			15.3		21.5	8.3		24.7	12.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3			0.4		2.5	0.1		2.2	0.8	
Delay (s)		15.4			15.7		24.0	8.5		26.9	12.8	
Level of Service		B			B		C	A		C	B	
Approach Delay (s)		15.4			15.7			9.8			12.9	
Approach LOS		B			B			A			B	
Intersection Summary												
HCM Average Control Delay			12.5		HCM Level of Service					B		
HCM Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			51.2		Sum of lost time (s)					12.0		
Intersection Capacity Utilization			59.2%		ICU Level of Service					B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

35: 5th St & Wenatchee Ave

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Volume (vph)	53	95	97	11	71	71	78	572	26	70	496	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0		4.0		
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Flpb, ped/bikes		0.99			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		0.94			0.93		1.00	0.99		1.00	0.98	
Flt Protected		0.99			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3273			3259		1770	3514		1770	3446	
Flt Permitted		0.86			0.93		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2847			3028		1770	3514		1770	3446	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	59	106	108	12	79	79	87	636	29	78	551	106
RTOR Reduction (vph)	0	81	0	0	59	0	0	3	0	0	16	0
Lane Group Flow (vph)	0	192	0	0	111	0	87	662	0	78	641	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)		10.9			10.9		4.6	16.0		4.5	15.9	
Effective Green, g (s)		10.9			10.9		4.6	16.0		4.5	15.9	
Actuated g/C Ratio		0.25			0.25		0.11	0.37		0.10	0.37	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		715			760		188	1295		184	1262	
v/s Ratio Prot							c0.05	c0.19		0.04	0.19	
v/s Ratio Perm		c0.07			0.04							
v/c Ratio		0.27			0.15		0.46	0.51		0.42	0.51	
Uniform Delay, d1		13.0			12.6		18.2	10.7		18.2	10.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			0.1		1.8	0.3		1.6	0.3	
Delay (s)		13.3			12.7		20.0	11.0		19.8	11.0	
Level of Service		B			B		C	B		B	B	
Approach Delay (s)		13.3			12.7			12.0			12.0	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM Average Control Delay		12.2			HCM Level of Service			B				
HCM Volume to Capacity ratio		0.37										
Actuated Cycle Length (s)		43.4			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		52.3%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

36: Walla Walla Ave & Miller St

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Volume (veh/h)	0	0	888	0	0	832
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	0	0	1083	0	0	1015
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2108	1093			1088	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2108	1093			1088	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	56	258			639	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	0	1083	1015			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	639			
Volume to Capacity	0.00	0.64	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		58.3%		ICU Level of Service		B
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 37: 5th St & Piere St

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	56	171	134	13	107	57
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	64	194	152	15	122	65
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		628				
pX, platoon unblocked						
vC, conflicting volume	172				491	170
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	172				491	170
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				76	93
cM capacity (veh/h)	1399				508	867
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	64	194	167	186		
Volume Left	64	0	0	122		
Volume Right	0	0	15	65		
cSH	1399	1700	1700	593		
Volume to Capacity	0.05	0.11	0.10	0.31		
Queue Length 95th (ft)	4	0	0	33		
Control Delay (s)	7.7	0.0	0.0	13.8		
Lane LOS	A			B		
Approach Delay (s)	1.9		0.0	13.8		
Approach LOS				B		
Intersection Summary						
Average Delay			5.0			
Intersection Capacity Utilization			32.2%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 38: Walnut St & Pine St

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	96	44	192	199	24	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	108	49	216	224	27	90
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)				396		
pX, platoon unblocked						
vC, conflicting volume			162		798	143
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			162		798	143
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			85		91	90
cM capacity (veh/h)			1411		298	897
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	157	216	224	117		
Volume Left	0	216	0	27		
Volume Right	49	0	0	90		
cSH	1700	1411	1700	613		
Volume to Capacity	0.09	0.15	0.13	0.19		
Queue Length 95th (ft)	0	13	0	17		
Control Delay (s)	0.0	8.0	0.0	12.2		
Lane LOS		A		B		
Approach Delay (s)	0.0	3.9		12.2		
Approach LOS				B		
Intersection Summary						
Average Delay			4.4			
Intersection Capacity Utilization			37.1%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 39: McKittrick St & Pine St

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	192	175	0	0	58
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	213	194	0	0	64
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	199				418	204
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	199				418	204
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	92
cM capacity (veh/h)	1367				587	829
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	213	194	64			
Volume Left	0	0	0			
Volume Right	0	0	64			
cSH	1367	1700	829			
Volume to Capacity	0.00	0.11	0.08			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.0	0.0	9.7			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.7			
Approach LOS			A			
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization		22.3%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 40: Maple St & Princeton Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	28	162	0	104	212	24	0	264	69	22	218	34
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	33	188	0	121	247	28	0	307	80	26	253	40
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)					909							
pX, platoon unblocked												
vC, conflicting volume	279			193			918	780	198	1000	766	270
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	279			193			918	780	198	1000	766	270
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			91			100	0	90	0	14	95
cM capacity (veh/h)	1278			1374			59	288	836	0	293	762
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1					
Volume Total	33	188	121	274	0	387	319					
Volume Left	33	0	121	0	0	0	26					
Volume Right	0	0	0	28	0	80	40					
cSH	1278	1700	1374	1700	1700	333	0					
Volume to Capacity	0.03	0.11	0.09	0.16	0.00	1.16	Err					
Queue Length 95th (ft)	2	0	7	0	0	397	Err					
Control Delay (s)	7.9	0.0	7.9	0.0	0.0	135.7	Err					
Lane LOS	A		A		A	F	F					
Approach Delay (s)	1.2		2.4		135.7		Err					
Approach LOS					F		F					
Intersection Summary												
Average Delay			Err									
Intersection Capacity Utilization			58.2%	ICU Level of Service		B						
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

41: Springwater St & Princeton Ave

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔		↔	↔	
Volume (vph)	53	160	2	31	244	118	38	190	37	144	114	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00			1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99			1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00			1.00		1.00	1.00	
Frt		1.00			0.96			0.98		1.00	0.95	
Flt Protected		0.99			1.00			0.99		0.95	1.00	
Satd. Flow (prot)		1836			1766			1807		1763	1751	
Flt Permitted		0.85			0.96			0.93		0.61	1.00	
Satd. Flow (perm)		1574			1702			1689		1141	1751	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	60	182	2	35	277	134	43	216	42	164	130	68
RTOR Reduction (vph)	0	1	0	0	28	0	0	11	0	0	34	0
Lane Group Flow (vph)	0	243	0	0	418	0	0	290	0	164	164	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		15.2			15.2			12.8		12.8	12.8	
Effective Green, g (s)		15.2			15.2			12.8		12.8	12.8	
Actuated g/C Ratio		0.40			0.40			0.34		0.34	0.34	
Clearance Time (s)		5.0			5.0			5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		630			681			569		384	590	
v/s Ratio Prot											0.09	
v/s Ratio Perm	0.15				0.25			0.17		0.14		
v/c Ratio	0.39				0.61			0.51		0.43	0.28	
Uniform Delay, d1	8.1				9.1			10.1		9.8	9.2	
Progression Factor	1.00				1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.4				1.6			0.8		0.8	0.3	
Delay (s)	8.5				10.7			10.9		10.5	9.5	
Level of Service	A				B			B		B	A	
Approach Delay (s)	8.5				10.7			10.9			10.0	
Approach LOS	A				B			B			A	
Intersection Summary												
HCM Average Control Delay		10.1			HCM Level of Service			B				
HCM Volume to Capacity ratio		0.57										
Actuated Cycle Length (s)		38.0			Sum of lost time (s)			10.0				
Intersection Capacity Utilization		61.9%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

42: 9th St & Princeton Ave

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔		↔	↔	
Volume (veh/h)	95	173	2	19	221	83	2	72	0	20	98	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	104	190	2	21	243	91	2	79	0	22	108	22
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	339			197			816	786	201	780	741	298
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	339			197			816	786	201	780	741	298
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	91			98			99	73	100	90	65	97
cM capacity (veh/h)	1215			1370			191	289	833	226	307	735
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	297	355	81	152								
Volume Left	104	21	2	22								
Volume Right	2	91	0	22								
cSH	1215	1370	285	317								
Volume to Capacity	0.09	0.02	0.28	0.48								
Queue Length 95th (ft)	7	1	29	61								
Control Delay (s)	3.4	0.6	22.6	26.3								
Lane LOS	A	A	C	D								
Approach Delay (s)	3.4	0.6	22.6	26.3								
Approach LOS			C	D								
Intersection Summary												
Average Delay		8.0										
Intersection Capacity Utilization		56.6%			ICU Level of Service			B				
Analysis Period (min)		15										

HCM Unsignalized Intersection Capacity Analysis 43: 5th St & Princeton Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (veh/h)	10	303	3	18	554	30	18	43	25	24	57	35
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	12	352	3	21	644	35	21	50	29	28	66	41
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	684			361			1165	1108	364	1145	1093	672
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	684			361			1165	1108	364	1145	1093	672
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			81	75	96	79	68	91
cM capacity (veh/h)	905			1193			113	202	675	132	206	452

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	367	700	100	135
Volume Left	12	21	21	28
Volume Right	3	35	29	41
cSH	905	1193	210	216
Volume to Capacity	0.01	0.02	0.48	0.62
Queue Length 95th (ft)	1	1	58	91
Control Delay (s)	0.4	0.5	36.8	45.7
Lane LOS	A	A	E	E
Approach Delay (s)	0.4	0.5	36.8	45.7
Approach LOS		E	E	

Intersection Summary			
Average Delay	7.9		
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis 45: 5th St & Miller St

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	110	252	57	198	373	67	78	658	96	71	532	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	0.97	1.00	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	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1535	1770	1863	1554	1770	3458		1770	1863	1535
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1535	1770	1863	1554	1770	3458		1770	1863	1535
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)	116	265	60	208	393	71	82	693	101	75	560	122
RTOR Reduction (vph)	0	0	23	0	0	17	0	5	0	0	0	40
Lane Group Flow (vph)	116	265	37	208	393	54	82	789	0	75	560	82
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot		Perm	Prot		Perm	Prot		Prot		Perm	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						2
Actuated Green, G (s)	13.4	25.9	25.9	19.3	31.8	31.8	11.1	41.0		10.6	40.5	40.5
Effective Green, g (s)	13.4	25.9	25.9	19.3	31.8	31.8	11.1	41.0		10.6	40.5	40.5
Actuated g/C Ratio	0.12	0.23	0.23	0.17	0.28	0.28	0.10	0.36		0.09	0.36	0.36
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	210	428	352	303	525	438	174	1257		166	669	551
v/s Ratio Prot	0.07	0.14		c0.12	c0.21		c0.05	0.23		0.04	c0.30	
v/s Ratio Perm			0.02			0.03						0.05
v/c Ratio	0.55	0.62	0.10	0.69	0.75	0.12	0.47	0.63		0.45	0.84	0.15
Uniform Delay, d1	46.9	39.0	34.3	43.9	36.9	30.1	48.1	29.6		48.4	33.1	24.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.1	2.7	0.1	6.3	5.8	0.1	2.0	1.0		2.0	9.0	0.1
Delay (s)	50.0	41.7	34.4	50.2	42.6	30.3	50.1	30.6		50.3	42.1	24.6
Level of Service	D	D	C	D	D	C	D	C		D	D	C
Approach Delay (s)		42.9			43.7			32.4			40.1	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	39.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	112.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

46: 9th St & Miller St

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑	↱	↰	↑	↱
Volume (vph)	52	125	65	91	225	80	84	671	106	115	659	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00		0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		0.97		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1767	1863	1560		3382		1768	3455		1767	3481	
Flt Permitted	0.49	1.00	1.00		0.86		0.31	1.00		0.29	1.00	
Satd. Flow (perm)	911	1863	1560		2925		575	3455		532	3481	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	136	71	99	245	87	91	729	115	125	716	79
RTOR Reduction (vph)	0	0	48	0	32	0	0	13	0	0	9	0
Lane Group Flow (vph)	57	136	23	0	399	0	91	831	0	125	787	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm		Perm	Perm		Perm		Perm		Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	13.9	13.9	13.9		13.9		21.9	21.9		21.9	21.9	
Effective Green, g (s)	13.9	13.9	13.9		13.9		21.9	21.9		21.9	21.9	
Actuated g/C Ratio	0.32	0.32	0.32		0.32		0.50	0.50		0.50	0.50	
Clearance Time (s)	4.0	4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	289	591	495		928		288	1728		266	1741	
v/s Ratio Prot		0.07						0.24			0.23	
v/s Ratio Perm	0.06		0.01		0.14		0.16			0.23		
v/c Ratio	0.20	0.23	0.05		0.43		0.32	0.48		0.47	0.45	
Uniform Delay, d1	10.9	11.0	10.4		11.8		6.5	7.2		7.2	7.1	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.2	0.0		0.3		0.6	0.2		1.3	0.2	
Delay (s)	11.2	11.2	10.4		12.1		7.1	7.4		8.5	7.3	
Level of Service	B	B	B		B		A	A		A	A	
Approach Delay (s)		11.0			12.1			7.4			7.4	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM Average Control Delay		8.6			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.46										
Actuated Cycle Length (s)		43.8			Sum of lost time (s)		8.0					
Intersection Capacity Utilization		63.7%			ICU Level of Service		B					
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

47: Maiden Ln & WalMart/Home Depot Dwy

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑	↱	↰	↑	↱
Volume (vph)	8	300	33	110	246	115	28	30	129	105	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	0.98		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	0.99	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.88		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1759	1830		1760	1863	1538	1755	1599		1758	1778	
Flt Permitted	0.60	1.00		0.54	1.00	1.00	0.73	1.00		0.49	1.00	
Satd. Flow (perm)	1109	1830		996	1863	1538	1347	1599		909	1778	
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)	8	316	35	116	259	121	29	32	136	111	32	11
RTOR Reduction (vph)	0	2	0	0	0	31	0	113	0	0	9	0
Lane Group Flow (vph)	8	349	0	116	259	90	29	55	0	111	34	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8		2			6		6
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	66.9	66.9		66.9	66.9	66.9	15.1	15.1		15.1	15.1	
Effective Green, g (s)	66.9	66.9		66.9	66.9	66.9	15.1	15.1		15.1	15.1	
Actuated g/C Ratio	0.74	0.74		0.74	0.74	0.74	0.17	0.17		0.17	0.17	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	824	1360		740	1385	1143	226	268		153	298	
v/s Ratio Prot		0.19			0.14		0.03				0.02	
v/s Ratio Perm	0.01			0.12		0.06	0.02			0.12		
v/c Ratio	0.01	0.26		0.16	0.19	0.08	0.13	0.20		0.73	0.11	
Uniform Delay, d1	3.0	3.7		3.4	3.4	3.1	31.9	32.3		35.5	31.8	
Progression Factor	1.00	1.00		0.86	0.83	1.09	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.1		0.4	0.3	0.1	0.3	0.4		15.7	0.2	
Delay (s)	3.0	3.8		3.3	3.1	3.5	32.1	32.7		51.2	31.9	
Level of Service	A	A		A	A	A	C	C		D	C	
Approach Delay (s)		3.7			3.3		32.6				45.8	
Approach LOS		A			A		C				D	
Intersection Summary												
HCM Average Control Delay		13.6			HCM Level of Service			B				
HCM Volume to Capacity ratio		0.34										
Actuated Cycle Length (s)		90.0			Sum of lost time (s)		8.0					
Intersection Capacity Utilization		56.7%			ICU Level of Service		B					
Analysis Period (min)		15										

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
48: Maiden Ln & Dawn Terr

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	73	302	251	17	0	190
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	78	325	270	18	0	204
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	293				771	289
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	293				771	289
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				100	73
cM capacity (veh/h)	1263				343	744
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	78	325	288	204		
Volume Left	78	0	0	0		
Volume Right	0	0	18	204		
cSH	1263	1700	1700	744		
Volume to Capacity	0.06	0.19	0.17	0.27		
Queue Length 95th (ft)	5	0	0	28		
Control Delay (s)	8.0	0.0	0.0	11.7		
Lane LOS	A			B		
Approach Delay (s)	1.6		0.0	11.7		
Approach LOS				B		
Intersection Summary						
Average Delay			3.4			
Intersection Capacity Utilization			40.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
49: Maiden Ln & Western Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	22	70	93	354	377	44
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	24	78	103	393	419	49
Pedestrians		5		5	5	
Lane Width (ft)		12.0		12.0	12.0	
Walking Speed (ft/s)		4.0		4.0	4.0	
Percent Blockage		0		0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1053	453		473		
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1053	453		473		
tC, single (s)	6.4	6.2		4.1		
tC, 2 stage (s)						
tF (s)	3.5	3.3		2.2		
p0 queue free %	89	87		90		
cM capacity (veh/h)	225	601		1085		
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	
Volume Total	24	78	103	393	468	
Volume Left	24	0	103	0	0	
Volume Right	0	78	0	0	49	
cSH	225	601	1085	1700	1700	
Volume to Capacity	0.11	0.13	0.10	0.23	0.28	
Queue Length 95th (ft)	9	11	8	0	0	
Control Delay (s)	23.0	11.9	8.7	0.0	0.0	
Lane LOS	C	B	A			
Approach Delay (s)	14.5		1.8		0.0	
Approach LOS		B				
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utilization			42.6%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 50: Walnut St & Western Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	100	52	394	39	14	394
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	119	62	469	46	17	469
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1005	502			520	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1005	502			520	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	54	89			98	
cM capacity (veh/h)	261	564			1041	
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2	
Volume Total	119	62	515	17	469	
Volume Left	119	0	0	17	0	
Volume Right	0	62	46	0	0	
cSH	261	564	1700	1041	1700	
Volume to Capacity	0.46	0.11	0.30	0.02	0.28	
Queue Length 95th (ft)	56	9	0	1	0	
Control Delay (s)	29.8	12.2	0.0	8.5	0.0	
Lane LOS	D	B		A		
Approach Delay (s)	23.8		0.0	0.3		
Approach LOS	C					
Intersection Summary						
Average Delay			3.8			
Intersection Capacity Utilization			36.6%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 51: McKittrick St & Western Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	72	10	446	94	12	517
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	88	12	544	115	15	630
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1271	611			664	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1271	611			664	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	51	98			98	
cM capacity (veh/h)	181	490			921	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	100	659	15	630		
Volume Left	88	0	15	0		
Volume Right	12	115	0	0		
cSH	196	1700	921	1700		
Volume to Capacity	0.51	0.39	0.02	0.37		
Queue Length 95th (ft)	64	0	1	0		
Control Delay (s)	41.1	0.0	9.0	0.0		
Lane LOS	E		A			
Approach Delay (s)	41.1	0.0	0.2			
Approach LOS	E					
Intersection Summary						
Average Delay			3.0			
Intersection Capacity Utilization			41.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

52: Maple St & Western Ave

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	8	35	58	9	81	41	430	77	41	580	22
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	26	9	41	68	11	95	48	506	91	48	682	26
Pedestrians	5			5			5			5		
Lane Width (ft)	12.0			12.0			12.0			12.0		
Walking Speed (ft/s)	4.0			4.0			4.0			4.0		
Percent Blockage	0			0			0			0		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1505	1495	705	1482	1462	561	713				601	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1505	1495	705	1482	1462	561	713				601	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	62	91	90	14	91	82	95				95	
cM capacity (veh/h)	69	110	433	79	115	523	883				972	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total	26	51	68	106	48	596	48	708				
Volume Left	26	0	68	0	48	0	48	0				
Volume Right	0	41	0	95	0	91	0	26				
cSH	69	279	79	385	883	1700	972	1700				
Volume to Capacity	0.38	0.18	0.86	0.27	0.05	0.35	0.05	0.42				
Queue Length 95th (ft)	36	16	110	28	4	0	4	0				
Control Delay (s)	85.8	20.7	154.7	17.8	9.3	0.0	8.9	0.0				
Lane LOS	F	C	F	C	A		A					
Approach Delay (s)	42.7		71.5		0.7		0.6					
Approach LOS	E		F									
Intersection Summary												
Average Delay	10.0											
Intersection Capacity Utilization	51.1%			ICU Level of Service			A					
Analysis Period (min)	15											

HCM Signalized Intersection Capacity Analysis

53: Springwater St & Western Ave

N Wenatchee Ave

2028 PM Peak Hour - Preferred Alt

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	7	5	74	23	110	10	441	81	103	476	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.93			0.98			0.98	
Flt Protected		0.97			0.98			1.00			0.99	
Satd. Flow (prot)		1758			1668			1815			1796	
Flt Permitted		0.78			0.87			0.99			0.85	
Satd. Flow (perm)		1419			1474			1791			1533	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	21	8	5	81	25	121	11	485	89	113	523	134
RTOR Reduction (vph)	0	4	0	0	75	0	0	10	0	0	11	0
Lane Group Flow (vph)	0	30	0	0	152	0	0	575	0	0	759	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		10.4			10.4			32.5			32.5	
Effective Green, g (s)		10.4			10.4			32.5			32.5	
Actuated g/C Ratio		0.20			0.20			0.61			0.61	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		279			290			1100			942	
v/s Ratio Prot												
v/s Ratio Perm		0.02			c0.10			0.32			c0.50	
v/c Ratio		0.11			0.53			0.52			0.81	
Uniform Delay, d1		17.4			19.0			5.8			7.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			1.7			0.5			5.1	
Delay (s)		17.6			20.8			6.2			12.9	
Level of Service		B			C			A			B	
Approach Delay (s)		17.6			20.8			6.2			12.9	
Approach LOS		B			C			A			B	
Intersection Summary												
HCM Average Control Delay			11.7			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			52.9			Sum of lost time (s)				10.0		
Intersection Capacity Utilization			92.5%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
54: 9th St & Western Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	25	22	89	22	29	40	554	88	40	476	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Grade (%)		-6%			4%			0%			0%	
Total Lost time (s)		3.5		3.5		3.5		3.5		3.5		3.5
Lane Util. Factor		1.00		1.00		1.00		1.00		1.00		1.00
Frpb, ped/bikes		0.99		1.00		0.98		1.00		1.00		1.00
Flpb, ped/bikes		1.00		0.99		1.00		1.00		1.00		1.00
Frt		0.95		1.00		0.91		1.00		0.98		0.99
Flt Protected		0.99		0.95		1.00		0.95		1.00		1.00
Satd. Flow (prot)		1724		1663		1587		1711		1757		1711
Flt Permitted		0.91		0.81		1.00		0.95		1.00		0.95
Satd. Flow (perm)		1586		1422		1587		1711		1757		1711
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	28	25	100	25	33	45	622	99	45	535	26
RTOR Reduction (vph)	0	21	0	0	28	0	0	6	0	0	2	0
Lane Group Flow (vph)	0	54	0	100	30	0	45	715	0	45	559	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		8.6		8.6		8.6		3.0	35.3		3.0	35.3
Effective Green, g (s)		9.1		9.1		9.1		3.5	35.8		3.5	35.8
Actuated g/C Ratio		0.15		0.15		0.15		0.06	0.61		0.06	0.61
Clearance Time (s)		4.0		4.0		4.0		4.0	4.0		4.0	4.0
Vehicle Extension (s)		3.0		3.0		3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		245		220		245		102	1068		102	1086
v/s Ratio Prot				0.02			c0.03	c0.41		0.03		0.31
v/s Ratio Perm		0.03		c0.07								
v/c Ratio		0.22		0.45		0.12		0.44	0.67		0.44	0.52
Uniform Delay, d1		21.8		22.6		21.5		26.8	7.6		26.8	6.6
Progression Factor		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.5		1.5		0.2		3.0	3.3		3.0	1.7
Delay (s)		22.2		24.1		21.7		29.8	11.0		29.8	8.3
Level of Service		C		C		C		C	B		C	A
Approach Delay (s)		22.2				23.2			12.1			9.9
Approach LOS		C				C			B			A
Intersection Summary												
HCM Average Control Delay				12.8			HCM Level of Service					B
HCM Volume to Capacity ratio				0.61								
Actuated Cycle Length (s)				58.9			Sum of lost time (s)					10.5
Intersection Capacity Utilization				53.1%			ICU Level of Service					A
Analysis Period (min)				15								

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
55: 5th St & Western Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	132	77	70	146	182	81	89	499	60	50	511	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Grade (%)			-4%		4%			0%			0%	
Total Lost time (s)		3.5		3.5		3.5		3.5		3.5		3.5
Lane Util. Factor		1.00		1.00		1.00		1.00		1.00		1.00
Frpb, ped/bikes		1.00		0.98		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		0.93		1.00		0.95		1.00		0.99
Flt Protected		0.95		1.00		0.95		1.00		0.95		1.00
Satd. Flow (prot)		1745		1679		1676		1666		1711		1765
Flt Permitted		0.95		1.00		0.95		1.00		0.95		1.00
Satd. Flow (perm)		1745		1679		1676		1666		1711		1765
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	155	91	82	172	214	95	105	587	71	59	601	31
RTOR Reduction (vph)	0	36	0	0	18	0	0	5	0	0	2	0
Lane Group Flow (vph)	155	137	0	172	291	0	105	653	0	59	630	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	10.4	16.2		10.7	16.5		8.0	36.5		6.9	35.4	
Effective Green, g (s)	10.9	16.7		11.2	17.0		8.5	37.0		7.4	35.9	
Actuated g/C Ratio	0.13	0.19		0.13	0.20		0.10	0.43		0.09	0.42	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	220	325		218	328		169	757		147	742	
v/s Ratio Prot	0.09	0.08		c0.10	c0.17		c0.06	c0.37		0.03	0.35	
v/s Ratio Perm												
v/c Ratio	0.70	0.42		0.79	0.89		0.62	0.86		0.40	0.85	
Uniform Delay, d1	36.2	30.6		36.4	33.7		37.4	22.4		37.4	22.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.8	0.9		17.1	23.9		6.9	12.5		1.8	11.7	
Delay (s)	46.0	31.4		53.5	57.6		44.3	34.8		39.1	34.4	
Level of Service	D	C		D	E		D	C		D	C	
Approach Delay (s)		38.3			56.1			36.1			34.8	
Approach LOS		D			E			D			C	
Intersection Summary												
HCM Average Control Delay				40.3			HCM Level of Service					D
HCM Volume to Capacity ratio				0.77								
Actuated Cycle Length (s)				86.3			Sum of lost time (s)					7.0
Intersection Capacity Utilization				68.8%			ICU Level of Service					C
Analysis Period (min)				15								

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 56: Ohme Gardens Rd & Euclid Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Volume (veh/h)	44	0	67	43	0	39	113	368	28	30	404	37
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	48	0	73	47	0	42	123	400	30	33	439	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1012	1201	240	1018	1205	215	479			430		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1012	1201	240	1018	1205	215	479			430		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	71	100	90	70	100	95	89			97		
cM capacity (veh/h)	163	158	761	155	157	790	1079			1125		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	121	89	123	267	164	33	293	187				
Volume Left	48	47	123	0	0	33	0	0				
Volume Right	73	42	0	0	30	0	0	40				
cSH	311	250	1079	1700	1700	1125	1700	1700				
Volume to Capacity	0.39	0.36	0.11	0.16	0.10	0.03	0.17	0.11				
Queue Length 95th (ft)	44	39	10	0	0	2	0	0				
Control Delay (s)	23.8	27.1	8.8	0.0	0.0	8.3	0.0	0.0				
Lane LOS	C	D	A			A						
Approach Delay (s)	23.8	27.1	1.9			0.5						
Approach LOS	C	D										
Intersection Summary												
Average Delay			5.2									
Intersection Capacity Utilization			36.1%			ICU Level of Service				A		
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis 58: WB SR 2 Off-Ramp & Euclid Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔		↔	↔		↔	↔	
Volume (vph)	0	0	0	454	0	150	83	417	0	0	613	353
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0				
Lane Util. Factor					1.00			1.00				
Frt					0.97			1.00				
Flt Protected					0.96			0.95				
Satd. Flow (prot)					1735			1770				
Flt Permitted					0.96			0.18				
Satd. Flow (perm)					1735			329				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	493	0	163	90	453	0	0	666	384
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	0	0	71	0
Lane Group Flow (vph)	0	0	0	0	645	0	90	453	0	0	980	0
Turn Type				Split			Perm					
Protected Phases				8	8		2			6		
Permitted Phases												
Actuated Green, G (s)					45.0		55.0			55.0		
Effective Green, g (s)					45.0		55.0			55.0		
Actuated g/C Ratio					0.41		0.50			0.50		
Clearance Time (s)					5.0		5.0			5.0		
Vehicle Extension (s)					3.0		3.0			3.0		
Lane Grp Cap (vph)					710		165	1770		1673		
v/s Ratio Prot					c0.37		0.13			c0.29		
v/s Ratio Perm							0.27					
v/c Ratio					0.91		0.55	0.26		0.59		
Uniform Delay, d1					30.6		18.9	15.8		19.4		
Progression Factor					1.00		0.87	0.78		1.00		
Incremental Delay, d2					15.4		11.5	0.3		1.5		
Delay (s)					45.9		28.0	12.7		20.9		
Level of Service					D		C	B		C		
Approach Delay (s)		0.0			45.9			15.2		20.9		
Approach LOS		A			D			B		C		
Intersection Summary												
HCM Average Control Delay				26.8			HCM Level of Service			C		
HCM Volume to Capacity ratio				0.73								
Actuated Cycle Length (s)				110.0			Sum of lost time (s)			10.0		
Intersection Capacity Utilization				79.7%			ICU Level of Service			D		
Analysis Period (min)				15								
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
63: EB SR 2 Ramps & Euclid Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	149	10	679	446	805	263
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	1.00		0.97	1.00	1.00	1.00
Flt	0.99		1.00	1.00	1.00	0.85
Flt Protected	0.96		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1764		3433	1863	1863	1583
Flt Permitted	0.96		0.95	1.00	1.00	1.00
Satd. Flow (perm)	1764		3433	1863	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	162	11	738	485	875	286
RTOR Reduction (vph)	3	0	0	0	0	115
Lane Group Flow (vph)	170	0	738	485	875	171
Turn Type	Prot		Perm			
Protected Phases	4		5	2	6	
Permitted Phases						6
Actuated Green, G (s)	14.3		24.6	85.7	56.1	56.1
Effective Green, g (s)	14.3		24.6	85.7	56.1	56.1
Actuated g/C Ratio	0.13		0.22	0.78	0.51	0.51
Clearance Time (s)	5.0		5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	229		768	1451	950	807
v/s Ratio Prot	c0.10		c0.21	0.26	c0.47	
v/s Ratio Perm						0.11
v/c Ratio	0.74		0.96	0.33	0.92	0.21
Uniform Delay, d1	46.1		42.2	3.6	24.9	14.8
Progression Factor	1.00		1.00	1.00	0.94	0.67
Incremental Delay, d2	12.3		23.2	0.6	11.6	0.4
Delay (s)	58.4		65.5	4.3	34.9	10.3
Level of Service	E		E	A	C	B
Approach Delay (s)	58.4			41.2	28.9	
Approach LOS	E			D	C	

Intersection Summary			
HCM Average Control Delay	36.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
71: WB SR 97 Ramps & SR 285 Ramps

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	0	332	0	971	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			5.0		5.0	
Lane Util. Factor			0.97		0.97	
Flt			1.00		1.00	
Flt Protected			0.95		0.95	
Satd. Flow (prot)			3433		3433	
Flt Permitted			0.95		0.95	
Satd. Flow (perm)			3433		3433	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	361	0	1055	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	361	0	1055	0
Turn Type	Prot		Prot			
Protected Phases			8		2	
Permitted Phases						
Actuated Green, G (s)			10.1		19.3	
Effective Green, g (s)			10.1		19.3	
Actuated g/C Ratio			0.26		0.49	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)			880		1682	
v/s Ratio Prot			c0.11		c0.31	
v/s Ratio Perm						
v/c Ratio			0.41		0.63	
Uniform Delay, d1			12.2		7.4	
Progression Factor			1.00		1.00	
Incremental Delay, d2			0.3		0.7	
Delay (s)			12.5		8.1	
Level of Service			B		A	
Approach Delay (s)	0.0			12.5	8.1	
Approach LOS	A			B	A	

Intersection Summary			
HCM Average Control Delay	9.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	39.4	Sum of lost time (s)	10.0
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
72: Technology Center Way & Euclid Ave

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	7	391	32	0	0	172	822	15	0	446	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0			5.0	5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00			1.00	1.00			1.00	
Frt	1.00	0.85		1.00			1.00	1.00			0.99	
Flt Protected	0.95	1.00		0.95			0.95	1.00			1.00	
Satd. Flow (prot)	1770	1588		1770			1770	1858			1845	
Flt Permitted	0.76	1.00		0.40			0.28	1.00			1.00	
Satd. Flow (perm)	1410	1588		753			519	1858			1845	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	8	425	35	0	0	187	893	16	0	485	32
RTOR Reduction (vph)	0	355	0	0	0	0	0	1	0	0	3	0
Lane Group Flow (vph)	3	78	0	35	0	0	187	908	0	0	514	0
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases	4			8			5			2		
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	9.9	9.9		9.9			40.5	40.5			27.4	
Effective Green, g (s)	9.9	9.9		9.9			40.5	40.5			27.4	
Actuated g/C Ratio	0.16	0.16		0.16			0.67	0.67			0.45	
Clearance Time (s)	5.0	5.0		5.0			5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0			3.0	
Lane Grp Cap (vph)	231	260		123			516	1246			837	
v/s Ratio Prot	c0.05						0.05			c0.49		
v/s Ratio Perm	0.00			0.05			0.19			0.21		
v/c Ratio	0.01	0.30		0.28			0.36	0.73			0.61	
Uniform Delay, d1	21.2	22.2		22.1			5.5	6.4			12.5	
Progression Factor	1.00	1.00		1.00			1.00	1.00			1.00	
Incremental Delay, d2	0.0	0.6		1.3			0.4	2.2			1.3	
Delay (s)	21.2	22.8		23.4			6.0	8.6			13.8	
Level of Service	C			C			A			A		
Approach Delay (s)	22.8			23.4			8.1			13.8		
Approach LOS	C			C			A			B		
Intersection Summary												
HCM Average Control Delay	12.9			HCM Level of Service			B					
HCM Volume to Capacity ratio	0.64											
Actuated Cycle Length (s)	60.4			Sum of lost time (s)			10.0					
Intersection Capacity Utilization	86.6%			ICU Level of Service			E					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
73: Hawley St & Miller St

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	7	59	20	4	92	150	11	853	1	72	786	11	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		5.0			5.0		5.0	5.0		5.0	5.0		
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00		
Frt		0.97			0.92		1.00	1.00		1.00	1.00		
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1796			1708		1770	1862		1770	1859		
Flt Permitted		0.93			1.00		0.21	1.00		0.10	1.00		
Satd. Flow (perm)		1679			1702		385	1862		189	1859		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	8	64	22	4	100	163	12	927	1	78	854	12	
RTOR Reduction (vph)	0	12	0	0	63	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	82	0	0	204	0	12	928	0	78	866	0	
Turn Type	Perm		Perm		pm+pt		pm+pt		pm+pt		pm+pt		
Protected Phases	4		8		5		2		1		6		
Permitted Phases	4		8		2		6		6		6		
Actuated Green, G (s)	13.6				13.6		48.0		46.9		56.0		
Effective Green, g (s)	13.6				13.6		48.0		46.9		56.0		
Actuated g/C Ratio	0.17				0.17		0.60		0.58		0.69		
Clearance Time (s)	5.0				5.0		5.0		5.0		5.0		
Vehicle Extension (s)	3.0				3.0		3.0		3.0		3.0		
Lane Grp Cap (vph)	283				287		248		1083		231		
v/s Ratio Prot							0.00		c0.50		c0.02		
v/s Ratio Perm	0.05				c0.12		0.03				0.21		
v/c Ratio	0.29				0.71		0.05		0.86		0.34		
Uniform Delay, d1	29.3				31.6		8.8		14.1		12.6		
Progression Factor	1.00				1.00		1.00		1.00		1.00		
Incremental Delay, d2	0.6				8.0		0.1		6.8		0.9		
Delay (s)	29.8				39.7		8.9		20.9		13.5		
Level of Service	C				D		A		C		B		
Approach Delay (s)	29.8				39.7		20.7				12.8		
Approach LOS	C				D		C				B		
Intersection Summary													
HCM Average Control Delay	20.0		HCM Level of Service		C								
HCM Volume to Capacity ratio	0.86												
Actuated Cycle Length (s)	80.6		Sum of lost time (s)		20.0								
Intersection Capacity Utilization	76.5%		ICU Level of Service		D								
Analysis Period (min)	15												
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis
74: New Road & Easy St

N Wenatchee Ave
2028 PM Peak Hour - Preferred Alt

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	79	0	41	67	14	0	99	506	69	0	407	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.95			1.00			0.99			0.99	
Flt Protected		0.97			0.96			0.99			1.00	
Satd. Flow (prot)		1720			1789			1824			1847	
Flt Permitted		0.75			0.77			0.87			1.00	
Satd. Flow (perm)		1330			1437			1603			1847	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	0	45	73	15	0	108	550	75	0	442	30
RTOR Reduction (vph)	0	36	0	0	0	0	0	6	0	0	3	0
Lane Group Flow (vph)	0	95	0	0	88	0	0	727	0	0	469	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	4		8		8		2		6		6	
Permitted Phases	4		8		2		6		6		6	
Actuated Green, G (s)	7.7		7.7		30.3		30.3		30.3		30.3	
Effective Green, g (s)	7.7		7.7		30.3		30.3		30.3		30.3	
Actuated g/C Ratio	0.16		0.16		0.63		0.63		0.63		0.63	
Clearance Time (s)	5.0		5.0		5.0		5.0		5.0		5.0	
Vehicle Extension (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	213		231		1012		1166		1166		1166	
v/s Ratio Prot					0.25							
v/s Ratio Perm	c0.07		0.06		c0.45							
v/c Ratio	0.45		0.38		0.72		0.40					
Uniform Delay, d1	18.2		18.0		6.0		4.4					
Progression Factor	1.00		1.00		1.00		1.00					
Incremental Delay, d2	1.5		1.1		2.5		0.2					
Delay (s)	19.7		19.1		8.4		4.6					
Level of Service	B		B		A		A					
Approach Delay (s)	19.7		19.1		8.4		4.6					
Approach LOS	B		B		A		A					
Intersection Summary												
HCM Average Control Delay	8.9		HCM Level of Service		A							
HCM Volume to Capacity ratio	0.66											
Actuated Cycle Length (s)	48.0		Sum of lost time (s)		10.0							
Intersection Capacity Utilization	78.9%		ICU Level of Service		D							
Analysis Period (min)	15											
c Critical Lane Group												