

HCM Unsignalized Intersection Capacity Analysis

UNM Gibson Commercial District

1: Gibson & West Road

2015 AM Peak Hour - Build - With Left Out at Gibson - Improved

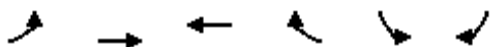
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	2523	32	15	1058	171	16	0	22	0	0	157
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	2656	34	16	1114	180	17	0	23	0	0	165
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh		1			1							
Upstream signal (ft)					710							
pX, platoon unblocked	0.91						0.91	0.91		0.91	0.91	0.91
vC, conflicting volume	1294			2689			3241	3998	902	2144	3925	461
vC1, stage 1 conf vol							2673	2673		1235	1235	
vC2, stage 2 conf vol							568	1325		908	2689	
vCu, unblocked vol	968			2689			3113	3947	902	1904	3866	51
tC, single (s)	4.1			4.2			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			89			15	100	92	100	100	82
cM capacity (veh/h)	642			146			20	36	281	128	25	914
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1			
Volume Total	1062	1062	565	16	445	445	403	40	165			
Volume Left	0	0	0	16	0	0	0	17	0			
Volume Right	0	0	34	0	0	0	180	23	165			
cSH	1700	1700	1700	146	1700	1700	1700	43	914			
Volume to Capacity	0.62	0.62	0.33	0.11	0.26	0.26	0.24	0.93	0.18			
Queue Length 95th (ft)	0	0	0	9	0	0	0	92	16			
Control Delay (s)	0.0	0.0	0.0	32.7	0.0	0.0	0.0	260.3	9.8			
Lane LOS				D				F	A			
Approach Delay (s)	0.0			0.4				260.3	9.8			
Approach LOS								F	A			
Intersection Summary												
Average Delay			3.0									
Intersection Capacity Utilization			59.5%		ICU Level of Service				B			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

2: Gibson & Entrance

UNM Gibson Commercial District

2015 AM Peak Hour - Build - With Left Out at Gibson - Improved



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	54	2491	1174	46	33	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	4988	1553	1770	1583
Flt Permitted	0.18	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	343	5085	4988	1553	1770	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	57	2622	1236	48	35	75
RTOR Reduction (vph)	0	0	0	15	0	71
Lane Group Flow (vph)	57	2622	1236	33	35	4
Heavy Vehicles (%)	2%	2%	4%	4%	2%	2%
Turn Type	pm+pt			Perm		Over
Protected Phases	7	4	8		6	7
Permitted Phases	4			8		
Actuated Green, G (s)	86.0	86.0	76.3	76.3	16.0	5.7
Effective Green, g (s)	86.0	86.0	76.3	76.3	16.0	5.7
Actuated g/C Ratio	0.78	0.78	0.69	0.69	0.15	0.05
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)	342	3976	3460	1077	257	82
v/s Ratio Prot	0.01	c0.52	0.25		c0.02	0.00
v/s Ratio Perm	0.12			0.02		
v/c Ratio	0.17	0.66	0.36	0.03	0.14	0.05
Uniform Delay, d1	3.4	5.4	6.9	5.3	41.0	49.6
Progression Factor	1.00	1.00	0.30	0.05	1.00	1.00
Incremental Delay, d2	0.2	0.9	0.1	0.0	1.1	0.2
Delay (s)	3.6	6.3	2.1	0.3	42.1	49.8
Level of Service	A	A	A	A	D	D
Approach Delay (s)		6.2	2.0		47.3	
Approach LOS		A	A		D	

Intersection Summary

HCM Average Control Delay	6.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

3: Gibson & University

UNM Gibson Commercial District

2015 AM Peak Hour - Build - With Left Out at Gibson - Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	2291	31	26	1098	130	62	30	54	200	20	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.90		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)	1752	5036	1568	1736	4988	1553	1752	1666		3273	1776	1509
Flt Permitted	0.17	1.00	1.00	0.06	1.00	1.00	0.73	1.00		0.95	1.00	1.00
Satd. Flow (perm)	321	5036	1568	118	4988	1553	1355	1666		3273	1776	1509
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	194	2463	33	28	1181	140	67	32	58	215	22	137
RTOR Reduction (vph)	0	0	8	0	0	45	0	53	0	0	0	79
Lane Group Flow (vph)	194	2463	25	28	1181	95	67	37	0	215	22	58
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	7%	7%	7%
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt			Prot		pm+ov
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	72.3	72.3	83.0	64.3	64.3	74.9	19.4	8.7		10.6	8.6	19.0
Effective Green, g (s)	72.3	72.3	83.0	64.3	64.3	74.9	19.4	8.7		10.6	8.6	19.0
Actuated g/C Ratio	0.66	0.66	0.75	0.58	0.58	0.68	0.18	0.08		0.10	0.08	0.17
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)	346	3310	1183	104	2916	1114	278	132		315	139	316
v/s Ratio Prot	0.05	c0.49	0.00	0.01	c0.24	0.01	0.02	c0.02		c0.07	0.01	0.02
v/s Ratio Perm	0.32		0.01	0.15		0.05	0.02					0.02
v/c Ratio	0.56	0.74	0.02	0.27	0.41	0.09	0.24	0.28		0.68	0.16	0.18
Uniform Delay, d1	9.0	12.6	3.4	23.1	12.4	5.9	38.8	47.7		48.1	47.3	38.9
Progression Factor	1.51	0.69	0.57	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.6	1.2	0.0	1.4	0.1	0.0	0.5	1.1		6.0	0.5	0.3
Delay (s)	15.2	9.9	1.9	24.5	12.5	6.0	39.2	48.8		54.1	47.9	39.2
Level of Service	B	A	A	C	B	A	D	D		D	D	D
Approach Delay (s)		10.2			12.1			44.7			48.2	
Approach LOS		B			B			D			D	
Intersection Summary												
HCM Average Control Delay			15.1			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)				8.0		
Intersection Capacity Utilization			70.0%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

UNM Gibson Commercial District

4: East Road & University

2015 AM Peak Hour - Build - With Left Out at Gibson - Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	41	0	4	1	0	2	5	334	6	17	343	58
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)	44	0	4	1	0	2	5	359	6	18	369	62
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	598	782	184	598	841	183	431				366	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	598	782	184	598	841	183	431				366	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.2				4.2	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3				2.2	
p0 queue free %	88	100	99	100	100	100	100				98	
cM capacity (veh/h)	379	318	826	378	294	828	1090				1182	
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4		
Volume Total	44	4	3	5	239	126	18	184	184	62		
Volume Left	44	0	1	5	0	0	18	0	0	0		
Volume Right	0	4	2	0	0	6	0	0	0	62		
cSH	379	826	593	1090	1700	1700	1182	1700	1700	1700		
Volume to Capacity	0.12	0.01	0.01	0.00	0.14	0.07	0.02	0.11	0.11	0.04		
Queue Length 95th (ft)	10	0	0	0	0	0	1	0	0	0		
Control Delay (s)	15.7	9.4	11.1	8.3	0.0	0.0	8.1	0.0	0.0	0.0		
Lane LOS	C	A	B	A	A							
Approach Delay (s)	15.2	11.1		0.1	0.3							
Approach LOS	C	B										
Intersection Summary												
Average Delay	1.1											
Intersection Capacity Utilization	26.5%			ICU Level of Service					A			
Analysis Period (min)	15											

HCM Signalized Intersection Capacity Analysis

5: Cesar Chavez & University

UNM Gibson Commercial District
2015 AM Peak Hour - Build - With Left Out at Gibson - Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	437	399	195	62	314	91	59	235	50	67	238	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Flt	1.00	0.95		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	4835		1770	3420		1770	3539	1583	1770	3539	1583
Flt Permitted	0.38	1.00		0.39	1.00		0.57	1.00	1.00	0.51	1.00	1.00
Satd. Flow (perm)	701	4835		721	3420		1070	3539	1583	948	3539	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	491	448	219	70	353	102	63	250	53	73	259	83
RTOR Reduction (vph)	0	104	0	0	29	0	0	0	41	0	0	51
Lane Group Flow (vph)	491	563	0	70	427	0	63	250	12	73	259	32
Turn Type	pm+pt			pm+pt			pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	48.3	38.9		32.9	27.5		13.9	11.5	16.9	15.5	12.3	29.1
Effective Green, g (s)	48.3	38.9		32.9	27.5		13.9	11.5	16.9	15.5	12.3	29.1
Actuated g/C Ratio	0.64	0.52		0.44	0.37		0.19	0.15	0.23	0.21	0.16	0.39
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)	691	2508		392	1254		221	543	441	231	580	699
v/s Ratio Prot	c0.16	0.12		0.01	0.12		0.01	0.07	0.00	c0.01	c0.07	0.01
v/s Ratio Perm	c0.30			0.07			0.04		0.01	0.05		0.01
v/c Ratio	0.71	0.22		0.18	0.34		0.29	0.46	0.03	0.32	0.45	0.05
Uniform Delay, d1	7.3	9.8		12.3	17.2		25.8	28.9	22.6	24.6	28.3	14.3
Progression Factor	0.21	0.33		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	0.2		0.2	0.2		0.7	0.6	0.0	0.8	0.5	0.0
Delay (s)	4.6	3.4		12.5	17.3		26.5	29.5	22.7	25.4	28.8	14.3
Level of Service	A	A		B	B		C	C	C	C	C	B
Approach Delay (s)		3.9			16.7			28.0			25.3	
Approach LOS		A			B			C			C	
Intersection Summary												
HCM Average Control Delay			13.8			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			75.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			59.3%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Cesar Chavez & Langham

UNM Gibson Commercial District
2015 AM Peak Hour - Build - With Left Out at Gibson - Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	408	1166	97	4	465	2	41	1	14	1	0	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		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.86		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5027		1770	5082		1770	1600		1770	1583	
Flt Permitted	0.33	1.00		0.18	1.00		0.70	1.00		0.75	1.00	
Satd. Flow (perm)	615	5027		333	5082		1301	1600		1390	1583	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	474	1356	113	5	541	2	48	1	16	1	0	90
RTOR Reduction (vph)	0	12	0	0	1	0	0	12	0	0	71	0
Lane Group Flow (vph)	474	1457	0	5	542	0	48	5	0	1	19	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	43.0	38.2		23.2	22.4		23.2	19.2		16.8	16.0	
Effective Green, g (s)	43.0	38.2		23.2	22.4		23.2	19.2		16.8	16.0	
Actuated g/C Ratio	0.57	0.51		0.31	0.30		0.31	0.26		0.22	0.21	
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)	608	2560		118	1518		427	410		315	338	
v/s Ratio Prot	c0.17	0.29		0.00	0.11		c0.01	0.00		0.00	0.01	
v/s Ratio Perm	c0.27			0.01			c0.03			0.00		
v/c Ratio	0.78	0.57		0.04	0.36		0.11	0.01		0.00	0.06	
Uniform Delay, d1	10.0	12.7		17.9	20.6		18.6	20.8		22.6	23.5	
Progression Factor	1.18	0.81		0.60	0.62		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.4	0.8		0.1	0.1		0.1	0.1		0.0	0.3	
Delay (s)	17.2	11.0		10.8	12.9		18.7	20.9		22.6	23.8	
Level of Service	B	B		B	B		B	C		C	C	
Approach Delay (s)		12.5			12.9			19.3			23.8	
Approach LOS		B			B			B			C	
Intersection Summary												
HCM Average Control Delay			13.2			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			75.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			50.6%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Cesar Chavez & I-25 NB

UNM Gibson Commercial District

2015 AM Peak Hour - Build - With Left Out at Gibson - Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	847	1677	0	0	389	285	49	1	193	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	1.00	0.95			0.95	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	3539			3505	1568		1776	1583			
Flt Permitted	0.40	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	753	3539			3505	1568		1776	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)	892	1765	0	0	409	300	52	1	203	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	892	1765	0	0	409	300	0	53	203	0	0	0
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt					Free	Perm		Free			
Protected Phases	7	4			8			2				
Permitted Phases	4					Free	2		Free			
Actuated Green, G (s)	126.0	126.0			56.4	150.0		16.0	150.0			
Effective Green, g (s)	126.0	126.0			56.4	150.0		16.0	150.0			
Actuated g/C Ratio	0.84	0.84			0.38	1.00		0.11	1.00			
Clearance Time (s)	4.0	4.0			4.0			4.0				
Vehicle Extension (s)	3.0	3.0			3.0			3.0				
Lane Grp Cap (vph)	1077	2973			1318	1568		189	1583			
v/s Ratio Prot	c0.36	0.50			0.12							
v/s Ratio Perm	c0.33					0.19		0.03	0.13			
v/c Ratio	0.83	0.59			0.31	0.19		0.28	0.13			
Uniform Delay, d1	11.3	3.8			33.1	0.0		61.7	0.0			
Progression Factor	1.00	1.00			0.79	1.00		1.00	1.00			
Incremental Delay, d2	5.4	0.9			0.1	0.3		3.7	0.2			
Delay (s)	16.6	4.7			26.4	0.3		65.4	0.2			
Level of Service	B	A			C	A		E	A			
Approach Delay (s)		8.7			15.3			13.7			0.0	
Approach LOS		A			B			B			A	
Intersection Summary												
HCM Average Control Delay			10.4			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			150.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			71.0%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

UNM Gibson Commercial District

1: Gibson & West Road

2015 PM Peak Hour - Build - With Left Out at Gibson - Improved

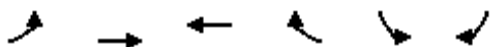
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1450	64	20	2715	165	41	0	26	0	0	162
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	1495	66	21	2799	170	42	0	27	0	0	167
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh		1			1							
Upstream signal (ft)					710							
pX, platoon unblocked	0.56						0.56	0.56		0.56	0.56	0.56
vC, conflicting volume	2969			1561			2669	4538	531	3450	4486	1018
vC1, stage 1 conf vol							1528	1528		2925	2925	
vC2, stage 2 conf vol							1141	3010		525	1561	
vCu, unblocked vol	1776			1561			1242	4568	531	2632	4475	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			95			58	100	95	100	100	73
cM capacity (veh/h)	195			420			101	44	493	43	47	609
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1			
Volume Total	598	598	365	21	1120	1120	730	69	167			
Volume Left	0	0	0	21	0	0	0	42	0			
Volume Right	0	0	66	0	0	0	170	27	167			
cSH	1700	1700	1700	420	1700	1700	1700	146	609			
Volume to Capacity	0.35	0.35	0.21	0.05	0.66	0.66	0.43	0.47	0.27			
Queue Length 95th (ft)	0	0	0	4	0	0	0	55	28			
Control Delay (s)	0.0	0.0	0.0	14.0	0.0	0.0	0.0	50.1	13.1			
Lane LOS				B				F	B			
Approach Delay (s)	0.0			0.1				50.1	13.1			
Approach LOS								F	B			
Intersection Summary												
Average Delay			1.2									
Intersection Capacity Utilization			80.0%			ICU Level of Service			D			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

2: Gibson & Entrance

UNM Gibson Commercial District

2015 PM Peak Hour - Build - With Left Out at Gibson - Improved



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	245	1231	2577	159	135	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	5085	1583	1770	1583
Flt Permitted	0.05	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	94	5085	5085	1583	1770	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	253	1269	2657	164	139	330
RTOR Reduction (vph)	0	0	0	51	0	174
Lane Group Flow (vph)	253	1269	2657	113	139	156
Turn Type	pm+pt		Perm		Over	
Protected Phases	7	4	8		6	7
Permitted Phases	4			8		
Actuated Green, G (s)	96.0	96.0	75.2	75.2	16.0	16.8
Effective Green, g (s)	96.0	96.0	75.2	75.2	16.0	16.8
Actuated g/C Ratio	0.80	0.80	0.63	0.63	0.13	0.14
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)	310	4068	3187	992	236	222
v/s Ratio Prot	c0.11	0.25	0.52		c0.08	0.10
v/s Ratio Perm	c0.54			0.07		
v/c Ratio	0.82	0.31	0.83	0.11	0.59	0.70
Uniform Delay, d1	39.0	3.2	17.5	9.0	48.9	49.2
Progression Factor	1.00	1.00	0.39	0.02	1.00	1.00
Incremental Delay, d2	15.2	0.0	2.0	0.2	10.4	9.7
Delay (s)	54.2	3.2	8.9	0.3	59.3	58.9
Level of Service	D	A	A	A	E	E
Approach Delay (s)		11.7	8.4		59.0	
Approach LOS		B	A		E	

Intersection Summary

HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

3: Gibson & University

UNM Gibson Commercial District

2015 PM Peak Hour - Build - With Left Out at Gibson - Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	113	1165	59	55	2263	190	63	24	55	248	33	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		0.97	1.00	1.00
Flt Protected	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.90		1.00	1.00	0.85
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 (prot)	1770	5085	1583	1770	5085	1583	1770	1669		3367	1827	1553
Satd. Flow (perm)	96	5085	1583	387	5085	1583	1369	1669		3367	1827	1553
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)	118	1214	61	57	2357	198	66	25	57	258	34	215
RTOR Reduction (vph)	0	0	17	0	0	57	0	53	0	0	0	36
Lane Group Flow (vph)	118	1214	44	57	2357	141	66	29	0	258	34	179
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	4%	4%	4%
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt			Prot		pm+ov
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	88.7	79.2	86.5	79.2	73.7	85.5	14.8	7.5		11.8	12.0	23.0
Effective Green, g (s)	88.7	79.2	86.5	79.2	73.7	85.5	14.8	7.5		11.8	12.0	23.0
Actuated g/C Ratio	0.74	0.66	0.72	0.66	0.61	0.71	0.12	0.06		0.10	0.10	0.19
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)	224	3356	1194	319	3123	1181	193	104		331	183	349
v/s Ratio Prot	c0.05	0.24	0.00	0.01	c0.46	0.01	0.02	0.02		c0.08	0.02	c0.05
v/s Ratio Perm	0.34		0.03	0.11		0.08	0.02					0.07
v/c Ratio	0.53	0.36	0.04	0.18	0.75	0.12	0.34	0.27		0.78	0.19	0.51
Uniform Delay, d1	24.4	9.1	4.8	7.2	16.6	5.4	47.9	53.7		52.8	49.5	43.5
Progression Factor	1.17	0.89	0.43	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.1	0.1	0.0	0.3	1.7	0.0	1.1	1.4		11.0	0.5	1.3
Delay (s)	30.8	8.2	2.1	7.5	18.4	5.5	49.0	55.1		63.9	50.0	44.7
Level of Service	C	A	A	A	B	A	D	E		E	D	D
Approach Delay (s)		9.8			17.2			52.4			54.8	
Approach LOS		A			B			D			D	
Intersection Summary												
HCM Average Control Delay			20.2			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				8.0		
Intersection Capacity Utilization			73.7%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis

UNM Gibson Commercial District

4: East Road & University

2015 PM Peak Hour - Build - With Left Out at Gibson - Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	142	0	40	4	0	19	14	313	3	12	472	136
Sign Control	Stop			Stop			Free			Free		
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)	148	0	42	4	0	20	15	326	3	12	492	142
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	729	875	246	669	1015	165	633				329	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	729	875	246	669	1015	165	633				329	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.2				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 %	50	100	94	99	100	98	98				99	
cM capacity (veh/h)	298	279	754	318	231	851	932				1227	
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4		
Volume Total	148	42	24	15	217	112	12	246	246	142		
Volume Left	148	0	4	15	0	0	12	0	0	0		
Volume Right	0	42	20	0	0	3	0	0	0	142		
cSH	298	754	659	932	1700	1700	1227	1700	1700	1700		
Volume to Capacity	0.50	0.06	0.04	0.02	0.13	0.07	0.01	0.14	0.14	0.08		
Queue Length 95th (ft)	65	4	3	1	0	0	1	0	0	0		
Control Delay (s)	28.5	10.1	10.7	8.9	0.0	0.0	8.0	0.0	0.0	0.0		
Lane LOS	D	B	B	A				A				
Approach Delay (s)	24.4	10.7		0.4	0.2							
Approach LOS	C	B										
Intersection Summary												
Average Delay	4.3											
Intersection Capacity Utilization	34.2%			ICU Level of Service					A			
Analysis Period (min)	15											

HCM Signalized Intersection Capacity Analysis

5: Cesar Chavez & University

UNM Gibson Commercial District
2015 PM Peak Hour - Build - With Left Out at Gibson - Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	387	476	143	104	506	122	159	325	74	138	386	342
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Flt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	4909		1770	3436		1770	3539	1583	1770	3539	1583
Flt Permitted	0.24	1.00		0.33	1.00		0.35	1.00	1.00	0.44	1.00	1.00
Satd. Flow (perm)	455	4909		621	3436		651	3539	1583	815	3539	1583
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)	425	523	157	114	556	134	175	357	81	152	424	376
RTOR Reduction (vph)	0	71	0	0	29	0	0	0	60	0	0	67
Lane Group Flow (vph)	425	609	0	114	661	0	175	357	21	152	424	309
Turn Type	pm+pt			pm+pt			pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	38.5	29.7		24.3	19.5		19.6	13.4	18.2	19.4	13.3	28.3
Effective Green, g (s)	38.5	29.7		24.3	19.5		19.6	13.4	18.2	19.4	13.3	28.3
Actuated g/C Ratio	0.55	0.42		0.35	0.28		0.28	0.19	0.26	0.28	0.19	0.40
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)	532	2083		294	957		281	677	412	309	672	640
v/s Ratio Prot	c0.17	0.12		0.03	0.19		c0.06	0.10	0.00	0.04	c0.12	0.10
v/s Ratio Perm	c0.27			0.11			0.12		0.01	0.09		0.09
v/c Ratio	0.80	0.29		0.39	0.69		0.62	0.53	0.05	0.49	0.63	0.48
Uniform Delay, d1	17.9	13.2		19.7	22.6		20.3	25.5	19.4	20.1	26.1	15.4
Progression Factor	0.77	0.16		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.2	0.3		0.9	4.1		4.3	0.7	0.1	1.2	1.9	0.6
Delay (s)	21.0	2.4		20.6	26.6		24.5	26.2	19.5	21.3	28.0	16.0
Level of Service	C	A		C	C		C	C	B	C	C	B
Approach Delay (s)		9.5			25.8			24.8			22.2	
Approach LOS		A			C			C			C	
Intersection Summary												
HCM Average Control Delay			19.5			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			70.0			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

6: Cesar Chavez & Langham

UNM Gibson Commercial District
2015 PM Peak Hour - Build - With Left Out at Gibson - Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	1039	134	4	1256	1	136	1	33	6	0	205
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	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4998		1770	5085		1770	1590		1770	1583	
Flt Permitted	0.19	1.00		0.19	1.00		0.41	1.00		0.73	1.00	
Satd. Flow (perm)	358	4998		358	5085		770	1590		1362	1583	
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)	151	1222	158	5	1478	1	160	1	39	7	0	241
RTOR Reduction (vph)	0	24	0	0	0	0	0	26	0	0	168	0
Lane Group Flow (vph)	151	1356	0	5	1479	0	160	14	0	7	73	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	29.8	29.8		21.6	21.6		26.8	22.6		20.0	19.2	
Effective Green, g (s)	29.8	29.8		21.6	21.6		26.8	22.6		20.0	19.2	
Actuated g/C Ratio	0.43	0.43		0.31	0.31		0.38	0.32		0.29	0.27	
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)	334	2128		127	1569		355	513		394	434	
v/s Ratio Prot	0.06	c0.27		0.00	c0.29		c0.03	0.01		0.00	0.05	
v/s Ratio Perm	0.13			0.01			c0.15			0.00		
v/c Ratio	0.45	0.64		0.04	0.94		0.45	0.03		0.02	0.17	
Uniform Delay, d1	22.9	15.8		18.5	23.6		15.2	16.2		17.9	19.3	
Progression Factor	0.85	0.77		0.75	0.75		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.6		0.1	11.7		0.9	0.1		0.0	0.8	
Delay (s)	20.4	12.9		14.0	29.3		16.1	16.3		17.9	20.2	
Level of Service	C	B		B	C		B	B		B	C	
Approach Delay (s)		13.6			29.3			16.2			20.1	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM Average Control Delay			20.9			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			70.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			64.9%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Cesar Chavez & I-25 NB

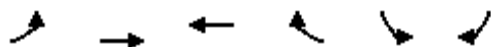
UNM Gibson Commercial District

2015 PM Peak Hour - Build - With Left Out at Gibson - Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Volume (vph)	487	716	0	0	730	674	104	7	83	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	1.00	0.95			0.95	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.96	1.00			
Satd. Flow (prot)	1752	3505			3539	1583		1745	1553			
Flt Permitted	0.18	1.00			1.00	1.00		0.96	1.00			
Satd. Flow (perm)	338	3505			3539	1583		1745	1553			
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)	513	754	0	0	768	709	109	7	87	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	513	754	0	0	768	709	0	116	87	0	0	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	pm+pt					Free	Perm		Free			
Protected Phases	7	4			8			2				
Permitted Phases	4					Free	2		Free			
Actuated Green, G (s)	46.0	46.0			23.4	70.0		16.0	70.0			
Effective Green, g (s)	46.0	46.0			23.4	70.0		16.0	70.0			
Actuated g/C Ratio	0.66	0.66			0.33	1.00		0.23	1.00			
Clearance Time (s)	4.0	4.0			4.0			4.0				
Vehicle Extension (s)	3.0	3.0			3.0			3.0				
Lane Grp Cap (vph)	598	2303			1183	1583		399	1553			
v/s Ratio Prot	c0.23	0.22			0.22							
v/s Ratio Perm	c0.34					c0.45		0.07	0.06			
v/c Ratio	0.86	0.33			0.65	0.45		0.29	0.06			
Uniform Delay, d1	14.2	5.2			19.8	0.0		22.3	0.0			
Progression Factor	1.00	1.00			0.39	1.00		1.00	1.00			
Incremental Delay, d2	11.7	0.1			2.0	0.7		1.8	0.1			
Delay (s)	25.9	5.3			9.8	0.7		24.1	0.1			
Level of Service	C	A			A	A		C	A			
Approach Delay (s)		13.6			5.4			13.8			0.0	
Approach LOS		B			A			B			A	
Intersection Summary												
HCM Average Control Delay			9.5	HCM Level of Service			A					
HCM Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			70.0	Sum of lost time (s)			4.0					
Intersection Capacity Utilization			63.3%	ICU Level of Service			B					
Analysis Period (min)			15									
c Critical Lane Group												

Queues 2: Gibson & Entrance

UNM Gibson Commercial District
2015 AM Peak Hour - Build - With Left Out at Gibson - Improved



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	57	2622	1236	48	35	75
v/c Ratio	0.16	0.66	0.35	0.04	0.14	0.45
Control Delay	3.7	6.4	2.3	0.2	42.6	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.7	6.4	2.3	0.2	42.6	20.0
Queue Length 50th (ft)	7	248	25	0	22	0
Queue Length 95th (ft)	15	284	45	1	53	45
Internal Link Dist (ft)		630	638		1192	
Turn Bay Length (ft)	250			250		
Base Capacity (vph)	385	3976	3497	1103	257	198
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	24	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.66	0.35	0.04	0.14	0.38
Intersection Summary						

Queues
3: Gibson & University

UNM Gibson Commercial District
2015 AM Peak Hour - Build - With Left Out at Gibson - Improved

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	194	2463	33	28	1181	140	67	90	215	22	137
v/c Ratio	0.54	0.70	0.03	0.21	0.39	0.12	0.28	0.51	0.68	0.12	0.37
Control Delay	15.8	9.3	0.7	24.4	12.9	1.4	39.1	30.9	59.6	43.8	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.8	9.3	0.7	24.4	12.9	1.4	39.1	30.9	59.6	43.8	14.4
Queue Length 50th (ft)	40	189	0	8	153	0	39	22	76	15	28
Queue Length 95th (ft)	91	229	m1	25	230	21	75	70	117	36	64
Internal Link Dist (ft)		638			1234			706		1327	
Turn Bay Length (ft)	250		250	250		250	250		250		
Base Capacity (vph)	409	3497	1309	133	3027	1190	242	292	327	355	420
Starvation Cap Reductn	0	51	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.71	0.03	0.21	0.39	0.12	0.28	0.31	0.66	0.06	0.33
Intersection Summary											
m Volume for 95th percentile queue is metered by upstream signal.											

HCM Signalized Intersection Capacity Analysis

5: Cesar Chavez & University

UNM Gibson Commercial District

2015 AM Peak Hour - Build - With Left Out at Gibson - Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	437	399	195	62	314	91	59	235	50	67	238	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Flt	1.00	0.95		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	4835		1770	3420		1770	3539	1583	1770	3539	1583
Flt Permitted	0.38	1.00		0.39	1.00		0.57	1.00	1.00	0.51	1.00	1.00
Satd. Flow (perm)	701	4835		721	3420		1070	3539	1583	948	3539	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	491	448	219	70	353	102	63	250	53	73	259	83
RTOR Reduction (vph)	0	104	0	0	29	0	0	0	41	0	0	51
Lane Group Flow (vph)	491	563	0	70	427	0	63	250	12	73	259	32
Turn Type	pm+pt			pm+pt			pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	48.3	38.9		32.9	27.5		13.9	11.5	16.9	15.5	12.3	29.1
Effective Green, g (s)	48.3	38.9		32.9	27.5		13.9	11.5	16.9	15.5	12.3	29.1
Actuated g/C Ratio	0.64	0.52		0.44	0.37		0.19	0.15	0.23	0.21	0.16	0.39
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)	691	2508		392	1254		221	543	441	231	580	699
v/s Ratio Prot	c0.16	0.12		0.01	0.12		0.01	0.07	0.00	c0.01	c0.07	0.01
v/s Ratio Perm	c0.30			0.07			0.04		0.01	0.05		0.01
v/c Ratio	0.71	0.22		0.18	0.34		0.29	0.46	0.03	0.32	0.45	0.05
Uniform Delay, d1	7.3	9.8		12.3	17.2		25.8	28.9	22.6	24.6	28.3	14.3
Progression Factor	0.21	0.33		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	0.2		0.2	0.2		0.7	0.6	0.0	0.8	0.5	0.0
Delay (s)	4.6	3.4		12.5	17.3		26.5	29.5	22.7	25.4	28.8	14.3
Level of Service	A	A		B	B		C	C	C	C	C	B
Approach Delay (s)		3.9			16.7			28.0			25.3	
Approach LOS		A			B			C			C	
Intersection Summary												
HCM Average Control Delay			13.8			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			75.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			59.3%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Cesar Chavez & Langham

UNM Gibson Commercial District
2015 AM Peak Hour - Build - With Left Out at Gibson - Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	408	1166	97	4	465	2	41	1	14	1	0	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		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.86		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5027		1770	5082		1770	1600		1770	1583	
Flt Permitted	0.33	1.00		0.18	1.00		0.70	1.00		0.75	1.00	
Satd. Flow (perm)	615	5027		333	5082		1301	1600		1390	1583	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	474	1356	113	5	541	2	48	1	16	1	0	90
RTOR Reduction (vph)	0	12	0	0	1	0	0	12	0	0	71	0
Lane Group Flow (vph)	474	1457	0	5	542	0	48	5	0	1	19	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	43.0	38.2		23.2	22.4		23.2	19.2		16.8	16.0	
Effective Green, g (s)	43.0	38.2		23.2	22.4		23.2	19.2		16.8	16.0	
Actuated g/C Ratio	0.57	0.51		0.31	0.30		0.31	0.26		0.22	0.21	
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)	608	2560		118	1518		427	410		315	338	
v/s Ratio Prot	c0.17	0.29		0.00	0.11		c0.01	0.00		0.00	0.01	
v/s Ratio Perm	c0.27			0.01			c0.03			0.00		
v/c Ratio	0.78	0.57		0.04	0.36		0.11	0.01		0.00	0.06	
Uniform Delay, d1	10.0	12.7		17.9	20.6		18.6	20.8		22.6	23.5	
Progression Factor	1.18	0.81		0.60	0.62		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.4	0.8		0.1	0.1		0.1	0.1		0.0	0.3	
Delay (s)	17.2	11.0		10.8	12.9		18.7	20.9		22.6	23.8	
Level of Service	B	B		B	B		B	C		C	C	
Approach Delay (s)		12.5			12.9			19.3			23.8	
Approach LOS		B			B			B			C	
Intersection Summary												
HCM Average Control Delay			13.2			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			75.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			50.6%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Cesar Chavez & I-25 NB

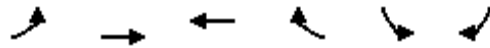
UNM Gibson Commercial District

2015 AM Peak Hour - Build - With Left Out at Gibson - Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	847	1677	0	0	389	285	49	1	193	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	1.00	0.95			0.95	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	3539			3505	1568		1776	1583			
Flt Permitted	0.40	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	753	3539			3505	1568		1776	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)	892	1765	0	0	409	300	52	1	203	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	892	1765	0	0	409	300	0	53	203	0	0	0
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt					Free	Perm		Free			
Protected Phases	7	4			8			2				
Permitted Phases	4					Free	2		Free			
Actuated Green, G (s)	126.0	126.0			56.4	150.0		16.0	150.0			
Effective Green, g (s)	126.0	126.0			56.4	150.0		16.0	150.0			
Actuated g/C Ratio	0.84	0.84			0.38	1.00		0.11	1.00			
Clearance Time (s)	4.0	4.0			4.0			4.0				
Vehicle Extension (s)	3.0	3.0			3.0			3.0				
Lane Grp Cap (vph)	1077	2973			1318	1568		189	1583			
v/s Ratio Prot	c0.36	0.50			0.12							
v/s Ratio Perm	c0.33					0.19		0.03	0.13			
v/c Ratio	0.83	0.59			0.31	0.19		0.28	0.13			
Uniform Delay, d1	11.3	3.8			33.1	0.0		61.7	0.0			
Progression Factor	1.00	1.00			0.79	1.00		1.00	1.00			
Incremental Delay, d2	5.4	0.9			0.1	0.3		3.7	0.2			
Delay (s)	16.6	4.7			26.4	0.3		65.4	0.2			
Level of Service	B	A			C	A		E	A			
Approach Delay (s)		8.7			15.3			13.7			0.0	
Approach LOS		A			B			B			A	
Intersection Summary												
HCM Average Control Delay			10.4			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			150.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			71.0%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Queues 2: Gibson & Entrance

UNM Gibson Commercial District
2015 PM Peak Hour - Build - With Left Out at Gibson - Improved



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	253	1269	2657	164	139	330
v/c Ratio	0.82	0.31	0.83	0.16	0.59	0.83
Control Delay	52.5	3.4	9.4	0.3	60.0	37.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	3.4	9.4	0.3	60.0	37.2
Queue Length 50th (ft)	137	77	503	1	103	98
Queue Length 95th (ft)	226	91	133	m1	172	#209
Internal Link Dist (ft)		630	638		1192	
Turn Bay Length (ft)	250			250		
Base Capacity (vph)	369	4068	3187	1043	236	444
Starvation Cap Reductn	0	0	15	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.31	0.84	0.16	0.59	0.74

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
3: Gibson & University

UNM Gibson Commercial District
2015 PM Peak Hour - Build - With Left Out at Gibson - Improved



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	118	1214	61	57	2357	198	66	82	258	34	215
v/c Ratio	0.52	0.35	0.05	0.17	0.74	0.16	0.35	0.50	0.78	0.17	0.57
Control Delay	30.5	8.5	0.7	6.4	18.8	1.1	46.3	31.7	69.8	48.2	37.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.5	8.5	0.7	6.4	18.8	1.1	46.3	31.7	69.8	48.2	37.7
Queue Length 50th (ft)	46	173	1	10	423	0	43	19	102	24	117
Queue Length 95th (ft)	79	228	m2	25	605	22	80	68	#161	54	177
Internal Link Dist (ft)		638			1234			706		1327	
Turn Bay Length (ft)	250		250	250		250	250		250		
Base Capacity (vph)	241	3458	1252	340	3187	1251	187	272	337	350	389
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	12	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.35	0.05	0.17	0.74	0.16	0.35	0.30	0.77	0.10	0.55

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

5: Cesar Chavez & University

UNM Gibson Commercial District
2015 PM Peak Hour - Build - With Left Out at Gibson - Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	387	476	143	104	506	122	159	325	74	138	386	342
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Flt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	4909		1770	3436		1770	3539	1583	1770	3539	1583
Flt Permitted	0.24	1.00		0.33	1.00		0.35	1.00	1.00	0.44	1.00	1.00
Satd. Flow (perm)	455	4909		621	3436		651	3539	1583	815	3539	1583
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)	425	523	157	114	556	134	175	357	81	152	424	376
RTOR Reduction (vph)	0	71	0	0	29	0	0	0	60	0	0	67
Lane Group Flow (vph)	425	609	0	114	661	0	175	357	21	152	424	309
Turn Type	pm+pt			pm+pt			pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	38.5	29.7		24.3	19.5		19.6	13.4	18.2	19.4	13.3	28.3
Effective Green, g (s)	38.5	29.7		24.3	19.5		19.6	13.4	18.2	19.4	13.3	28.3
Actuated g/C Ratio	0.55	0.42		0.35	0.28		0.28	0.19	0.26	0.28	0.19	0.40
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)	532	2083		294	957		281	677	412	309	672	640
v/s Ratio Prot	c0.17	0.12		0.03	0.19		c0.06	0.10	0.00	0.04	c0.12	0.10
v/s Ratio Perm	c0.27			0.11			0.12		0.01	0.09		0.09
v/c Ratio	0.80	0.29		0.39	0.69		0.62	0.53	0.05	0.49	0.63	0.48
Uniform Delay, d1	17.9	13.2		19.7	22.6		20.3	25.5	19.4	20.1	26.1	15.4
Progression Factor	0.77	0.16		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.2	0.3		0.9	4.1		4.3	0.7	0.1	1.2	1.9	0.6
Delay (s)	21.0	2.4		20.6	26.6		24.5	26.2	19.5	21.3	28.0	16.0
Level of Service	C	A		C	C		C	C	B	C	C	B
Approach Delay (s)		9.5			25.8			24.8			22.2	
Approach LOS		A			C			C			C	
Intersection Summary												
HCM Average Control Delay			19.5			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			70.0			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

6: Cesar Chavez & Langham

UNM Gibson Commercial District
2015 PM Peak Hour - Build - With Left Out at Gibson - Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	1039	134	4	1256	1	136	1	33	6	0	205
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	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Flt	1.00	0.98		1.00	1.00		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4998		1770	5085		1770	1590		1770	1583	
Flt Permitted	0.19	1.00		0.19	1.00		0.41	1.00		0.73	1.00	
Satd. Flow (perm)	358	4998		358	5085		770	1590		1362	1583	
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)	151	1222	158	5	1478	1	160	1	39	7	0	241
RTOR Reduction (vph)	0	24	0	0	0	0	0	26	0	0	168	0
Lane Group Flow (vph)	151	1356	0	5	1479	0	160	14	0	7	73	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	29.8	29.8		21.6	21.6		26.8	22.6		20.0	19.2	
Effective Green, g (s)	29.8	29.8		21.6	21.6		26.8	22.6		20.0	19.2	
Actuated g/C Ratio	0.43	0.43		0.31	0.31		0.38	0.32		0.29	0.27	
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)	334	2128		127	1569		355	513		394	434	
v/s Ratio Prot	0.06	c0.27		0.00	c0.29		c0.03	0.01		0.00	0.05	
v/s Ratio Perm	0.13			0.01			c0.15			0.00		
v/c Ratio	0.45	0.64		0.04	0.94		0.45	0.03		0.02	0.17	
Uniform Delay, d1	22.9	15.8		18.5	23.6		15.2	16.2		17.9	19.3	
Progression Factor	0.85	0.77		0.75	0.75		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.6		0.1	11.7		0.9	0.1		0.0	0.8	
Delay (s)	20.4	12.9		14.0	29.3		16.1	16.3		17.9	20.2	
Level of Service	C	B		B	C		B	B		B	C	
Approach Delay (s)		13.6			29.3			16.2			20.1	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM Average Control Delay			20.9			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			70.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			64.9%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Cesar Chavez & I-25 NB

UNM Gibson Commercial District

2015 PM Peak Hour - Build - With Left Out at Gibson - Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	487	716	0	0	730	674	104	7	83	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	1.00	0.95			0.95	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.96	1.00			
Satd. Flow (prot)	1752	3505			3539	1583		1745	1553			
Flt Permitted	0.18	1.00			1.00	1.00		0.96	1.00			
Satd. Flow (perm)	338	3505			3539	1583		1745	1553			
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)	513	754	0	0	768	709	109	7	87	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	513	754	0	0	768	709	0	116	87	0	0	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	pm+pt					Free	Perm		Free			
Protected Phases	7	4			8			2				
Permitted Phases	4					Free	2		Free			
Actuated Green, G (s)	46.0	46.0			23.4	70.0		16.0	70.0			
Effective Green, g (s)	46.0	46.0			23.4	70.0		16.0	70.0			
Actuated g/C Ratio	0.66	0.66			0.33	1.00		0.23	1.00			
Clearance Time (s)	4.0	4.0			4.0			4.0				
Vehicle Extension (s)	3.0	3.0			3.0			3.0				
Lane Grp Cap (vph)	598	2303			1183	1583		399	1553			
v/s Ratio Prot	c0.23	0.22			0.22							
v/s Ratio Perm	c0.34					c0.45		0.07	0.06			
v/c Ratio	0.86	0.33			0.65	0.45		0.29	0.06			
Uniform Delay, d1	14.2	5.2			19.8	0.0		22.3	0.0			
Progression Factor	1.00	1.00			0.39	1.00		1.00	1.00			
Incremental Delay, d2	11.7	0.1			2.0	0.7		1.8	0.1			
Delay (s)	25.9	5.3			9.8	0.7		24.1	0.1			
Level of Service	C	A			A	A		C	A			
Approach Delay (s)		13.6			5.4			13.8			0.0	
Approach LOS		B			A			B			A	
Intersection Summary												
HCM Average Control Delay			9.5			HCM Level of Service			A			
HCM Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			70.0			Sum of lost time (s)			4.0			
Intersection Capacity Utilization			63.3%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												