Ferber Engineering Company, Inc.

interstate engineering, inc.

APPENDIX A

TRAFFIC ENGINEERING TECHNICAL ANALYSIS

INTERSECTION TRAFFIC COUNTS

Intersection Traffic Counts

Count Date: 6-Jan-03
Intersection: N. LaCrosse/Rapp
City, State: Rapid City, SD
Counts by:

North-South Street: LaCrosse Street
East-West Street: Rapp Street

Time Interval Beginning	Southbound						Westbound						Northbound						Eastbound						Total Intersection Volume	60-Min Total Volume
	SBRT		SBTh		SBLT		WBRT		WBTh		WBLT		NBRT		NBTh		NBLT		EBRT		EBTh		EBLT			
	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks		
6:00 AM																									-	
6:15 AM																									-	
6:30 AM																									-	
6:45 AM																									-	-
7:00 AM			77	5			4				4		2	76											166	166
7:15 AM			79	4			5				2		6	62											157	323
7:30 AM			97	3			10				4		7	58											179	502
7:45 AM			130	3			4				3		5	93											238	740
8:00 AM	0		97	7			7		0		5		6	93		0									215	789
8:15 AM	0		76	3			4		0		0		0	82		0									164	796
8:30 AM	0		90	2			3		0		7		6	76		0									187	804
8:45 AM	0		97	3			4		0		4		4	96		0									206	772
9:00 AM																									-	557
9:15 AM																									-	393
9:30 AM																									-	206
9:45 AM																									-	-
10:00 AM																									-	-
10:15 AM																									-	-
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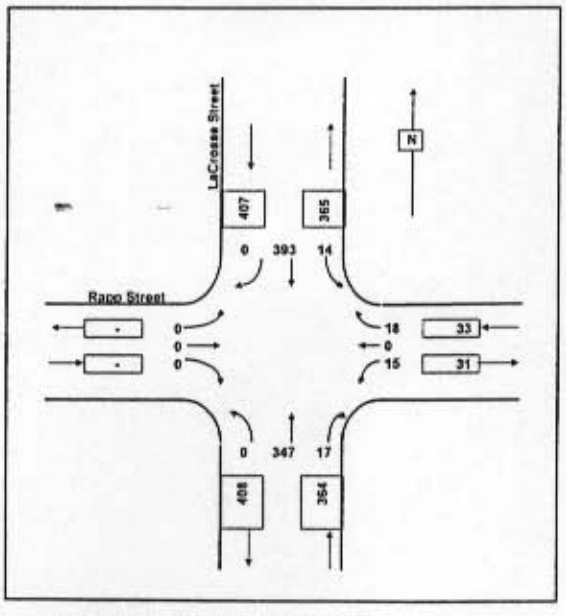
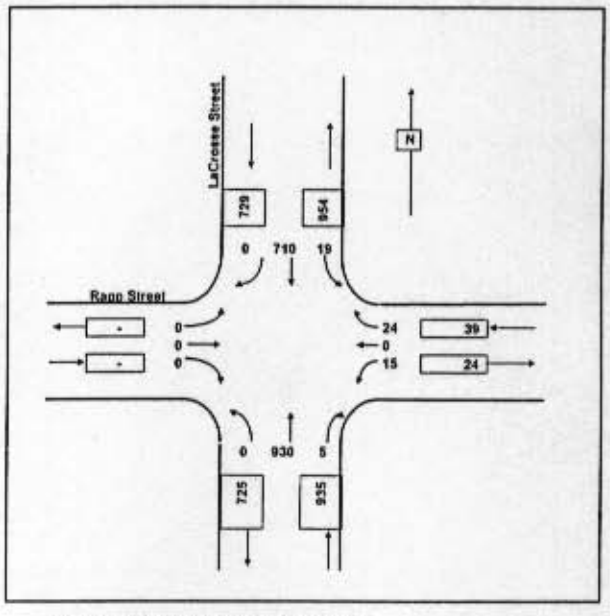
3:00 PM																									-	-
3:15 PM																									-	-
3:30 PM																									-	-
3:45 PM																									-	-
4:00 PM	0		182	3			2		0		7		1	241		0			0		0		0		436	436
4:15 PM	0		196	5			2		0		4		7	209		0			0		0		0		423	859
4:30 PM	0		145	5			7		0		6		9	177		0			0		0		0		349	1,208
4:45 PM	0		180	7			4		0		2		1	225		0			0		0		0		399	1,607
5:00 PM	0		197	2			8		0		6		1	237		0			0		0		0		451	1,622
5:15 PM	0		194	9			7		0		3		2	258		0			0		0		0		473	1,672
5:30 PM	0		159	1			5		0		4		1	210		0			0		0		0		380	1,703
5:45 PM	0		163	7			1		0		5		0	213		0			0		0		0		389	1,693

AM Peak Hour Totals	0	0	393	0	14	0	18	0	0	0	15	0	17	0	347	0	0	0	0	0	0	0	0	0	804
Pk. Hr. Tot. Veh.	0		393		14		18		0		15		17		347		0		0		0		0		
Pk. Hr. % Trucks	#####		0%		0%		0%		#####		0%		0%		0%		#DIV/0!		#####		#####		#####		
PHF	0.00		0.76		0.5		0.64		0		0.54		0.94		0.96		0.00		0.00		0.70		0.72		

PM Peak Hour Totals	0	0	710	0	19	0	24	0	0	0	15	0	5	5	930	0	0	0	0	0	0	0	0	0	1700
Pk. Hr. Tot. Veh.	0		710		19		24		0		15		5		930		0		0		0		0		
Pk. Hr. % Trucks	#####		0%		0%		0%		#####		0%		0%		0%		#DIV/0!		#####		#####		#####		
PHF	0.00		0.9		0.77		0.75		0		0.63		0.50		0.90		0		0		0		0		



Existing AM Peak Hour Traffic Volume



Existing PM Peak Hour Traffic Volume

Intersection Traffic Counts

Count Date: 8-Jan-08
Intersection: Eglin / Dyess
City, State: Rapid City, SD
Counts by:

North-South Street: Dyess
East-West Street: Eglin

Time Interval Beginning	Southbound						Westbound						Northbound						Eastbound						Total Intersection Volume	60-Min Total Volume
	SBRT		SBTh		SBLT		WBRT		WBTh		WBLT		NBRT		NBTh		NBLT		EBRT		EBTh		EBLT			
	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks		
6:00 AM																									-	
6:15 AM																									-	
6:30 AM																									-	
6:45 AM																									-	-
7:00 AM	11	0	0	0	1	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	6	0	11	10	45	45
7:15 AM	11	2	0	0	0	0	1	4	3	0	0	0	0	0	0	0	0	0	0	0	4	1	18	7	51	96
7:30 AM	11	1	0	0	3	0	0	1	5	1	0	0	0	0	0	0	0	0	0	0	11	0	16	5	54	150
7:45 AM	11	1	0	0	6	0	3	0	7	0	0	0	0	0	0	0	0	0	0	0	16	0	26	2	74	224
8:00 AM	6	0	0	0	3	0	2	2	6	3	0	0	0	0	0	0	0	0	0	0	14	1	19	5	63	242
8:15 AM	4	1	0	0	2	1	5	2	7	1	0	0	0	0	0	0	0	0	0	0	8	1	17	9	56	249
8:30 AM	10	1	0	0	2	2	1	2	6	2	0	0	0	0	0	0	0	0	0	0	11	3	15	9	64	259
8:45 AM	18	4	0	0	0	5	1	0	5	3	0	0	0	0	0	0	0	0	0	0	10	2	12	5	69	254
9:00 AM																									-	191
9:15 AM																									-	133
9:30 AM																									-	69
9:45 AM																									-	-
10:00 AM																									-	-
10:15 AM																									-	-
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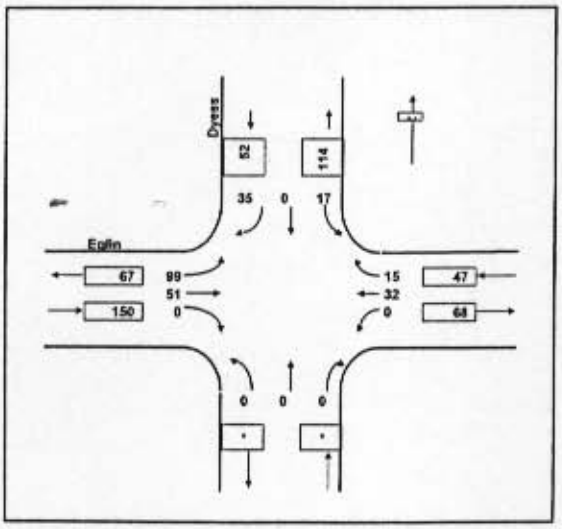
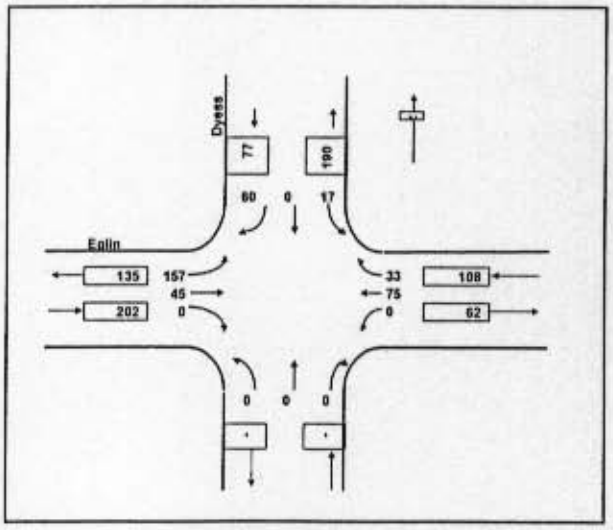
3:15 PM																									-	-
3:30 PM																									-	-
3:45 PM																									-	-
4:00 PM	18	1	0	0	2	0	11	1	14	2	0	0	0	0	0	0	0	0	0	0	21	1	45	8	122	122
4:15 PM	10	0	0	0	2	1	3	2	16	1	0	0	0	0	0	0	0	0	0	0	11	1	29	9	84	206
4:30 PM	12	0	0	0	5	1	8	1	31	1	0	0	0	0	0	0	0	0	0	0	14	1	30	8	112	318
4:45 PM	21	0	0	0	3	2	6	1	12	2	0	0	0	0	0	0	0	0	0	0	15	2	37	5	109	424
5:00 PM	13	3	0	0	2	1	12	0	21	0	0	0	0	0	0	0	0	0	0	0	4	0	41	2	99	401
5:15 PM	11	0	0	0	3	0	4	1	8	0	0	0	0	0	0	0	0	0	0	0	8	1	32	4	70	387
5:30 PM	3	0	0	0	0	0	1	0	6	0	0	0	0	0	0	0	0	0	0	0	5	0	26	4	47	322
5:45 PM	3	0	0	0	2	0	1	0	7	0	0	0	0	0	0	0	0	0	0	0	8	1	24	2	48	264

AM Peak Hour Totals	32	3	0	0	16	1	10	5	27	5	0	0	0	0	0	0	0	0	0	0	49	2	78	21	249	
Pk. Hr. Tot. Veh.	35		0		17		15		32		0		0		0		0		0		51		99			
Pk. Hr. % Trucks	9%		#DIV/0!		6%		33%		16%		#DIV/0!		#####		#####		#DIV/0!		#####		4%		21%			
PHF	0.73		0		0.5		0.5		0.84		0		0.00		0		0.00		0		0.77		0.75			

PM Peak Hour Totals	57	3	0	0	13	4	30	3	72	3	0	0	0	0	0	0	0	0	0	0	41	4	140	17	387	
Pk. Hr. Tot. Veh.	60		0		17		33		75		0		0		0		0		0		45		157			
Pk. Hr. % Trucks	5%		#DIV/0!		24%		9%		4%		#DIV/0!		#####		#####		#DIV/0!		#####		9%		11%			
PHF	0.68		0		0.65		0.83		0.58		0.00		0.00		0		0		0		0.64		0.85			



Existing AM Peak Hour Traffic Volume



Existing PM Peak Hour Traffic Volume

Intersection Traffic Counts

Count Date: 7-Dec-02
Intersection: Elk Vale / I-90 EB
North-South Street: Elk Vale
East/West Street: I-90 ES
City, State: Rapid City, SD
Counts by:

Time Interval Beginning	Southbound SBLT Autos	Trucks	SBTh Autos	Trucks	SBRT Autos	Trucks	Westbound WBLT Autos	Trucks	WBTh Autos	Trucks	WBRT Autos	Trucks	Northbound NBLT Autos	Trucks	NBTh Autos	Trucks	NBRT Autos	Trucks	Eastbound EBLT Autos	Trucks	EBTh Autos	Trucks	EBRT Autos	Trucks	Total Intersection Volume	60-Min Total Volume
6:00 AM																									-	
6:15 AM																									-	
6:30 AM																									-	
6:45 AM																									-	-
7:00 AM	2		53		0		0		0		0		0		44		65		15		0		63		245	245
7:15 AM	4		29		0		0		0		0		0		49		88		16		0		36		222	467
7:30 AM	5		55		0		0		0		0		0		50		68		18		0		40		236	703
7:45 AM	8		76		0		0		0		0		0		83		49		14		0		72		300	1,003
8:00 AM																									-	758
8:15 AM																									-	539
8:30 AM																									-	300
8:45 AM																									-	-
9:00 AM																									-	-
9:15 AM																									-	-
9:30 AM																									-	-
9:45 AM																									-	-
10:00 AM																									-	-
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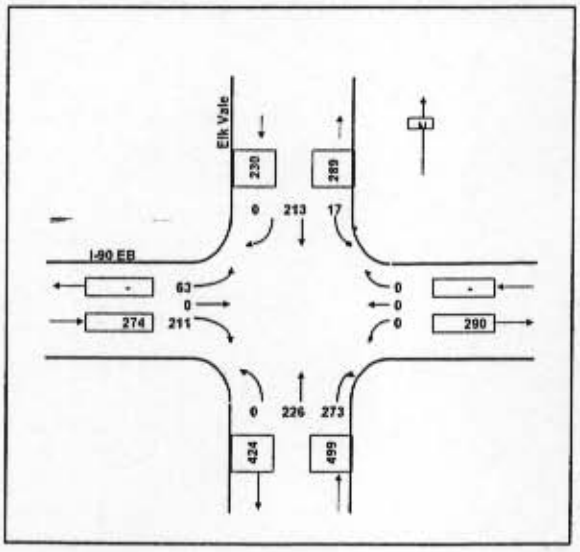
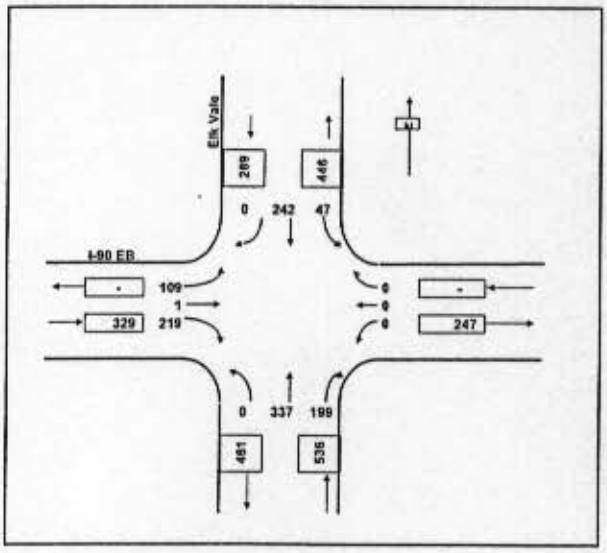
11:45 AM																									-	-
12:00 PM																									-	-
12:15 PM																									-	-
12:30 PM																									-	-
12:45 PM																									-	-
1:00 PM	11		54		0		0		0		0		0		42		17		26		0		33		183	183
1:15 PM	7		33		0		0		0		0		0		56		28		24		0		44		192	375
1:30 PM	9		56		0		0		0		0		0		36		27		20		0		39		186	561
1:45 PM	11		41		0		0		0		0		0		48		39		32		0		24		195	756
2:00 PM																									-	573
2:15 PM																									-	381
2:30 PM																									-	195
2:45 PM																									-	-
3:00 PM																									-	-
3:15 PM																									-	-
3:30 PM																									-	-
3:45 PM																									-	-
4:00 PM																									-	-
4:15 PM																									-	-
4:30 PM	14		66		0		0		0		0		0		82		47		33		0		43		285	285
4:45 PM	8		68		0		0		0		0		0		96		50		26		0		54		300	585
5:00 PM	10		59		0		0		0		0		0		82		45		30		0		50		262	847
5:15 PM	11		51		0		0		0		0		0		95		57		20		0		72		307	1,154
5:30 PM																									-	969
5:45 PM																									-	569

AM Peak Hour Totals	17	0	213	0	0	0	0	0	0	0	0	0	0	0	226	0	273	0	63	0	0	0	211	0	1003	
Pk. Hr. Tot. Veh.	17		213		0		0		0				0		226		273		63		0		211			
Pk. Hr. % Trucks	0%		0%		######		######		#DIV/0!				######		0%		0%		0%		######		0%			
PHF	0.71		0.70		0		0		0				0.00		0.68		0.78		0.88		0		0.73			

PM Peak Hour Totals	47	0	242	0	0	0	0	0	0	0	0	0	0	0	337	0	199	0	109	0	1	0	219	0	1154	
Pk. Hr. Tot. Veh.	47		242		0		0		0				0		337		199		109		1		219			
Pk. Hr. % Trucks	0%		0%		######		######		#DIV/0!				######		0%		0%		0%		0%		0%			
PHF	0.73		0.92		0.00		0		0		0.00		0.00		0.88		0.87		0.83		0.25		0.76			



Existing AM Peak Hour Traffic Volume



Existing PM Peak Hour Traffic Volume

Intersection Traffic Counts

Count Date: 7-Dec-02
Intersection: Elk Vale / I-90 WB
City, State: Rapid City, SD
Counts by:

North-South Street: Elk Vale
East-West Street: I-90 WB

Time Interval Beginning	Southbound						Westbound						Northbound						Eastbound						Total Intersection Volume	60-Min Total Volume
	SBLT		SBTh		SBRT		WBLT		WBTh		WBRT		NBLT		NBTh		NBRT		EBLT		EBTh		EBRT			
	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks		
6:00 AM																									-	
6:15 AM																									-	
6:30 AM																									-	
6:45 AM																									-	-
7:00 AM																									-	-
7:15 AM																									-	-
7:30 AM	0		30		18		19		0		4		40		27		0		0		0		0		138	138
7:45 AM	0		24		22		33		0		8		40		32		0		0		0		0		159	297
8:00 AM	0		39		45		51		1		8		61		25		0		0		0		0		230	530
8:15 AM	0		22		12		31		0		8		50		30		0		0		0		0		153	683
8:30 AM																									-	545
8:45 AM																									-	386
9:00 AM																									-	153
9:15 AM																									-	-
9:30 AM																									-	-
9:45 AM																									-	-
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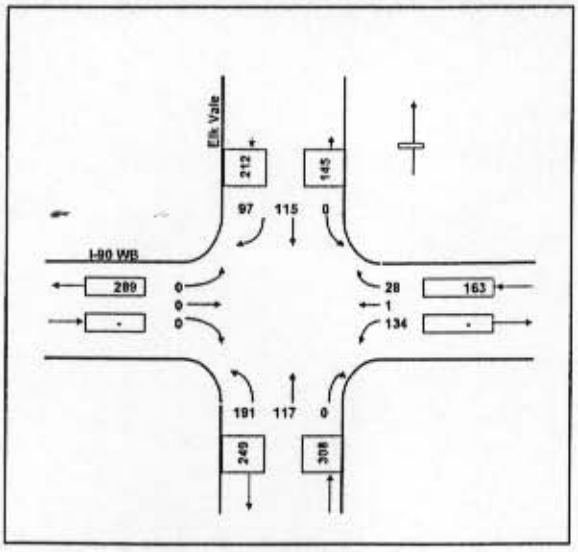
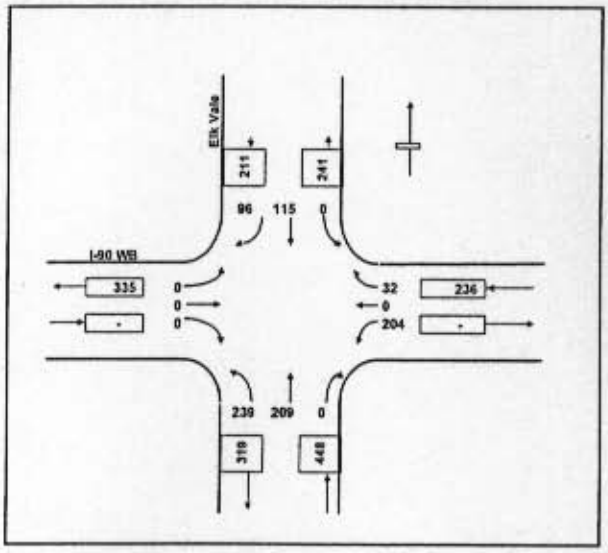
11:30 AM																									-	-
11:45 AM																									-	-
12:00 PM																									-	-
12:15 PM																									-	-
12:30 PM	0		30		17		35		0		8		29		32		0		0		0		0		151	151
12:45 PM	0		23		14		34		0		7		19		44		0		0		0		0		141	292
1:00 PM	0		24		19		18		0		4		27		24		0		0		0		0		116	408
1:15 PM	0		32		12		26		0		4		37		43		0		0		0		0		154	562
1:30 PM																									-	411
1:45 PM																									-	270
2:00 PM																									-	154
2:15 PM																									-	-
2:30 PM																									-	-
2:45 PM																									-	-
3:00 PM																									-	-
3:15 PM																									-	-
3:30 PM																									-	-
3:45 PM																									-	-
4:00 PM																									-	-
4:15 PM																									-	-
4:30 PM	0		33		20		64		0		11		48		57		0		0		0		0		231	231
4:45 PM	0		23		28		50		0		7		85		84		0		0		0		0		237	468
5:00 PM	0		25		27		46		0		7		88		48		0		0		0		0		222	690
5:15 PM	0		34		21		44		0		7		80		39		0		0		0		0		205	895
5:30 PM																									-	864
5:45 PM																									-	427

AM Peak Hour Totals	0	0	115	0	97	0	134	0	1	0	28	0	191	0	117	0	0	0	0	0	0	0	0	0	683
Pk. Hr. Tot. Veh.	0		115		97		134		1		28		191		117		0		0		0		0		
Pk. Hr. % Trucks	#####		0%		0%		0%		0%		0%		0%		0%		#DIV/0!		#####		#####		#####		
PHF	0		0.74		0.54		0.66		0.25		0.88		0.78		0.91		0.00		0		0		0		

PM Peak Hour Totals	0	0	115	0	96	0	204	0	0	0	32	0	239	0	209	0	0	0	0	0	0	0	0	0	895
Pk. Hr. Tot. Veh.	0		115		96		204		0		32		239		209		0		0		0		0		
Pk. Hr. % Trucks	#####		0%		0%		0%		#####		0%		0%		0%		#DIV/0!		#####		#####		#####		
PHF	0		0.85		0.86		0.80		0		0.73		0.88		0.82		0		0		0		0		



Existing AM Peak Hour Traffic Volume



Existing PM Peak Hour Traffic Volume

Intersection Traffic Counts

Count Date: 18-Feb-03
Intersection: LaCrosse / Anamosa
City, State: Rapid City, SD
Counts by:

North-South Street: LaCrosse
East/West Street: E. Anamosa St

Time Interval Beginning	Southbound SBLT Autos	Trucks	SBTh Autos	Trucks	SBRT Autos	Trucks	Westbound WBLT Autos	Trucks	WBTh Autos	Trucks	WBRT Autos	Trucks	Northbound NBLT Autos	Trucks	NBTh Autos	Trucks	NBRT Autos	Trucks	Eastbound EBLT Autos	Trucks	EBTh Autos	Trucks	EBRT Autos	Trucks	Total Intersection Volume	60-Min Total Volume
6:00 AM																									-	
6:15 AM																									-	
6:30 AM																									-	
6:45 AM																									-	-
7:00 AM																									-	-
7:15 AM																									-	-
7:30 AM																									-	-
7:45 AM	6		99		24		22		15		6		36		50		15		12		12		33		330	330
8:00 AM	5		113		12		20		18		12		29		74		20		23		21		48		395	725
8:15 AM	9		58		7		9		5		4		22		69		11		15		24		40		274	999
8:30 AM	8		68		9		15		9		8		18		63		20		8		12		21		257	1,256
8:45 AM																									-	606
9:00 AM																									-	531
9:15 AM																									-	257
9:30 AM																									-	-
9:45 AM																									-	-
10:00 AM																									-	-
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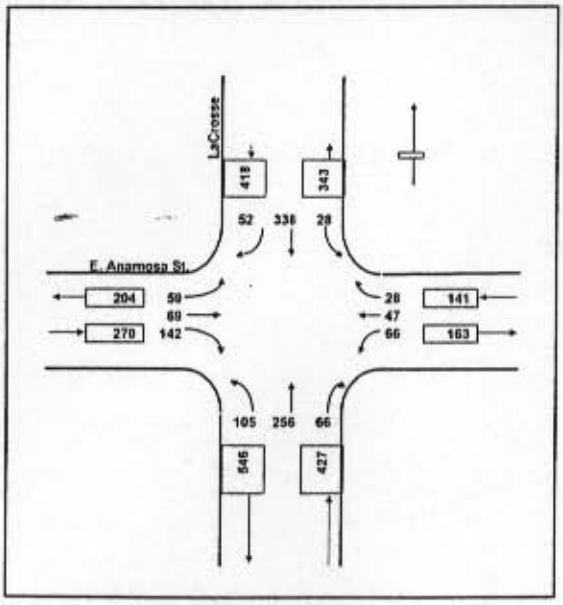
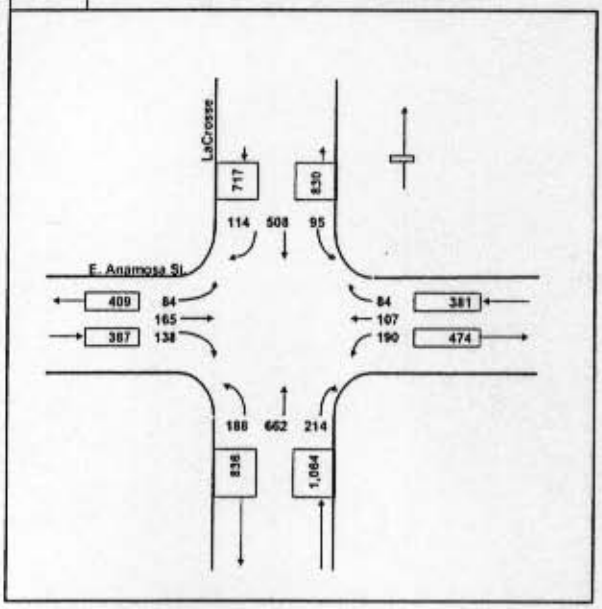
3:45 PM																									-	-
4:00 PM																									-	-
4:15 PM																									-	-
4:30 PM																									-	-
4:45 PM	25		135		19		46		24		19		48		159		56		19		43		35		629	624
5:00 PM	35		117		24		54		28		22		44		166		57		29		35		33		829	1,253
5:15 PM	26		121		32		45		31		23		43		172		44		13		28		35		613	1,886
5:30 PM	26		135		36		43		24		20		53		169		51		23		50		35		883	2,548
5:45 PM																									-	1,925

AM Peak Hour Totals	28	0	338	0	52	0	66	0	47	0	26	0	105	0	256	0	66	0	59	0	69	0	142	0	1256	
Pk. Hr. Tot. Veh.	28		338		52		66		47		26		105		256		66		59		69		142			
Pk. Hr. % Trucks	0%		0%		0%		0%		0%		0%		0%		0%		0%		0%		0%		0%			
PHF	0.78		0.75		0.54		0.75		0.85		0.58		0.73		0.86		0.83		0.84		0.72		0.74			

PM Peak Hour Totals	95	0	508	0	114	0	190	0	107	0	84	0	188	0	662	0	214	0	84	0	165	0	138	0	2549	
Pk. Hr. Tot. Veh.	95		508		114		190		107		84		188		662		214		84		165		138			
Pk. Hr. % Trucks	0%		0%		0%		0%		0%		0%		0%		0%		0%		0%		0%		0%			
PHF	0.91		0.94		0.73		0.86		0.88		0.91		0.89		0.96		0.94		0.72		0.70		0.92			



Existing AM Peak Hour Traffic Volume



Existing PM Peak Hour Traffic Volume

Intersection Traffic Counts

Count Date: 7-Dec-00
Intersection: Eglin/Elk Vale
City, State: Rapid City, SD
Counts by:

North-South Street: Elk Vale

East-West Street: Eglin

Time Interval Beginning	Southbound SBLT Autos	Trucks	SBTh Autos	Trucks	SBRT Autos	Trucks	Westbound WBLT Autos	Trucks	WBTh Autos	Trucks	WBRT Autos	Trucks	Northbound NBLT Autos	Trucks	NBTh Autos	Trucks	NBRT Autos	Trucks	Eastbound EBLT Autos	Trucks	EBTh Autos	Trucks	EBRT Autos	Trucks	Total Intersection Volume	60-Min Total Volume
6:00 AM																									-	
6:15 AM																									-	
6:30 AM																									-	
6:45 AM																									-	-
7:00 AM	3		80		8		0		1		4		2		132		1		2		2		1		216	216
7:15 AM	2		88		9		0		0		0		3		124		0		2		0		2		210	426
7:30 AM	2		114		7		1		0		0		4		115		0		3		1		1		248	674
7:45 AM	6		151		6		0		0		1		15		108		3		2		4		4		300	974
8:00 AM																									-	758
8:15 AM																									-	548
8:30 AM																									-	300
8:45 AM																									-	-
9:00 AM																									-	-
9:15 AM																									-	-
9:30 AM																									-	-
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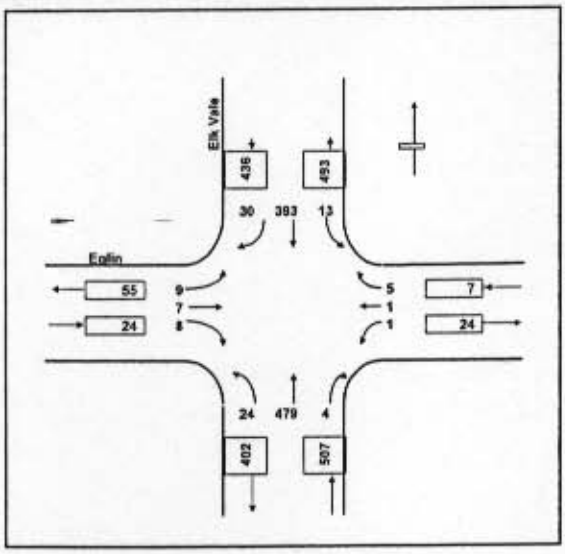
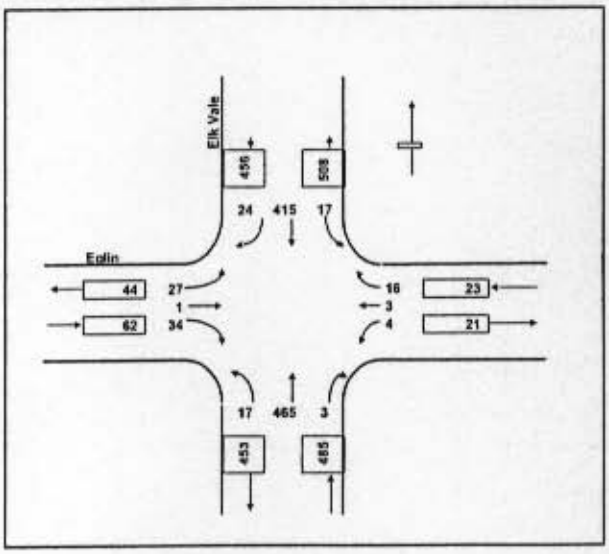
11:15 AM																									-	-
11:30 AM																									-	-
11:45 AM																									-	-
12:00 PM																									-	-
12:15 PM																									-	-
12:30 PM	8		63		17		1		1		8		3		54		4		9		1		8		177	177
12:45 PM	5		62		14		0		2		4		3		56		1		0		1		5		155	332
1:00 PM	2		63		11		0		0		2		0		60		3		11		1		5		158	490
1:15 PM	7		71		7		1		3		5		4		61		3		5		3		3		173	663
1:30 PM																									-	486
1:45 PM																									-	331
2:00 PM																									-	173
2:15 PM																									-	-
2:30 PM																									-	-
2:45 PM																									-	-
3:00 PM																									-	-
3:15 PM																									-	-
3:30 PM																									-	-
3:45 PM																									-	-
4:00 PM																									-	-
4:15 PM																									-	-
4:30 PM	1		111		5		2		0		4		5		82		0		7		0		7		224	224
4:45 PM	6		86		6		0		1		6		9		137		1		6		0		12		263	507
5:00 PM	4		93		4		1		1		2		1		108		0		6		0		5		223	790
5:15 PM	6		118		7		1		1		4		2		140		0		9		1		9		298	1,008
5:30 PM																									-	802
5:45 PM																									-	519

AM Peak Hour Totals	13	0	393	0	30	0	1	0	1	0	5	0	24	0	479	0	4	0	9	0	7	0	8	0	974	
Pk. Hr. Tot. Veh	13		393		30		1		1		5		24		479		4		9		7		8			
Pk. Hr. % Trucks	0%		0%		0%		0%		0%		0%		0%		0%		0%		0%		0%		0%			
PHF	0.54		0.65		0.83		0.25		0.25		0.31		0.40		0.91		0.33		0.75		0.44		0.50			

PM Peak Hour Totals	17	0	415	0	24	0	4	0	3	0	16	0	17	0	465	0	3	0	27	0	1	0	34	0	1026	
Pk. Hr. Tot. Veh	17		415		24		4		3		16		17		465		3		27		1		34			
Pk. Hr. % Trucks	0%		0%		0%		0%		0%		0%		0%		0%		0%		0%		0%		0%			
PHF	0.71		0.89		0.75		0.50		0.75		0.67		0.47		0.83		0.25		0.75		0.25		0.85			



Existing AM Peak Hour Traffic Volume



Existing PM Peak Hour Traffic Volume

Intersection Traffic Counts

Count Date: 8-Jan-03
Intersection: North / Anamosa
City, State: Rapid City, SD
Counts by:

North-South Street: E. North St.
East-West Street: E. Anamosa St.

Time Interval Beginning	Southbound SBLT Autos	Southbound SBLT Trucks	Southbound SBTh Autos	Southbound SBTh Trucks	Southbound SBRT Autos	Southbound SBRT Trucks	Westbound WBLT Autos	Westbound WBLT Trucks	Westbound WBTh Autos	Westbound WBTh Trucks	Westbound WBRT Autos	Westbound WBRT Trucks	Northbound NBLT Autos	Northbound NBLT Trucks	Northbound NBTh Autos	Northbound NBTh Trucks	Northbound NBRT Autos	Northbound NBRT Trucks	Eastbound EBLT Autos	Eastbound EBLT Trucks	Eastbound EBTh Autos	Eastbound EBTh Trucks	Eastbound EBRT Autos	Eastbound EBRT Trucks	Total Intersection Volume	60-Min Total Volume
6:00 AM																									-	
6:15 AM																									-	
6:30 AM																									-	
6:45 AM																									-	-
7:00 AM																									-	
7:15 AM																									-	-
7:30 AM	14		107		0		18		0		0		0		65		28		0		0		0		220	220
7:45 AM	9		142		0		15		0		1		0		51		26		0		0		0		248	468
8:00 AM	16		156		0		25		0		1		0		32		41		0		0		0		271	739
8:15 AM	10		88		0		30		0		0		0		28		54		0		0		0		208	847
8:30 AM																									-	727
8:45 AM																									-	479
9:00 AM																									-	203
9:15 AM																									-	-
9:30 AM																									-	-
9:45 AM																									-	-
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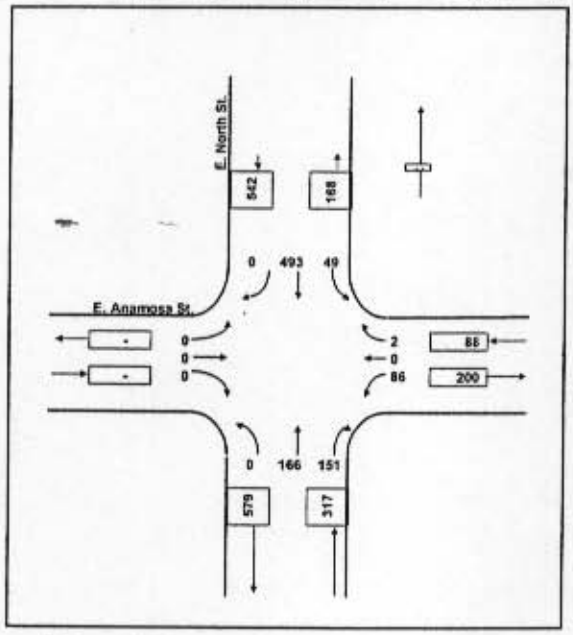
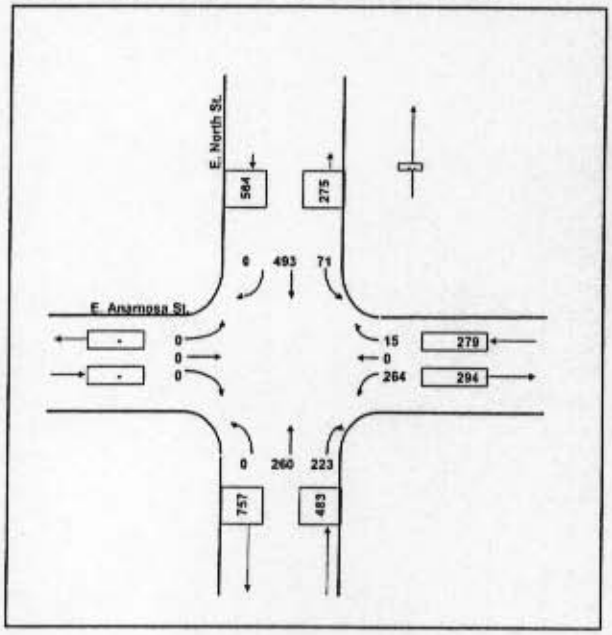
3:30 PM																									-	-
3:45 PM																									-	-
4:00 PM																									-	-
4:15 PM	18		124		0		80		0		4		0		52		66		0		0		0		348	348
4:30 PM	38		130		0		52		0		4		0		55		51		0		0		0		313	658
4:45 PM	21		118		0		80		0		3		0		61		52		0		0		0		337	996
5:00 PM	34		121		0		52		0		4		0		87		52		0		0		0		330	1,326
5:15 PM																									-	980
5:30 PM																									-	667
5:45 PM																									-	330

AM Peak Hour Totals																									
	49	0	493	0	0	0	86	0	0	0	2	0	0	0	166	0	151	0	0	0	0	0	0	0	947
Pk. Hr. Tot. Veh.	49		493		0		86		0		2		0		166		151		0		0		0		
Pk. Hr. % Trucks	0%		0%		#####		0%		#####		0%		#####		0%		0%		#####		#####		#####		
PHF	0.77		0.79		0		0.72		0		0.50		0.00		0.75		0.70		0		0		0		

PM Peak Hour Totals																									
	71	0	493	0	0	0	264	0	0	0	15	0	0	0	260	0	223	0	0	0	0	0	0	0	1326
Pk. Hr. Tot. Veh.	71		493		0		264		0		15		0		260		223		0		0		0		
Pk. Hr. % Trucks	0%		0%		#####		0%		#####		0%		#####		0%		0%		#####		#####		#####		
PHF	0.85		0.95		0.00		0.83		0		0.94		0.00		0.79		0.82		0		0		0		



Existing AM Peak Hour Traffic Volume



Existing PM Peak Hour Traffic Volume

Intersection Traffic Counts

Count Date: 9-Jan-03
Intersection: LaCrosse/Meridian
City, State: Rapid City, SD
Counts by:

North-South Street: LaCrosse St.
East/West Street: Meridian Ln.

Time Interval Beginning	Southbound SBLT Autos	Trucks	SBTh Autos	Trucks	SBRT Autos	Trucks	Westbound WBLT Autos	Trucks	WBTh Autos	Trucks	WBRT Autos	Trucks	Northbound NBLT Autos	Trucks	NBTh Autos	Trucks	NBRT Autos	Trucks	Eastbound EBLT Autos	Trucks	EBTh Autos	Trucks	EBRT Autos	Trucks	Total Intersection Volume	60-Min. Total Volume
6:00 AM																									-	
6:15 AM																									-	
6:30 AM																									-	
6:45 AM																									-	-
7:00 AM	8		67		0		4		0		3		0		59		4		0		0		0		145	145
7:15 AM	16		74		0		4		0		6		0		65		2		0		0		0		167	312
7:30 AM	13		84		0		4		0		3		0		68		5		0		0		0		185	497
7:45 AM	12		102		0		8		0		14		0		91		5		0		0		0		232	729
8:00 AM	15		80		0		4		0		9		0		68		2		0		0		0		178	762
8:15 AM	24		87		0		7		0		5		0		77		2		0		0		0		182	777
8:30 AM	19		81		0		4		0		11		0		68		6		0		0		0		189	781
8:45 AM	14		75		0		8		0		10		0		82		6		0		0		0		195	744
9:00 AM																									-	566
9:15 AM																									-	384
9:30 AM																									-	196
9:45 AM																									-	-
10:00 AM																									-	-
10:15 AM																									-	-
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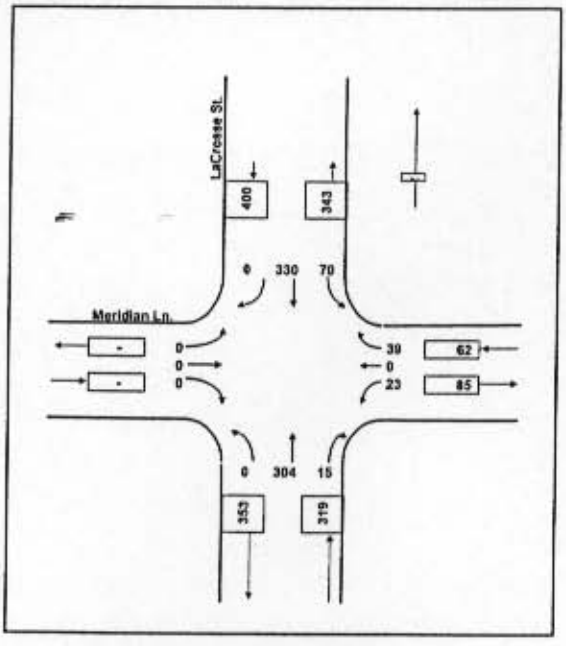
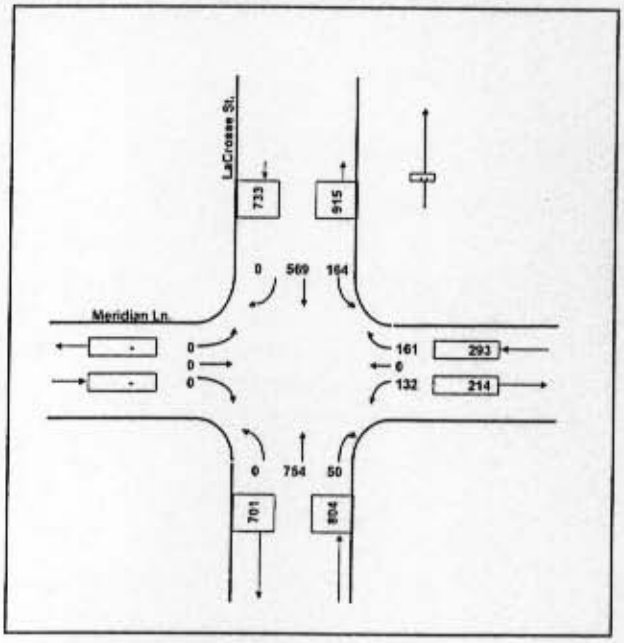
3:00 PM																									-	-
3:15 PM																									-	-
3:30 PM																									-	-
3:45 PM																									-	-
4:00 PM	37		147		0		37		0		35		0		195		12		0		0		0		463	463
4:15 PM	42		117		0		38		0		38		0		199		17		0		0		0		451	914
4:30 PM	57		156		0		26		0		45		0		213		7		0		0		0		505	1,419
4:45 PM	31		132		0		33		0		43		0		179		14		0		0		0		432	1,851
5:00 PM	48		156		0		34		0		35		0		208		12		0		0		0		500	1,888
5:15 PM	45		139		0		37		0		40		0		175		12		0		0		0		448	1,885
5:30 PM	40		132		0		28		0		43		0		195		12		0		0		0		450	1,830
5:45 PM	46		120		0		35		0		40		0		146		3		0		0		0		390	1,788

AM Peak Hour Totals	70	0	330	0	0	0	23	0	0	0	39	0	0	0	304	0	15	0	0	0	0	0	0	0	781	
Pk. Hr. Tot. Veh.	70		330		0		23		0		39		0		304		15		0		0		0			
Pk. Hr. % Trucks	0%		0%		#####		0%		#####		0%		#####		0%		0%		#####		#####		#####			
PHF	0.73		0.81		0		0.72		0		0.70		0.00		0.84		0.63		0		0		0			

PM Peak Hour Totals	164	0	569	0	0	0	132	0	0	0	161	0	0	0	754	0	50	0	0	0	0	0	0	0	1830	
Pk. Hr. Tot. Veh.	164		569		0		132		0		161		0		754		50		0		0		0			
Pk. Hr. % Trucks	0%		0%		#####		0%		#####		0%		#####		0%		0%		#####		#####		#####			
PHF	0.85		0.98		0.00		0.89		0		0.94		0.00		0.92		0.89		0		0		0			



Existing AM Peak Hour Traffic Volume



Existing PM Peak Hour Traffic Volume

Intersection Traffic Counts

Count Date: 9-Jan-03
Intersection: LaCrosse / SB I-90
City, State: Rapid City, SD
Counts by:

North-South Street: LaCrosse St
East-West Street: I-90 EB Ramp

Time Interval Beginning	Southbound						Westbound						Northbound						Eastbound						Total Intersection Volume	60-Min Total Volume
	SBRT		SBTh		SBLT		WBRT		WBTh		WBLT		NBRT		NBTh		NBLT		EBRT		EBTh		EBLT			
	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks		
6:00 AM																									-	
6:15 AM																									-	
6:30 AM																									-	
6:45 AM																									-	
7:00 AM	0	0	37	3	9	0	0	0	0	0	0	0	14	0	45	2	0	0	39	1	0	0	8	1	159	159
7:15 AM	0	0	38	1	9	0	0	0	0	0	0	0	15	2	46	7	0	0	60	4	0	0	4	1	189	348
7:30 AM	0	0	45	0	8	0	0	0	0	0	0	0	7	0	61	5	0	0	64	1	0	0	10	0	201	549
7:45 AM	0	0	45	1	14	1	0	0	0	0	0	0	20	1	74	7	0	0	86	0	0	0	13	0	248	797
8:00 AM	0	0	61	0	11	0	0	0	0	0	0	0	8	1	56	9	0	0	34	2	0	0	10	0	194	832
8:15 AM	0	0	35	2	10	4	0	0	0	0	0	0	15	1	56	5	0	0	58	3	0	0	8	1	198	839
8:30 AM	0	0	38	4	7	0	0	0	0	0	0	0	14	0	58	5	0	0	42	3	0	0	12	1	184	822
8:45 AM	0	0	47	1	5	1	0	0	0	0	0	0	14	1	55	11	0	0	35	1	0	0	9	1	181	735
9:00 AM																									-	561
9:15 AM																									-	365
9:30 AM																									-	181
9:45 AM																									-	-
10:00 AM																									-	-
10:15 AM																									-	-
10:30 AM																									-	-
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11:00 AM																									-	-
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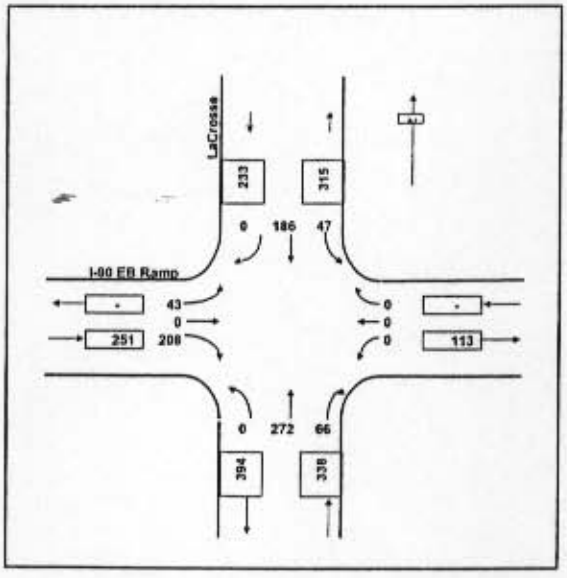
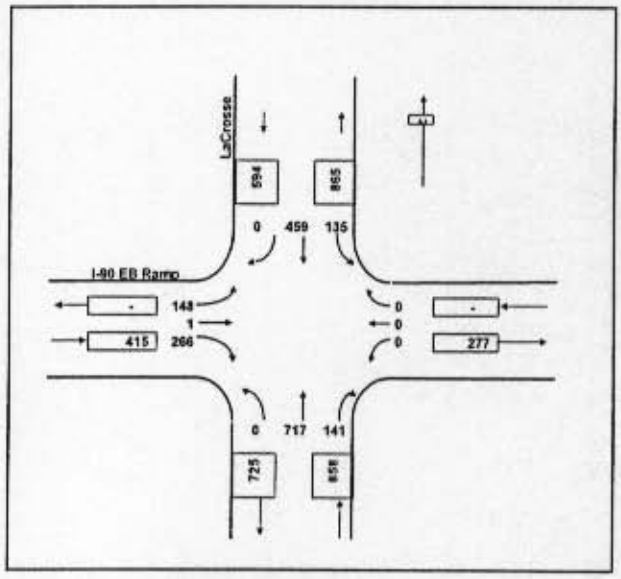
3:00 PM																									-	-
3:15 PM																									-	-
3:30 PM																									-	-
3:45 PM																									-	-
4:00 PM	0	0	119	1	27	0	0	0	0	0	0	0	31	0	165	4	0	0	65	1	0	0	30	1	464	464
4:15 PM	0	0	109	1	34	1	0	0	0	0	0	0	27	0	182	4	0	0	47	1	0	0	39	0	455	919
4:30 PM	0	0	118	3	24	1	0	0	0	0	0	0	34	0	222	1	0	0	62	3	0	0	32	0	500	1,419
4:45 PM	0	0	118	1	37	0	0	0	0	0	0	0	31	0	173	4	0	0	50	0	1	0	30	0	443	1,882
5:00 PM	0	0	123	3	33	1	0	0	0	0	0	0	39	0	188	2	0	0	86	2	0	0	42	0	517	1,915
5:15 PM	0	0	102	0	29	0	0	0	0	0	0	0	29	0	199	1	0	0	71	0	0	0	40	0	441	1,901
5:30 PM	0	0	113	1	34	1	0	0	0	0	0	0	42	0	178	4	0	0	57	0	0	0	35	1	466	1,867
5:45 PM	0	0	90	3	25	0	0	0	0	0	0	0	28	0	135	0	0	0	55	0	0	0	37	1	374	1,798

AM Peak Hour Totals	0	0	179	7	42	5	0	0	0	0	0	0	63	3	248	26	0	0	200	8	0	0	41	2	822	
Pk. Hr. Tot. Veh.	0		186		47		0		0		0		66		272		0		208		0		43			
Pk. Hr. % Trucks	#####		4%		11%		#####		#####		#DIV/0!		5%		10%		#DIV/0!		4%		#####		5%			
PHF	0		0.72		0.75		0		0		0		0.61		0.83		0.00		0.76		0		0.79			

PM Peak Hour Totals	0	0	454	5	133	2	0	0	0	0	0	0	141	0	706	11	0	0	264	2	1	0	147	1	1867	
Pk. Hr. Tot. Veh.	0		459		138		0		0		0		141		717		0		266		1		148			
Pk. Hr. % Trucks	#####		1%		1%		#####		#####		#DIV/0!		0%		2%		#DIV/0!		1%		0%		1%			
PHF	0		0.92		0.80		0		0		0.00		0.84		0.95		0		0.77		0.25		0.85			



Existing AM Peak Hour Traffic Volume



Existing PM Peak Hour Traffic Volume

Intersection Traffic Counts

Count Date: 8-Jan-03
Intersection: LaCrosse / NB I-90
City, State: Rapid City, SD
Counts by:

North-South Street: LaCrosse St
East-West Street: I-90 WB Ramp

Time Interval Beginning	Southbound						Westbound						Northbound						Eastbound						Total Intersection Volume	60-Min Total Volume
	SBRT		SBTh		SBLT		WBRT		WBTh		WBLT		NBRT		NBTh		NBLT		EBRT		EBTh		EBLT			
	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks		
6:00 AM																									-	
6:15 AM																									-	
6:30 AM																									-	
6:45 AM																									-	-
7:00 AM	13	0	36	1	0	0	10	0	0	0	10	1	0	0	28	1	28	2	0	0	0	0	0	0	130	130
7:15 AM	14	0	28	1	0	0	10	0	0	0	14	0	0	0	20	3	28	3	0	0	0	0	0	0	121	251
7:30 AM	26	0	39	0	0	0	13	2	0	0	13	0	0	0	38	1	32	1	0	0	0	0	0	0	165	416
7:45 AM	18	3	42	2	0	0	23	1	0	0	10	0	0	0	52	3	41	2	0	0	0	0	0	0	197	813
8:00 AM	17	0	46	1	0	0	17	0	0	0	23	0	0	0	44	3	30	6	0	0	0	0	0	0	187	670
8:15 AM	15	0	35	5	0	0	13	0	0	0	12	1	0	0	38	3	27	1	0	0	0	0	0	0	150	699
8:30 AM	14	1	29	3	0	0	13	0	0	0	15	1	0	0	39	1	30	3	0	0	0	0	0	0	149	683
8:45 AM	13	0	36	1	0	0	15	0	0	0	15	1	0	0	44	6	22	6	0	0	0	0	0	0	159	645
9:00 AM																									-	456
9:15 AM																									-	306
9:30 AM																									-	159
9:45 AM																									-	-
10:00 AM																									-	-
10:15 AM																									-	-
10:30 AM																									-	-
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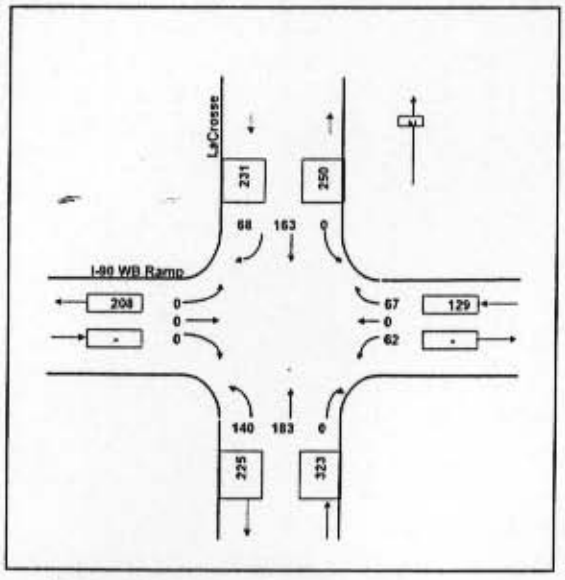
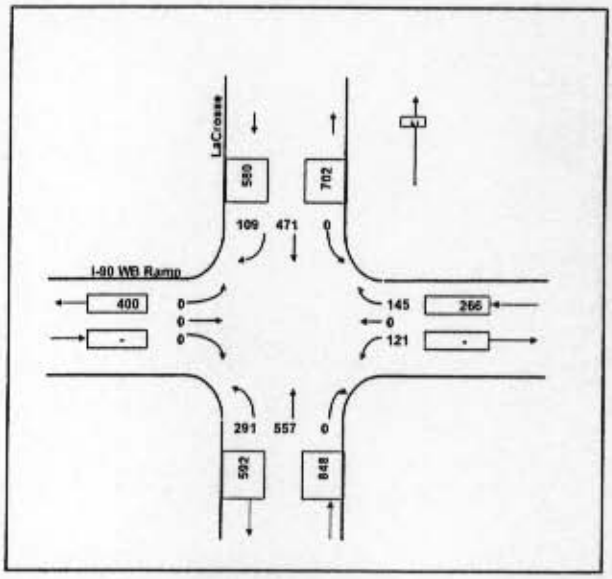
3:00 PM																									-	-
3:15 PM																									-	-
3:30 PM																									-	-
3:45 PM																									-	-
4:00 PM	22	1	114	1	0	0	30	0	0	0	22	1	0	0	124	3	87	0	0	0	0	0	0	0	405	405
4:15 PM	26	1	120	2	0	0	29	0	0	0	21	0	0	0	140	0	88	3	0	0	0	0	0	0	430	835
4:30 PM	24	0	114	4	0	0	42	0	0	0	29	0	0	0	142	3	95	0	0	0	0	0	0	0	453	1,288
4:45 PM	20	0	112	1	0	0	39	0	0	0	34	0	0	0	140	0	81	3	0	0	0	0	0	0	412	1,700
5:00 PM	28	0	119	3	0	0	30	1	0	0	28	1	0	0	132	2	90	2	0	0	0	0	0	0	434	1,719
5:15 PM	31	0	111	0	0	0	39	0	0	0	27	0	0	0	136	0	74	0	0	0	0	0	0	0	420	1,709
5:30 PM	31	1	124	1	0	0	35	1	0	0	30	1	0	0	143	3	87	2	0	0	0	0	0	0	438	1,694
5:45 PM	20	0	89	1	0	0	29	0	3	0	22	0	0	0	112	0	55	0	0	0	0	0	0	0	231	1,613

AM Peak Hour Totals	64	4	152	11	0	0	66	1	0	0	80	2	0	0	173	10	126	12	0	0	0	0	0	0	683	
Pk. Hr. Tot. Veh.	68		163		0		67		0		82		0		183		140		0		0		0			
Pk. Hr. % Trucks	6%		7%		#####		1%		#####		3%		#####		5%		9%		#####		#####		#####			
PHF	0.89		0.83		0		0.72		0		0.65		0.00		0.83		0.78		0		0		0			

PM Peak Hour Totals	108	1	466	5	0	0	143	2	0	0	119	2	0	0	552	5	284	7	0	0	0	0	0	0	1694	
Pk. Hr. Tot. Veh.	109		471		0		145		0		121		0		557		291		0		0		0			
Pk. Hr. % Trucks	1%		1%		#####		1%		#####		2%		#####		1%		2%		#####		#####		#####			
PHF	0.87		0.94		0.00		0.92		0		0.88		0.00		0.97		0.88		0		0		0			



Existing AM Peak Hour Traffic Volume



Existing PM Peak Hour Traffic Volume

Intersection Traffic Counts
Count Date: 7-Jun-23
Intersection: Eolin St - Anaheim St
City, State: Rancho Cuc, CO
Counts by:

North-South Street: Anaheim St
East-West Street: Eolin St

Time Interval Beginning	Eastbound						Westbound						Northbound						Eastbound						Total Intersection Volume	5 Min Total Volume
	EBRT		EBTh		EBLT		WBRT		WBTh		WBLT		NBRT		NBTh		NBLT		EBRT		EBTh		EBLT			
	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks	Autos	Trucks		
8:00 AM																									-	-
8:15 AM																									-	-
8:30 AM																									-	-
8:45 AM																									-	-
7:00 AM	6	0	2	0	6	8	17	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	33	33
7:15 AM	8	0	4	0	0	8	19	2	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	35	65
7:30 AM	8	0	1	0	0	4	12	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	19	84
7:45 AM	0	0	10	0	0	1	30	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	45	133
8:00 AM	0	0	6	0	0	7	30	6	0	0	1	0	0	0	5	0	0	0	0	0	0	0	0	0	50	154
8:15 AM	0	0	10	1	0	6	21	5	0	0	0	0	1	0	3	0	0	0	0	0	0	0	0	0	46	180
8:30 AM	0	0	2	0	0	7	16	5	0	0	1	0	0	0	6	0	0	0	0	0	0	0	0	0	36	187
8:45 AM	0	0	3	0	0	10	26	3	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	48	190
9:00 AM																									-	136
9:15 AM																									-	87
9:30 AM																									-	48
9:45 AM																									-	-
10:00 AM																									-	-
10:15 AM																									-	-
10:30 AM																									-	-
10:45 AM																									-	-
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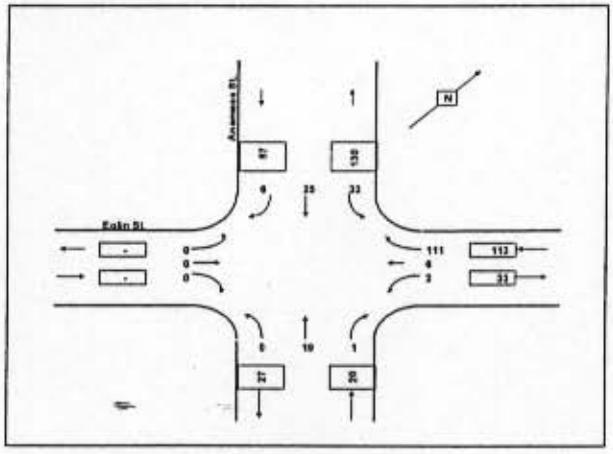
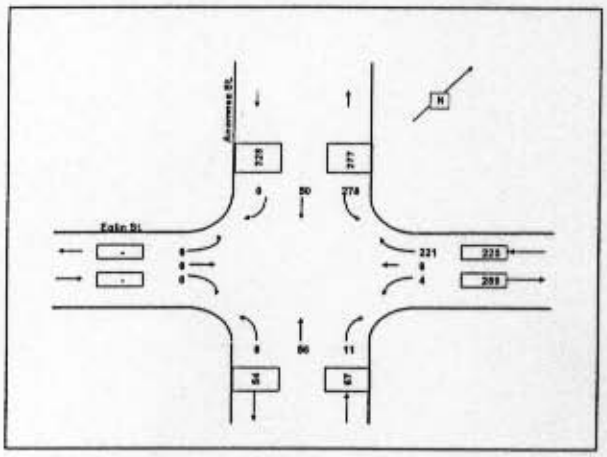
3:15 PM																									-	-
3:30 PM																									-	-
3:45 PM																									-	-
4:00 PM	0	0	34	1	60	0	90	3	0	0	1	0	0	0	10	0	0	0	0	0	0	0	0	0	164	164
4:15 PM	0	0	17	0	40	0	46	2	0	0	0	0	0	0	14	1	0	0	0	0	0	0	0	0	130	314
4:30 PM	0	0	10	1	41	15	80	1	0	0	0	0	1	0	8	0	0	0	0	0	0	0	0	0	180	474
4:45 PM	0	0	7	0	87	4	46	0	0	0	0	1	1	1	18	0	0	0	0	0	0	0	0	0	140	620
5:00 PM	0	0	13	0	60	5	47	2	0	0	1	0	1	0	14	0	0	0	0	0	0	0	0	0	143	570
5:15 PM	0	0	7	0	90	1	42	1	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	113	562
5:30 PM	0	0	4	0	48	2	25	0	0	0	0	1	0	0	8	0	0	0	0	0	0	0	0	0	91	493
5:45 PM	0	0	13	0	34	3	25	1	0	0	0	0	1	0	5	0	0	0	0	0	0	0	0	0	79	476

AM Peak Hour Tot	0	0	34	1	62	32	111	10	0	0	2	0	1	0	59	1	0	0	0	0	0	0	0	0	180	
Pk. Hr. Tot. Veh.	0		35		32		111		0		2		1		59		0		0		0		0			
Pk. Hr. % Trucks	#DIV/0!		4%		100%		10%		#DIV/0!		0%		0%		0%		#DIV/0!		#DIV/0!		#DIV/0!			
PHF	0.00		0.83		0		0.72		0		0.50		0.50		0.83		0.75		0		0		0			

PM Peak Hour Tot	0	0	48	2	248	30	313	8	0	0	33	1	15	1	86	1	0	0	0	0	0	0	0	0	824	
Pk. Hr. Tot. Veh.	0		50		278		321		0		4		11		88		0		0		0		0			
Pk. Hr. % Trucks	#DIV/0!		4%		11%		4%		#DIV/0!		25%		9%		2%		#DIV/0!		#DIV/0!		#DIV/0!			
PHF	0.00		0.94		0.93		0.92		0		0.88		0.92		0.96		0		0		0		0			



Existing AM Peak Hour Traffic Volume



Existing PM Peak Hour Traffic Volume

EXISTING PM PEAK HOUR INTERSECTION OPERATIONS ANALYSIS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	27	1	34	4	3	16	17	465	3	17	415	24
Peak Hour Factor	0.75	0.25	0.66	0.50	0.75	0.67	0.47	0.85	0.25	0.71	0.89	0.75
Hourly flow rate (veh/h)	36	4	52	8	4	24	36	547	12	24	466	32
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	1181	1162	482	1209	1172	553	498			559		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1181	1162	482	1209	1172	553	498			559		
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 %	76	98	91	94	98	96	97			98		
cM capacity (veh/h)	150	184	584	137	181	533	1066			1012		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	92	36	595	522
Volume Left	36	8	36	24
Volume Right	52	24	12	32
cSH	261	286	1066	1012
Volume to Capacity	0.35	0.13	0.03	0.02
Queue Length (ft)	38	11	3	2
Control Delay (s)	26.0	19.4	0.9	0.7
Lane LOS	D	C	A	A
Approach Delay (s)	26.0	19.4	0.9	0.7
Approach LOS	D	C		

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	77.8%	ICU Level of Service	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	157	45	75	33	17	60
Peak Hour Factor	0.94	0.70	0.60	0.69	0.85	0.71
Hourly flow rate (veh/h)	167	64	125	48	20	85
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	173				547	149
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	173				547	149
tC, single (s)	4.2				6.4	6.4
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.5
p0 queue free %	88				95	90
cM capacity (veh/h)	1351				432	843

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	231	173	105
Volume Left	167	0	20
Volume Right	0	48	85
cSH	1351	1700	713
Volume to Capacity	0.12	0.10	0.15
Queue Length (ft)	11	0	13
Control Delay (s)	6.1	0.0	10.9
Lane LOS	A		B
Approach Delay (s)	6.1	0.0	10.9
Approach LOS			B

Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	38.4%	ICU Level of Service	A

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	278	50	56	11	4	221
Peak Hour Factor	0.91	0.63	0.67	0.50	0.75	0.68
Hourly flow rate (veh/h)	305	79	84	22	5	325
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type					None	
Median storage veh)						
Upstream signal (ft)		452				
pX, platoon unblocked						
vC, conflicting volume	106				785	53
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	106				785	53
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	79				98	68
cM capacity (veh/h)	1483				262	1003

Direction, Lane #	SE 1	SE 2	NW 1	NW 2	SW 1
Volume Total	305	79	56	50	330
Volume Left	305	0	0	0	5
Volume Right	0	0	0	22	325
cSH	1483	1700	1700	1700	1020
Volume to Capacity	0.21	0.05	0.03	0.03	0.32
Queue Length (ft)	19	0	0	0	35
Control Delay (s)	8.1	0.0	0.0	0.0	10.4
Lane LOS	A				B
Approach Delay (s)	6.4		0.0		10.4
Approach LOS					B

Intersection Summary			
Average Delay	7.2		
Intersection Capacity Utilization	33.6%	ICU Level of Service	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	15	24	930	14	49	710
Peak Hour Factor	0.63	0.75	0.90	0.94	0.50	0.76
Hourly flow rate (veh/h)	24	32	1033	15	98	934
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			1258			1061
pX, platoon unblocked						
vC, conflicting volume	1704	524			1048	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1704	524			1048	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	66	94			85	
cM capacity (veh/h)	70	498			660	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	56	689	359	98	467	467
Volume Left	24	0	0	98	0	0
Volume Right	32	0	15	0	0	0
cSH	138	1700	1700	660	1700	1700
Volume to Capacity	0.40	0.41	0.21	0.15	0.27	0.27
Queue Length (ft)	43	0	0	13	0	0
Control Delay (s)	47.6	0.0	0.0	11.4	0.0	0.0
Lane LOS	E			B		
Approach Delay (s)	47.6	0.0		1.1		
Approach LOS	E					

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	47.8%	ICU Level of Service	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	132	161	754	50	164	569
Peak Hour Factor	0.89	0.94	0.92	0.89	0.85	0.86
Hourly flow rate (veh/h)	148	171	820	56	193	662
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			625			
pX, platoon unblocked						
vC, conflicting volume	1564	438			876	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1564	438			876	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	70			75	
cM capacity (veh/h)	76	567			767	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	148	171	546	329	193	331	331
Volume Left	148	0	0	0	193	0	0
Volume Right	0	171	0	56	0	0	0
cSH	76	567	1700	1700	767	1700	1700
Volume to Capacity	1.94	0.30	0.32	0.19	0.25	0.19	0.19
Queue Length (ft)	330	32	0	0	25	0	0
Control Delay (s)	556.1	14.1	0.0	0.0	11.3	0.0	0.0
Lane LOS	F	B			B		
Approach Delay (s)	265.6		0.0		2.5		
Approach LOS	F						

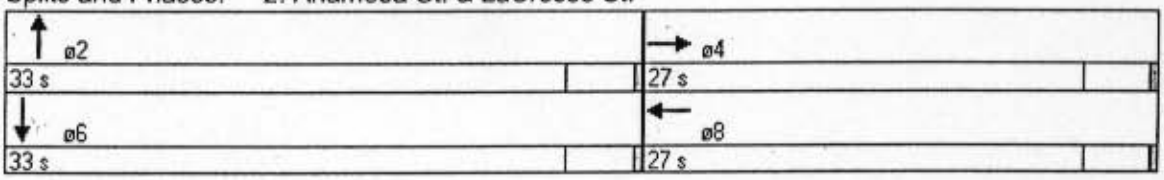
Intersection Summary			
Average Delay	42.5		
Intersection Capacity Utilization	53.3%	ICU Level of Service	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	185		0	100		100	100		0
Storage Lanes	1		0	1		0	1		1	1		0
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.944			0.936				0.850		0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1758	0	1770	1744	0	1770	3539	1583	1770	3419	0
Flt Permitted	0.595			0.404			0.335			0.338		
Satd. Flow (perm)	1108	1758	0	753	1744	0	624	3539	1583	630	3419	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		57			72				228		86	
Headway 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
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		336			1128			1026			625	
Travel Time (s)		7.6			25.6			19.5			14.7	
Volume (vph)	84	165	138	190	107	84	188	662	214	95	508	114
Peak Hour Factor	0.72	0.70	0.99	0.88	0.86	0.91	0.89	0.96	0.94	0.91	0.94	0.73
Adj. Flow (vph)	117	236	139	216	124	92	211	690	228	104	540	156
Lane Group Flow (vph)	117	375	0	216	216	0	211	690	228	104	696	0
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0	20.0	
Total Split (s)	27.0	27.0	0.0	27.0	27.0	0.0	33.0	33.0	33.0	33.0	33.0	0.0
Total Split (%)	45%	45%	0%	45%	45%	0%	55%	55%	55%	55%	55%	0%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5	0.5	0.5	0.5	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)	23.0	23.0		23.0	23.0		29.0	29.0	29.0	29.0	29.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.48	0.48	0.48	0.48	0.48	
v/c Ratio	0.28	0.53		0.75	0.30		0.70	0.40	0.26	0.34	0.41	
Uniform Delay, d1	12.7	11.9		16.0	8.3		12.1	9.9	0.0	9.6	8.6	
Delay	13.4	12.5		26.6	8.7		20.0	10.1	1.6	8.4	6.9	
LOS	B	B		C	A		B	B	A	A	A	
Approach Delay		12.7			17.7			10.3			7.1	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	28	84		65	34		56	78	0	17	51	
Queue Length 95th (ft)	48	105		#164	70		#157	114	29	m42	76	
Internal Link Dist (ft)		256			1048			946			545	
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)	100			185			100		100	100		
50th Bay Block Time %		2%										
95th Bay Block Time %		12%					31%	13%				
Queuing Penalty (veh)		7					52	14				

Intersection Summary

Area Type: Other
Cycle Length: 60
Offset: 11 (18%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 45
Control Type: Pretimed
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 10.9 Intersection LOS: B
Intersection Capacity Utilization 77.8% ICU Level of Service C
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.

Splits and Phases: 2: Anamosa St. & LaCrosse St.



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300	0		600	550	
Storage Lanes	1	1		1	1	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1441	3539	1583	1770	3539
Flt Permitted	0.950				0.544	
Satd. Flow (perm)	3433	1441	3539	1583	1013	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		16		272		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		35			45
Link Distance (ft)	443		1175			564
Travel Time (s)	10.1		22.9			8.5
Volume (vph)	264	15	260	223	71	493
Peak Hour Factor	0.83	0.94	0.75	0.82	0.85	0.95
Adj. Flow (vph)	318	16	347	272	84	519
Lane Group Flow (vph)	318	16	347	272	84	519
Turn Type		Perm		Perm	Perm	
Protected Phases	2		4			8
Permitted Phases		2		4	8	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	50%	50%	50%	50%	50%	50%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	26.0	26.0	26.0	26.0	26.0	26.0
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.43	0.43
v/c Ratio	0.21	0.03	0.23	0.32	0.19	0.34
Uniform Delay, d1	10.6	0.0	10.7	0.0	10.5	11.3
Delay	10.8	5.3	10.8	1.8	11.0	11.5
LOS	B	A	B	A	B	B
Approach Delay	10.5		6.9			11.4
Approach LOS	B		A			B
Queue Length 50th (ft)	35	0	39	0	18	62
Queue Length 95th (ft)	52	9	51	26	40	94
Internal Link Dist (ft)	363		1095			484
50th Up Block Time (%)						
95th Up Block Time (%)						
Turn Bay Length (ft)	300			600	550	
50th Bay Block Time %						
95th Bay Block Time %						
Queuing Penalty (veh)						

Intersection Summary

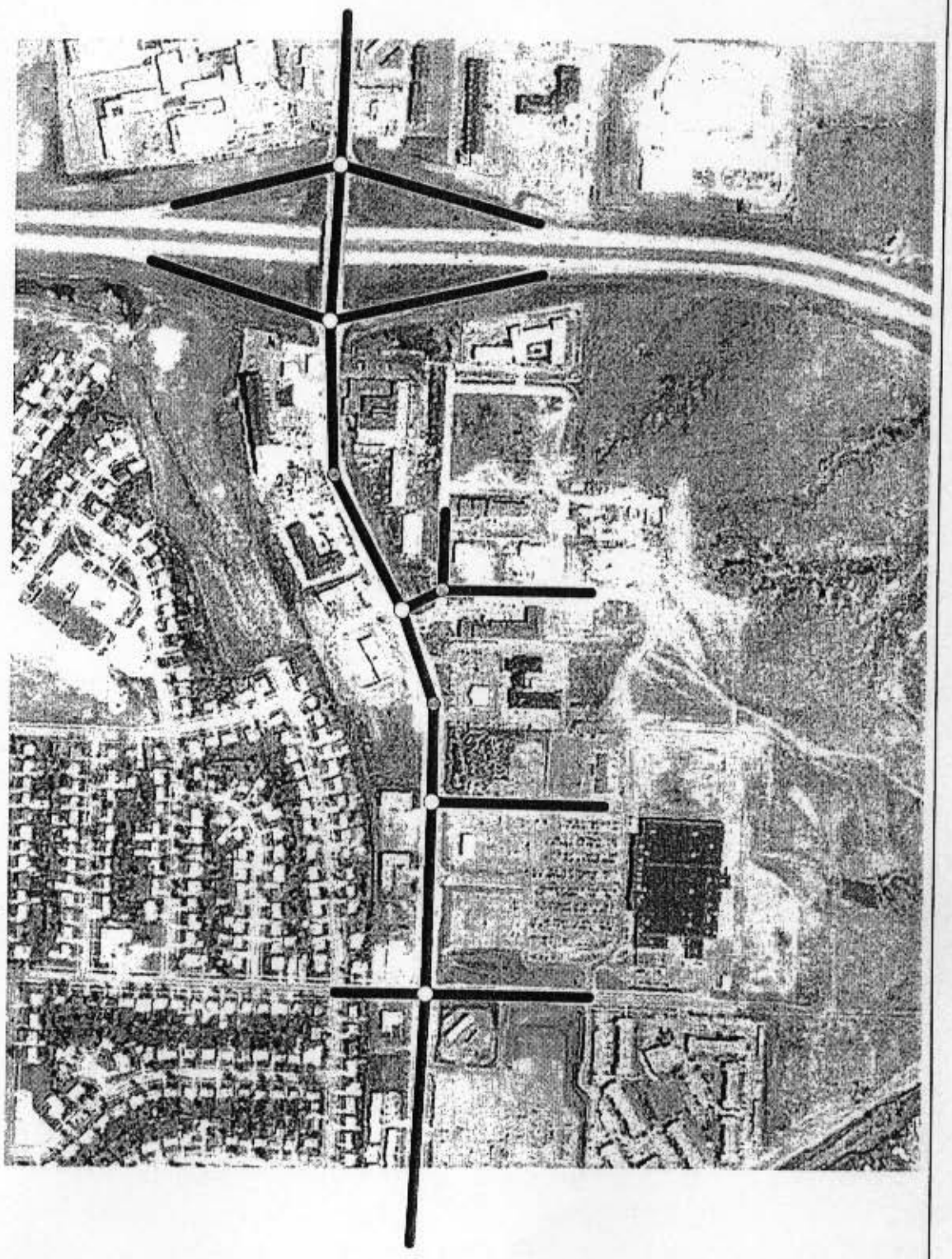
Area Type: Other
Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:NWL and 6:, Start of Green
Natural Cycle: 40
Control Type: Pretimed
Maximum v/c Ratio: 0.34
Intersection Signal Delay: 9.4 Intersection LOS: A
Intersection Capacity Utilization 33.5% ICU Level of Service A

Splits and Phases: 10: Anamosa Street & North St.

ø2	ø4
30 s	30 s
	ø8
	30 s

Existing System
Signal at Rapp St.

4/20/2003



LaCrosse Corridor

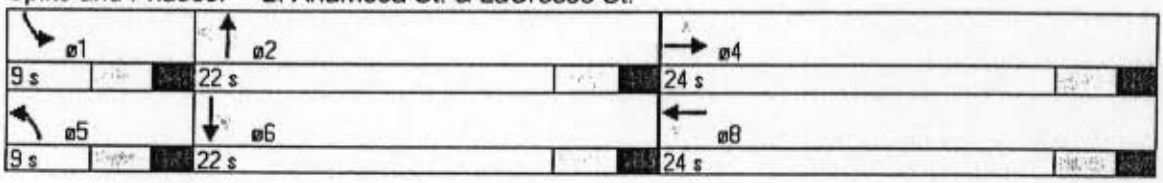
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	185		0	100		150	100		0
Storage Lanes	1		0	1		0	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.932			0.934				0.850		0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1736	0	1770	1740	0	1770	3539	1583	1770	3440	0
Flt Permitted	0.604			0.446			0.273			0.245		
Satd. Flow (perm)	1125	1736	0	831	1740	0	509	3539	1583	456	3440	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		86			80				238		52	
Headway 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
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		348			622			936			720	
Travel Time (s)		6.8			12.1			18.2			14.0	
Volume (vph)	84	165	138	190	107	84	188	662	214	95	508	114
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
Adj. Flow (vph)	93	183	153	211	119	93	209	736	238	106	564	127
Lane Group Flow (vph)	93	336	0	211	212	0	209	736	238	106	691	0
Turn Type	Perm			Perm			pm+pt		Perm	pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Detector Phases	4	4		8	8		5	2	2	1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		9.0	21.0	21.0	9.0	21.0	
Total Split (s)	24.0	24.0	0.0	24.0	24.0	0.0	9.0	22.0	22.0	9.0	22.0	0.0
Total Split (%)	44%	44%	0%	44%	44%	0%	16%	40%	40%	16%	40%	0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	Coord	Coord	None	Coord	
Act Effct Green (s)	17.4	17.4		17.4	17.4		26.4	22.4	22.4	25.6	20.6	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.48	0.41	0.41	0.47	0.37	
v/c Ratio	0.26	0.55		0.80	0.35		0.58	0.51	0.30	0.32	0.52	
Uniform Delay, d1	14.0	11.3		17.2	8.7		6.8	13.0	0.0	6.5	12.2	
Delay	13.0	10.9		23.4	8.3		12.2	14.2	2.6	5.4	10.2	
LOS	B	B		C	A		B	B	A	A	B	
Approach Delay		11.3			15.9			11.5			9.5	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	21	59		57	29		36	105	0	15	106	
Queue Length 95th (ft)	49	120		#151	69		#82	155	39	19	131	
Internal Link Dist (ft)		268			542			856			640	
50th Up Block Time (%)												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
95th Up Block Time (%)												
Turn Bay Length (ft)	100			185			100		150	100		
50th Bay Block Time %								11%			6%	
95th Bay Block Time %		19%					2%	29%			7%	
Queuing Penalty (veh)		8						41			6	

Intersection Summary

Area Type: Other
Cycle Length: 55
Actuated Cycle Length: 55
Offset: 43 (78%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 11.6 Intersection LOS: B
Intersection Capacity Utilization 75.3% ICU Level of Service C
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Anamosa St. & LaCrosse St.



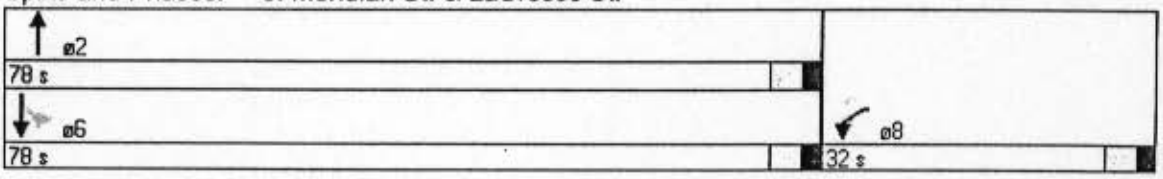
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160	0		0	145	
Storage Lanes	1	1		0	1	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.991			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3507	0	1770	3539
Flt Permitted	0.950				0.281	
Satd. Flow (perm)	1770	1583	3507	0	523	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		179	13			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	25		35			35
Link Distance (ft)	655		720			371
Travel Time (s)	17.9		14.0			7.2
Volume (vph)	132	161	754	50	164	569
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	147	179	838	56	182	632
Lane Group Flow (vph)	147	179	894	0	182	632
Turn Type		Perm			Perm	
Protected Phases	8		2			6
Permitted Phases		8			6	
Detector Phases	8	8	2		6	6
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	21.0	21.0	21.0		21.0	21.0
Total Split (s)	32.0	32.0	78.0	0.0	78.0	78.0
Total Split (%)	29%	29%	71%	0%	71%	71%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Coord		Coord	Coord
Act Effct Green (s)	14.9	14.9	87.1		87.1	87.1
Actuated g/C Ratio	0.14	0.14	0.79		0.79	0.79
v/c Ratio	0.61	0.49	0.32		0.44	0.23
Uniform Delay, d1	44.8	0.0	3.1		3.7	2.9
Delay	44.1	6.1	1.6		4.0	1.2
LOS	D	A	A		A	A
Approach Delay	23.2		1.6			1.8
Approach LOS	C		A			A
Queue Length 50th (ft)	99	0	6		18	16
Queue Length 95th (ft)	158	59	7		94	20
Internal Link Dist (ft)	575		640			291
50th Up Block Time (%)						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
95th Up Block Time (%)						
Turn Bay Length (ft)	160				145	
50th Bay Block Time %						
95th Bay Block Time %	4%					
Queuing Penalty (veh)	7					

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 70 (64%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.61
Intersection Signal Delay: 5.2 Intersection LOS: A
Intersection Capacity Utilization 53.1% ICU Level of Service A

Splits and Phases: 5: Meridian St. & LaCrosse St.



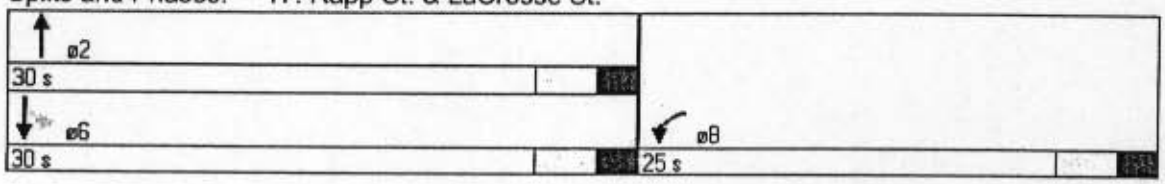
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	0	1		0	1	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.998			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3532	0	1770	3539
Flt Permitted	0.950				0.180	
Satd. Flow (perm)	1770	1583	3532	0	335	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		27	4			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	25		35			35
Link Distance (ft)	170		376			577
Travel Time (s)	4.6		7.3			11.2
Volume (vph)	15	24	930	14	19	710
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	17	27	1033	16	21	789
Lane Group Flow (vph)	17	27	1049	0	21	789
Turn Type		Perm			Perm	
Protected Phases	8		2			6
Permitted Phases		8			6	
Detector Phases	8	8	2		6	6
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	21.0	21.0	21.0		21.0	21.0
Total Split (s)	25.0	25.0	30.0	0.0	30.0	30.0
Total Split (%)	45%	45%	55%	0%	55%	55%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Coord		Coord	Coord
Act Effct Green (s)	7.0	7.0	48.7		48.7	48.7
Actuated g/C Ratio	0.13	0.13	0.89		0.89	0.89
v/c Ratio	0.08	0.12	0.34		0.07	0.25
Uniform Delay, d1	24.1	0.0	1.8		1.3	1.6
Delay	21.0	9.8	0.5		1.4	0.9
LOS	C	A	A		A	A
Approach Delay	14.1		0.5			0.9
Approach LOS	B		A			A
Queue Length 50th (ft)	5	0	0		0	0
Queue Length 95th (ft)	19	17	31		m4	34
Internal Link Dist (ft)	90		296			497
50th Up Block Time (%)						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
95th Up Block Time (%)						
Turn Bay Length (ft)					100	
50th Bay Block Time %						
95th Bay Block Time %						
Queuing Penalty (veh)						

Intersection Summary

Area Type: Other
Cycle Length: 55
Actuated Cycle Length: 55
Offset: 19 (35%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.34
Intersection Signal Delay: 1.0 Intersection LOS: A
Intersection Capacity Utilization 39.1% ICU Level of Service A
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 17: Rapp St. & LaCrosse St.



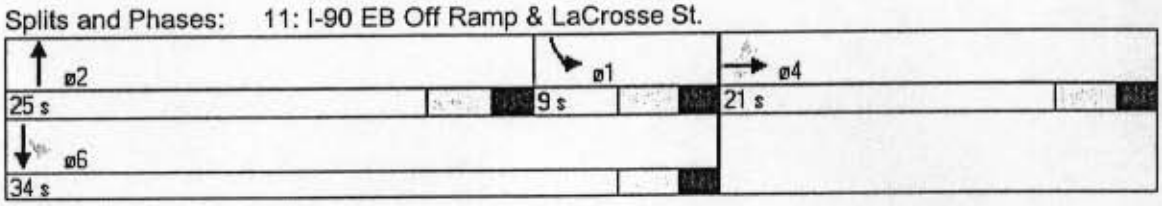
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125	0		0	0		0	100		0
Storage Lanes	1		1	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.975				
Flt Protected	0.950	0.950								0.950		
Satd. Flow (prot)	1698	1698	1599	0	0	0	0	3462	0	1787	3574	0
Flt Permitted	0.950	0.950								0.190		
Satd. Flow (perm)	1698	1698	1599	0	0	0	0	3462	0	357	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			296					48				
Headway 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
Link Speed (mph)		25			65			35			35	
Link Distance (ft)		713			827			579			582	
Travel Time (s)		19.4			8.7			11.3			11.3	
Volume (vph)	148	0	266	0	0	0	0	717	141	135	459	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
Heavy Vehicles (%)	1%	0%	1%	2%	2%	2%	0%	2%	0%	1%	1%	0%
Adj. Flow (vph)	164	0	296	0	0	0	0	797	157	150	510	0
Lane Group Flow (vph)	82	82	296	0	0	0	0	954	0	150	510	0
Turn Type	Perm		Perm							pm+pt		
Protected Phases		4						2		1	6	
Permitted Phases	4		4							6		
Detector Phases	4	4	4					2		1	6	
Minimum Initial (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0	21.0					21.0		9.0	21.0	
Total Split (s)	21.0	21.0	21.0	0.0	0.0	0.0	0.0	25.0	0.0	9.0	34.0	0.0
Total Split (%)	38%	38%	38%	0%	0%	0%	0%	45%	0%	16%	62%	0%
Yellow Time (s)	3.0	3.0	3.0					3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0					2.0		2.0	2.0	
Lead/Lag								Lead		Lag		
Lead-Lag Optimize?								Yes		Yes		
Recall Mode	None	None	None					Coord		None	Coord	
Act Effct Green (s)	9.8	9.8	9.8					30.0		37.2	37.2	
Actuated g/C Ratio	0.18	0.18	0.18					0.55		0.68	0.68	
v/c Ratio	0.27	0.27	0.56					0.50		0.40	0.21	
Uniform Delay, d1	19.5	19.5	0.0					7.9		5.0	3.3	
Delay	18.3	18.3	3.0					3.3		10.6	4.4	
LOS	B	B	A					A		B	A	
Approach Delay		8.4						3.3			5.8	
Approach LOS		A						A			A	
Queue Length 50th (ft)	25	25	0					15		18	34	
Queue Length 95th (ft)	51	51	47					48		74	75	
Internal Link Dist (ft)		633			747			499			502	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)	125		125							100		
50th Bay Block Time %												
95th Bay Block Time %											4%	
Queuing Penalty (veh)											3	

Intersection Summary

Area Type: Other
Cycle Length: 55
Actuated Cycle Length: 55
Offset: 46 (84%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 5.2 Intersection LOS: A
Intersection Capacity Utilization 49.9% ICU Level of Service A

Splits and Phases: 11: I-90 EB Off Ramp & LaCrosse St.



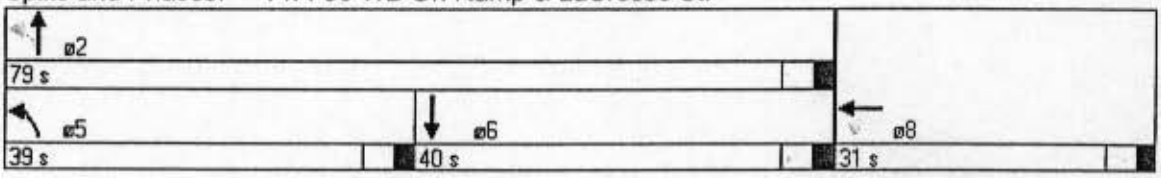
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	140		0	175		0	0		0
Storage Lanes	0		0	1		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50		50	50			50	
Trailing Detector (ft)				0	0		0	0			0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt					0.850						0.972	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1770	1599	0	1770	3574	0	0	3474	0
Flt Permitted				0.950			0.232					
Satd. Flow (perm)	0	0	0	1770	1599	0	432	3574	0	0	3474	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					336						27	
Headway 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
Link Speed (mph)		65			25			35			35	
Link Distance (ft)		642			794			582			557	
Travel Time (s)		6.7			21.7			11.3			10.9	
Volume (vph)	0	0	0	121	0	145	291	557	0	0	471	109
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
Heavy Vehicles (%)	2%	2%	2%	2%	2%	1%	2%	1%	0%	0%	1%	1%
Adj. Flow (vph)	0	0	0	134	0	161	323	619	0	0	523	121
Lane Group Flow (vph)	0	0	0	134	161	0	323	619	0	0	644	0
Turn Type				Perm			pm+pt					
Protected Phases					8		5	2			6	
Permitted Phases				8			2					
Detector Phases				8	8		5	2			6	
Minimum Initial (s)				4.0	4.0		4.0	4.0			4.0	
Minimum Split (s)				21.0	21.0		21.0	21.0			21.0	
Total Split (s)	0.0	0.0	0.0	31.0	31.0	0.0	39.0	79.0	0.0	0.0	40.0	0.0
Total Split (%)	0%	0%	0%	28%	28%	0%	35%	72%	0%	0%	36%	0%
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	
All-Red Time (s)				2.0	2.0		2.0	2.0			2.0	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Recall Mode				None	None		Min	Coord			None	
Act Effct Green (s)				14.1	14.1		87.8	87.8			71.1	
Actuated g/C Ratio				0.13	0.13		0.80	0.80			0.65	
v/c Ratio				0.59	0.32		0.65	0.22			0.29	
Uniform Delay, d1				45.1	0.0		2.7	2.7			8.0	
Delay				44.4	0.0		6.5	0.9			9.5	
LOS				D	A		A	A			A	
Approach Delay					20.2			2.8			9.5	
Approach LOS					C			A			A	
Queue Length 50th (ft)				91	0		32	21			80	
Queue Length 95th (ft)				147	0		89	26			174	
Internal Link Dist (ft)		562			714			502			477	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)				140			175					
50th Bay Block Time %												
95th Bay Block Time %				9%								
Queuing Penalty (veh)				7								

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 4 (4%), Referenced to phase 2:NBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 7.8 — Intersection LOS: A
Intersection Capacity Utilization 56.2% — ICU Level of Service A

Splits and Phases: 14: I-90 WB On Ramp & LaCrosse St.



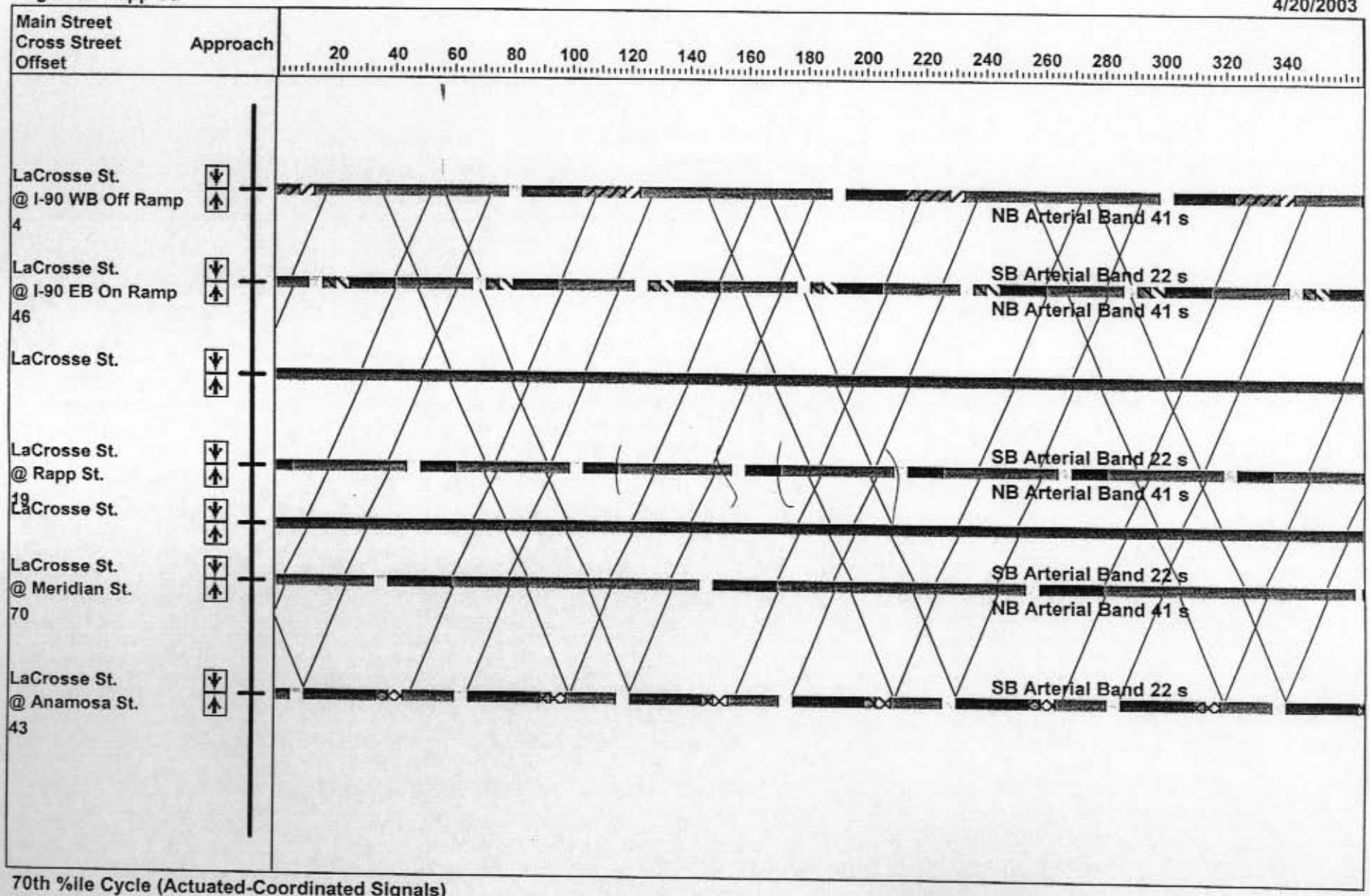
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.919		0.872	
Flt Protected		0.964			0.998	
Satd. Flow (prot)	0	1796	1712	0	1621	0
Flt Permitted		0.964			0.998	
Satd. Flow (perm)	0	1796	1712	0	1621	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		25	25		30	
Link Distance (ft)		170	566		295	
Travel Time (s)		4.6	15.4		6.7	
Volume (vph)	25	8	4	5	2	35
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	28	9	4	6	2	39
Lane Group Flow (vph)	0	37	10	0	41	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 13.3% ICU Level of Service A

PM Peak Hour
Signal at Rapp St.

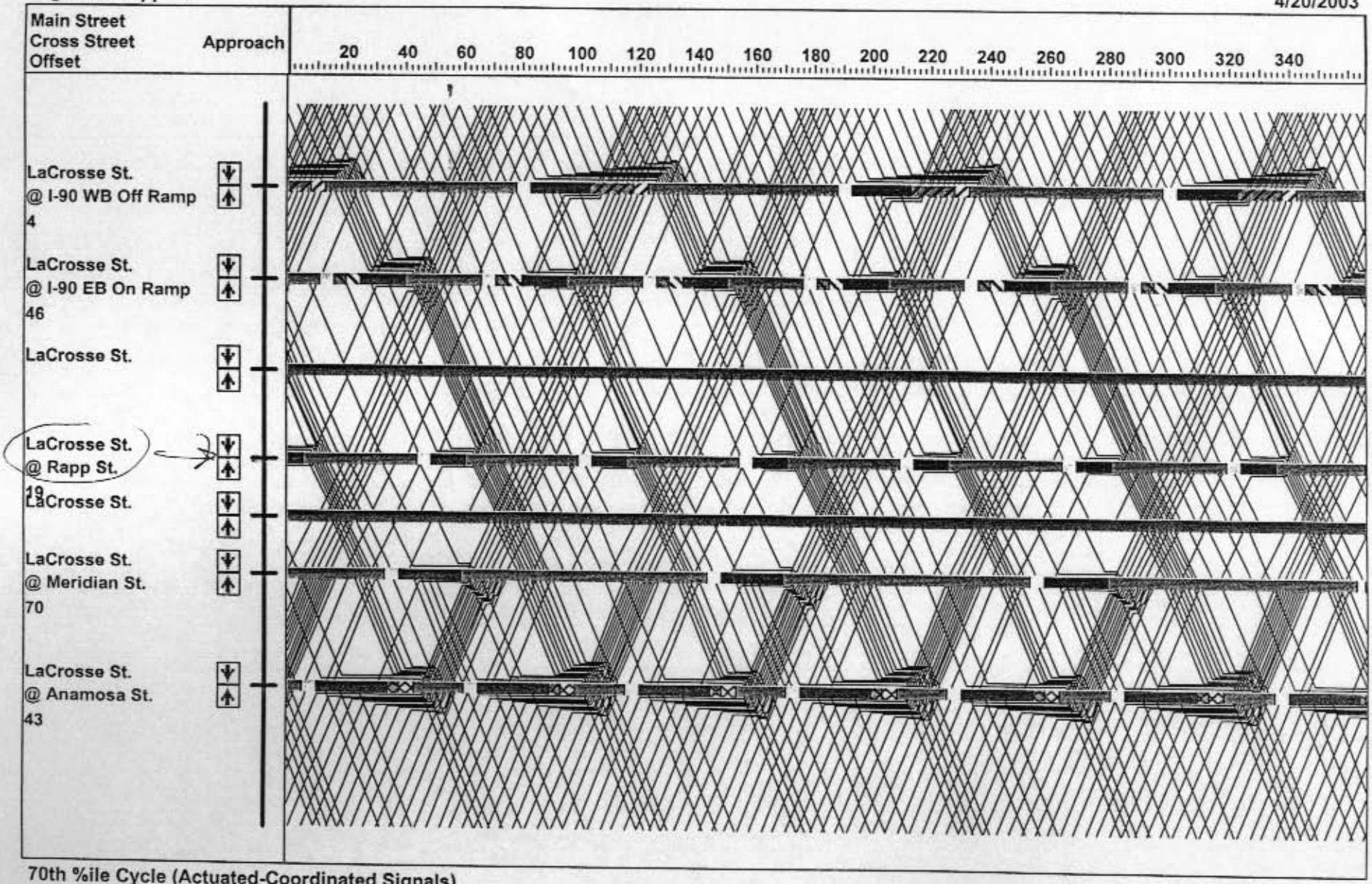
4/20/2003



70th %ile Cycle (Actuated-Coordinated Signals)
CBS

PM Peak Hour
Signal at Rapp St.

4/20/2003

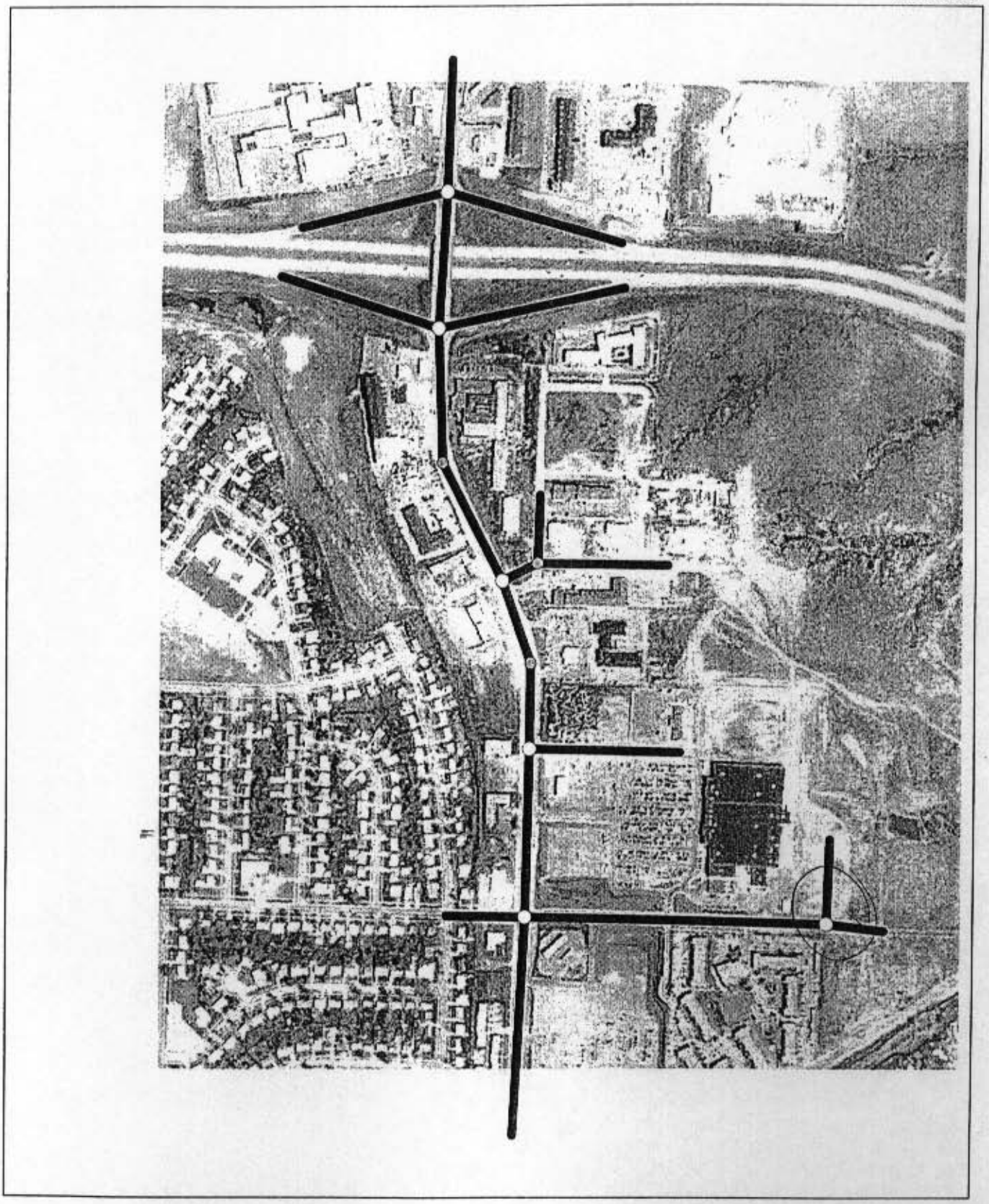


70th %ile Cycle (Actuated-Coordinated Signals)
Flows

FUTURE PM PEAK HOUR INTERSECCTION OPERATIONS ANALYSIS

Future Network

4/20/2003



CBS

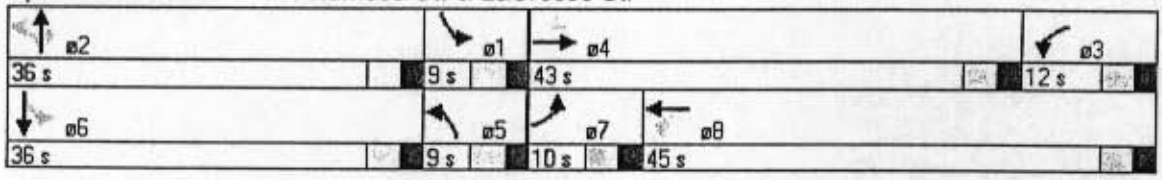
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	185		0	100		150	100		0
Storage Lanes	1		0	1		0	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.975			0.984				0.850		0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3451	0	1770	3483	0	1770	3539	1583	1770	3468	0
Flt Permitted	0.121			0.210			0.125			0.125		
Satd. Flow (perm)	225	3451	0	391	3483	0	233	3539	1583	233	3468	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			16				240		18	
Headway 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
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		348			1316			936			720	
Travel Time (s)		6.8			25.6			18.2			14.0	
Volume (vph)	84	400	80	80	700	84	60	600	214	70	508	80
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
Growth Factor	180%	180%	180%	180%	180%	180%	180%	180%	180%	180%	180%	180%
Adj. Flow (vph)	168	800	160	160	1400	168	120	1200	428	140	1016	160
Lane Group Flow (vph)	168	960	0	160	1568	0	120	1200	428	140	1176	0
Turn Type	pm+pt			pm+pt			pm+pt		Perm	pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Detector Phases	7	4		3	8		5	2	2	1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	21.0		9.0	21.0		9.0	21.0	21.0	9.0	21.0	
Total Split (s)	10.0	43.0	0.0	12.0	45.0	0.0	9.0	36.0	36.0	9.0	36.0	0.0
Total Split (%)	10%	43%	0%	12%	45%	0%	9%	36%	36%	9%	36%	0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	Coord	Coord	None	Coord	
Act Effct Green (s)	33.3	33.3		41.0	41.0		37.0	32.0	32.0	37.0	32.0	
Actuated g/C Ratio	0.33	0.33		0.41	0.41		0.37	0.32	0.32	0.37	0.32	
v/c Ratio	1.00	0.82		0.46	1.09		0.74	1.06	0.64	0.86	1.05	
Uniform Delay, d1	25.9	29.7		28.3	29.1		33.1	34.0	11.8	35.2	33.5	
Delay	73.6	29.3		30.4	72.8		46.0	69.4	12.6	59.9	58.7	
LOS	E	C		C	E		D	E	B	E	E	
Approach Delay		35.9			68.8			53.9			58.9	
Approach LOS		D			E			D			E	
Queue Length 50th (ft)	78	283		65	~594		47	~445	97	57	~315	
Queue Length 95th (ft)	#185	333		111	#734		#67	#576	206 m#149		#544	
Internal Link Dist (ft)		268			1236			856			640	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
50th Up Block Time (%)		6%										
95th Up Block Time (%)		14%										
Turn Bay Length (ft)	100			185			100		150	100		
50th Bay Block Time %		44%			44%			53%			33%	
95th Bay Block Time %	52%	43%			51%		16%	59%	16%	43%	56%	
Queuing Penalty (veh)	125	73			76		49	67	47	126	62	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 55.9 Intersection LOS: E
Intersection Capacity Utilization 107.6% ICU Level of Service F
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
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.

Splits and Phases: 2: Anamosa St. & LaCrosse St.



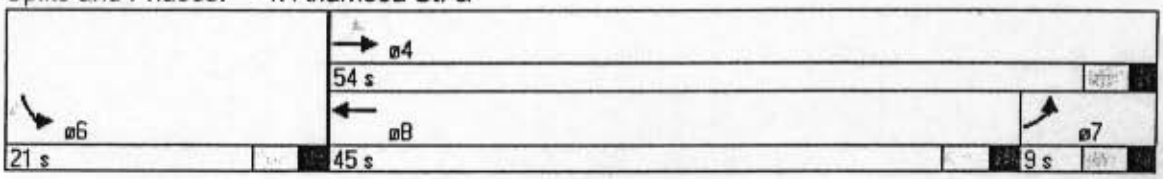
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200			0	200	0
Storage Lanes	1			0	1	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.991			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3507	0	1770	1583
Flt Permitted	0.089				0.950	
Satd. Flow (perm)	166	3539	3507	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			14			115
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		35	30		30	
Link Distance (ft)		1316	254		360	
Travel Time (s)		25.6	5.8		8.2	
Volume (vph)	100	1000	1500	100	160	240
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	111	1111	1667	111	178	267
Lane Group Flow (vph)	111	1111	1778	0	178	267
Turn Type	pm+pt					Perm
Protected Phases	7	4	8		6	
Permitted Phases	4					6
Detector Phases	7	4	8		6	6
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	9.0	21.0	21.0		21.0	21.0
Total Split (s)	9.0	54.0	45.0	0.0	21.0	21.0
Total Split (%)	12%	72%	60%	0%	28%	28%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	None	None		Min	Min
Act Effct Green (s)	45.3	44.3	37.7		12.9	12.9
Actuated g/C Ratio	0.67	0.67	0.57		0.20	0.20
v/c Ratio	0.47	0.47	0.88		0.51	0.66
Uniform Delay, d1	9.8	4.7	12.4		24.0	13.7
Delay	16.3	5.3	17.4		26.1	15.8
LOS	B	A	B		C	B
Approach Delay		6.3	17.4		19.9	
Approach LOS		A	B		B	
Queue Length 50th (ft)	13	92	321		71	61
Queue Length 95th (ft)	49	150	#556		129	136
Internal Link Dist (ft)		1236	174		280	
50th Up Block Time (%)			23%			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
95th Up Block Time (%)			35%			
Turn Bay Length (ft)	200				200	
50th Bay Block Time %						
95th Bay Block Time %						
Queuing Penalty (veh)						

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 65.7
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 13.8 Intersection LOS: B
Intersection Capacity Utilization 75.6% ICU Level of Service C
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Anamosa St. &



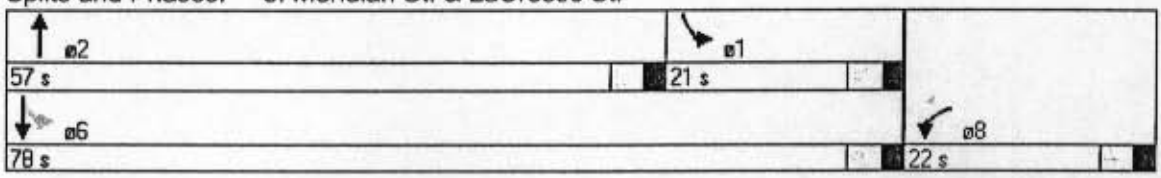
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160	0		0	145	
Storage Lanes	1	1		0	1	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.992			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3511	0	1770	3539
Flt Permitted	0.950				0.070	
Satd. Flow (perm)	1770	1583	3511	0	130	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		268	8			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	25		35			35
Link Distance (ft)	655		720			371
Travel Time (s)	17.9		14.0			7.2
Volume (vph)	132	161	754	50	164	569
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	150%	150%	180%	150%	150%	180%
Adj. Flow (vph)	220	268	1508	83	273	1138
Lane Group Flow (vph)	220	268	1591	0	273	1138
Turn Type		Perm			pm+pt	
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Detector Phases	8	8	2		1	6
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	21.0	21.0	21.0		9.0	21.0
Total Split (s)	22.0	22.0	57.0	0.0	21.0	78.0
Total Split (%)	22%	22%	57%	0%	21%	78%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Coord		None	Coord
Act Effct Green (s)	16.4	16.4	54.6		75.6	75.6
Actuated g/C Ratio	0.16	0.16	0.55		0.76	0.76
v/c Ratio	0.76	0.55	0.83		0.72	0.43
Uniform Delay, d1	39.9	0.0	18.7		29.0	4.4
Delay	41.7	4.9	8.1		24.3	2.9
LOS	D	A	A		C	A
Approach Delay	21.5		8.1			7.0
Approach LOS	C		A			A
Queue Length 50th (ft)	133	0	125		0	68
Queue Length 95th (ft)	#226	68	m118		#170	92
Internal Link Dist (ft)	575		640			291

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
50th Up Block Time (%)						
95th Up Block Time (%)						
Turn Bay Length (ft)	160				145	
50th Bay Block Time %						
95th Bay Block Time %	27%				13%	
Queuing Penalty (veh)	72				36	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 2 (2%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 9.5 Intersection LOS: A
Intersection Capacity Utilization 81.7% ICU Level of Service D
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.

Splits and Phases: 5: Meridian St. & LaCrosse St.



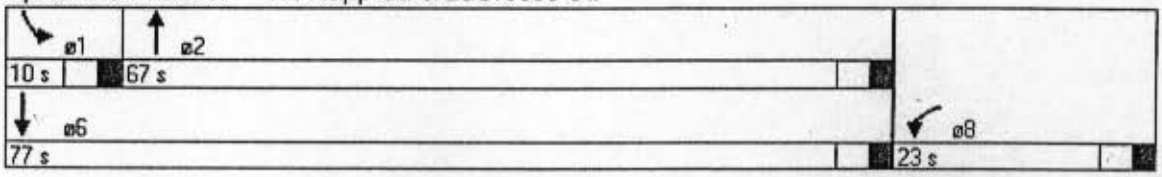
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	0	1		0	1	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.985			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3486	0	1770	3539
Flt Permitted	0.950				0.060	
Satd. Flow (perm)	1770	1583	3486	0	112	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		100	23			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	25		35			35
Link Distance (ft)	170		376			577
Travel Time (s)	4.6		7.3			11.2
Volume (vph)	190	290	930	190	130	710
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	180%	100%	100%	180%
Adj. Flow (vph)	211	322	1860	211	144	1420
Lane Group Flow (vph)	211	322	2071	0	144	1420
Turn Type		Perm			pm+pt	
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Detector Phases	8	8	2		1	6
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	21.0	21.0	21.0		9.0	21.0
Total Split (s)	23.0	23.0	67.0	0.0	10.0	77.0
Total Split (%)	23%	23%	67%	0%	10%	77%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Coord		None	Coord
Act Effct Green (s)	17.9	17.9	64.1		74.1	74.1
Actuated g/C Ratio	0.18	0.18	0.64		0.74	0.74
v/c Ratio	0.67	0.88	0.92		0.79	0.54
Uniform Delay, d1	38.3	27.3	15.6		13.2	5.6
Delay	38.5	36.6	10.4		28.5	4.0
LOS	D	D	B		C	A
Approach Delay	37.3		10.4			6.2
Approach LOS	D		B			A
Queue Length 50th (ft)	125	140	114		55	103
Queue Length 95th (ft)	203	#290	#193		m#108	m143
Internal Link Dist (ft)	90		296			497

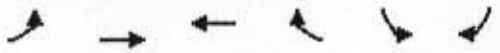
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
50th Up Block Time (%)	27%	31%				
95th Up Block Time (%)	48%	59%	2%			
Turn Bay Length (ft)					100	
50th Bay Block Time %						5%
95th Bay Block Time %					14%	15%
Queuing Penalty (veh)	79	145			51	14

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 2 (2%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 12.3 Intersection LOS: B
Intersection Capacity Utilization 87.8% ICU Level of Service D
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.

Splits and Phases: 17: Rapp St. & LaCrosse St.





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.994		0.882	
Flt Protected		0.992			0.994	
Satd. Flow (prot)	0	1848	1852	0	1633	0
Flt Permitted		0.992			0.994	
Satd. Flow (perm)	0	1848	1852	0	1633	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		25	25		30	
Link Distance (ft)		170	566		295	
Travel Time (s)		4.6	15.4		6.7	
Volume (vph)	50	270	410	20	10	70
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	56	300	456	22	11	78
Lane Group Flow (vph)	0	356	478	0	89	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 59.6% ICU Level of Service A

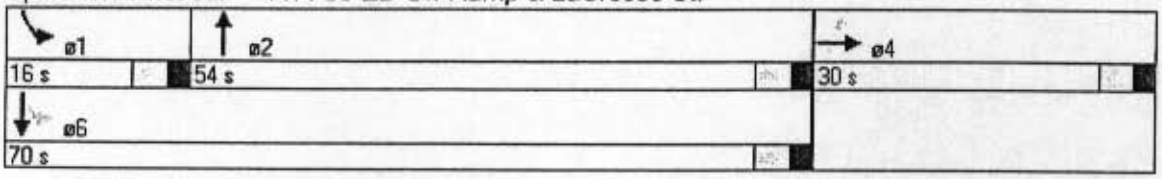
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125	0		0	0		0	100		0
Storage Lanes	1		1	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.975				
Flt Protected	0.950	0.950								0.950		
Satd. Flow (prot)	1698	1698	1599	0	0	0	0	3462	0	1787	3574	0
Flt Permitted	0.950	0.950								0.074		
Satd. Flow (perm)	1698	1698	1599	0	0	0	0	3462	0	139	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176					33				
Headway 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
Link Speed (mph)		25			65			35			35	
Link Distance (ft)		713			827			579			582	
Travel Time (s)		19.4			8.7			11.3			11.3	
Volume (vph)	148	0	266	0	0	0	0	717	141	135	459	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
Growth Factor	100%	180%	180%	180%	180%	180%	180%	180%	180%	180%	180%	180%
Heavy Vehicles (%)	1%	0%	1%	2%	2%	2%	0%	2%	0%	1%	1%	0%
Adj. Flow (vph)	164	0	532	0	0	0	0	1434	282	270	918	0
Lane Group Flow (vph)	82	82	532	0	0	0	0	1716	0	270	918	0
Turn Type	Perm		Perm							pm+pt		
Protected Phases		4						2		1	6	
Permitted Phases	4		4							6		
Detector Phases	4	4	4					2		1	6	
Minimum Initial (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0	21.0					21.0		9.0	21.0	
Total Split (s)	30.0	30.0	30.0	0.0	0.0	0.0	0.0	54.0	0.0	16.0	70.0	0.0
Total Split (%)	30%	30%	30%	0%	0%	0%	0%	54%	0%	16%	70%	0%
Yellow Time (s)	3.0	3.0	3.0					3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0					2.0		2.0	2.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Recall Mode	None	None	None					Coord		None	Coord	
Act Effct Green (s)	26.0	26.0	26.0					50.0		66.0	66.0	
Actuated g/C Ratio	0.26	0.26	0.26					0.50		0.66	0.66	
v/c Ratio	0.19	0.19	0.97					0.98		0.93	0.39	
Uniform Delay, d1	28.7	28.7	24.4					24.1		25.0	7.8	
Delay	29.3	29.3	49.1					21.9		37.7	5.5	
LOS	C	C	D					C		D	A	
Approach Delay		44.4						21.9			12.8	
Approach LOS		D						C			B	
Queue Length 50th (ft)	43	43	241					380		86	102	
Queue Length 95th (ft)	84	84	#462					m#682		m#186	120	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		633			747			499			502	
50th Up Block Time (%)								2%				
95th Up Block Time (%)								12%				
Turn Bay Length (ft)	125		125							100		
50th Bay Block Time %			35%							4%	6%	
95th Bay Block Time %			59%							28%	7%	
Queuing Penalty (veh)			77					103		73	17	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 37 (37%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 23.3 Intersection LOS: C
Intersection Capacity Utilization 78.1% ICU Level of Service C
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.

Splits and Phases: 11: I-90 EB Off Ramp & LaCrosse St.



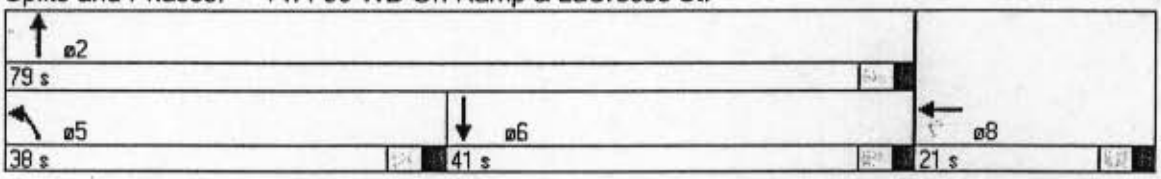
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	140		0	175		0	0		0
Storage Lanes	0		0	1		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50		50	50			50	
Trailing Detector (ft)				0	0		0	0			0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt					0.850						0.972	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1770	1599	0	1770	3574	0	0	3474	0
Flt Permitted				0.950			0.098					
Satd. Flow (perm)	0	0	0	1770	1599	0	183	3574	0	0	3474	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					155						32	
Headway 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
Link Speed (mph)		65			25			35			35	
Link Distance (ft)		642			794			582			557	
Travel Time (s)		6.7			21.7			11.3			10.9	
Volume (vph)	0	0	0	121	0	145	291	557	0	0	471	109
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
Growth Factor	180%	180%	180%	180%	180%	180%	180%	180%	180%	180%	180%	180%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	1%	2%	1%	0%	0%	1%	1%
Adj. Flow (vph)	0	0	0	242	0	290	582	1114	0	0	942	218
Lane Group Flow (vph)	0	0	0	242	290	0	582	1114	0	0	1160	0
Turn Type				Perm			pm+pt					
Protected Phases					8		5	2			6	
Permitted Phases				8			2					
Detector Phases				8	8		5	2			6	
Minimum Initial (s)				4.0	4.0		4.0	4.0			4.0	
Minimum Split (s)				21.0	21.0		21.0	21.0			21.0	
Total Split (s)	0.0	0.0	0.0	21.0	21.0	0.0	38.0	79.0	0.0	0.0	41.0	0.0
Total Split (%)	0%	0%	0%	21%	21%	0%	38%	79%	0%	0%	41%	0%
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	
All-Red Time (s)				2.0	2.0		2.0	2.0			2.0	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Recall Mode				None	None		Min	Coord			None	
Act Effct Green (s)				16.4	16.4		75.6	75.6			40.3	
Actuated g/C Ratio				0.16	0.16		0.76	0.76			0.40	
v/c Ratio				0.83	0.74		0.92	0.41			0.82	
Uniform Delay, d1				40.5	17.9		24.5	4.3			25.8	
Delay				49.4	20.5		12.0	3.7			30.2	
LOS				D	C		B	A			C	
Approach Delay					33.7			6.5			30.2	
Approach LOS					C			A			C	
Queue Length 50th (ft)				150	80		161	115			352	
Queue Length 95th (ft)				#274	#194		m201	m121			#480	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		562			714			502			477	
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)				140			175					
50th Bay Block Time %				11%			5%	2%				
95th Bay Block Time %				45%	21%		7%	2%				
Queuing Penalty (veh)				82	25		34					

Intersection Summary

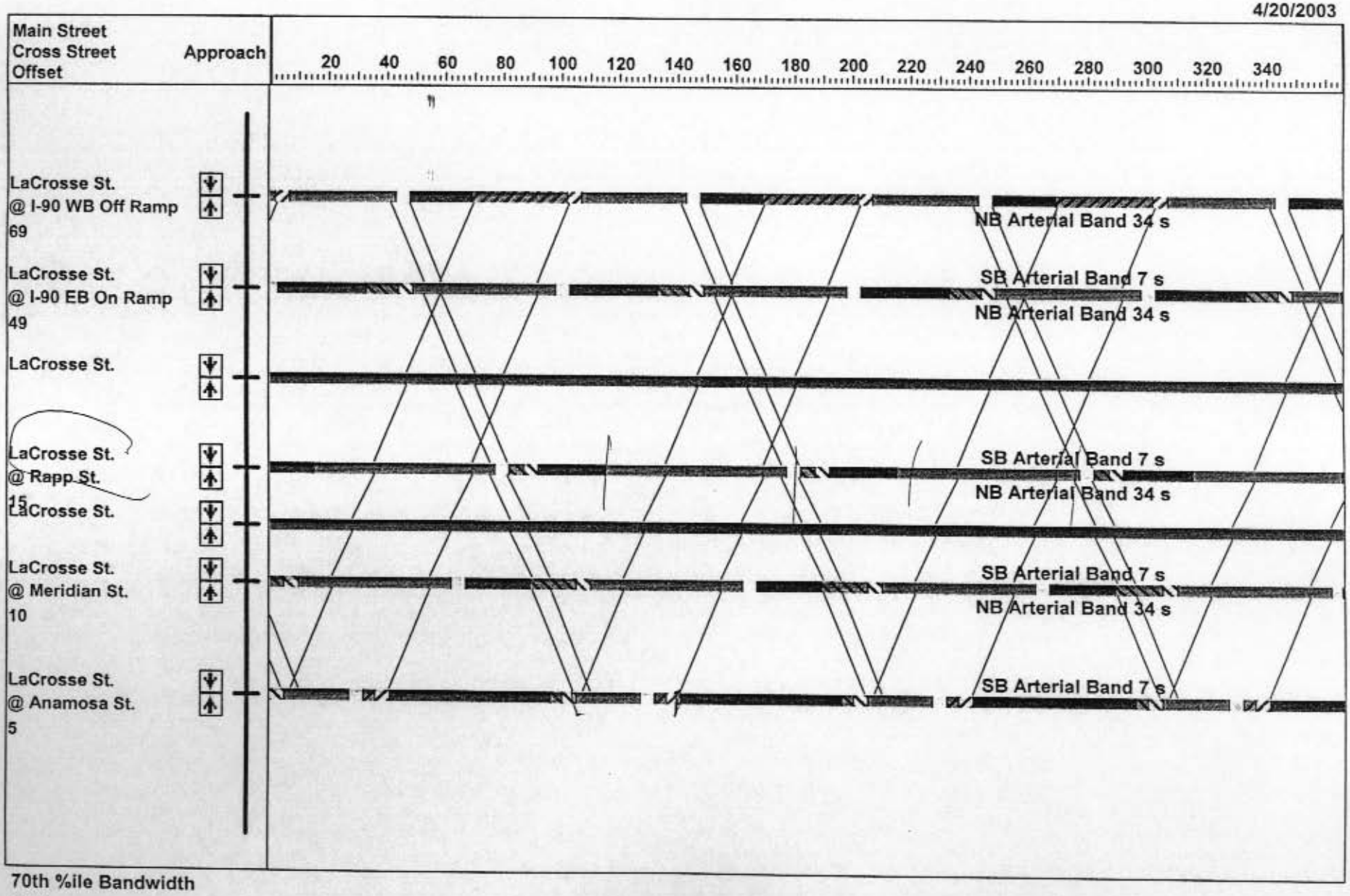
Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 61 (61%), Referenced to phase 2:NBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 18.9 Intersection LOS: B
Intersection Capacity Utilization 93.2% ICU Level of Service E
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.

Splits and Phases: 14: I-90 WB On Ramp & LaCrosse St.



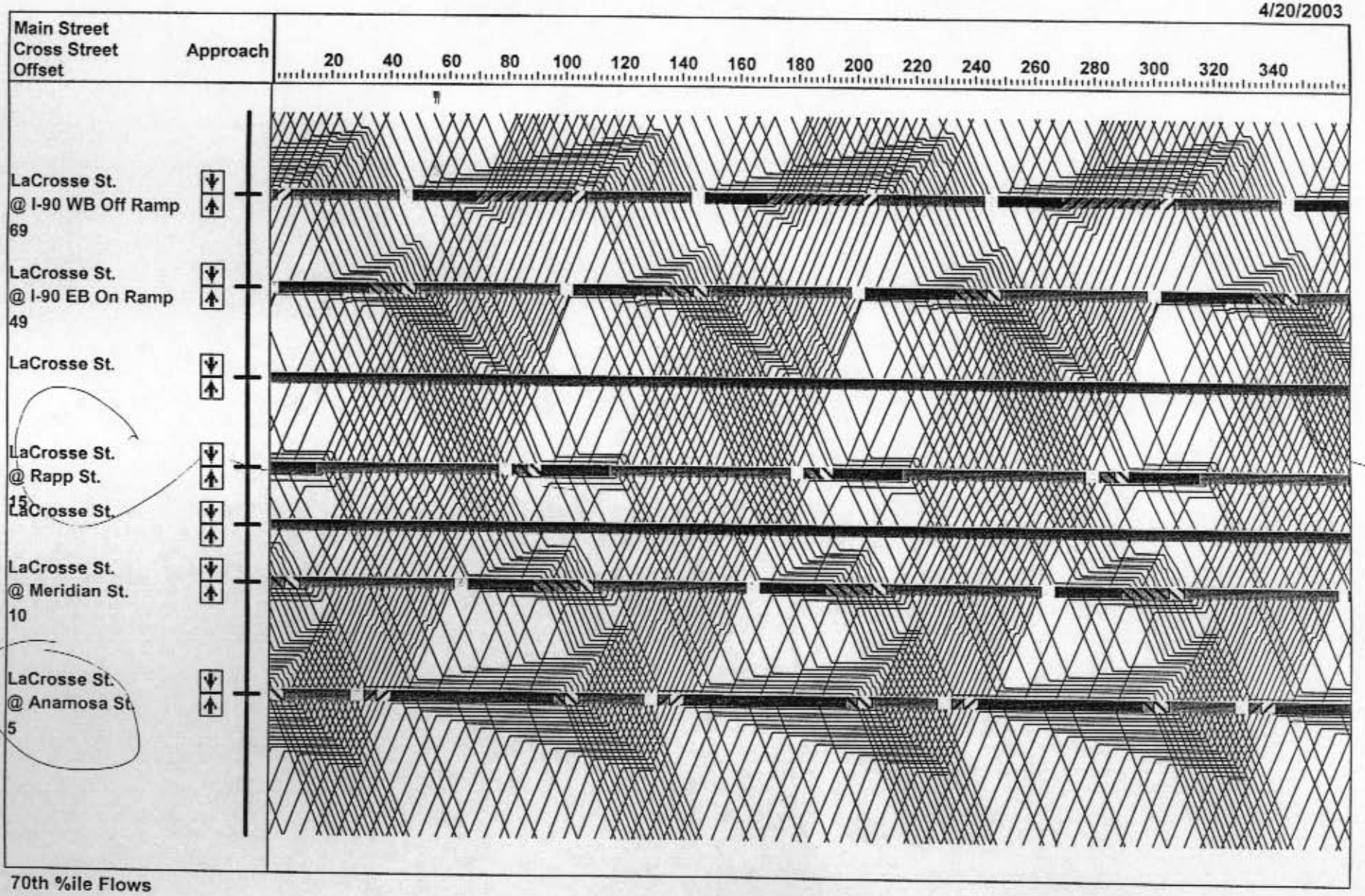
Future PM Peak Hour

4/20/2003



70th %ile Bandwidth
CBS

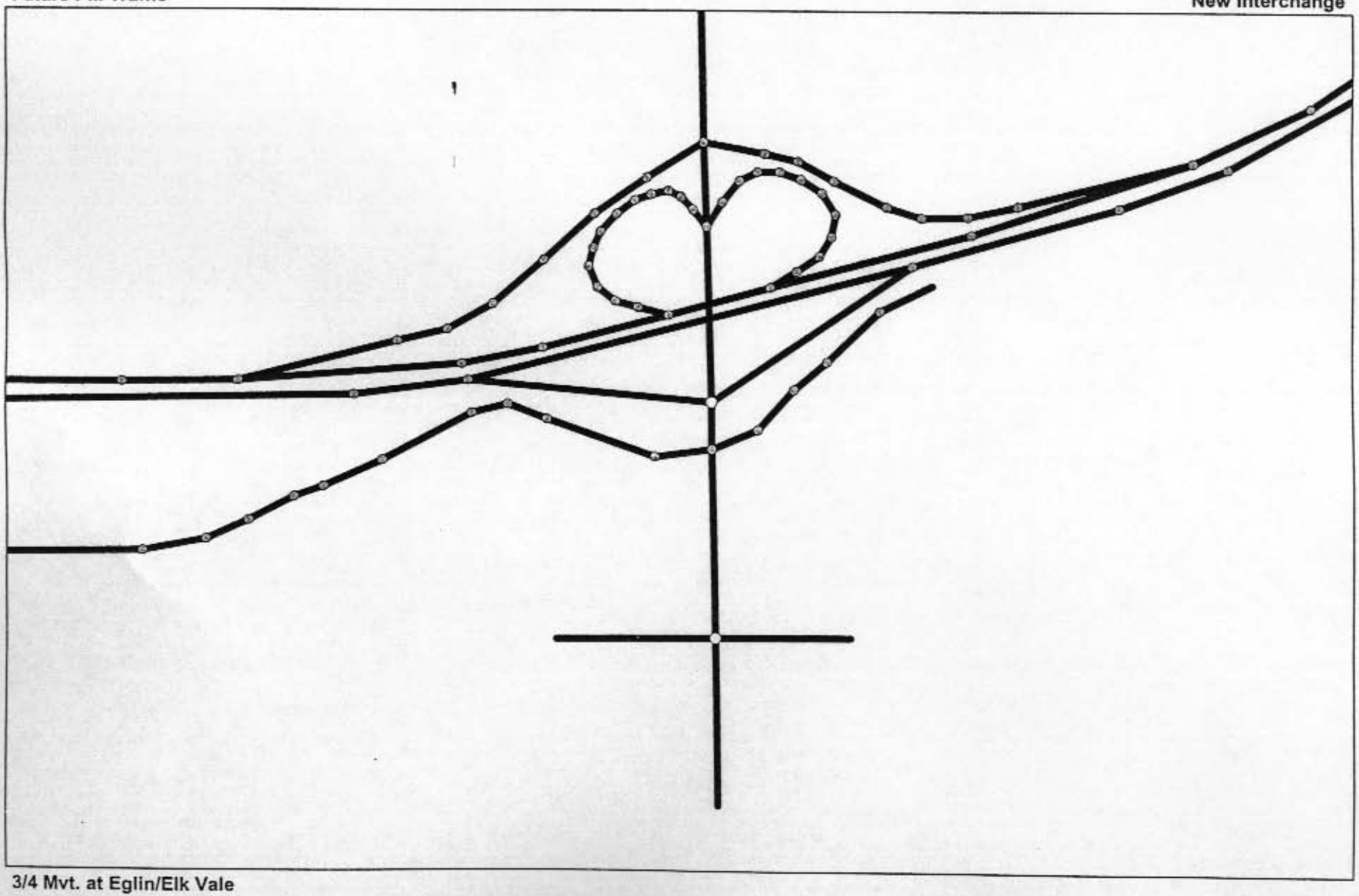
Future PM Peak Hour



70th %ile Flows
CBS

Eglin St. Corridor Study
Future PM Traffic

Elk Vale Corridor
New Interchange



3/4 Mvt. at Eglin/Elk Vale
CBS

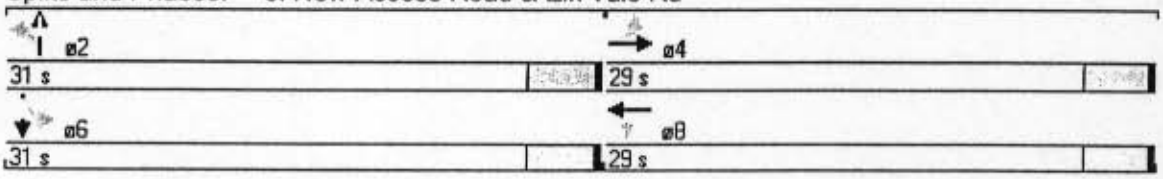
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	300		0	300		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.872			0.866			0.994			0.995	
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1770	1624	0	1770	1613	0	1770	3518	0	1863	3522	0
Flt Permitted	0.726			0.708			0.278					
Satd. Flow (perm)	1352	1624	0	1319	1613	0	518	3518	0	1863	3522	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65			43			9			8	
Headway 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
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		849			719			905			1015	
Travel Time (s)		19.3			16.3			13.7			15.4	
Volume (vph)	60	10	60	40	5	40	25	580	25	0	696	25
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
Adj. Flow (vph)	65	11	65	43	5	43	27	630	27	0	757	27
Lane Group Flow (vph)	65	76	0	43	48	0	27	657	0	0	784	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	29.0	29.0	0.0	29.0	29.0	0.0	31.0	31.0	0.0	31.0	31.0	0.0
Total Split (%)	48%	48%	0%	48%	48%	0%	52%	52%	0%	52%	52%	0%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Coord	Coord		Coord	Coord	
Act Effct Green (s)	8.0	8.0		8.0	8.0		46.8	46.8			46.8	
Actuated g/C Ratio	0.13	0.13		0.13	0.13		0.78	0.78			0.78	
v/c Ratio	0.36	0.28		0.25	0.19		0.07	0.24			0.29	
Uniform Delay, d1	24.6	3.4		24.3	2.5		2.0	2.2			2.3	
Delay	23.2	8.6		22.6	9.2		3.0	2.6			2.5	
LOS	C	A		C	A		A	A			A	
Approach Delay		15.3			15.5			2.7			2.5	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)	22	4		14	2		2	28			34	
Queue Length 95th (ft)	51	33		37	25		9	54			55	
Internal Link Dist (ft)		769			639			825			935	
50th Up Block Time (%)												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
95th Up Block Time (%)												
Turn Bay Length (ft)	150			150			300					
50th Bay Block Time %												
95th Bay Block Time %												
Queuing Penalty (veh)												

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 59 (98%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.36
Intersection Signal Delay: 4.3 Intersection LOS: A
Intersection Capacity Utilization 38.7% ICU Level of Service A

Splits and Phases: 8: New Access Road & Elk Vale Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	300		0	150		0
Storage Lanes	0		1	0		1	1		0	1		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.865			0.865		0.999			0.991	
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	1611	0	0	1611	1770	3536	0	1770	3507	0
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	1611	0	0	1611	1770	3536	0	1770	3507	0
Headway 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
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		307			269			1015			253	
Travel Time (s)		4.7			4.1			15.4			3.8	
Volume (vph)	0	0	152	0	0	36	25	700	5	25	625	40
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
Growth Factor	100%	100%	100%	100%	100%	100%	140%	140%	140%	140%	140%	140%
Adj. Flow (vph)	0	0	165	0	0	39	38	1065	8	38	951	61
Lane Group Flow (vph)	0	0	165	0	0	39	38	1073	0	38	1012	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 45.1% ICU Level of Service A

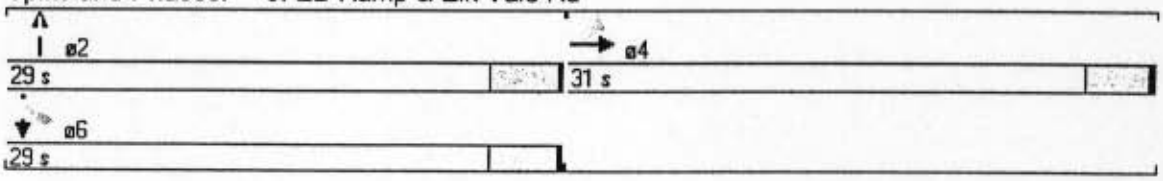
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	0		0	0		100	100		0
Storage Lanes	1		0	0		0	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50						50		50	50	
Trailing Detector (ft)	0	0						0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.851						0.919				
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1770	1585	0	0	0	0	0	3253	0	1770	3539	0
Flt Permitted	0.950									0.229		
Satd. Flow (perm)	1770	1585	0	0	0	0	0	3253	0	427	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		371						460				
Headway 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
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		1305			1298			253			936	
Travel Time (s)		19.8			16.1			3.8			14.2	
Volume (vph)	95	1	316	0	0	0	0	340	400	25	320	0
Peak Hour Factor	0.83	0.25	0.76	0.92	0.92	0.92	0.92	0.86	0.87	0.73	0.92	0.92
Adj. Flow (vph)	114	4	416	0	0	0	0	395	460	34	348	0
Lane Group Flow (vph)	114	420	0	0	0	0	0	855	0	34	348	0
Turn Type	Perm									Perm		
Protected Phases		4						2			6	
Permitted Phases	4									6		
Detector Phases	4	4						2		6	6	
Minimum Initial (s)	4.0	4.0						4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0						20.0		20.0	20.0	
Total Split (s)	31.0	31.0	0.0	0.0	0.0	0.0	0.0	29.0	0.0	29.0	29.0	0.0
Total Split (%)	52%	52%	0%	0%	0%	0%	0%	48%	0%	48%	48%	0%
Yellow Time (s)	3.5	3.5						3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5						0.5		0.5	0.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None						Coord		Coord	Coord	
Act Effct Green (s)	10.2	10.2						41.8		41.8	41.8	
Actuated g/C Ratio	0.17	0.17						0.70		0.70	0.70	
v/c Ratio	0.38	0.73						0.36		0.11	0.14	
Uniform Delay, d1	22.1	2.5						1.5		3.0	3.0	
Delay	20.6	4.2						1.4		4.9	3.8	
LOS	C	A						A		A	A	
Approach Delay		7.7						1.4			3.9	
Approach LOS		A						A			A	
Queue Length 50th (ft)	38	16						0		3	15	
Queue Length 95th (ft)	60	0						30		13	43	
Internal Link Dist (ft)		1225			1218			173			856	
50th Up Block Time (%)												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
95th Up Block Time (%)												
Turn Bay Length (ft)										100		
50th Bay Block Time %												
95th Bay Block Time %												
Queuing Penalty (veh)												

Intersection Summary

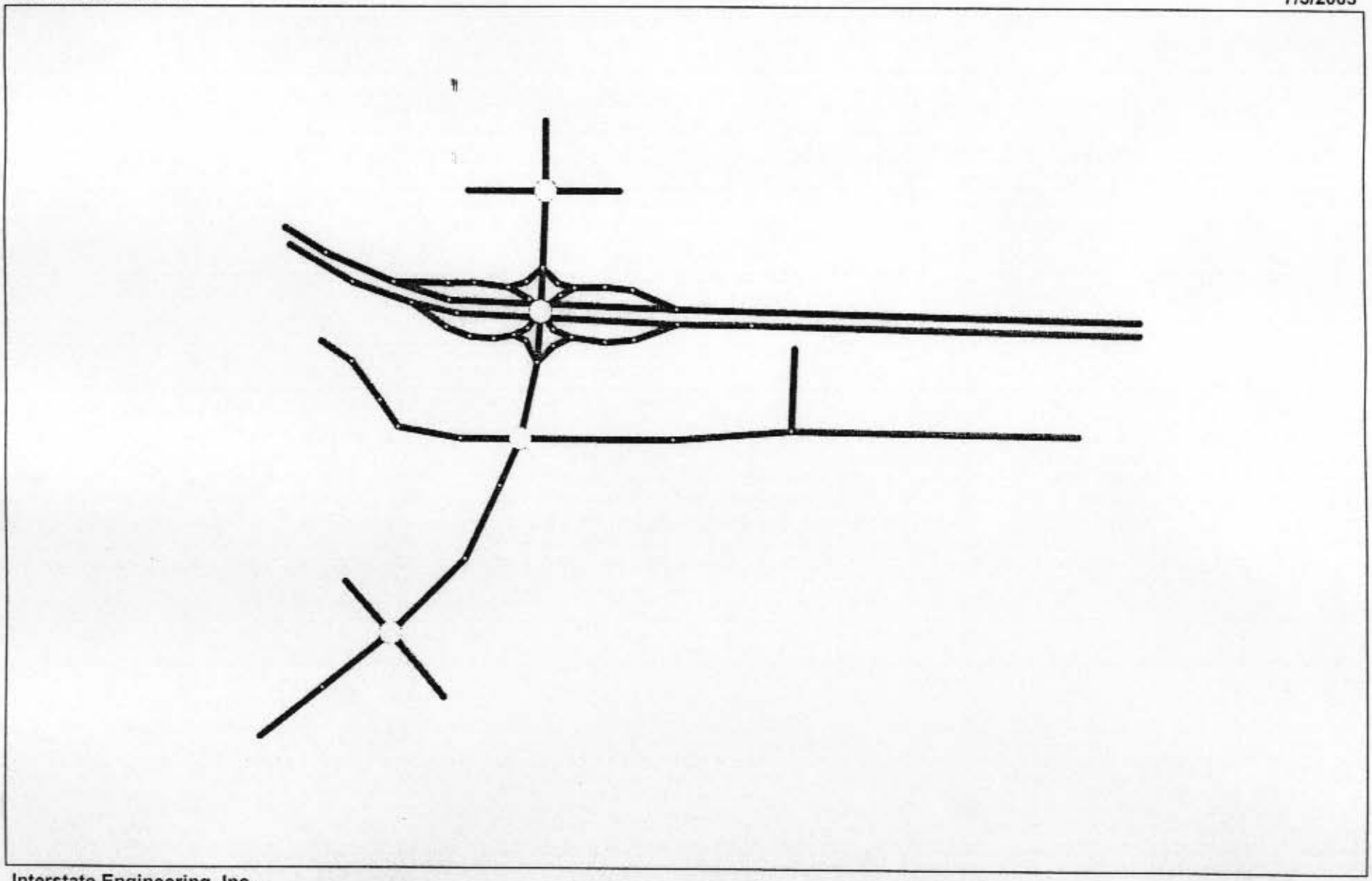
Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 12 (20%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 3.8 Intersection LOS: A
Intersection Capacity Utilization 58.3% ICU Level of Service A

Splits and Phases: 5: EB Ramp & Elk Vale Rd



Eglin St. Corridor Study
North Street Corridor

Future PM Peak
7/3/2003



Interstate Engineering, Inc.

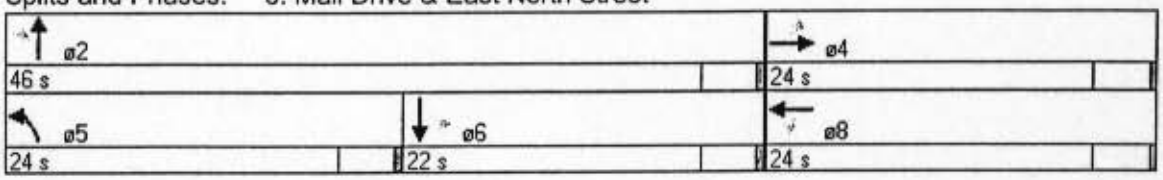
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.880			0.975			0.880			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3145	0	1787	3485	0	1787	3145	0	1787	3421	0
Flt Permitted	0.712			0.326			0.577			0.585		
Satd. Flow (perm)	1339	3145	0	613	3485	0	1085	3145	0	1100	3421	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		435			11			217			22	
Headway 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
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		413			399			410			374	
Travel Time (s)		6.3			6.0			6.2			5.7	
Volume (vph)	50	100	400	50	50	10	350	50	200	10	50	20
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
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	54	109	435	54	54	11	380	54	217	11	54	22
Lane Group Flow (vph)	54	544	0	54	65	0	380	271	0	11	76	0
Turn Type	Perm			Perm			pm+pt			Perm		
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		5	2		6	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0		20.0	20.0	
Total Split (s)	24.0	24.0	0.0	24.0	24.0	0.0	24.0	46.0	0.0	22.0	22.0	0.0
Total Split (%)	34%	34%	0%	34%	34%	0%	34%	66%	0%	31%	31%	0%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Coord		Coord	Coord	
Act Effct Green (s)	11.4	11.4		11.4	11.4		50.6	50.6		35.9	35.9	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.72	0.72		0.51	0.51	
v/c Ratio	0.25	0.62		0.54	0.11		0.43	0.12		0.02	0.04	
Uniform Delay, d1	25.5	5.1		26.9	20.7		3.4	0.5		8.4	6.0	
Delay	23.3	5.5		25.4	19.3		8.1	0.8		14.6	10.3	
LOS	C	A		C	B		A	A		B	B	
Approach Delay		7.1			22.1			5.0			10.8	
Approach LOS		A			C			A			B	
Queue Length 50th (ft)	21	22		22	10		24	0		2	4	
Queue Length 95th (ft)	44	55		51	23		133	13		15	23	
Internal Link Dist (ft)		333			319			330			294	
50th Up Block Time (%)												
95th Up Block Time (%)												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
50th Bay Block Time %												
95th Bay Block Time %												
Queuing Penalty (veh)												

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 69 (99%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 7.6 — Intersection LOS: A
Intersection Capacity Utilization 51.5% — ICU Level of Service A

Splits and Phases: 6: Mall Drive & East North Street



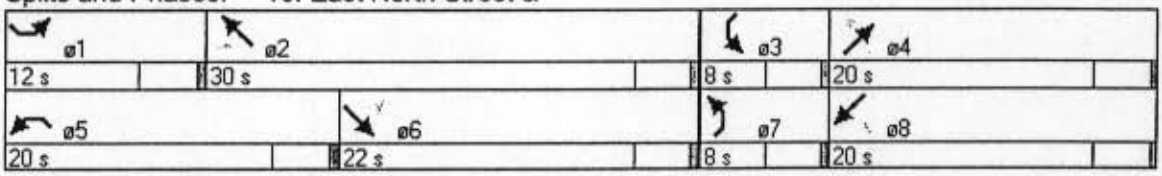
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	200		100	200		100
Storage Lanes	1		0	1		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		15	15		15	15		15	15		15
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.996			0.978				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3525	0	1770	3461	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.222			0.182			0.250			0.250		
Satd. Flow (perm)	414	3525	0	339	3461	0	466	3539	1583	466	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			33				91			146
Headway 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
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		367			443			466			564	
Travel Time (s)		8.3			10.1			7.1			8.5	
Volume (vph)	200	750	20	350	850	150	150	700	100	100	650	150
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
Adj. Flow (vph)	217	815	22	380	924	163	163	761	109	109	707	163
Lane Group Flow (vph)	217	837	0	380	1087	0	163	761	109	109	707	163
Turn Type	pm+pt			pm+pt			pm+pt		Perm	pm+pt		Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4		4	8		8
Detector Phases	1	6		5	2		7	4	4	3	8	8
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0		20.0	20.0		8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	12.0	22.0	0.0	20.0	30.0	0.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (%)	17%	31%	0%	29%	43%	0%	11%	29%	29%	11%	29%	29%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	Coord		None	None	None	None	None	None
Act Effct Green (s)	28.0	20.1		37.8	26.2		20.7	17.5	17.5	19.9	15.9	15.9
Actuated g/C Ratio	0.40	0.29		0.54	0.37		0.30	0.25	0.25	0.28	0.23	0.23
v/c Ratio	0.68	0.83		0.81	0.82		0.77	0.86	0.23	0.53	0.88	0.35
Uniform Delay, d1	10.2	23.9		11.6	19.9		16.8	25.0	3.3	15.8	25.4	2.1
Delay	17.5	32.4		16.0	21.4		34.0	38.5	7.7	10.8	25.0	3.1
LOS	B	C		B	C		C	D	A	B	C	A
Approach Delay		29.4			20.0			34.6			19.8	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)	45	181		96	212		50	170	6	20	172	9
Queue Length 95th (ft)	#127	#293		#218	#300		#132	#276	43	#45	#253	0
Internal Link Dist (ft)		287			363			386			484	
50th Up Block Time (%)												

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
95th Up Block Time (%)		5%										
Turn Bay Length (ft)	200			200			200		100	200		100
50th Bay Block Time %					9%							
95th Bay Block Time %		32%		15%	25%			31%			17%	
Queuing Penalty (veh)		35		42	64			25			9	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 38 (54%), Referenced to phase 2:NWTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 25.4 Intersection LOS: C
Intersection Capacity Utilization 86.2% ICU Level of Service D
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: East North Street &



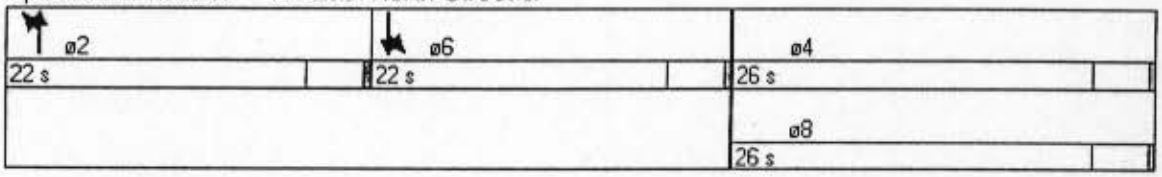
Lane Group	NBL	NBT	SBL	SBT	SET	NWT	NEL	NET	SWL	SWT
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200				0		0	
Storage Lanes	1		1				2		2	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50			50		50	
Trailing Detector (ft)	0	0	0	0			0		0	
Turning Speed (mph)	15		15				15		15	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	0.97	1.00	0.97	1.00
Frt										
Flt Protected	0.950		0.950				0.950		0.950	
Satd. Flow (prot)	1770	3539	1770	3539	0	0	3433	0	3433	0
Flt Permitted	0.950		0.950				0.950		0.950	
Satd. Flow (perm)	1770	3539	1770	3539	0	0	3433	0	3433	0
Right Turn on Red										
Satd. Flow (RTOR)										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45		45	30	30		30		30
Link Distance (ft)		278		231	88	119		114		137
Travel Time (s)		4.2		3.5	2.0	2.7		2.6		3.1
Volume (vph)	150	450	200	100	0	0	100	0	600	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	489	217	109	0	0	109	0	652	0
Lane Group Flow (vph)	163	489	217	109	0	0	109	0	652	0
Turn Type	Split		Split				custom		custom	
Protected Phases	2	2	6	6						
Permitted Phases							4		8	
Detector Phases	2	2	6	6			4		8	
Minimum Initial (s)	4.0	4.0	4.0	4.0			4.0		4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0			20.0		20.0	
Total Split (s)	22.0	22.0	22.0	22.0	0.0	0.0	26.0	0.0	26.0	0.0
Total Split (%)	31%	31%	31%	31%	0%	0%	37%	0%	37%	0%
Yellow Time (s)	3.5	3.5	3.5	3.5			3.5		3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5			0.5		0.5	
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	Coord	Coord	None	None			None		None	
Act Effct Green (s)	28.6	28.6	11.5	11.5			17.9		17.9	
Actuated g/C Ratio	0.41	0.41	0.16	0.16			0.26		0.26	
v/c Ratio	0.23	0.34	0.75	0.19			0.12		0.74	
Uniform Delay, d1	13.5	14.2	27.9	25.3			19.9		23.8	
Delay	15.0	15.5	24.0	21.6			18.8		23.5	
LOS	B	B	C	C			B		C	
Approach Delay		15.4		23.2				18.8		23.5
Approach LOS		B		C				B		C
Queue Length 50th (ft)	61	101	75	18			18		131	
Queue Length 95th (ft)	121	153	102	29			33		171	
Internal Link Dist (ft)		198		151	8	39		34		57
50th Up Block Time (%)									45%	

Lane Group	NBL	NBT	SBL	SBT	SET	NWT	NEL	NET	SWL	SWT
95th Up Block Time (%)							6%		48%	
Turn Bay Length (ft)	200		200							
50th Bay Block Time %										
95th Bay Block Time %										
Queuing Penalty (veh)							3		303	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 20.1 Intersection LOS: C
Intersection Capacity Utilization 54.2% ICU Level of Service A

Splits and Phases: 15: East North Street &



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	100		100	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
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
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		15	15		15	15		15	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.931			0.918			0.985			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1751	0	1787	1727	0	1787	3521	0	1787	3481	0
Flt Permitted	0.681			0.667			0.230			0.290		
Satd. Flow (perm)	1281	1751	0	1255	1727	0	433	3521	0	546	3481	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65			65			23			52	
Headway 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
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		318			822			278			422	
Travel Time (s)		6.2			16.0			4.2			6.4	
Volume (vph)	50	70	60	90	50	60	70	650	70	50	700	150
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
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	54	76	65	98	54	65	76	707	76	54	761	163
Lane Group Flow (vph)	54	141	0	98	119	0	76	783	0	54	924	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	31.0	31.0	0.0	31.0	31.0	0.0	39.0	39.0	0.0	39.0	39.0	0.0
Total Split (%)	44%	44%	0%	44%	44%	0%	56%	56%	0%	56%	56%	0%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Coord	Coord		Coord	Coord	
Act Effct Green (s)	10.1	10.1		10.1	10.1		54.6	54.6		54.6	54.6	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.78	0.78		0.78	0.78	
v/c Ratio	0.29	0.46		0.54	0.39		0.22	0.28		0.13	0.34	
Uniform Delay, d1	27.7	15.0		28.8	12.5		2.5	2.6		2.3	2.6	
Delay	25.4	15.0		26.9	13.3		6.0	4.4		0.9	0.7	
LOS	C	B		C	B		A	A		A	A	
Approach Delay		17.9			19.4			4.5			0.7	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)	21	30		40	21		7	51		1	6	
Queue Length 95th (ft)	48	72		79	60		m30	m158		m3	17	
Internal Link Dist (ft)		238			742			198			342	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)	100			100			200			200		
50th Bay Block Time %												
95th Bay Block Time %												
Queuing Penalty (veh)												

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 50 (71%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 5.5 Intersection LOS: A
Intersection Capacity Utilization 57.2% ICU Level of Service A
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 22: Eglin Street & East North Street