

Appendix A
Existing Conditions

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing
AM Peak Hour

Intersection 1 **I-5 SB Ramps/Richards Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	655	645	98.4%	29.8	3.4	C
	Through	12	12	96.7%	27.8	9.1	C
	Right Turn	333	325	97.5%	9.4	1.3	A
	Subtotal	1,000	981	98.1%	23.0	2.1	C
EB	Left Turn						
	Through	361	383	106.1%	23.6	2.6	C
	Right Turn	45	51	112.9%	3.0	1.2	A
	Subtotal	406	434	106.9%	21.2	2.5	C
WB	Left Turn	268	256	95.5%	5.7	2.0	A
	Through	230	243	105.6%	5.0	1.3	A
	Right Turn						
	Subtotal	498	499	100.2%	5.4	1.5	A
Total		1,904	1,914	100.5%	18.0	1.6	B

Intersection 2 **I-5 NB Ramps/Richards Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	50	52	103.2%	21.7	6.2	C
	Through	8	6	80.0%	16.2	14.6	B
	Right Turn	854	870	101.8%	24.5	6.9	C
	Subtotal	912	928	101.7%	24.4	6.6	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	156	168	107.4%	22.9	10.4	C
	Through	860	839	97.5%	7.8	3.5	A
	Right Turn						
	Subtotal	1,016	1,006	99.1%	10.4	3.2	B
WB	Left Turn						
	Through	448	442	98.6%	19.1	2.1	B
	Right Turn	292	288	98.8%	2.8	0.4	A
	Subtotal	740	730	98.6%	12.6	1.1	B
Total		2,668	2,664	99.9%	15.8	3.0	B

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Twin Rivers TIS
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AM Peak Hour

Intersection 3 **N 7th St/Richards Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	34	29	84.7%	41.9	10.0	D
	Through	41	41	100.5%	29.5	9.6	C
	Right Turn	34	38	111.8%	15.8	7.3	B
	Subtotal	109	108	99.1%	27.9	5.2	C
SB	Left Turn	6	6	100.0%	32.6	27.1	C
	Through	9	11	120.0%	32.3	15.3	C
	Right Turn	26	20	75.4%	36.7	11.0	D
	Subtotal	41	36	88.8%	36.1	7.8	D
EB	Left Turn	137	133	97.2%	41.4	6.5	D
	Through	908	878	96.7%	24.3	4.5	C
	Right Turn	112	114	102.1%	21.8	5.9	C
	Subtotal	1,157	1,126	97.3%	26.1	4.6	C
WB	Left Turn	231	211	91.3%	39.7	7.8	D
	Through	577	581	100.7%	17.6	2.3	B
	Right Turn	15	22	144.0%	11.4	6.8	B
	Subtotal	823	814	98.9%	23.2	2.7	C
Total		2,130	2,084	97.8%	25.3	3.1	C

Intersection 4 **N 10th St/Richards Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	16	15	95.0%	34.1	16.9	C
	Through	32	31	96.3%	35.0	10.0	D
	Right Turn	12	16	130.0%	6.8	3.7	A
	Subtotal	60	62	102.7%	28.4	5.1	C
SB	Left Turn	9	12	128.9%	33.7	18.2	C
	Through	8	10	130.0%	39.7	22.6	D
	Right Turn	27	25	93.3%	5.1	2.0	A
	Subtotal	44	47	107.3%	21.9	11.2	C
EB	Left Turn	134	139	103.6%	40.2	7.5	D
	Through	779	732	93.9%	9.8	2.4	A
	Right Turn	35	35	100.6%	7.6	2.9	A
	Subtotal	948	906	95.5%	14.5	2.7	B
WB	Left Turn	15	14	93.3%	27.5	13.3	C
	Through	880	860	97.7%	9.2	1.2	A
	Right Turn	51	47	91.8%	8.3	4.6	A
	Subtotal	946	920	97.3%	9.6	1.1	A
Total		1,998	1,935	96.8%	12.7	1.5	B

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Intersection 5 Dos Rios St/Richards Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	22	21	94.5%	28.7	7.9	C
	Through	7	9	125.7%	30.5	21.4	C
	Right Turn	27	27	99.3%	8.5	6.3	A
	Subtotal	56	56	100.7%	21.5	6.4	C
SB	Left Turn	41	42	103.4%	32.7	6.3	C
	Through	11	9	83.6%	35.7	11.8	D
	Right Turn	20	17	84.0%	17.0	12.1	B
	Subtotal	72	68	95.0%	29.3	5.6	C
EB	Left Turn	26	28	109.2%	43.1	11.3	D
	Through	746	706	94.6%	12.5	4.2	B
	Right Turn	28	22	78.6%	4.7	3.1	A
	Subtotal	800	756	94.5%	13.4	4.0	B
WB	Left Turn	27	26	96.3%	41.2	9.6	D
	Through	904	883	97.7%	8.2	1.7	A
	Right Turn	27	17	62.2%	5.7	2.5	A
	Subtotal	958	926	96.7%	9.1	1.7	A
Total		1,886	1,807	95.8%	12.0	2.2	B

Intersection 6 Vine St/Richards Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	19	21	111.6%	27.2	17.4	D
	Through						
	Right Turn	7	11	154.3%	5.0	4.4	A
	Subtotal	26	32	123.1%	22.9	16.6	C
EB	Left Turn	9	9	97.8%	8.1	2.2	A
	Through	827	781	94.5%	4.2	1.2	A
	Right Turn						
	Subtotal	836	790	94.5%	4.2	1.2	A
WB	Left Turn						
	Through	966	925	95.8%	5.5	0.1	A
	Right Turn	94	97	103.4%	5.5	0.2	A
	Subtotal	1,060	1,022	96.5%	5.5	0.1	A
Total		1,922	1,844	96.0%	5.3	0.6	A

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Intersection 7 N 12th St-N 16th St/Richards Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	65	58	89.2%	47.2	10.4	D
	Through						
	Right Turn	1,086	1,036	95.4%	19.9	4.6	B
	Subtotal	1,151	1,094	95.0%	21.3	4.5	C
SB	Left Turn						
	Through						
	Right Turn	3,278	3,170	96.7%	29.0	6.6	C
	Subtotal	3,278	3,170	96.7%	29.0	6.6	C
EB	Left Turn	749	696	93.0%	37.7	5.5	D
	Through						
	Right Turn	20	18	92.0%	6.7	2.0	A
	Subtotal	769	715	93.0%	36.9	5.3	D
WB	Left Turn						
	Through	1	1	80.0%	6.4	14.1	A
	Right Turn	2	2	80.0%	6.9	4.5	A
	Subtotal	3	2	80.0%	5.3	10.3	A
Total		5,201	4,981	95.8%	28.4	4.5	C

Intersection 8 Dos Rios St/N D St Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	4	5	130.0%	1.9	0.9	A
	Through	31	29	92.9%	0.5	0.3	A
	Right Turn	3	4	133.3%	0.4	0.1	A
	Subtotal	38	38	100.0%	0.7	0.4	A
SB	Left Turn	5	5	96.0%	2.2	0.9	A
	Through	52	45	86.9%	1.1	0.2	A
	Right Turn	12	8	66.7%	0.9	0.2	A
	Subtotal	69	58	84.1%	1.2	0.2	A
EB	Left Turn	4	5	120.0%	3.6	3.1	A
	Through						
	Right Turn	7	7	102.9%	2.0	1.3	A
	Subtotal	11	12	109.1%	4.1	2.3	A
WB	Left Turn	1	0	40.0%	0.4	1.4	A
	Through	1	0	40.0%	0.5	1.6	A
	Right Turn	7	6	85.7%	1.5	1.0	A
	Subtotal	9	7	75.6%	1.6	1.2	A
Total		127	115	90.4%	1.3	0.3	A

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Intersection 9 N 12th St/Sunbeam Ave-Sproule Ave Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	16	14	90.0%	23.4	12.8	C
	Through	13	13	98.5%	18.1	10.6	B
	Right Turn						
	Subtotal	29	27	93.8%	20.8	5.8	C
SB	Left Turn						
	Through	25	25	100.8%	17.4	5.8	B
	Right Turn	33	32	97.0%	9.5	4.6	A
	Subtotal	58	57	98.6%	12.9	3.3	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	39	24	61.5%	10.4	6.9	B
	Through	2,298	2,211	96.2%	13.0	2.3	B
	Right Turn	8	9	115.0%	13.2	9.0	B
	Subtotal	2,345	2,244	95.7%	13.0	2.3	B
Total		2,432	2,328	95.7%	13.1	2.3	B

Intersection 10 N 16th St/Sproule Ave-Basler St Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	19	19	98.9%	11.9	3.9	B
	Through	1,087	1,069	98.4%	12.4	0.6	B
	Right Turn	5	5	104.0%	5.8	5.1	A
	Subtotal	1,111	1,093	98.4%	12.4	0.5	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	54	38	71.1%	15.4	5.1	B
	Through	9	10	115.6%	11.4	7.5	B
	Right Turn						
	Subtotal	63	49	77.5%	15.0	4.0	B
WB	Left Turn						
	Through	8	7	85.0%	4.5	7.4	A
	Right Turn	10	8	80.0%	2.7	0.9	A
	Subtotal	18	15	82.2%	4.3	5.1	A
Total		1,192	1,157	97.0%	12.4	0.6	B

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AM Peak Hour

Intersection 11 N12th St/N B St/Dos Rios St Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
0	Left Turn	2,278	2,218	97.4%	16.3	2.2	B
	Through						
	Right Turn	148	153	103.2%	20.4	3.2	C
	Subtotal	2,426	2,371	97.7%	16.6	2.3	B
SB	Left Turn	2	1	60.0%	10.0	19.1	B
	Through	19	13	69.5%	39.0	20.2	D
	Right Turn	9	7	80.0%	13.9	11.2	B
	Subtotal	30	22	72.0%	28.7	15.5	C
EB	Left Turn	8	9	115.0%	35.1	17.6	D
	Through	47	45	95.3%	20.5	9.1	C
	Right Turn	47	47	100.4%	11.1	5.8	B
	Subtotal	102	101	99.2%	17.4	7.8	B
WB	Left Turn	30	36	120.0%	24.0	7.9	C
	Through	85	93	109.2%	17.3	4.0	B
	Right Turn	24	24	100.0%	24.8	8.7	C
	Subtotal	139	153	109.9%	20.1	3.3	C
Total		2,697	2,646	98.1%	16.9	2.2	B

Intersection 12 N 16th St/N B St Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	121	137	113.4%	7.8	1.5	A
	Through	1,122	1,102	98.2%	5.9	0.6	A
	Right Turn	6	5	80.0%	2.8	3.9	A
	Subtotal	1,249	1,244	99.6%	6.1	0.5	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	47	44	94.5%	19.0	2.6	B
	Through	6	4	73.3%	9.1	8.2	A
	Right Turn						
	Subtotal	53	49	92.1%	18.4	2.6	B
WB	Left Turn						
	Through	6	6	93.3%	11.1	11.9	B
	Right Turn	2	4	180.0%	1.2	1.4	A
	Subtotal	8	9	115.0%	8.3	8.5	A
Total		1,310	1,302	99.4%	6.6	0.6	A

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Intersection 1 **I-5 SB Ramps/Richards Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	307	326	106.3%	29.8	2.4	C
	Through	69	77	111.9%	29.5	5.1	C
	Right Turn	272	264	97.1%	9.8	1.8	A
	Subtotal	648	668	103.0%	21.9	1.3	C
EB	Left Turn						
	Through	692	702	101.5%	37.8	8.6	D
	Right Turn	53	50	94.3%	5.0	3.0	A
	Subtotal	745	752	101.0%	35.7	8.7	D
WB	Left Turn	664	573	86.3%	20.2	2.5	C
	Through	528	435	82.3%	13.6	1.7	B
	Right Turn						
	Subtotal	1,192	1,008	84.6%	17.3	1.9	B
Total		2,585	2,428	93.9%	24.3	2.7	C

Intersection 2 **I-5 NB Ramps/Richards Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	59	61	103.1%	26.0	5.6	C
	Through	10	11	112.0%	30.6	16.7	C
	Right Turn	425	432	101.6%	12.3	4.9	B
	Subtotal	494	504	101.9%	14.4	3.9	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	420	409	97.3%	55.5	2.9	E
	Through	579	608	104.9%	4.5	1.0	A
	Right Turn						
	Subtotal	999	1,016	101.7%	25.0	1.3	C
WB	Left Turn						
	Through	1,133	989	87.3%	28.0	3.6	C
	Right Turn	790	652	82.5%	5.0	0.6	A
	Subtotal	1,923	1,641	85.3%	18.9	2.0	B
Total		3,416	3,161	92.5%	20.1	1.4	C

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Intersection 3 **N 7th St/Richards Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	117	121	103.2%	39.1	4.2	D
	Through	8	9	110.0%	34.6	20.1	C
	Right Turn	134	130	96.7%	13.0	2.5	B
	Subtotal	259	259	100.1%	26.1	2.9	C
SB	Left Turn	53	57	107.9%	36.0	6.0	D
	Through	67	58	87.2%	31.7	7.7	C
	Right Turn	92	85	92.6%	33.6	7.3	C
	Subtotal	212	201	94.7%	33.5	3.5	C
EB	Left Turn	11	8	76.4%	27.8	25.1	C
	Through	827	854	103.3%	26.9	5.0	C
	Right Turn	83	87	105.1%	24.8	4.0	C
	Subtotal	921	950	103.1%	26.9	4.8	C
WB	Left Turn	114	104	91.2%	42.6	7.2	D
	Through	1,092	1,110	101.6%	19.8	4.3	B
	Right Turn	11	10	90.9%	20.4	13.5	C
	Subtotal	1,217	1,224	100.5%	21.8	4.3	C
Total		2,609	2,633	100.9%	24.9	3.4	C

Intersection 4 **N 10th St/Richards Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	31	27	87.7%	35.6	7.6	D
	Through	5	6	112.0%	19.0	17.2	B
	Right Turn	19	18	96.8%	9.0	6.2	A
	Subtotal	55	51	93.1%	25.5	4.9	C
SB	Left Turn	88	85	96.8%	30.0	4.6	C
	Through	63	52	83.2%	28.4	8.6	C
	Right Turn	134	136	101.2%	10.3	2.5	B
	Subtotal	285	273	95.9%	19.9	2.6	B
EB	Left Turn	35	30	85.7%	31.9	4.7	C
	Through	926	910	98.2%	8.3	1.4	A
	Right Turn	53	55	104.2%	7.0	1.8	A
	Subtotal	1,014	995	98.1%	9.0	1.4	A
WB	Left Turn	7	6	85.7%	33.7	22.4	C
	Through	973	987	101.4%	7.3	1.3	A
	Right Turn	18	21	115.6%	5.9	1.7	A
	Subtotal	998	1,014	101.6%	7.4	1.3	A
Total		2,352	2,333	99.2%	9.9	1.0	A

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Intersection 5 Dos Rios St/Richards Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	23	25	107.8%	39.1	14.7	D
	Through	5	5	96.0%	26.0	27.5	C
	Right Turn	30	25	84.0%	11.1	5.3	B
	Subtotal	58	55	94.5%	25.7	8.3	C
SB	Left Turn	30	28	94.7%	32.6	11.3	C
	Through	9	6	71.1%	25.6	21.7	C
	Right Turn	26	24	90.8%	13.1	6.2	B
	Subtotal	65	58	89.8%	25.5	7.4	C
EB	Left Turn	13	10	80.0%	36.3	29.0	D
	Through	993	976	98.3%	9.8	2.4	A
	Right Turn	27	28	105.2%	7.8	4.5	A
	Subtotal	1,033	1,015	98.3%	10.1	2.5	B
WB	Left Turn	18	21	117.8%	40.5	14.2	D
	Through	949	957	100.8%	5.5	1.1	A
	Right Turn	6	7	120.0%	2.8	2.7	A
	Subtotal	973	985	101.3%	6.3	1.3	A
Total		2,129	2,114	99.3%	9.1	1.7	A

Intersection 6 Vine St/Richards Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	29	32	111.7%	47.5	31.1	E
	Through						
	Right Turn	9	6	71.1%	17.8	31.2	C
	Subtotal	38	39	102.1%	42.7	30.3	E
EB	Left Turn	11	12	105.5%	10.8	4.3	B
	Through	1,059	1,034	97.7%	5.0	2.1	A
	Right Turn						
	Subtotal	1,070	1,046	97.8%	5.1	2.0	A
WB	Left Turn						
	Through	973	984	101.2%	5.3	0.2	A
	Right Turn	33	31	94.5%	5.1	0.3	A
	Subtotal	1,006	1,016	101.0%	5.2	0.1	A
Total		2,114	2,100	99.4%	5.9	1.4	A

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Intersection 7 N 12th St-N 16th St/Richards Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	61	50	82.0%	92.7	7.4	F
	Through						
	Right Turn	3,860	3,042	78.8%	81.5	9.0	F
	Subtotal	3,921	3,092	78.8%	81.7	9.0	F
SB	Left Turn						
	Through						
	Right Turn	2,532	2,527	99.8%	21.4	2.5	C
	Subtotal	2,532	2,527	99.8%	21.4	2.5	C
EB	Left Turn	778	735	94.5%	48.2	10.2	D
	Through						
	Right Turn	117	109	93.0%	11.1	4.9	B
	Subtotal	895	844	94.3%	43.4	9.6	D
WB	Left Turn						
	Through	4	0	0.0%	453.6	364.2	F
	Right Turn	8	7	85.0%	66.1	64.3	E
	Subtotal	12	7	56.7%	46.2	61.4	D
Total		7,360	6,470	87.9%	53.0	4.6	D

Intersection 8 Dos Rios St/N D St Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	9	11	124.4%	2.0	0.6	A
	Through	38	35	91.6%	0.8	0.3	A
	Right Turn	2	4	180.0%	0.7	0.2	A
	Subtotal	49	50	101.2%	1.1	0.3	A
SB	Left Turn	7	7	97.1%	2.0	0.6	A
	Through	41	46	113.2%	1.0	0.2	A
	Right Turn	5	5	96.0%	0.7	0.2	A
	Subtotal	53	58	109.4%	1.1	0.2	A
EB	Left Turn	10	12	120.0%	4.4	0.6	A
	Through	4	4	90.0%	3.8	3.3	A
	Right Turn	12	12	96.7%	2.2	1.3	A
	Subtotal	26	27	104.6%	4.0	0.6	A
WB	Left Turn	2	1	60.0%	0.9	1.8	A
	Through	2	1	60.0%	1.7	2.7	A
	Right Turn	7	5	74.3%	1.5	1.0	A
	Subtotal	11	8	69.1%	2.9	1.7	A
Total		139	142	102.4%	1.7	0.3	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing
PM Peak Hour

Intersection 9 N 12th St/Sunbeam Ave-Sproule Ave Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	31	28	91.6%	16.7	5.9	B
	Through	13	10	80.0%	16.6	15.1	B
	Right Turn						
	Subtotal	44	39	88.2%	16.2	5.9	B
SB	Left Turn						
	Through	158	151	95.7%	15.0	2.6	B
	Right Turn	65	68	104.6%	7.5	2.2	A
	Subtotal	223	219	98.3%	12.8	1.9	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	79	80	101.3%	9.2	4.2	A
	Through	1,666	1,623	97.4%	11.1	2.5	B
	Right Turn	7	8	120.0%	9.8	14.4	A
	Subtotal	1,752	1,711	97.7%	11.0	2.4	B
Total		2,019	1,969	97.5%	11.3	2.2	B

Intersection 10 N 16th St/Sproule Ave-Basler St Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	44	40	91.8%	59.1	15.1	E
	Through	3,674	3,140	85.5%	64.5	15.9	E
	Right Turn	5	5	96.0%	76.3	41.4	E
	Subtotal	3,723	3,186	85.6%	64.5	15.9	E
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	232	206	89.0%	48.6	16.8	D
	Through	5	8	160.0%	50.0	34.1	D
	Right Turn						
	Subtotal	237	214	90.5%	48.8	17.1	D
WB	Left Turn						
	Through	5	7	136.0%	28.6	14.7	C
	Right Turn	15	18	117.3%	24.5	10.6	C
	Subtotal	20	24	122.0%	27.1	10.0	C
Total		3,980	3,424	86.0%	63.2	15.4	E

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing
PM Peak Hour

Intersection 11 N12th St/N B St/Dos Rios St Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
0	Left Turn	1,648	1,624	98.5%	16.8	2.2	B
	Through						
	Right Turn	57	53	93.3%	21.3	4.9	C
	Subtotal	1,705	1,677	98.4%	17.0	2.2	B
SB	Left Turn	5	5	104.0%	20.9	19.3	C
	Through	29	28	97.9%	36.9	14.7	D
	Right Turn	7	8	120.0%	18.5	15.0	B
	Subtotal	41	42	102.4%	32.2	8.9	C
EB	Left Turn	3	2	80.0%	31.7	21.1	C
	Through	215	230	106.8%	28.0	4.9	C
	Right Turn	82	88	107.8%	15.8	3.3	B
	Subtotal	300	320	106.8%	24.7	4.4	C
WB	Left Turn	53	52	98.9%	46.9	12.1	D
	Through	78	75	95.9%	22.9	5.5	C
	Right Turn	14	14	97.1%	27.1	17.5	C
	Subtotal	145	141	97.1%	31.9	6.8	C
Total		2,191	2,180	99.5%	19.4	1.8	B

Intersection 12 N 16th St/N B St Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	48	44	91.7%	15.5	3.3	B
	Through	3,349	3,243	96.8%	12.8	2.8	B
	Right Turn	2	2	100.0%	1.3	2.4	A
	Subtotal	3,399	3,289	96.8%	12.8	2.8	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	259	263	101.5%	38.9	8.3	D
	Through	3	4	146.7%	24.7	19.2	C
	Right Turn						
	Subtotal	262	267	102.0%	38.8	8.4	D
WB	Left Turn						
	Through	10	12	116.0%	34.6	21.9	C
	Right Turn	3	4	146.7%	4.7	8.6	A
	Subtotal	13	16	123.1%	30.5	21.4	C
Total		3,674	3,572	97.2%	14.9	2.9	B

Intersection 1

I-5 SB Ramps/Richards Blvd

Signal

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
EB	Through	1,225	100	11	150	26	150	27	0%	0%
	Through/Right	1,225	75	16	100	26	125	32	0%	0%
SB	Left Turn	325	175	21	250	39	250	47	0%	0%
	Left/Through	1,500	225	29	300	79	300	80	0%	0%
	Right Turn	325	100	18	175	70	200	98	0%	0%
WB	Left Turn	1,275	50	14	75	31	100	26	0%	0%
	Through	275	50	12	100	28	100	26	0%	0%
0										

Intersection 2

I-5 NB Ramps/Richards Blvd

Signal

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
EB	Left Turn	275	125	27	200	60	200	52	0%	0%
	Through	325	100	20	150	46	150	42	0%	0%
NB	Left/Through	325	50	16	100	62	100	86	0%	0%
	Right Turn	1,175	250	40	325	86	350	111	2%	0%
WB	Through	225	100	22	200	50	200	47	0%	1%
0										

Intersection 1

I-5 SB Ramps/Richards Blvd

Signal

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
EB	Through	1,225	225	82	450	121	425	93	24%	0%
	Through/Right	1,225	150	67	300	120	325	112	0%	0%
SB	Left Turn	325	125	12	175	15	175	15	0%	0%
	Left/Through	1,500	150	12	225	24	200	28	0%	0%
	Right Turn	325	75	13	125	34	125	42	0%	0%
WB	Left Turn	1,275	200	20	225	28	225	28	0%	0%
	Through	275	200	27	275	33	275	25	0%	0%
0										

Intersection 2

I-5 NB Ramps/Richards Blvd

Signal

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
EB	Left Turn	275	250	14	275	14	275	11	0%	3%
	Through	325	50	10	100	25	100	32	0%	0%
NB	Left/Through	325	75	14	100	24	100	30	0%	0%
	Right Turn	1,175	100	30	150	50	150	52	0%	0%
WB	Through	225	225	11	275	28	250	9	0%	19%
	Right Turn	225	75	37	200	91	225	79	0%	1%
0										

Appendix B

Existing Plus Project Conditions

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing Plus Project
AM Peak Hour

Intersection 1 **I-5 SB Ramps/Richards Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	659	640	97.1%	27.7	1.9	C
	Through	12	12	103.3%	22.5	9.8	C
	Right Turn	333	337	101.3%	9.4	1.5	A
	Subtotal	1,004	989	98.5%	21.4	1.4	C
EB	Left Turn						
	Through	361	387	107.1%	24.2	2.6	C
	Right Turn	45	39	86.2%	3.4	2.0	A
	Subtotal	406	426	104.8%	22.3	2.4	C
WB	Left Turn	282	254	90.2%	6.4	1.8	A
	Through	233	231	99.2%	5.0	1.3	A
	Right Turn						
	Subtotal	515	486	94.3%	5.8	1.5	A
Total		1,925	1,900	98.7%	17.6	0.9	B

Intersection 2 **I-5 NB Ramps/Richards Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	50	50	100.0%	21.2	5.0	C
	Through	8	8	100.0%	13.6	13.6	B
	Right Turn	858	899	104.8%	29.1	9.3	C
	Subtotal	916	957	104.5%	28.6	9.1	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	156	141	90.3%	17.4	5.0	B
	Through	864	857	99.2%	10.2	3.7	B
	Right Turn						
	Subtotal	1,020	998	97.8%	11.2	3.1	B
WB	Left Turn						
	Through	465	431	92.6%	19.2	5.0	B
	Right Turn	306	276	90.3%	3.1	0.4	A
	Subtotal	771	707	91.7%	13.0	3.2	B
Total		2,707	2,662	98.4%	18.1	3.9	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing Plus Project
AM Peak Hour

Intersection 3 **N 7th St/Richards Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	34	28	83.5%	33.5	9.9	C
	Through	41	33	80.0%	35.4	9.9	D
	Right Turn	34	38	110.6%	16.9	9.6	B
	Subtotal	109	99	90.6%	27.8	7.0	C
SB	Left Turn	6	7	113.3%	25.4	20.6	C
	Through	9	8	93.3%	33.0	18.4	C
	Right Turn	26	24	90.8%	34.1	10.0	C
	Subtotal	41	39	94.6%	33.5	7.9	C
EB	Left Turn	137	127	92.6%	40.6	5.9	D
	Through	916	894	97.6%	26.1	5.8	C
	Right Turn	112	112	100.0%	25.5	7.9	C
	Subtotal	1,165	1,133	97.3%	27.8	5.3	C
WB	Left Turn	232	221	95.2%	37.3	4.4	D
	Through	608	582	95.7%	17.5	2.8	B
	Right Turn	15	15	98.7%	16.8	10.4	B
	Subtotal	855	818	95.6%	22.9	2.6	C
Total		2,170	2,088	96.2%	26.0	3.5	C

Intersection 4 **N 10th St/Richards Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	17	18	108.2%	32.9	10.3	C
	Through	32	32	101.3%	33.1	8.5	C
	Right Turn	12	12	100.0%	5.1	2.0	A
	Subtotal	61	63	103.0%	27.8	5.5	C
SB	Left Turn	10	7	68.0%	36.6	29.3	D
	Through	8	10	120.0%	30.5	11.6	C
	Right Turn	27	24	90.4%	4.9	2.7	A
	Subtotal	45	41	90.7%	18.2	7.6	B
EB	Left Turn	134	130	97.0%	38.9	6.6	D
	Through	787	777	98.7%	10.2	3.6	B
	Right Turn	35	35	100.6%	7.4	2.2	A
	Subtotal	956	942	98.5%	14.1	2.0	B
WB	Left Turn	15	13	85.3%	39.0	18.9	D
	Through	911	854	93.8%	9.0	1.8	A
	Right Turn	52	50	96.9%	7.7	1.9	A
	Subtotal	978	918	93.8%	9.3	1.7	A
Total		2,040	1,963	96.2%	12.4	1.1	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing Plus Project
AM Peak Hour

Intersection 5 Dos Rios St/Richards Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	48	44	91.7%	31.8	11.4	C
	Through	7	8	108.6%	20.9	18.9	C
	Right Turn	88	88	100.5%	11.4	3.9	B
	Subtotal	143	140	97.9%	18.4	6.1	B
SB	Left Turn	41	35	85.9%	32.9	11.3	C
	Through	11	12	105.5%	31.3	16.5	C
	Right Turn	20	18	90.0%	8.9	3.4	A
	Subtotal	72	65	90.0%	26.1	8.7	C
EB	Left Turn	26	25	95.4%	40.8	8.2	D
	Through	750	721	96.2%	12.9	2.2	B
	Right Turn	33	31	94.5%	7.7	2.9	A
	Subtotal	809	777	96.1%	13.5	2.0	B
WB	Left Turn	46	45	98.3%	40.3	7.7	D
	Through	910	872	95.8%	14.1	2.3	B
	Right Turn	27	30	112.6%	13.6	5.8	B
	Subtotal	983	947	96.4%	15.3	2.3	B
Total		2,007	1,929	96.1%	15.1	1.8	B

Intersection 6 Vine St/Richards Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	19	25	132.6%	33.3	11.0	D
	Through						
	Right Turn	7	5	74.3%	3.7	5.1	A
	Subtotal	26	30	116.9%	29.4	11.7	D
EB	Left Turn	9	8	84.4%	10.7	6.7	B
	Through	863	808	93.6%	4.8	2.4	A
	Right Turn						
	Subtotal	872	815	93.5%	4.8	2.5	A
WB	Left Turn						
	Through	976	939	96.2%	5.6	0.1	A
	Right Turn	94	85	90.6%	5.4	0.2	A
	Subtotal	1,070	1,024	95.7%	5.6	0.1	A
Total		1,968	1,870	95.0%	5.7	1.1	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing Plus Project
AM Peak Hour

Intersection 7 N 12th St-N 16th St/Richards Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	73	61	83.8%	55.1	9.6	E
	Through						
	Right Turn	1,098	1,082	98.5%	23.9	7.1	C
	Subtotal	1,171	1,143	97.6%	25.5	6.7	C
SB	Left Turn						
	Through						
	Right Turn	3,288	3,174	96.5%	32.1	5.8	C
	Subtotal	3,288	3,174	96.5%	32.1	5.8	C
EB	Left Turn	789	706	89.5%	48.8	9.3	D
	Through						
	Right Turn	22	24	110.9%	10.2	4.6	B
	Subtotal	811	730	90.1%	47.5	9.1	D
WB	Left Turn						
	Through	1	0	40.0%	10.9	34.4	B
	Right Turn	2	3	140.0%	34.6	46.4	C
	Subtotal	3	3	106.7%	45.0	50.5	D
Total		5,273	5,051	95.8%	32.9	4.7	C

Intersection 8 Dos Rios St/N D St Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	4	2	60.0%	1.7	1.4	A
	Through	31	29	94.2%	0.6	0.3	A
	Right Turn						
	Subtotal	35	32	90.3%	0.9	0.4	A
SB	Left Turn						
	Through	64	58	90.0%	1.5	0.5	A
	Right Turn	13	14	110.8%	1.4	0.5	A
	Subtotal	77	72	93.5%	1.5	0.5	A
EB	Left Turn	4	3	80.0%	2.5	2.1	A
	Through						
	Right Turn	7	8	114.3%	1.9	1.1	A
	Subtotal	11	11	101.8%	2.9	0.7	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		123	115	93.3%	1.4	0.3	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing Plus Project
AM Peak Hour

Intersection 9 **N 12th St/Sunbeam Ave-Sproule Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	30	26	85.3%	15.4	5.4	B
	Through	13	16	123.1%	14.0	7.1	B
	Right Turn						
	Subtotal	43	42	96.7%	15.7	4.6	B
SB	Left Turn						
	Through	25	20	80.0%	18.0	7.1	B
	Right Turn	33	36	110.3%	8.8	8.0	A
	Subtotal	58	56	97.2%	11.4	4.7	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	44	44	100.0%	10.9	7.9	B
	Through	2,303	2,207	95.8%	15.1	5.4	B
	Right Turn	8	4	50.0%	6.0	8.5	A
	Subtotal	2,355	2,255	95.7%	15.0	5.4	B
Total		2,456	2,353	95.8%	14.9	5.2	B

Intersection 10 **N 16th St/Sproule Ave-Basler St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	24	22	90.0%	13.1	3.3	B
	Through	1,090	1,083	99.3%	12.5	0.6	B
	Right Turn	5	4	72.0%	3.8	2.9	A
	Subtotal	1,119	1,108	99.0%	12.5	0.5	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	58	55	95.2%	14.4	4.3	B
	Through	9	10	111.1%	12.7	8.3	B
	Right Turn						
	Subtotal	67	65	97.3%	14.5	4.3	B
WB	Left Turn						
	Through	8	10	125.0%	13.6	8.6	B
	Right Turn	10	8	76.0%	2.3	2.3	A
	Subtotal	18	18	97.8%	9.8	5.4	A
Total		1,204	1,191	98.9%	12.6	0.5	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing Plus Project
AM Peak Hour

Intersection 11 **N12th St/N B St/Dos Rios St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
0	Left Turn	2,303	2,195	95.3%	16.1	3.9	B
	Through						
	Right Turn	150	143	95.5%	19.5	4.4	B
	Subtotal	2,453	2,338	95.3%	16.4	3.9	B
SB	Left Turn	2	2	80.0%	28.9	39.7	C
	Through	29	26	91.0%	62.5	10.8	E
	Right Turn	10	8	80.0%	29.3	18.1	C
	Subtotal	41	36	87.8%	56.9	8.5	E
EB	Left Turn	8	8	95.0%	33.9	20.6	C
	Through	47	48	103.0%	34.5	9.4	C
	Right Turn	47	48	102.1%	17.1	6.1	B
	Subtotal	102	104	102.0%	27.7	6.8	C
WB	Left Turn	30	37	122.7%	45.9	11.0	D
	Through	85	87	102.1%	41.7	5.5	D
	Right Turn	24	23	95.0%	37.1	12.3	D
	Subtotal	139	146	105.3%	41.7	5.5	D
Total		2,735	2,625	96.0%	18.7	3.7	B

Intersection 12 **N 16th St/N B St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	121	126	104.1%	8.1	0.4	A
	Through	1,130	1,124	99.5%	5.9	0.5	A
	Right Turn	6	6	93.3%	1.2	1.5	A
	Subtotal	1,257	1,256	99.9%	6.1	0.5	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	47	45	96.2%	17.4	4.3	B
	Through	6	4	73.3%	9.2	9.5	A
	Right Turn						
	Subtotal	53	50	93.6%	17.2	4.1	B
WB	Left Turn						
	Through	6	4	73.3%	11.6	10.9	B
	Right Turn	2	4	180.0%	1.6	2.0	A
	Subtotal	8	8	100.0%	11.4	8.6	B
Total		1,318	1,313	99.6%	6.5	0.5	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing Plus Project
AM Peak Hour

Intersection 17 N 12th St/Project Driveway Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	2,338	2,242	95.9%	1.9	0.3	A
	Right Turn	28	27	97.1%	2.0	0.7	A
	Subtotal	2,366	2,270	95.9%	1.9	0.3	A
EB	Left Turn						
	Through						
	Right Turn	27	29	108.1%	12.1	5.1	B
	Subtotal	27	29	108.1%	12.1	5.1	B
WB	Left Turn						
	Through						
	Right Turn	8	8	100.0%	0.0	0.0	A
	Subtotal	8	8	100.0%	0.0	0.0	A
Total		2,401	2,307	96.1%	2.1	0.3	A

Intersection 18 Project Driveway/Sproule Ave Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	3	6	186.7%	2.4	2.1	A
	Through						
	Right Turn	10	8	80.0%	1.7	1.0	A
	Subtotal	13	14	104.6%	2.7	1.1	A
EB	Left Turn	5	4	72.0%	1.1	0.8	A
	Through	64	61	95.0%	0.7	0.2	A
	Right Turn						
	Subtotal	69	64	93.3%	0.8	0.2	A
WB	Left Turn						
	Through	33	34	101.8%	0.7	0.4	A
	Right Turn	1	1	120.0%	0.0	0.0	A
	Subtotal	34	35	102.4%	0.7	0.4	A
Total		116	113	97.2%	1.0	0.2	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing Plus Project
AM Peak Hour

Intersection 19 N 16th St/Project Driveway Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	2	1	40.0%	0.1	0.3	A
	Through	1,156	1,145	99.0%	1.6	0.1	A
	Right Turn						
	Subtotal	1,158	1,146	98.9%	1.6	0.1	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	15	15	98.7%	5.5	2.1	A
	Through						
	Right Turn						
	Subtotal	15	15	98.7%	5.5	2.1	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,173	1,160	98.9%	1.7	0.1	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing Plus Project
PM Peak Hour

Intersection 1 **I-5 SB Ramps/Richards Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	321	301	93.7%	27.9	2.4	C
	Through	69	72	104.9%	29.4	5.4	C
	Right Turn	272	270	99.4%	10.5	2.2	B
	Subtotal	662	644	97.2%	20.8	1.9	C
EB	Left Turn						
	Through	695	664	95.6%	36.4	10.4	D
	Right Turn	53	60	113.2%	6.2	2.4	A
	Subtotal	748	724	96.8%	34.0	10.2	C
WB	Left Turn	672	600	89.3%	21.4	2.1	C
	Through	529	434	82.1%	15.0	2.0	B
	Right Turn						
	Subtotal	1,201	1,035	86.2%	18.8	1.2	B
Total		2,611	2,403	92.0%	24.0	3.2	C

Intersection 2 **I-5 NB Ramps/Richards Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	59	65	110.5%	25.4	4.2	C
	Through	10	12	116.0%	28.4	9.8	C
	Right Turn	439	438	99.7%	12.3	2.8	B
	Subtotal	508	514	101.3%	14.3	2.3	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	420	403	96.0%	55.5	3.0	E
	Through	596	580	97.3%	5.4	1.1	A
	Right Turn						
	Subtotal	1,016	983	96.8%	26.0	2.8	C
WB	Left Turn						
	Through	1,142	929	81.4%	28.4	2.4	C
	Right Turn	798	638	79.9%	4.7	0.4	A
	Subtotal	1,940	1,567	80.8%	18.7	1.7	B
Total		3,464	3,065	88.5%	20.3	1.2	C

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing Plus Project
PM Peak Hour

Intersection 3 **N 7th St/Richards Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	117	122	104.3%	37.0	6.7	D
	Through	8	9	110.0%	52.3	18.6	D
	Right Turn	137	148	108.0%	14.7	4.3	B
	Subtotal	262	279	106.4%	25.4	5.6	C
SB	Left Turn	53	51	96.6%	31.3	5.5	C
	Through	67	71	106.3%	33.9	5.3	C
	Right Turn	92	93	101.3%	36.0	7.0	D
	Subtotal	212	216	101.7%	34.2	3.1	C
EB	Left Turn	11	12	109.1%	49.3	15.4	D
	Through	858	807	94.0%	27.6	4.8	C
	Right Turn	83	80	95.9%	24.4	5.0	C
	Subtotal	952	898	94.4%	27.7	4.6	C
WB	Left Turn	114	108	94.7%	48.6	10.5	D
	Through	1,109	1,098	99.0%	23.5	6.6	C
	Right Turn	11	12	109.1%	29.2	13.8	C
	Subtotal	1,234	1,218	98.7%	25.9	6.8	C
Total		2,660	2,611	98.2%	27.2	4.0	C

Intersection 4 **N 10th St/Richards Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	31	35	112.3%	39.5	9.6	D
	Through	5	4	80.0%	20.6	20.3	C
	Right Turn	19	19	101.1%	8.1	3.8	A
	Subtotal	55	58	105.5%	28.0	8.0	C
SB	Left Turn	89	93	104.7%	29.3	5.4	C
	Through	63	67	106.7%	25.7	6.2	C
	Right Turn	134	134	99.7%	9.2	2.1	A
	Subtotal	286	294	102.8%	19.6	2.5	B
EB	Left Turn	35	34	96.0%	38.0	6.6	D
	Through	960	918	95.7%	11.2	3.3	B
	Right Turn	53	46	86.0%	8.1	2.4	A
	Subtotal	1,048	998	95.2%	12.0	3.2	B
WB	Left Turn	7	10	137.1%	25.8	21.3	C
	Through	990	968	97.7%	8.8	1.3	A
	Right Turn	18	18	102.2%	8.6	6.5	A
	Subtotal	1,015	996	98.1%	9.0	1.4	A
Total		2,404	2,345	97.6%	12.1	1.6	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing Plus Project
PM Peak Hour

Intersection 5 Dos Rios St/Richards Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	36	32	87.8%	32.8	6.6	C
	Through	5	6	128.0%	35.0	24.9	C
	Right Turn	71	67	94.6%	12.0	5.6	B
	Subtotal	112	105	93.9%	19.8	5.1	B
SB	Left Turn	30	28	94.7%	27.8	8.7	C
	Through	9	9	102.2%	25.8	18.8	C
	Right Turn	26	24	90.8%	10.0	4.5	B
	Subtotal	65	61	94.2%	21.9	7.7	C
EB	Left Turn	13	9	70.8%	43.0	22.6	D
	Through	1,011	951	94.1%	13.7	3.2	B
	Right Turn	44	52	118.2%	11.5	3.7	B
	Subtotal	1,068	1,012	94.8%	13.9	3.1	B
WB	Left Turn	49	42	84.9%	42.9	7.1	D
	Through	953	951	99.8%	11.2	1.6	B
	Right Turn	6	6	100.0%	13.6	10.2	B
	Subtotal	1,008	998	99.0%	12.5	1.9	B
Total		2,253	2,177	96.6%	13.8	2.1	B

Intersection 6 Vine St/Richards Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	29	27	93.8%	65.6	73.8	F
	Through						
	Right Turn	9	11	120.0%	35.1	72.7	E
	Subtotal	38	38	100.0%	57.9	76.2	F
EB	Left Turn	11	9	80.0%	10.4	5.0	B
	Through	1,085	1,012	93.3%	4.1	1.4	A
	Right Turn						
	Subtotal	1,096	1,021	93.1%	4.1	1.3	A
WB	Left Turn						
	Through	999	986	98.7%	5.2	0.0	A
	Right Turn	33	30	89.7%	5.0	0.2	A
	Subtotal	1,032	1,016	98.4%	5.2	0.0	A
Total		2,166	2,074	95.8%	5.5	1.3	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing Plus Project
PM Peak Hour

Intersection 7 N 12th St-N 16th St/Richards Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	77	64	82.6%	101.0	13.9	F
	Through						
	Right Turn	3,866	3,117	80.6%	85.2	10.9	F
	Subtotal	3,943	3,181	80.7%	85.5	10.9	F
SB	Left Turn						
	Through						
	Right Turn	2,576	2,584	100.3%	21.6	2.3	C
	Subtotal	2,576	2,584	100.3%	21.6	2.3	C
EB	Left Turn	797	702	88.0%	47.2	10.7	D
	Through						
	Right Turn	124	124	100.0%	9.3	4.0	A
	Subtotal	921	826	89.6%	41.4	9.2	D
WB	Left Turn						
	Through	4	0	0.0%	461.2	335.8	F
	Right Turn	8	5	60.0%	45.4	48.5	D
	Subtotal	12	5	40.0%	22.7	40.2	C
Total		7,452	6,595	88.5%	54.7	5.1	D

Intersection 8 Dos Rios St/N D St Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	9	6	62.2%	1.7	1.3	A
	Through	38	38	101.1%	1.0	0.5	A
	Right Turn						
	Subtotal	47	44	93.6%	1.2	0.6	A
SB	Left Turn						
	Through	47	43	91.9%	1.2	0.5	A
	Right Turn	5	6	120.0%	1.1	0.4	A
	Subtotal	52	49	94.6%	1.2	0.5	A
EB	Left Turn	13	8	64.6%	4.7	2.3	A
	Through						
	Right Turn	12	11	90.0%	2.1	0.8	A
	Subtotal	25	19	76.8%	3.3	0.5	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		124	112	90.6%	1.6	0.3	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing Plus Project
PM Peak Hour

Intersection 9 **N 12th St/Sunbeam Ave-Sproule Ave** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	55	43	77.8%	26.4	7.3	C
	Through	13	16	126.2%	19.4	11.1	B
	Right Turn						
	Subtotal	68	59	87.1%	24.7	6.5	C
SB	Left Turn						
	Through	158	149	94.2%	19.6	6.6	B
	Right Turn	65	69	106.5%	8.8	4.2	A
	Subtotal	223	218	97.8%	16.2	5.4	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	96	84	87.1%	14.5	5.6	B
	Through	1,690	1,653	97.8%	20.7	6.4	C
	Right Turn	7	5	68.6%	12.7	14.3	B
	Subtotal	1,793	1,742	97.1%	20.4	6.3	C
Total		2,084	2,019	96.9%	20.1	5.9	C

Intersection 10 **N 16th St/Sproule Ave-Basler St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	66	51	77.0%	57.9	20.5	E
	Through	3,691	3,188	86.4%	65.2	23.3	E
	Right Turn	5	4	88.0%	56.9	37.9	E
	Subtotal	3,762	3,243	86.2%	65.1	23.2	E
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	234	188	80.5%	69.6	25.6	E
	Through	5	5	96.0%	38.8	40.8	D
	Right Turn						
	Subtotal	239	193	80.8%	69.7	24.9	E
WB	Left Turn						
	Through	5	4	72.0%	23.4	28.4	C
	Right Turn	15	13	85.3%	44.1	24.0	D
	Subtotal	20	16	82.0%	46.1	23.3	D
Total		4,021	3,453	85.9%	65.0	22.0	E

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing Plus Project
PM Peak Hour

Intersection 11 **N12th St/N B St/Dos Rios St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
0	Left Turn	1,662	1,659	99.8%	18.6	4.1	B
	Through						
	Right Turn	58	48	82.1%	19.7	8.0	B
	Subtotal	1,720	1,707	99.2%	18.6	4.2	B
SB	Left Turn	5	2	40.0%	16.5	30.6	B
	Through	34	28	82.4%	57.4	13.8	E
	Right Turn	8	10	125.0%	25.9	22.1	C
	Subtotal	47	40	85.1%	48.1	14.0	D
EB	Left Turn	3	3	106.7%	39.0	24.8	D
	Through	217	226	104.3%	51.0	7.4	D
	Right Turn	82	71	86.3%	21.2	7.0	C
	Subtotal	302	300	99.5%	44.0	7.1	D
WB	Left Turn	53	52	98.1%	75.3	35.6	E
	Through	78	72	92.8%	38.1	7.0	D
	Right Turn	14	16	111.4%	43.3	17.4	D
	Subtotal	145	140	96.6%	53.4	15.0	D
Total		2,214	2,187	98.8%	24.8	4.0	C

Intersection 12 **N 16th St/N B St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	48	49	102.5%	17.4	5.2	B
	Through	3,386	3,267	96.5%	14.9	5.1	B
	Right Turn	2	3	160.0%	13.7	21.1	B
	Subtotal	3,436	3,319	96.6%	15.0	5.1	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	261	255	97.8%	41.3	4.2	D
	Through	3	4	146.7%	19.4	17.0	B
	Right Turn						
	Subtotal	264	260	98.3%	41.1	4.2	D
WB	Left Turn						
	Through	10	6	64.0%	20.6	12.8	C
	Right Turn	3	4	133.3%	4.8	6.1	A
	Subtotal	13	10	80.0%	14.5	8.5	B
Total		3,713	3,589	96.7%	16.8	4.9	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing Plus Project
PM Peak Hour

Intersection 17 **N 12th St/Project Driveway** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	1,748	1,713	98.0%	2.4	0.3	A
	Right Turn	62	57	92.3%	2.5	0.6	A
	Subtotal	1,810	1,770	97.8%	2.4	0.3	A
EB	Left Turn						
	Through						
	Right Turn	19	25	130.5%	7.5	2.8	A
	Subtotal	19	25	130.5%	7.5	2.8	A
WB	Left Turn						
	Through						
	Right Turn	8	8	95.0%	0.0	0.0	A
	Subtotal	8	8	95.0%	0.0	0.0	A
Total		1,837	1,802	98.1%	2.4	0.3	A

Intersection 18 **Project Driveway/Sproule Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	2	1	40.0%	1.3	3.0	A
	Through						
	Right Turn	6	10	160.0%	2.2	0.8	A
	Subtotal	8	10	130.0%	3.2	2.1	A
EB	Left Turn	17	17	98.8%	2.8	0.8	A
	Through	237	217	91.5%	1.5	0.4	A
	Right Turn						
	Subtotal	254	234	92.0%	1.5	0.5	A
WB	Left Turn						
	Through	62	51	81.9%	2.2	1.6	A
	Right Turn	5	4	72.0%	0.1	0.1	A
	Subtotal	67	54	81.2%	2.1	1.6	A
Total		329	298	90.7%	1.7	0.5	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Existing Plus Project
PM Peak Hour

Intersection 19 **N 16th St/Project Driveway** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	5	5	96.0%	8.8	8.9	A
	Through	3,935	3,334	84.7%	14.1	2.8	B
	Right Turn						
	Subtotal	3,940	3,338	84.7%	14.1	2.8	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	8	6	80.0%	173.8	130.4	F
	Through						
	Right Turn						
	Subtotal	8	6	80.0%	159.7	141.5	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,948	3,345	84.7%	14.4	3.0	B

Intersection 1 I-5 SB Ramps/Richards Blvd

Signal

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
EB	Through	1,225	100	17	150	31	150	36	0%	0%
	Through/Right	1,225	75	6	125	22	125	28	0%	0%
SB	Left Turn	325	150	20	225	32	225	35	0%	0%
	Left/Through	1,500	200	15	250	20	250	23	0%	0%
	Right Turn	325	75	13	125	21	125	23	0%	0%
WB	Left Turn	1,275	50	16	100	29	100	28	0%	0%
	Through	275	50	16	100	38	100	53	0%	0%
0										

Intersection 2 I-5 NB Ramps/Richards Blvd

Signal

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
EB	Left Turn	275	100	25	175	45	175	48	0%	0%
	Through	325	100	30	175	45	150	54	0%	0%
NB	Left/Through	325	50	27	125	98	125	113	0%	0%
	Right Turn	1,175	250	61	375	116	400	108	5%	0%
WB	Through	225	100	31	175	48	175	47	0%	0%
0										

Intersection 18

Project Driveway/Sproule Ave

Side-street Stop

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
SB	Shared	150	25	6	50	13	50	10	0%	0%
0										
0										
0										

Intersection 1 I-5 SB Ramps/Richards Blvd

Signal

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
EB	Through	1,225	225	114	400	193	400	149	20%	0%
	Through/Right	1,225	150	77	300	177	300	161	0%	0%
SB	Left Turn	325	100	26	175	53	175	47	0%	0%
	Left/Through	1,500	150	16	225	31	225	32	0%	0%
	Right Turn	325	75	12	150	23	150	25	0%	0%
WB	Left Turn	1,275	200	25	250	21	250	18	0%	0%
	Through	275	200	28	275	40	250	35	0%	0%
0										

Intersection 2 I-5 NB Ramps/Richards Blvd

Signal

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
EB	Left Turn	275	250	19	275	12	275	12	0%	2%
	Through	325	50	10	100	22	100	26	0%	0%
NB	Left/Through	325	50	12	100	22	100	28	0%	0%
	Right Turn	1,175	100	17	175	43	175	53	0%	0%
WB	Through	225	225	24	275	15	250	13	0%	18%
	Right Turn	225	50	67	125	140	175	117	0%	2%
0										

Intersection 18

Project Driveway/Sproule Ave

Side-street Stop

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
EB	Left/Through	200	25	4	25	18	25	25	0%	0%
SB	Shared	150	25	6	50	9	50	1	0%	0%
WB	Through/Right	325	25	17	50	84	50	117	0%	0%
0										

Appendix C
Cumulative Conditions

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
AM Peak Hour

Intersection 1 I-5 SB Ramps/Richards Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	1,780	1,082	60.8%	223.7	49.2	F
	Through	10	8	80.0%	203.9	67.2	F
	Right Turn	300	207	69.1%	157.2	44.4	F
	Subtotal	2,090	1,297	62.0%	212.9	47.9	F
EB	Left Turn						
	Through	270	263	97.5%	62.5	21.8	E
	Right Turn	60	60	100.7%	36.8	28.6	D
	Subtotal	330	324	98.1%	57.5	23.1	E
WB	Left Turn	440	364	82.6%	12.9	3.0	B
	Through	180	139	77.3%	9.3	2.6	A
	Right Turn						
	Subtotal	620	503	81.1%	11.8	2.6	B
Total		3,040	2,123	69.8%	140.9	28.4	F

Intersection 2 I-5 NB Ramps/Richards Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	80	60	74.5%	178.7	62.7	F
	Through	10	8	76.0%	227.1	211.7	F
	Right Turn	1,220	838	68.7%	172.3	58.7	F
	Subtotal	1,310	905	69.1%	173.6	59.3	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	120	114	95.0%	12.8	2.0	B
	Through	1,930	1,192	61.8%	46.7	5.8	D
	Right Turn						
	Subtotal	2,050	1,306	63.7%	43.7	5.6	D
WB	Left Turn						
	Through	540	436	80.7%	24.2	3.2	C
	Right Turn	550	476	86.5%	10.6	1.7	B
	Subtotal	1,090	912	83.6%	17.2	2.4	B
Total		4,450	3,123	70.2%	71.5	14.5	E

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
AM Peak Hour

Intersection 3 N 7th St/Richards Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	112	118	105.0%	47.4	5.9	D
	Through	230	228	99.3%	40.7	15.3	D
	Right Turn	10	11	112.0%	30.7	29.6	C
	Subtotal	352	357	101.5%	42.6	10.7	D
SB	Left Turn	30	28	94.7%	46.7	10.9	D
	Through	200	203	101.4%	38.6	3.7	D
	Right Turn	20	20	98.0%	29.0	17.5	C
	Subtotal	250	251	100.3%	39.3	4.2	D
EB	Left Turn	150	101	67.5%	52.1	11.5	D
	Through	1,110	743	66.9%	44.3	5.9	D
	Right Turn	180	110	60.9%	41.3	10.4	D
	Subtotal	1,440	954	66.2%	45.0	6.0	D
WB	Left Turn	360	244	67.8%	58.8	5.7	E
	Through	930	638	68.6%	30.6	4.7	C
	Right Turn	50	34	68.0%	25.6	9.4	C
	Subtotal	1,340	916	68.4%	37.9	4.0	D
Total		3,382	2,478	73.3%	41.4	3.3	D

Intersection 4 N 10th St/Richards Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	10	8	80.0%	22.8	15.0	C
	Through	40	43	107.0%	23.2	5.9	C
	Right Turn	290	298	102.9%	14.5	6.9	B
	Subtotal	340	349	102.7%	15.9	6.1	B
SB	Left Turn	160	154	96.3%	46.4	14.2	D
	Through	20	15	76.0%	18.7	10.4	B
	Right Turn	40	37	93.0%	10.7	8.7	B
	Subtotal	220	206	93.8%	37.7	11.1	D
EB	Left Turn	120	87	72.3%	46.8	7.0	D
	Through	930	594	63.9%	24.1	4.9	C
	Right Turn	10	5	48.0%	18.3	15.7	B
	Subtotal	1,060	686	64.7%	27.0	4.4	C
WB	Left Turn	230	151	65.7%	39.9	3.8	D
	Through	1,450	1,001	69.0%	18.3	4.9	B
	Right Turn	100	76	75.6%	17.9	5.9	B
	Subtotal	1,780	1,228	69.0%	21.0	4.4	C
Total		3,400	2,469	72.6%	23.3	3.9	C

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
AM Peak Hour

Intersection 5 Dos Rios St/Richards Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	50	43	86.4%	49.8	11.9	D
	Through	10	10	96.0%	44.7	20.7	D
	Right Turn	20	21	106.0%	22.7	13.3	C
	Subtotal	80	74	92.5%	41.6	10.8	D
SB	Left Turn	70	70	100.6%	52.3	12.5	D
	Through	10	9	88.0%	36.0	22.3	D
	Right Turn	70	68	97.7%	13.9	3.3	B
	Subtotal	150	148	98.4%	34.2	9.2	C
EB	Left Turn	60	42	69.3%	79.4	30.4	E
	Through	1,280	866	67.6%	61.3	29.8	E
	Right Turn	40	29	72.0%	59.8	36.0	E
	Subtotal	1,380	936	67.8%	62.1	29.4	E
WB	Left Turn	80	62	77.5%	45.9	11.2	D
	Through	1,660	1,188	71.6%	19.7	4.8	B
	Right Turn	30	18	60.0%	17.6	10.7	B
	Subtotal	1,770	1,268	71.7%	20.9	4.6	C
Total		3,380	2,426	71.8%	37.8	10.8	D

Intersection 6 Street W/Vine St Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	20	20	100.0%	44.0	26.1	D
	Through	70	55	78.9%	52.0	33.7	D
	Right Turn	80	68	85.0%	53.8	32.1	D
	Subtotal	170	143	84.2%	51.7	29.9	D
SB	Left Turn	60	61	102.0%	63.6	40.5	E
	Through	30	36	120.0%	51.1	35.4	D
	Right Turn	10	12	120.0%	46.5	64.9	D
	Subtotal	100	109	109.2%	56.7	40.0	E
EB	Left Turn	10	8	80.0%	25.1	20.5	C
	Through	230	202	87.8%	136.0	68.4	F
	Right Turn	10	7	68.0%	102.2	85.4	F
	Subtotal	250	217	86.7%	131.5	66.7	F
WB	Left Turn	200	134	67.2%	30.4	6.5	C
	Through	390	245	62.9%	16.0	4.6	B
	Right Turn	150	97	64.5%	11.1	6.6	B
	Subtotal	740	476	64.4%	19.1	5.1	B
Total		1,260	946	75.0%	54.1	21.8	D

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
AM Peak Hour

Intersection 7 N 16th St/Vine St Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	40	34	86.0%	5.2	4.0	A
	Through						
	Right Turn	2,780	2,492	89.7%	5.8	0.7	A
	Subtotal	2,820	2,527	89.6%	5.8	0.7	A
SB	Left Turn						
	Through						
	Right Turn	4	3	80.0%	41.1	49.9	D
	Subtotal	4	3	80.0%	41.1	49.9	D
EB	Left Turn	330	204	61.7%	111.0	13.6	F
	Through	490	340	69.5%	68.2	5.0	E
	Right Turn						
	Subtotal	820	544	66.3%	84.8	7.7	F
WB	Left Turn						
	Through	120	104	86.7%	73.8	9.2	E
	Right Turn	290	238	82.1%	53.0	9.7	D
	Subtotal	410	342	83.4%	59.2	8.9	E
Total		4,054	3,416	84.3%	23.8	1.4	C

Intersection 8 Dos Rios St/Bannon St Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	50	45	90.4%	2.7	0.6	A
	Through	15	14	96.0%	0.8	0.6	A
	Right Turn	10	7	72.0%	0.7	0.4	A
	Subtotal	75	67	89.1%	2.1	0.3	A
SB	Left Turn	5	2	48.0%	2.2	1.0	A
	Through	110	90	81.5%	2.0	0.6	A
	Right Turn	20	19	94.0%	1.6	0.4	A
	Subtotal	135	111	82.1%	1.9	0.5	A
EB	Left Turn	35	28	81.1%	5.8	1.4	A
	Through	60	55	92.0%	7.0	0.9	A
	Right Turn	10	7	72.0%	2.2	2.1	A
	Subtotal	105	91	86.5%	6.3	0.5	A
WB	Left Turn	20	14	68.0%	6.6	0.9	A
	Through	270	223	82.7%	7.8	0.9	A
	Right Turn	5	5	104.0%	2.2	1.6	A
	Subtotal	295	242	82.0%	7.6	0.9	A
Total		610	510	83.7%	5.4	0.6	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
AM Peak Hour

Intersection 9 N 12th St-Sproule Ave/ Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	50	50	100.0%	108.0	55.1	F
	Through						
	Right Turn						
	Subtotal	50	50	100.0%	108.0	55.1	F
SB	Left Turn						
	Through	90	73	80.9%	8.7	6.3	A
	Right Turn	2,450	1,612	65.8%	6.3	3.1	A
	Subtotal	2,540	1,685	66.3%	6.4	3.1	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,590	1,735	67.0%	9.1	3.1	A

Intersection 10 N 16th St/Sproule Ave-Basler St Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	30	28	93.3%	6.3	2.8	A
	Through	1,785	1,798	100.7%	6.7	1.9	A
	Right Turn	5	2	32.0%	1.4	0.1	A
	Subtotal	1,820	1,827	100.4%	6.7	1.8	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	80	66	83.0%	31.9	6.2	C
	Through	10	8	76.0%	31.9	26.3	C
	Right Turn						
	Subtotal	90	74	82.2%	31.6	7.0	C
WB	Left Turn						
	Through	10	6	64.0%	26.3	20.0	C
	Right Turn	10	10	96.0%	11.9	10.3	B
	Subtotal	20	16	80.0%	21.4	8.4	C
Total		1,930	1,917	99.3%	7.8	1.8	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
AM Peak Hour

Intersection 11 N12th St/N B St/Dos Rios St Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
0	Left Turn	1,780	1,239	69.6%	24.1	2.7	C
	Through						
	Right Turn	560	371	66.3%	28.4	4.3	C
	Subtotal	2,340	1,610	68.8%	25.1	2.9	C
SB	Left Turn						
	Through						
	Right Turn	90	72	79.6%	1.5	0.8	A
	Subtotal	90	72	79.6%	1.5	0.8	A
EB	Left Turn						
	Through	780	778	99.8%	30.2	7.9	C
	Right Turn	350	350	99.9%	37.1	13.0	D
	Subtotal	1,130	1,128	99.8%	32.5	9.6	C
WB	Left Turn	20	14	70.0%	40.3	19.7	D
	Through	470	476	101.2%	14.7	1.1	B
	Right Turn	30	25	84.0%	15.3	5.5	B
	Subtotal	520	515	99.0%	15.7	1.1	B
Total		4,080	3,324	81.5%	25.7	3.4	C

Intersection 12 N 16th St/N B St Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	440	450	102.2%	23.7	4.0	C
	Through	1,050	1,059	100.9%	14.6	1.1	B
	Right Turn	20	23	114.0%	3.9	1.7	A
	Subtotal	1,510	1,532	101.4%	17.2	2.1	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	740	726	98.2%	20.5	2.0	C
	Through	30	24	81.3%	22.6	4.2	C
	Right Turn						
	Subtotal	770	751	97.5%	20.5	2.0	C
WB	Left Turn						
	Through	20	22	112.0%	8.4	3.9	A
	Right Turn	10	14	144.0%	2.9	2.4	A
	Subtotal	30	37	122.7%	6.4	2.4	A
Total		2,310	2,319	100.4%	18.1	1.6	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
AM Peak Hour

Intersection 13

N 12th St/Vine St

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	460	313	68.0%	134.9	15.0	F
	Through	3,580	2,368	66.2%	160.1	6.9	F
	Right Turn	650	377	58.0%	216.9	17.0	F
	Subtotal	4,690	3,058	65.2%	164.6	7.3	F
EB	Left Turn						
	Through	360	323	89.8%	88.8	8.9	F
	Right Turn	10	11	108.0%	82.8	40.8	F
	Subtotal	370	334	90.3%	88.8	8.6	F
WB	Left Turn	70	58	83.4%	58.6	12.1	E
	Through	90	97	107.6%	28.4	8.0	C
	Right Turn						
	Subtotal	160	155	97.0%	39.7	8.7	D
Total		5,220	3,547	68.0%	152.0	6.2	F

Intersection 14

Street W/Richards Blvd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	10	9	88.0%	41.7	25.6	D
	Through	50	48	96.8%	77.0	36.9	E
	Right Turn	90	94	104.0%	78.3	36.2	E
	Subtotal	150	151	100.5%	76.7	34.7	E
SB	Left Turn	10	5	48.0%	43.6	57.7	D
	Through	50	40	80.8%	22.2	6.1	C
	Right Turn	180	130	72.2%	15.5	4.1	B
	Subtotal	240	175	73.0%	18.6	3.2	B
EB	Left Turn	50	29	58.4%	81.1	26.5	F
	Through	1,310	794	60.6%	85.4	25.7	F
	Right Turn	10	5	52.0%	75.4	56.1	E
	Subtotal	1,370	828	60.5%	85.3	25.5	F
WB	Left Turn	130	86	66.5%	44.8	3.9	D
	Through	1,580	1,156	73.1%	9.3	1.3	A
	Right Turn	70	65	93.1%	8.0	2.5	A
	Subtotal	1,780	1,307	73.4%	11.6	1.4	B
Total		3,540	2,462	69.5%	40.6	9.8	D

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
AM Peak Hour

Intersection 15

N 12th St/Richards Blvd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	360	259	72.0%	24.9	7.1	C
	Through	2,240	1,506	67.3%	18.4	2.7	B
	Right Turn	1,060	634	59.8%	17.9	1.8	B
	Subtotal	3,660	2,399	65.6%	19.0	2.0	B
EB	Left Turn						
	Through	1,380	888	64.3%	64.5	10.1	E
	Right Turn	30	19	64.0%	79.0	29.4	E
	Subtotal	1,410	907	64.3%	64.6	10.2	E
WB	Left Turn	270	217	80.4%	144.1	14.8	F
	Through	720	661	91.8%	76.5	6.0	E
	Right Turn						
	Subtotal	990	878	88.7%	93.2	7.3	F
Total		6,060	4,184	69.0%	44.3	2.7	D

Intersection 16

N 16th St/Richards Blvd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	60	64	106.7%	60.9	18.1	E
	Through	1,660	1,728	104.1%	45.0	3.2	D
	Right Turn	160	158	99.0%	20.3	2.1	C
	Subtotal	1,880	1,950	103.7%	43.5	3.2	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	780	444	57.0%	85.3	4.9	F
	Through	960	595	62.0%	41.8	2.5	D
	Right Turn						
	Subtotal	1,740	1,040	59.7%	60.3	3.2	E
WB	Left Turn						
	Through	930	750	80.6%	114.4	26.2	F
	Right Turn	380	313	82.4%	77.7	22.6	E
	Subtotal	1,310	1,063	81.1%	103.8	24.5	F
Total		4,930	4,052	82.2%	63.6	6.5	E

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
AM Peak Hour

Intersection 17 N 12th St/Project Driveway Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	2,485	1,644	66.2%	1.3	0.2	A
	Right Turn	15	11	72.0%	1.2	0.6	A
	Subtotal	2,500	1,655	66.2%	1.3	0.2	A
EB	Left Turn						
	Through						
	Right Turn	20	17	84.0%	17.4	10.2	C
	Subtotal	20	17	84.0%	17.4	10.2	C
WB	Left Turn						
	Through						
	Right Turn	8	6	75.0%	0.0	0.0	A
	Subtotal	8	6	75.0%	0.0	0.0	A
Total		2,528	1,678	66.4%	1.4	0.2	A

Intersection 18 Project Driveway/Sproule Ave Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	5	4	80.0%	2.4	1.7	A
	Through						
	Right Turn	10	16	156.0%	2.6	0.3	A
	Subtotal	15	20	130.7%	2.8	0.4	A
EB	Left Turn	5	4	72.0%	0.9	1.0	A
	Through	85	68	80.5%	0.4	0.3	A
	Right Turn						
	Subtotal	90	72	80.0%	0.5	0.3	A
WB	Left Turn						
	Through	40	34	86.0%	2.2	1.8	A
	Right Turn						
	Subtotal	40	34	86.0%	2.2	1.8	A
Total		145	126	86.9%	1.4	0.7	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
AM Peak Hour

Intersection 19 N 16th St/Project Driveway Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	5	5	96.0%	28.5	51.7	D
	Through	1,870	1,907	102.0%	12.0	2.0	B
	Right Turn						
	Subtotal	1,875	1,912	102.0%	12.1	2.0	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	10	9	92.0%	59.5	46.6	F
	Through						
	Right Turn						
	Subtotal	10	9	92.0%	59.5	46.6	F
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,885	1,921	101.9%	12.3	1.9	B

Intersection 20 Street W/Bannon St Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	10	12	124.0%	4.5	2.6	A
	Through						
	Right Turn	130	134	103.4%	3.7	0.4	A
	Subtotal	140	147	104.9%	3.9	0.4	A
EB	Left Turn	65	58	88.6%	3.7	0.2	A
	Through	10	8	76.0%	1.3	1.2	A
	Right Turn						
	Subtotal	75	65	86.9%	3.5	0.3	A
WB	Left Turn						
	Through	165	106	64.0%	0.3	0.1	A
	Right Turn	5	3	64.0%	0.2	0.2	A
	Subtotal	170	109	64.0%	0.3	0.1	A
Total		385	321	83.3%	2.6	0.3	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
AM Peak Hour

Intersection 21

N 12th St/Bannon St

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	2,335	1,551	66.4%	3.7	0.5	A
	Right Turn	170	109	64.2%	3.9	0.7	A
	Subtotal	2,505	1,660	66.3%	3.7	0.5	A
EB	Left Turn						
	Through						
	Right Turn	20	20	98.0%	13.1	6.1	B
	Subtotal	20	20	98.0%	13.1	6.1	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,525	1,680	66.5%	3.9	0.4	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
PM Peak Hour

Intersection 1 I-5 SB Ramps/Richards Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	850	894	105.2%	33.7	4.9	C
	Through	70	74	105.1%	27.3	4.5	C
	Right Turn	150	147	97.9%	12.0	2.1	B
	Subtotal	1,070	1,115	104.2%	30.4	4.1	C
EB	Left Turn						
	Through	770	583	75.7%	156.4	40.9	F
	Right Turn	150	142	94.9%	11.5	7.6	B
	Subtotal	920	726	78.9%	128.2	35.9	F
WB	Left Turn	730	525	71.9%	49.4	2.3	D
	Through	290	252	86.8%	9.9	1.8	A
	Right Turn						
	Subtotal	1,020	776	76.1%	36.6	2.0	D
Total		3,010	2,617	86.9%	59.3	10.9	E

Intersection 2 I-5 NB Ramps/Richards Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	70	72	102.3%	26.1	5.3	C
	Through	10	13	132.0%	29.6	10.4	C
	Right Turn	470	472	100.4%	16.4	2.6	B
	Subtotal	550	557	101.2%	18.0	1.9	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	660	469	71.1%	28.2	2.1	C
	Through	960	990	103.2%	19.2	9.7	B
	Right Turn						
	Subtotal	1,620	1,460	90.1%	22.1	6.9	C
WB	Left Turn						
	Through	950	724	76.3%	22.2	2.7	C
	Right Turn	1,060	736	69.4%	11.9	2.1	B
	Subtotal	2,010	1,460	72.6%	17.0	2.2	B
Total		4,180	3,476	83.2%	19.3	3.9	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
PM Peak Hour

Intersection 3

N 7th St/Richards Blvd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	292	306	104.8%	48.2	6.0	D
	Through	220	224	101.8%	39.0	3.3	D
	Right Turn	20	24	120.0%	28.3	9.5	C
	Subtotal	532	554	104.1%	43.6	4.0	D
SB	Left Turn	50	52	104.0%	53.0	8.9	D
	Through	240	210	87.5%	45.3	6.3	D
	Right Turn	40	46	116.0%	33.9	10.8	C
	Subtotal	330	308	93.5%	45.0	4.6	D
EB	Left Turn	20	11	56.0%	67.7	38.8	E
	Through	930	759	81.6%	62.2	13.5	E
	Right Turn	180	150	83.3%	65.2	16.9	E
	Subtotal	1,130	920	81.5%	62.9	13.9	E
WB	Left Turn	430	274	63.8%	61.9	13.8	E
	Through	1,110	761	68.6%	25.0	8.7	C
	Right Turn	10	7	72.0%	17.4	16.5	B
	Subtotal	1,550	1,043	67.3%	34.8	9.0	C
Total		3,542	2,826	79.8%	46.8	7.5	D

Intersection 4

N 10th St/Richards Blvd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	10	10	96.0%	29.7	15.2	C
	Through	10	8	80.0%	29.0	38.0	C
	Right Turn	270	261	96.6%	33.5	27.5	C
	Subtotal	290	278	96.0%	33.0	26.6	C
SB	Left Turn	280	209	74.7%	103.9	51.2	F
	Through	70	52	73.7%	82.8	46.1	F
	Right Turn	140	113	80.6%	72.7	58.7	E
	Subtotal	490	374	76.2%	90.9	51.9	F
EB	Left Turn	40	27	67.0%	57.4	21.6	E
	Through	870	613	70.4%	52.0	31.2	D
	Right Turn	60	51	84.7%	35.2	28.5	D
	Subtotal	970	690	71.2%	51.2	30.5	D
WB	Left Turn	310	192	61.9%	45.6	3.4	D
	Through	1,340	879	65.6%	10.5	2.8	B
	Right Turn	100	74	74.0%	7.7	3.5	A
	Subtotal	1,750	1,145	65.4%	16.1	2.8	B
Total		3,500	2,488	71.1%	36.8	13.5	D

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
PM Peak Hour

Intersection 5 Dos Rios St/Richards Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	50	56	112.0%	47.7	12.8	D
	Through	10	12	124.0%	63.5	33.6	E
	Right Turn	80	70	87.0%	35.9	21.2	D
	Subtotal	140	138	98.6%	44.2	17.4	D
SB	Left Turn	40	44	110.0%	56.4	10.0	E
	Through	10	7	68.0%	10.9	15.1	B
	Right Turn	60	69	115.3%	12.6	5.4	B
	Subtotal	110	120	109.1%	30.1	5.1	C
EB	Left Turn	30	23	77.3%	88.0	27.0	F
	Through	1,340	827	61.7%	96.5	41.7	F
	Right Turn	50	25	49.6%	99.2	52.5	F
	Subtotal	1,420	875	61.6%	96.4	40.8	F
WB	Left Turn	50	32	64.0%	47.8	19.2	D
	Through	1,640	990	60.3%	8.6	2.3	A
	Right Turn	40	28	70.0%	6.4	3.3	A
	Subtotal	1,730	1,050	60.7%	9.6	2.3	A
Total		3,400	2,182	64.2%	46.2	13.4	D

Intersection 6 Street W/Vine St Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	10	5	48.0%	126.9	85.1	F
	Through	50	24	48.8%	125.1	61.0	F
	Right Turn	210	112	53.3%	126.5	53.9	F
	Subtotal	270	141	52.3%	126.5	55.3	F
SB	Left Turn	120	73	61.0%	171.9	66.3	F
	Through	110	81	73.5%	159.7	76.0	F
	Right Turn	10	10	100.0%	128.2	91.9	F
	Subtotal	240	164	68.3%	164.7	68.2	F
EB	Left Turn	10	4	36.0%	38.4	46.3	D
	Through	330	123	37.3%	309.6	43.6	F
	Right Turn	40	12	31.0%	286.3	66.5	F
	Subtotal	380	139	36.6%	301.2	47.0	F
WB	Left Turn	70	36	50.9%	34.5	7.6	C
	Through	300	164	54.8%	19.6	2.9	B
	Right Turn	90	45	49.8%	10.6	4.5	B
	Subtotal	460	245	53.2%	20.1	2.7	C
Total		1,350	689	51.1%	131.2	28.6	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
PM Peak Hour

Intersection 7 N 16th St/Vine St Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	10	7	68.0%	6.5	6.8	A
	Through						
	Right Turn	5,250	3,392	64.6%	22.3	0.8	C
	Subtotal	5,260	3,399	64.6%	22.3	0.8	C
SB	Left Turn						
	Through						
	Right Turn	4	4	100.0%	32.5	32.9	C
	Subtotal	4	4	100.0%	32.5	32.9	C
EB	Left Turn	600	270	45.0%	151.7	13.7	F
	Through	270	128	47.3%	40.3	7.3	D
	Right Turn						
	Subtotal	870	398	45.7%	116.4	11.9	F
WB	Left Turn						
	Through	60	63	104.7%	135.8	47.3	F
	Right Turn	460	400	87.0%	123.8	39.4	F
	Subtotal	520	463	89.1%	125.7	40.4	F
Total		6,654	4,264	64.1%	42.4	4.8	D

Intersection 8 Dos Rios St/Bannon St Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	40	32	79.0%	2.4	0.3	A
	Through	20	22	112.0%	1.1	0.3	A
	Right Turn	20	16	82.0%	0.9	0.5	A
	Subtotal	80	70	88.0%	1.6	0.2	A
SB	Left Turn	10	6	56.0%	2.0	1.2	A
	Through	80	52	65.0%	1.6	0.5	A
	Right Turn	10	8	76.0%	1.3	0.4	A
	Subtotal	100	65	65.2%	1.6	0.6	A
EB	Left Turn	100	90	90.0%	11.4	2.8	B
	Through	330	342	103.6%	12.2	2.5	B
	Right Turn	80	96	119.5%	9.5	2.3	A
	Subtotal	510	528	103.5%	11.6	2.5	B
WB	Left Turn	30	26	86.7%	5.7	0.9	A
	Through	40	42	105.0%	6.5	0.7	A
	Right Turn	10	7	68.0%	3.1	1.4	A
	Subtotal	80	75	93.5%	6.0	0.6	A
Total		770	738	95.8%	9.2	1.7	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
PM Peak Hour

Intersection 9 N 12th St-Sproule Ave/ Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	50	36	72.8%	92.7	30.7	F
	Through						
	Right Turn						
	Subtotal	50	36	72.8%	92.7	30.7	F
SB	Left Turn						
	Through	220	131	59.6%	23.0	7.5	C
	Right Turn	1,680	1,115	66.4%	9.4	4.5	A
	Subtotal	1,900	1,246	65.6%	10.8	4.9	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,950	1,283	65.8%	13.1	4.8	B

Intersection 10 N 16th St/Sproule Ave-Basler St Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	40	28	70.0%	142.0	21.4	F
	Through	3,850	2,556	66.4%	147.8	15.9	F
	Right Turn	10	7	68.0%	113.6	50.2	F
	Subtotal	3,900	2,590	66.4%	147.7	16.0	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	200	119	59.4%	90.8	15.7	F
	Through	5	2	40.0%	47.1	50.2	D
	Right Turn						
	Subtotal	205	121	58.9%	90.8	15.6	F
WB	Left Turn						
	Through	10	7	68.0%	44.7	23.9	D
	Right Turn	20	23	116.0%	71.2	21.0	E
	Subtotal	30	30	100.0%	65.9	18.9	E
Total		4,135	2,741	66.3%	144.4	15.5	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
PM Peak Hour

Intersection 11 N12th St/N B St/Dos Rios St Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
0	Left Turn	1,350	935	69.2%	21.5	1.8	C
	Through						
	Right Turn	480	338	70.5%	22.6	2.4	C
	Subtotal	1,830	1,273	69.6%	21.8	1.4	C
SB	Left Turn						
	Through						
	Right Turn	50	46	92.8%	0.9	0.5	A
	Subtotal	50	46	92.8%	0.9	0.5	A
EB	Left Turn						
	Through	1,240	907	73.2%	93.6	4.5	F
	Right Turn	540	399	73.9%	108.8	5.3	F
	Subtotal	1,780	1,306	73.4%	98.2	4.4	F
WB	Left Turn	20	14	72.0%	37.4	10.7	D
	Through	400	340	84.9%	15.3	3.6	B
	Right Turn	20	15	76.0%	17.3	4.9	B
	Subtotal	440	369	83.9%	16.3	3.3	B
Total		4,100	2,995	73.1%	54.1	1.5	D

Intersection 12 N 16th St/N B St Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	250	182	73.0%	99.5	16.1	F
	Through	2,590	2,085	80.5%	92.6	17.2	F
	Right Turn	10	10	96.0%	67.1	36.4	E
	Subtotal	2,850	2,277	79.9%	93.1	17.0	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	1,270	773	60.9%	70.6	13.8	E
	Through	20	11	54.0%	64.0	43.1	E
	Right Turn						
	Subtotal	1,290	784	60.7%	70.7	14.0	E
WB	Left Turn						
	Through	30	28	92.0%	13.6	6.0	B
	Right Turn	20	22	108.0%	27.2	13.5	C
	Subtotal	50	49	98.4%	19.9	6.0	B
Total		4,190	3,110	74.2%	86.1	13.0	F

Intersection 1

I-5 SB Ramps/Richards Blvd

Signal

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
EB	Through	1,450	1,000	228	1,400	308	1,325	224	73%	9%
	Through/Right	1,450	225	99	525	201	575	138	0%	0%
SB	Left Turn	325	200	27	275	47	250	47	0%	0%
	Left/Through	1,475	175	39	300	116	300	163	1%	0%
	Right Turn	325	50	13	100	53	100	81	0%	0%
WB	Left Turn	1,275	175	21	250	33	250	31	0%	0%
	Through	275	75	15	125	32	125	32	0%	0%
0										

Intersection 2

I-5 NB Ramps/Richards Blvd

Signal

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
EB	Left Turn	275	250	6	275	5	275	3	0%	5%
	Through	275	150	47	275	85	250	65	0%	4%
NB	Left Turn	325	50	14	75	18	100	20	0%	0%
	Through/Right	1,175	125	14	175	15	150	16	0%	0%
	Right Turn	1,175	75	11	125	25	125	34	0%	0%
WB	Through	225	150	33	225	47	225	32	0%	1%
	Through/Right	225	200	19	275	27	250	15	0%	4%
	Right Turn	225	175	23	250	25	225	13	0%	1%
0										

Intersection 18

Project Driveway/Sroule Ave

Side-street Stop

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
SB	Shared	150	25	5	25	16	25	15	0%	0%
0										
0										
0										

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
PM Peak Hour

Intersection 13 N 12th St/Vine St Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	220	141	64.0%	176.1	34.8	F
	Through	3,040	1,936	63.7%	212.8	30.7	F
	Right Turn	420	205	48.9%	292.6	42.8	F
	Subtotal	3,680	2,282	62.0%	217.7	31.3	F
EB	Left Turn						
	Through	650	288	44.2%	119.9	15.7	F
	Right Turn	10	4	36.0%	123.1	61.6	F
	Subtotal	660	291	44.1%	120.2	15.0	F
WB	Left Turn	30	22	72.0%	84.1	24.1	F
	Through	40	45	113.0%	53.2	7.1	D
	Right Turn						
	Subtotal	70	67	95.4%	62.4	10.4	E
Total		4,410	2,640	59.9%	202.6	26.0	F

Intersection 14 Street W/Richards Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	10	4	40.0%	56.0	67.0	E
	Through	140	118	84.0%	162.5	27.1	F
	Right Turn	170	137	80.7%	160.8	33.1	F
	Subtotal	320	259	80.9%	160.3	29.1	F
SB	Left Turn	120	62	51.3%	211.8	97.1	F
	Through	30	14	45.3%	19.5	18.5	B
	Right Turn	70	41	58.3%	19.6	32.8	B
	Subtotal	220	116	52.7%	123.6	67.5	F
EB	Left Turn	100	59	59.2%	95.1	15.0	F
	Through	1,340	761	56.8%	105.3	23.3	F
	Right Turn	20	9	44.0%	116.1	64.1	F
	Subtotal	1,460	829	56.8%	104.8	22.1	F
WB	Left Turn	100	62	62.4%	50.5	9.8	D
	Through	1,650	1,009	61.1%	18.7	4.2	B
	Right Turn	30	11	36.0%	9.6	7.8	A
	Subtotal	1,780	1,082	60.8%	20.5	4.2	C
Total		3,780	2,286	60.5%	71.2	8.5	E

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
PM Peak Hour

Intersection 15

N 12th St/Richards Blvd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	440	239	54.4%	92.9	33.6	F
	Through	1,690	1,102	65.2%	35.8	6.7	D
	Right Turn	950	502	52.9%	30.0	3.2	C
	Subtotal	3,080	1,844	59.9%	41.2	2.9	D
EB	Left Turn						
	Through	1,550	927	59.8%	60.8	9.5	E
	Right Turn	80	48	60.0%	46.4	18.4	D
	Subtotal	1,630	975	59.8%	60.4	9.4	E
WB	Left Turn	130	99	76.3%	125.2	35.7	F
	Through	830	590	71.1%	50.2	11.9	D
	Right Turn						
	Subtotal	960	689	71.8%	61.0	13.7	E
Total		5,670	3,508	61.9%	50.2	3.8	D

Intersection 16

N 16th St/Richards Blvd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	70	44	62.9%	45.9	8.4	D
	Through	3,710	2,568	69.2%	53.9	2.4	D
	Right Turn	290	174	60.0%	30.5	3.3	C
	Subtotal	4,070	2,786	68.5%	52.4	2.5	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	990	563	56.9%	86.3	12.3	F
	Through	1,000	528	52.8%	54.0	12.5	D
	Right Turn						
	Subtotal	1,990	1,091	54.8%	70.6	12.3	E
WB	Left Turn						
	Through	890	600	67.4%	167.5	19.6	F
	Right Turn	560	369	65.9%	193.3	26.3	F
	Subtotal	1,450	968	66.8%	177.4	18.4	F
Total		7,510	4,846	64.5%	81.3	3.1	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
PM Peak Hour

Intersection 17 N 12th St/Project Driveway Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	1,705	1,138	66.7%	1.0	0.2	A
	Right Turn	25	16	62.4%	0.8	0.4	A
	Subtotal	1,730	1,154	66.7%	1.0	0.2	A
EB	Left Turn						
	Through						
	Right Turn	15	11	72.0%	6.3	6.7	A
	Subtotal	15	11	72.0%	6.3	6.7	A
WB	Left Turn						
	Through						
	Right Turn	8	5	65.0%	0.0	0.0	A
	Subtotal	8	5	65.0%	0.0	0.0	A
Total		1,753	1,170	66.7%	1.1	0.2	A

Intersection 18 Project Driveway/Sproule Ave Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	5	2	48.0%	1.8	2.0	A
	Through						
	Right Turn	5	4	80.0%	1.2	1.3	A
	Subtotal	10	6	64.0%	2.1	1.6	A
EB	Left Turn	20	9	44.0%	2.0	0.6	A
	Through	200	122	61.2%	1.0	0.3	A
	Right Turn						
	Subtotal	220	131	59.6%	1.1	0.3	A
WB	Left Turn						
	Through	45	31	68.4%	5.9	4.5	A
	Right Turn	5	4	80.0%	6.9	21.0	A
	Subtotal	50	35	69.6%	5.8	4.5	A
Total		280	172	61.6%	2.2	1.0	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
PM Peak Hour

Intersection 19 N 16th St/Project Driveway Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	5	3	64.0%	7.4	18.3	A
	Through	4,065	2,729	67.1%	23.2	1.4	C
	Right Turn						
	Subtotal	4,070	2,732	67.1%	23.1	1.3	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	5	0	0.0%	292.1	360.0	F
	Through						
	Right Turn						
	Subtotal	5	0	0.0%	0.0	0.0	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		4,075	2,732	67.1%	23.1	1.3	C

Intersection 20 Street W/Bannon St Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	10	9	92.0%	5.5	3.7	A
	Through						
	Right Turn	60	56	94.0%	2.8	0.3	A
	Subtotal	70	66	93.7%	3.4	0.8	A
EB	Left Turn	230	234	101.6%	4.1	0.2	A
	Through	130	126	96.6%	3.2	0.2	A
	Right Turn						
	Subtotal	360	359	99.8%	3.8	0.2	A
WB	Left Turn						
	Through	20	16	82.0%	0.3	0.3	A
	Right Turn	10	9	88.0%	0.1	0.1	A
	Subtotal	30	25	84.0%	0.3	0.2	A
Total		460	450	97.8%	3.6	0.2	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Twin Rivers TIS
Cumulative Plus Project
PM Peak Hour

Intersection 21

N 12th St/Bannon St

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	1,690	1,124	66.5%	2.3	0.4	A
	Right Turn	30	25	84.0%	2.4	0.3	A
	Subtotal	1,720	1,149	66.8%	2.3	0.4	A
EB	Left Turn						
	Through						
	Right Turn	140	135	96.3%	11.7	1.8	B
	Subtotal	140	135	96.3%	11.7	1.8	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,860	1,284	69.0%	3.2	0.2	A

Intersection 1

I-5 SB Ramps/Richards Blvd

Signal

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
EB	Through	1,450	125	65	225	145	300	188	3%	0%
	Through/Right	275	125	40	225	60	225	59	4%	0%
SB	Left Turn	1,425	1,225	199	1,650	147	1,450	9	54%	19%
	Left/Through	1,425	1,200	207	1,650	159	1,450	8	50%	15%
	Right Turn	325	275	63	425	51	350	0	0%	0%
WB	Left Turn	1,275	100	18	150	36	150	31	0%	0%
	Through	275	50	7	100	20	100	26	0%	0%
0										

Intersection 2

I-5 NB Ramps/Richards Blvd

Signal

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
EB	Left Turn	275	100	15	150	33	150	34	0%	0%
	Through	275	275	53	325	90	300	85	0%	35%
NB	Left Turn	325	200	76	400	56	325	1	0%	0%
	Through/Right	1,175	900	243	1,275	297	1,125	258	78%	34%
	Right Turn	1,175	875	262	1,275	328	1,100	277	53%	33%
WB	Through	225	100	13	175	24	175	23	0%	0%
	Through/Right	225	150	15	225	28	225	24	0%	1%
	Right Turn	225	125	12	200	32	200	33	0%	0%
0										

Intersection 18

Project Driveway/Sroule Ave

Side-street Stop

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
SB	Shared	150	25	8	50	8	50	5	0%	0%
0										
0										
0										

Intersection 1

I-5 SB Ramps/Richards Blvd

Signal

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
EB	Through	1,450	1,000	228	1,400	308	1,325	224	73%	9%
	Through/Right	1,450	225	99	525	201	575	138	0%	0%
SB	Left Turn	325	200	27	275	47	250	47	0%	0%
	Left/Through	1,475	175	39	300	116	300	163	1%	0%
	Right Turn	325	50	13	100	53	100	81	0%	0%
WB	Left Turn	1,275	175	21	250	33	250	31	0%	0%
	Through	275	75	15	125	32	125	32	0%	0%
0										

Intersection 2

I-5 NB Ramps/Richards Blvd

Signal

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
EB	Left Turn	275	250	6	275	5	275	3	0%	5%
	Through	275	150	47	275	85	250	65	0%	4%
NB	Left Turn	325	50	14	75	18	100	20	0%	0%
	Through/Right	1,175	125	14	175	15	150	16	0%	0%
	Right Turn	1,175	75	11	125	25	125	34	0%	0%
WB	Through	225	150	33	225	47	225	32	0%	1%
	Through/Right	225	200	19	275	27	250	15	0%	4%
	Right Turn	225	175	23	250	25	225	13	0%	1%
0										

Intersection 18

Project Driveway/Sroule Ave

Side-street Stop

Direction	Lane Group	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
SB	Shared	150	25	5	25	16	25	15	0%	0%
0										
0										
0										