Appendix C

Traffic Modeling Data

SimTraffic Post-Processor **G.Bateson Building Renovation**
Average Results from 10 Runs **Existing Conditions**
Volume and Delay by Movement **AM Peak Hour**

Intersection 1 **8th St/N St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	372	368	99.0%	11.9	1.3	B
	Right Turn	56	53	94.3%	7.6	2.7	A
	Subtotal	428	421	98.4%	11.3	1.2	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	46	44	95.7%	8.8	2.6	A
	Through	361	362	100.4%	8.1	0.9	A
	Right Turn						
	Subtotal	407	406	99.9%	8.2	0.8	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		835	828	99.1%	9.8	0.6	A

Intersection 2 **9th St/N St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	189	192	101.6%	10.4	0.8	B
	Through	310	282	91.0%	11.1	1.2	B
	Right Turn						
	Subtotal	499	474	95.0%	10.8	0.9	B
EB	Left Turn						
	Through	366	364	99.5%	6.9	0.9	A
	Right Turn	51	55	108.2%	5.6	1.4	A
	Subtotal	417	419	100.5%	6.7	0.8	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		916	893	97.5%	8.9	0.7	A

Intersection 3 **10th St/N St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	772	756	97.9%	6.9	1.3	A
	Right Turn	97	101	104.3%	4.3	1.4	A
	Subtotal	869	857	98.6%	6.6	1.3	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	57	57	99.6%	5.5	2.2	A
	Through	498	507	101.8%	4.8	0.7	A
	Right Turn						
	Subtotal	555	564	101.5%	4.9	0.7	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,424	1,420	99.7%	5.9	0.7	A

Intersection 4 **10th/O St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,039	1,024	98.5%	3.7	0.4	A
	Right Turn						
	Subtotal	1,039	1,024	98.5%	3.7	0.4	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	37	32	86.5%	8.3	3.2	A
	Subtotal	37	32	86.5%	8.3	3.2	A
Total		1,076	1,056	98.1%	3.8	0.4	A

Intersection 5 **9th St/O St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	361	336	93.2%	6.2	1.8	A
	Right Turn						
	Subtotal	361	336	93.2%	6.2	1.8	A
EB	Left Turn						
	Through						
	Right Turn	47	49	103.8%	4.8	0.7	A
	Subtotal	47	49	103.8%	4.8	0.7	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		408	385	94.4%	6.0	1.6	A

Intersection 6 **10th St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	151	141	93.2%	18.1	2.4	B
	Through	1,092	1,055	96.6%	20.9	2.3	C
	Right Turn						
	Subtotal	1,243	1,196	96.2%	20.6	2.3	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through	549	575	104.8%	8.2	1.0	A
	Right Turn	126	134	106.3%	8.3	2.1	A
	Subtotal	675	709	105.1%	8.2	1.1	A
Total		1,918	1,905	99.3%	16.0	1.7	B

Intersection 7 **9th St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	299	294	98.3%	11.2	1.9	B
	Right Turn	109	98	89.5%	9.0	2.0	A
	Subtotal	408	392	96.0%	10.6	1.7	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	96	99	103.3%	4.2	1.3	A
	Through	604	614	101.7%	5.7	0.9	A
	Right Turn						
	Subtotal	700	713	101.9%	5.5	0.8	A
Total		1,108	1,105	99.7%	7.3	0.9	A

Intersection 8 **8th St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	104	101	96.9%	7.6	1.0	A
	Through	314	321	102.2%	6.5	0.6	A
	Right Turn						
	Subtotal	418	422	100.9%	6.8	0.6	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through	604	614	101.7%	3.2	0.5	A
	Right Turn	109	102	93.9%	4.1	1.4	A
	Subtotal	713	716	100.5%	3.4	0.5	A
Total		1,131	1,138	100.6%	4.6	0.3	A

Intersection 9 **7th St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	159	177	111.4%	8.7	1.7	A
	Right Turn	180	170	94.2%	4.7	1.2	A
	Subtotal	339	347	102.3%	6.8	1.1	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	117	107	91.3%	3.4	0.5	A
	Through	591	606	102.5%	2.0	0.3	A
	Right Turn						
	Subtotal	708	713	100.7%	2.2	0.3	A
Total		1,047	1,060	101.2%	3.7	0.6	A

Intersection 10 **3rd St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	275	263	95.6%	12.7	1.6	B
	Right Turn	165	175	105.9%	4.8	0.6	A
	Subtotal	440	438	99.5%	9.6	1.3	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	91	80	87.9%	7.4	1.3	A
	Through	607	627	103.3%	9.8	1.0	A
	Right Turn						
	Subtotal	698	707	101.3%	9.5	0.9	A
Total		1,138	1,144	100.6%	9.5	0.8	A

Intersection 11 **3rd St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	160	156	97.3%	35.3	10.1	D
	Through	206	187	90.7%	29.7	3.5	C
	Right Turn						
	Subtotal	366	342	93.6%	32.3	4.5	C
EB	Left Turn						
	Through	2,550	2,539	99.6%	10.9	1.3	B
	Right Turn	329	331	100.5%	10.4	1.6	B
	Subtotal	2,879	2,870	99.7%	10.8	1.3	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,245	3,212	99.0%	13.1	1.3	B

Intersection 12 **7th St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	104	110	105.4%	9.5	2.1	A
	Through	172	174	100.9%	7.0	0.7	A
	Right Turn						
	Subtotal	276	283	102.6%	8.0	0.8	A
EB	Left Turn						
	Through	1,476	1,432	97.0%	18.3	2.5	B
	Right Turn	154	154	100.0%	17.8	3.3	B
	Subtotal	1,630	1,586	97.3%	18.3	2.5	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,906	1,869	98.0%	16.8	2.3	B

Intersection 13 **8th St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	221	232	105.2%	11.6	1.2	B
	Right Turn	30	31	102.7%	13.8	4.9	B
	Subtotal	251	263	104.9%	11.8	1.2	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	197	190	96.6%	22.7	8.3	C
	Through	1,383	1,331	96.2%	23.6	9.3	C
	Right Turn						
	Subtotal	1,580	1,521	96.3%	23.5	9.2	C
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,831	1,784	97.5%	21.8	7.9	C

Intersection 14 **9th St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	116	112	96.2%	6.6	0.8	A
	Through	279	282	100.9%	5.9	0.7	A
	Right Turn						
	Subtotal	395	393	99.5%	6.1	0.6	A
EB	Left Turn						
	Through	1,288	1,238	96.1%	22.7	4.5	C
	Right Turn	125	120	95.7%	24.1	5.6	C
	Subtotal	1,413	1,358	96.1%	22.8	4.6	C
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,808	1,751	96.8%	19.1	3.7	B

Intersection 15 **10th St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	879	866	98.5%	24.4	2.2	C
	Right Turn	97	95	98.1%	22.1	1.5	C
	Subtotal	976	961	98.5%	24.1	2.2	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	364	336	92.4%	27.6	3.0	C
	Through	1,040	1,006	96.8%	29.1	2.8	C
	Right Turn						
	Subtotal	1,404	1,343	95.6%	28.7	2.8	C
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,380	2,304	96.8%	26.8	2.1	C

Intersection 16 **11th St/W St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	229	232	101.3%	30.3	4.5	C
	Through	154	162	104.9%	17.0	1.8	B
	Right Turn						
	Subtotal	383	394	102.8%	24.9	2.7	C
SB	Left Turn						
	Through	106	114	107.5%	20.6	2.5	C
	Right Turn	26	30	113.8%	14.0	3.8	B
	Subtotal	132	144	108.8%	19.2	2.6	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	140	148	106.0%	12.2	1.9	B
	Through	1,405	1,412	100.5%	10.5	1.1	B
	Right Turn	99	93	93.7%	8.8	1.5	A
	Subtotal	1,644	1,653	100.5%	10.6	1.0	B
Total		2,159	2,190	101.4%	13.7	1.0	B

Intersection 17 **15th St/W St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	404	400	99.0%	14.6	2.0	B
	Right Turn	172	162	94.4%	11.2	2.2	B
	Subtotal	576	562	97.6%	13.7	1.7	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	748	750	100.3%	5.9	0.6	A
	Through	567	587	103.5%	10.4	0.6	B
	Right Turn						
	Subtotal	1,315	1,337	101.7%	7.9	0.6	A
Total		1,891	1,900	100.5%	9.6	0.7	A

Intersection 18 **16th St/W St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	249	249	100.1%	20.3	2.3	C
	Through	892	859	96.3%	29.4	2.2	C
	Right Turn						
	Subtotal	1,141	1,108	97.1%	27.3	2.3	C
WB	Left Turn						
	Through	815	834	102.3%	42.0	2.6	D
	Right Turn	172	173	100.7%	34.2	3.4	C
	Subtotal	987	1,007	102.0%	40.7	2.3	D
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
NW	Left Turn	251	247	98.5%	41.8	6.7	D
	Through						
	Right Turn	596	577	96.8%	38.7	7.7	D
	Subtotal	847	824	97.3%	39.7	7.2	D
Total		2,975	2,939	98.8%	35.4	2.5	D

Intersection 19 **15th St/X St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
EB	Left Turn						
	Through	586	598	102.0%	19.8	1.7	B
	Right Turn	34	37	108.2%	9.3	2.4	A
	Subtotal	620	634	102.3%	19.2	1.7	B
SB	Left Turn	262	256	97.9%	14.7	1.6	B
	Through	313	326	104.2%	14.0	1.7	B
	Right Turn						
	Subtotal	575	582	101.3%	14.3	1.3	B
SE	Left Turn	564	568	100.8%	19.8	1.9	B
	Through						
	Right Turn	79	88	110.9%	20.7	2.9	C
	Subtotal	643	656	102.0%	20.0	1.8	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,838	1,873	101.9%	18.0	1.2	B

Intersection 20 **16th St/X St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	784	762	97.2%	15.4	1.5	B
	Right Turn	377	400	106.2%	14.3	2.3	B
	Subtotal	1,161	1,162	100.1%	15.1	1.1	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	571	571	100.0%	12.2	1.2	B
	Through	841	828	98.5%	12.2	0.8	B
	Right Turn						
	Subtotal	1,412	1,400	99.1%	12.1	0.7	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,573	2,562	99.6%	13.5	0.7	B

Intersection 1 **8th St/N St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	234	241	102.9%	10.5	1.1	B
	Right Turn	62	62	100.6%	8.0	2.7	A
	Subtotal	296	303	102.4%	10.0	1.3	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	61	60	99.0%	13.4	1.4	B
	Through	458	489	106.8%	14.4	0.8	B
	Right Turn						
	Subtotal	519	550	105.9%	14.3	0.8	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		815	853	104.6%	12.8	0.8	B

Intersection 2 **9th St/N St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	231	238	103.0%	15.6	1.5	B
	Through	703	694	98.7%	15.5	1.3	B
	Right Turn						
	Subtotal	934	932	99.7%	15.5	1.1	B
EB	Left Turn						
	Through	441	468	106.1%	4.8	0.8	A
	Right Turn	79	81	102.3%	3.2	1.0	A
	Subtotal	520	549	105.5%	4.6	0.7	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,454	1,480	101.8%	11.5	0.9	B

Intersection 3 **10th St/N St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	651	649	99.7%	5.5	0.7	A
	Right Turn	136	132	96.8%	4.4	1.0	A
	Subtotal	787	780	99.2%	5.3	0.6	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	59	57	96.9%	6.8	2.6	A
	Through	613	642	104.8%	8.5	0.8	A
	Right Turn						
	Subtotal	672	700	104.1%	8.4	0.9	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,459	1,480	101.4%	6.8	0.5	A

Intersection 4 **10th St/O St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	577	573	99.3%	3.0	0.4	A
	Right Turn						
	Subtotal	577	573	99.3%	3.0	0.4	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	72	73	101.1%	5.7	1.4	A
	Subtotal	72	73	101.1%	5.7	1.4	A
Total		649	646	99.5%	3.3	0.4	A

Intersection 5 **9th St/O St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	782	776	99.3%	13.3	1.3	B
	Right Turn						
	Subtotal	782	776	99.3%	13.3	1.3	B
EB	Left Turn						
	Through						
	Right Turn	39	48	124.1%	5.5	1.0	A
	Subtotal	39	48	124.1%	5.5	1.0	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		821	825	100.5%	12.9	1.3	B

Intersection 6 **10th St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	135	138	102.2%	20.1	2.2	C
	Through	470	462	98.4%	19.3	1.3	B
	Right Turn						
	Subtotal	605	600	99.2%	19.5	1.2	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through	1,056	1,046	99.0%	16.1	5.0	B
	Right Turn	107	108	100.6%	13.2	4.6	B
	Subtotal	1,163	1,153	99.2%	15.8	5.0	B
Total		1,768	1,754	99.2%	17.1	3.5	B

Intersection 7 **9th St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	858	859	100.1%	23.0	6.5	C
	Right Turn	181	190	105.2%	25.3	8.7	C
	Subtotal	1,039	1,049	101.0%	23.4	6.8	C
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	214	198	92.7%	16.5	5.7	B
	Through	977	977	100.0%	20.0	5.8	C
	Right Turn						
	Subtotal	1,191	1,176	98.7%	19.4	5.7	B
Total		2,230	2,225	99.8%	21.4	4.3	C

Intersection 8 **10th St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	173	170	98.3%	7.2	1.4	A
	Through	227	234	103.3%	5.5	1.0	A
	Right Turn						
	Subtotal	400	404	101.1%	6.2	1.0	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through	1,050	1,051	100.1%	5.3	0.7	A
	Right Turn	108	117	108.1%	5.8	1.3	A
	Subtotal	1,158	1,168	100.8%	5.3	0.7	A
Total		1,558	1,572	100.9%	5.6	0.7	A

Intersection 9 **7th St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	604	596	98.7%	10.2	1.0	B
	Right Turn	241	236	97.9%	9.6	2.4	A
	Subtotal	845	832	98.5%	10.0	1.3	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	97	97	100.2%	4.7	1.3	A
	Through	1,126	1,124	99.8%	3.4	0.2	A
	Right Turn						
	Subtotal	1,223	1,221	99.8%	3.5	0.2	A
Total		2,068	2,053	99.3%	6.1	0.6	A

Intersection 10 **3rd St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	560	567	101.3%	32.0	10.5	C
	Right Turn	778	789	101.4%	35.7	8.5	D
	Subtotal	1,338	1,356	101.4%	34.2	9.1	C
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	105	92	87.6%	6.8	1.2	A
	Through	1,866	1,668	89.4%	9.5	0.5	A
	Right Turn						
	Subtotal	1,971	1,760	89.3%	9.4	0.5	A
Total		3,309	3,117	94.2%	20.3	4.4	C

Intersection 11 **3rd St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	198	203	102.4%	18.1	1.7	B
	Through	467	456	97.6%	21.5	0.9	C
	Right Turn						
	Subtotal	665	659	99.1%	20.5	0.9	C
EB	Left Turn						
	Through	736	764	103.8%	6.3	0.5	A
	Right Turn	87	83	95.6%	3.7	0.9	A
	Subtotal	823	847	102.9%	6.0	0.5	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,488	1,506	101.2%	12.4	0.5	B

Intersection 12 **7th St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	233	230	98.9%	6.2	1.0	A
	Through	468	465	99.4%	4.6	0.6	A
	Right Turn						
	Subtotal	701	696	99.2%	5.2	0.6	A
EB	Left Turn						
	Through	780	806	103.3%	11.2	1.2	B
	Right Turn	24	30	125.0%	6.1	3.1	A
	Subtotal	804	836	104.0%	11.0	1.2	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,505	1,532	101.8%	8.4	0.8	A

Intersection 13 **8th St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	288	281	97.5%	15.1	1.3	B
	Right Turn	135	131	97.2%	14.1	1.3	B
	Subtotal	423	412	97.4%	14.8	1.2	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	112	127	113.6%	7.1	1.0	A
	Through	901	905	100.5%	8.5	1.0	A
	Right Turn						
	Subtotal	1,013	1,032	101.9%	8.3	0.9	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,436	1,444	100.6%	10.2	0.8	B

Intersection 14 **9th St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	114	110	96.8%	8.0	1.7	A
	Through	958	950	99.1%	10.4	2.8	B
	Right Turn						
	Subtotal	1,072	1,060	98.9%	10.2	2.6	B
EB	Left Turn						
	Through	824	829	100.6%	11.7	2.0	B
	Right Turn	212	201	94.9%	15.0	2.8	B
	Subtotal	1,036	1,030	99.5%	12.3	2.1	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,108	2,090	99.2%	11.3	1.4	B

Intersection 15 **10th St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	483	480	99.4%	18.5	1.1	B
	Right Turn	54	51	94.8%	12.3	2.5	B
	Subtotal	537	531	98.9%	17.9	1.1	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	122	126	103.3%	15.7	2.1	B
	Through	816	812	99.6%	19.4	1.0	B
	Right Turn						
	Subtotal	938	938	100.0%	19.0	1.1	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,475	1,470	99.6%	18.6	0.7	B

Intersection 16 **11th St/W St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	140	136	97.1%	25.5	6.9	C
	Through	136	137	100.9%	9.1	2.2	A
	Right Turn						
	Subtotal	276	273	99.0%	17.3	3.8	B
SB	Left Turn						
	Through	340	331	97.4%	23.8	2.7	C
	Right Turn	109	112	102.4%	20.3	2.6	C
	Subtotal	449	443	98.6%	22.9	2.5	C
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	256	258	100.8%	18.2	3.0	B
	Through	1,313	1,354	103.1%	14.4	1.6	B
	Right Turn	55	59	106.9%	14.5	3.3	B
	Subtotal	1,624	1,671	102.9%	15.0	1.5	B
Total		2,349	2,387	101.6%	16.8	1.2	B

Intersection 17 **15th St/W St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	1,160	1,202	103.7%	20.8	3.9	C
	Right Turn	500	526	105.2%	11.2	1.4	B
	Subtotal	1,660	1,728	104.1%	17.9	2.9	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	835	813	97.3%	11.5	0.8	B
	Through	781	787	100.8%	15.1	1.4	B
	Right Turn						
	Subtotal	1,616	1,600	99.0%	13.3	1.0	B
Total		3,276	3,328	101.6%	15.7	1.8	B

Intersection 18 **16th St/W St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	219	210	95.7%	22.9	2.4	C
	Through	606	592	97.8%	30.1	1.7	C
	Right Turn						
	Subtotal	825	802	97.2%	28.2	1.5	C
WB	Left Turn						
	Through	1,058	1,079	102.0%	47.6	6.6	D
	Right Turn	83	86	104.1%	33.4	6.3	C
	Subtotal	1,141	1,166	102.2%	46.6	6.5	D
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
NW	Left Turn	339	354	104.4%	35.7	6.3	D
	Through						
	Right Turn	323	308	95.2%	29.9	4.3	C
	Subtotal	662	662	99.9%	32.9	5.0	C
Total		2,628	2,629	100.0%	37.7	3.5	D

Intersection 19 **15th St/X St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
EB	Left Turn						
	Through	667	658	98.6%	24.0	1.8	C
	Right Turn	80	81	101.5%	17.4	2.6	B
	Subtotal	747	739	98.9%	23.3	1.6	C
SB	Left Turn	612	604	98.8%	47.3	5.0	D
	Through	827	852	103.0%	35.2	6.5	D
	Right Turn						
	Subtotal	1,439	1,456	101.2%	40.3	5.4	D
SE	Left Turn	673	654	97.1%	26.1	3.1	C
	Through						
	Right Turn	202	195	96.6%	30.0	2.5	C
	Subtotal	875	849	97.0%	27.0	2.9	C
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,061	3,044	99.4%	32.5	3.1	C

Intersection 20 **16th St/X St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	502	490	97.6%	13.9	1.8	B
	Right Turn	212	212	100.2%	11.1	1.6	B
	Subtotal	714	702	98.4%	13.1	1.4	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	846	809	95.6%	17.3	2.3	B
	Through	1,106	1,084	98.0%	23.3	2.8	C
	Right Turn						
	Subtotal	1,952	1,893	97.0%	20.7	2.6	C
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,666	2,595	97.3%	18.7	2.2	B

SimTraffic Post-Processor **G.Bateson Building Renovation**
Average Results from 10 Runs **Existing Conditions**
Queue Length **AM Peak Hour**
Intersection 11 **3rd St/Q St** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
EB	Through	325	250	48	350	70	350	52	0%	2%
	Through/Right	325	200	31	300	42	300	32	0%	0%
SB	Left/Through	375	125	23	175	39	175	37	0%	0%
	Through	375	75	15	125	28	125	36	0%	0%
0										
0										

SimTraffic Post-Processor **G.Bateson Building Renovation**
Average Results from 10 Runs **Existing Conditions**
Queue Length **AM Peak Hour**
Intersection 18 **16th St/W St** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
NB	Left Turn	225	150	25	275	31	225	6	0%	0%
	Left/Through	325	225	22	300	37	300	32	10%	1%
	Through	325	200	24	250	47	275	49	0%	0%
NW	Left Turn	575	100	35	200	83	250	82	0%	0%
	Shared	1,900	250	31	325	34	325	39	0%	0%
	Right Turn	475	225	34	300	44	300	32	0%	0%
WB	Through	1,125	225	19	275	44	275	40	0%	0%
	Through/Right	1,125	200	14	250	25	250	27	0%	0%
0										

SimTraffic Post-Processor **G.Bateson Building Renovation**
Average Results from 10 Runs **Existing Conditions**
Queue Length **AM Peak Hour**
Intersection 19 **15th St/X St** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
EB	Through	1,400	100	11	125	16	125	19	0%	0%
	Through/Right	1,400	75	9	100	15	125	18	0%	0%
SB	Left Turn	225	50	7	100	17	100	22	0%	0%
	Left/Through	350	100	8	125	17	150	19	0%	0%
	Through	350	75	10	125	21	125	22	0%	0%
SE	Left Turn	700	125	7	200	15	200	36	0%	0%
	Shared	1,975	175	13	200	14	225	32	0%	0%
0										

Intersection 240 **I-5 NB Off-Ramp/I-5 SB Off-Ramp & Q St** **0**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
NB	Right Turn	1,800	25	17	50		50	59	0%	0%
SB	Left Turn	1,950	25	11	25	39	25	38	0%	0%
0										
0										

Intersection 253 **US 50 WB Off-Ramp & W St** **0**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
NW	Through									
0										
0										
0										

Notes:
Intersection 240 is the upstream node to Intersection 11. Therefore, any queue at Intersection 240 was added to the queue at Intersection 11.

SimTraffic Post-Processor **G.Bateson Building Renovation**
Average Results from 10 Runs **Existing Conditions**
Queue Length **PM Peak Hour**
Intersection 11 **3rd St/Q St** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	Through	325	75	8	125	15	125	27	0%	0%
	Through/Right	325	75	9	100	11	100	14	0%	0%
EB										
	Left/Through	375	125	11	150	13	175	11	0%	0%
	Through	375	125	13	150	13	150	12	0%	0%
SB										
0										
0										

SimTraffic Post-Processor **G.Bateson Building Renovation**
Average Results from 10 Runs **Existing Conditions**
Queue Length **PM Peak Hour**
Intersection 18 **16th St/W St** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
NB	Left Turn	225	100	29	200	58	200	46	0%	0%
	Left/Through	325	175	14	250	33	250	35	3%	0%
	Through	325	150	8	200	23	200	28	0%	0%
NW	Left Turn	575	100	36	200	64	200	70	0%	0%
	Shared	1,900	200	26	300	38	275	26	0%	0%
	Right Turn	475	150	31	250	39	250	31	0%	0%
WB	Through	1,100	250	34	325	46	325	56	0%	0%
	Through/Right	1,100	225	27	300	39	300	41	0%	0%
0										

SimTraffic Post-Processor **G.Bateson Building Renovation**
Average Results from 10 Runs **Existing Conditions**
Queue Length **PM Peak Hour**
Intersection 19 **15th St/X St** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	Through	1,350	100	10	150	17	150	19	0%	0%
	Through/Right	1,350	100	13	175	18	175	20	0%	0%
EB										
	Left Turn	225	200	21	250	20	225	1	3%	0%
	Left/Through	350	250	28	325	46	325	37	20%	1%
	Through	350	200	32	300	57	300	63	0%	0%
SB										
	Left Turn	700	175	15	275	45	275	47	0%	0%
	Shared	1,975	225	13	300	45	300	54	0%	0%
SE										
0										

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
NB	Right Turn									
SB	Left Turn									
0										
0										

Notes:
Intersection 240 is the upstream node to Intersection 11. Therefore, any queue at Intersection 240 was added to the queue at Intersection 11.

SimTraffic Post-Processor **G.Bateson Building Renovation**
Average Results from 10 Runs **Existing Conditions**
Queue Length **PM Peak Hour**
Intersection 253 **US 50 WB Off-Ramp & W St** **0**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
NW	Through									
0										
0										
0										

Intersection 1 **8th St/N St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	372	357	95.9%	11.0	1.7	B
	Right Turn	56	62	110.0%	7.8	3.3	A
	Subtotal	428	418	97.8%	10.5	1.6	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	46	39	85.2%	9.1	1.9	A
	Through	361	356	98.5%	8.4	1.2	A
	Right Turn						
	Subtotal	407	395	97.0%	8.4	1.1	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		835	813	97.4%	9.5	1.1	A

Intersection 2 **9th St/N St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	189	186	98.6%	9.8	2.1	A
	Through	310	310	100.0%	10.7	1.3	B
	Right Turn						
	Subtotal	499	496	99.5%	10.4	1.4	B
EB	Left Turn						
	Through	366	364	99.6%	7.4	1.0	A
	Right Turn	51	53	104.3%	5.1	1.4	A
	Subtotal	417	418	100.1%	7.1	1.0	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		916	914	99.8%	8.9	0.9	A

Intersection 3 **10th St/N St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	772	785	101.7%	7.8	0.8	A
	Right Turn	97	100	102.7%	5.1	1.1	A
	Subtotal	869	885	101.8%	7.5	0.8	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	57	49	85.6%	4.8	1.8	A
	Through	498	512	102.7%	5.0	0.7	A
	Right Turn						
	Subtotal	555	560	101.0%	5.0	0.6	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,424	1,445	101.5%	6.5	0.5	A

Intersection 4 **10th/O St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	1,039	1,049	100.9%	3.7	0.3	A
	Right Turn						
	Subtotal	1,039	1,049	100.9%	3.7	0.3	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	37	42	113.5%	8.7	2.3	A
	Subtotal	37	42	113.5%	8.7	2.3	A
Total		1,076	1,091	101.4%	3.9	0.3	A

Intersection 5 **9th St/O St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	361	363	100.5%	6.7	1.2	A
	Right Turn						
	Subtotal	361	363	100.5%	6.7	1.2	A
EB	Left Turn						
	Through						
	Right Turn	47	45	96.2%	4.8	1.0	A
	Subtotal	47	45	96.2%	4.8	1.0	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		408	408	100.0%	6.5	1.1	A

Intersection 6 **10th St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	151	146	97.0%	18.4	1.9	B
	Through	1,092	1,086	99.5%	20.0	1.4	B
	Right Turn						
	Subtotal	1,243	1,233	99.2%	19.8	1.4	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through	553	526	95.0%	7.6	1.5	A
	Right Turn	126	133	105.7%	7.9	1.6	A
	Subtotal	679	659	97.0%	7.7	1.3	A
Total		1,922	1,892	98.4%	15.6	1.2	B

Intersection 7 **9th St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	299	292	97.7%	11.2	2.2	B
	Right Turn	109	116	106.4%	9.8	1.8	A
	Subtotal	408	408	100.0%	10.7	1.9	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	100	100	99.6%	4.1	1.3	A
	Through	604	567	93.9%	5.8	0.7	A
	Right Turn						
	Subtotal	704	667	94.7%	5.5	0.6	A
Total		1,112	1,075	96.7%	7.5	0.8	A

Intersection 8 **8th St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	105	105	99.8%	6.5	0.9	A
	Through	314	316	100.5%	6.4	0.8	A
	Right Turn						
	Subtotal	419	420	100.3%	6.5	0.6	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through	604	581	96.2%	3.5	0.4	A
	Right Turn	109	98	90.3%	3.2	0.8	A
	Subtotal	713	679	95.3%	3.5	0.3	A
Total		1,132	1,100	97.1%	4.6	0.3	A

Intersection 9 **7th St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	160	164	102.3%	9.7	1.6	A
	Right Turn	180	182	101.3%	6.0	2.1	A
	Subtotal	340	346	101.8%	7.7	1.2	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	117	111	94.7%	3.5	0.7	A
	Through	592	576	97.4%	2.1	0.2	A
	Right Turn						
	Subtotal	709	687	96.9%	2.3	0.3	A
Total		1,049	1,033	98.5%	4.1	0.3	A

Intersection 10 **3rd St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	275	286	104.0%	12.5	1.6	B
	Right Turn	165	167	101.3%	4.6	0.5	A
	Subtotal	440	453	103.0%	9.6	1.1	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	91	86	94.1%	7.1	1.2	A
	Through	608	603	99.1%	10.0	0.5	B
	Right Turn						
	Subtotal	699	688	98.5%	9.6	0.6	A
Total		1,139	1,142	100.2%	9.6	0.5	A

Intersection 11 **3rd St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	160	166	104.0%	34.9	9.6	C
	Through	206	206	100.2%	29.0	2.4	C
	Right Turn						
	Subtotal	366	373	101.9%	31.7	4.2	C
EB	Left Turn						
	Through	2,557	2,495	97.6%	10.3	0.7	B
	Right Turn	329	344	104.6%	10.3	1.4	B
	Subtotal	2,886	2,839	98.4%	10.3	0.8	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,252	3,212	98.8%	12.8	1.1	B

Intersection 12 **7th St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	104	103	98.8%	10.1	1.3	B
	Through	173	172	99.2%	7.3	1.4	A
	Right Turn						
	Subtotal	277	274	99.1%	8.3	1.1	A
EB	Left Turn						
	Through	1,476	1,419	96.2%	18.3	1.4	B
	Right Turn	161	163	101.4%	17.4	1.8	B
	Subtotal	1,637	1,582	96.7%	18.2	1.3	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,914	1,857	97.0%	16.7	1.3	B

Intersection 13 **8th St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	222	232	104.3%	11.8	1.1	B
	Right Turn	32	31	96.3%	11.5	3.0	B
	Subtotal	254	262	103.3%	11.8	1.1	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	197	188	95.4%	20.5	2.8	C
	Through	1,383	1,324	95.8%	20.7	4.9	C
	Right Turn						
	Subtotal	1,580	1,512	95.7%	20.7	4.6	C
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,834	1,775	96.8%	19.4	4.1	B

Intersection 14 **9th St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	116	111	95.9%	7.3	1.6	A
	Through	283	280	98.8%	6.1	0.9	A
	Right Turn						
	Subtotal	399	391	97.9%	6.5	0.9	A
EB	Left Turn						
	Through	1,289	1,241	96.3%	22.3	4.0	C
	Right Turn	126	116	92.4%	23.3	3.6	C
	Subtotal	1,415	1,357	95.9%	22.4	3.9	C
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,814	1,748	96.4%	18.8	3.1	B

Intersection 15 **10th St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	879	874	99.4%	24.5	1.3	C
	Right Turn	97	98	100.6%	22.4	2.2	C
	Subtotal	976	972	99.5%	24.3	1.2	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	364	367	100.9%	27.6	1.8	C
	Through	1,041	986	94.8%	28.1	1.9	C
	Right Turn						
	Subtotal	1,405	1,354	96.3%	28.0	1.8	C
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,381	2,325	97.7%	26.4	1.2	C

Intersection 16 **11th St/W St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	229	232	101.3%	29.8	8.1	C
	Through	154	152	98.7%	18.2	2.9	B
	Right Turn						
	Subtotal	383	384	100.3%	25.3	4.6	C
SB	Left Turn						
	Through	107	108	100.9%	22.1	2.0	C
	Right Turn	26	26	100.0%	14.4	4.3	B
	Subtotal	133	134	100.8%	20.8	1.8	C
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	140	135	96.6%	12.4	2.7	B
	Through	1,413	1,421	100.6%	11.0	0.7	B
	Right Turn	99	102	103.4%	9.3	1.7	A
	Subtotal	1,652	1,658	100.4%	11.0	0.7	B
Total		2,168	2,176	100.4%	14.1	1.5	B

Intersection 17 **15th St/W St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	404	378	93.7%	14.3	1.8	B
	Right Turn	172	181	105.3%	12.1	2.5	B
	Subtotal	576	560	97.2%	13.6	1.1	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	748	727	97.2%	6.0	0.6	A
	Through	567	584	103.0%	11.3	0.9	B
	Right Turn						
	Subtotal	1,315	1,311	99.7%	8.4	0.6	A
Total		1,891	1,870	98.9%	9.9	0.5	A

Intersection 18 **16th St/W St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	249	242	97.3%	19.3	2.5	B
	Through	892	899	100.8%	29.1	0.9	C
	Right Turn						
	Subtotal	1,141	1,141	100.0%	27.0	1.1	C
WB	Left Turn						
	Through	815	807	99.0%	41.4	2.3	D
	Right Turn	172	182	105.8%	35.6	4.0	D
	Subtotal	987	989	100.2%	40.4	2.3	D
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
NW	Left Turn	251	254	101.2%	50.8	11.2	D
	Through						
	Right Turn	596	566	95.0%	44.0	9.1	D
	Subtotal	847	820	96.9%	46.1	9.6	D
Total		2,975	2,951	99.2%	36.9	3.0	D

Intersection 19 **15th St/X St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
EB	Left Turn						
	Through	586	574	98.0%	18.3	2.0	B
	Right Turn	34	31	91.8%	10.7	4.5	B
	Subtotal	620	605	97.6%	17.9	2.0	B
SB	Left Turn	262	244	93.1%	13.5	1.2	B
	Through	313	309	98.8%	14.5	1.1	B
	Right Turn						
	Subtotal	575	553	96.2%	14.1	0.8	B
SE	Left Turn	564	557	98.8%	19.5	1.4	B
	Through						
	Right Turn	79	77	97.7%	20.7	3.5	C
	Subtotal	643	634	98.7%	19.7	1.5	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,838	1,793	97.5%	17.4	0.8	B

Intersection 20 **16th St/X St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	784	791	100.9%	15.5	1.1	B
	Right Turn	377	394	104.6%	13.5	2.3	B
	Subtotal	1,161	1,186	102.1%	14.8	0.9	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	571	540	94.5%	12.0	1.0	B
	Through	841	820	97.6%	12.7	1.0	B
	Right Turn						
	Subtotal	1,412	1,360	96.3%	12.4	0.8	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,573	2,546	98.9%	13.5	0.5	B

SimTraffic Post-Processor **G.Bateson Building Renovation**
Average Results from 10 Runs **Existing Plus Project Conditions**
Volume and Delay by Movement **PM Peak Hour**

Intersection 1 **8th St/N St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	234	237	101.4%	10.5	1.0	B
	Right Turn	62	61	98.1%	8.6	1.9	A
	Subtotal	296	298	100.7%	10.1	1.1	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	61	53	86.6%	13.7	1.7	B
	Through	458	460	100.4%	14.5	0.7	B
	Right Turn						
	Subtotal	519	513	98.8%	14.4	0.8	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		815	811	99.5%	12.8	0.7	B

Intersection 2 **9th St/N St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	231	230	99.6%	15.3	1.9	B
	Through	703	711	101.2%	16.0	1.1	B
	Right Turn						
	Subtotal	934	941	100.8%	15.9	1.2	B
EB	Left Turn						
	Through	441	444	100.8%	4.1	0.6	A
	Right Turn	79	81	102.3%	3.8	1.3	A
	Subtotal	520	525	101.0%	4.0	0.6	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,454	1,466	100.9%	11.6	1.0	B

Intersection 3 **10th St/N St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	652	632	96.9%	5.5	0.5	A
	Right Turn	136	140	102.6%	4.1	0.7	A
	Subtotal	788	772	97.9%	5.3	0.5	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	59	56	94.2%	5.9	2.2	A
	Through	613	616	100.4%	7.7	1.0	A
	Right Turn						
	Subtotal	672	671	99.9%	7.6	1.0	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,460	1,443	98.8%	6.3	0.6	A

Intersection 4 **10th St/O St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	578	562	97.2%	3.2	0.4	A
	Right Turn						
	Subtotal	578	562	97.2%	3.2	0.4	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn	72	79	109.4%	5.5	1.3	A
	Subtotal	72	79	109.4%	5.5	1.3	A
Total		650	640	98.5%	3.5	0.4	A

Intersection 5 **9th St/O St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	782	781	99.9%	14.1	1.8	B
	Right Turn						
	Subtotal	782	781	99.9%	14.1	1.8	B
EB	Left Turn						
	Through						
	Right Turn	39	40	103.6%	7.0	2.0	A
	Subtotal	39	40	103.6%	7.0	2.0	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		821	822	100.1%	13.8	1.8	B

Intersection 6 **10th St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	135	137	101.6%	18.9	1.7	B
	Through	471	461	97.9%	19.9	0.5	B
	Right Turn						
	Subtotal	606	598	98.7%	19.6	0.7	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through	1,056	1,010	95.7%	15.0	5.3	B
	Right Turn	107	103	96.1%	13.1	6.5	B
	Subtotal	1,163	1,113	95.7%	14.8	5.3	B
Total		1,769	1,712	96.8%	16.5	3.5	B

Intersection 7 **9th St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	858	844	98.3%	20.2	5.4	C
	Right Turn	181	181	99.9%	22.6	8.5	C
	Subtotal	1,039	1,024	98.6%	20.7	5.8	C
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	214	204	95.1%	17.7	6.7	B
	Through	977	948	97.0%	19.7	6.4	B
	Right Turn						
	Subtotal	1,191	1,151	96.7%	19.4	6.3	B
Total		2,230	2,176	97.6%	20.1	4.6	C

Intersection 8 **10th St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	177	183	103.5%	7.9	3.8	A
	Through	227	237	104.3%	5.0	0.8	A
	Right Turn						
	Subtotal	404	420	104.0%	6.3	1.7	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through	1,050	1,029	98.0%	5.0	0.4	A
	Right Turn	108	105	97.0%	6.4	1.8	A
	Subtotal	1,158	1,134	97.9%	5.1	0.5	A
Total		1,562	1,554	99.5%	5.4	0.7	A

Intersection 9 **7th St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	604	604	100.1%	10.2	1.3	B
	Right Turn	241	246	101.9%	9.4	1.5	A
	Subtotal	845	850	100.6%	10.0	1.2	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	97	104	107.2%	4.5	1.1	A
	Through	1,130	1,111	98.3%	3.4	0.3	A
	Right Turn						
	Subtotal	1,227	1,215	99.0%	3.5	0.3	A
Total		2,072	2,065	99.7%	6.1	0.5	A

Intersection 10 **3rd St/P St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	560	561	100.2%	28.9	6.9	C
	Right Turn	778	776	99.8%	36.3	10.9	D
	Subtotal	1,338	1,338	100.0%	33.3	8.8	C
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	105	93	88.4%	7.2	1.2	A
	Through	1,870	1,672	89.4%	9.6	0.7	A
	Right Turn						
	Subtotal	1,975	1,764	89.3%	9.5	0.7	A
Total		3,313	3,102	93.6%	19.7	4.0	B

Intersection 11 **3rd St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	198	183	92.3%	19.7	2.2	B
	Through	467	468	100.1%	21.1	0.6	C
	Right Turn						
	Subtotal	665	650	97.8%	20.7	0.7	C
EB	Left Turn						
	Through	737	723	98.1%	6.5	0.8	A
	Right Turn	87	100	114.9%	3.3	1.3	A
	Subtotal	824	823	99.9%	6.1	0.8	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,489	1,474	99.0%	12.6	0.6	B

Intersection 12 **7th St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	233	245	105.1%	6.6	1.0	A
	Through	468	465	99.3%	4.7	0.5	A
	Right Turn						
	Subtotal	701	710	101.2%	5.4	0.4	A
EB	Left Turn						
	Through	780	764	97.9%	10.8	0.8	B
	Right Turn	25	20	78.4%	6.8	1.5	A
	Subtotal	805	783	97.3%	10.7	0.8	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,506	1,493	99.1%	8.2	0.5	A

Intersection 13 **8th St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	292	316	108.4%	15.9	1.0	B
	Right Turn	150	149	99.5%	16.3	3.0	B
	Subtotal	442	466	105.3%	16.1	1.5	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	112	104	92.5%	7.5	1.7	A
	Through	901	906	100.5%	8.4	1.1	A
	Right Turn						
	Subtotal	1,013	1,009	99.6%	8.3	1.0	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,455	1,475	101.4%	10.8	1.0	B

Intersection 14 **9th St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	114	122	107.0%	8.8	2.0	A
	Through	958	924	96.5%	10.4	2.0	B
	Right Turn						
	Subtotal	1,072	1,046	97.6%	10.2	2.0	B
EB	Left Turn						
	Through	833	836	100.3%	12.4	1.9	B
	Right Turn	218	224	102.6%	15.2	3.6	B
	Subtotal	1,051	1,059	100.8%	13.0	2.2	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,123	2,105	99.2%	11.6	1.4	B

Intersection 15 **10th St/Q St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	Total Delay (sec/veh) LOS
NB	Left Turn						
	Through	483	472	97.7%	18.5	1.4	B
	Right Turn	54	55	101.5%	11.7	2.1	B
	Subtotal	537	527	98.1%	17.8	1.4	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	123	124	101.1%	15.5	2.4	B
	Through	824	842	102.1%	19.4	1.2	B
	Right Turn						
	Subtotal	947	966	102.0%	18.9	1.3	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,484	1,493	100.6%	18.5	1.1	B

Intersection 16 **11th St/W St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	Total Delay (sec/veh) LOS
NB	Left Turn	140	133	95.1%	33.1	15.9	C
	Through	136	136	100.3%	9.7	1.6	A
	Right Turn						
	Subtotal	276	270	97.7%	21.8	10.3	C
SB	Left Turn						
	Through	343	327	95.3%	22.8	2.5	C
	Right Turn	109	108	99.4%	21.3	3.1	C
	Subtotal	452	435	96.3%	22.5	2.4	C
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	256	254	99.2%	18.3	1.5	B
	Through	1,314	1,316	100.2%	14.3	1.5	B
	Right Turn	55	51	93.1%	13.8	4.1	B
	Subtotal	1,625	1,621	99.8%	14.9	1.3	B
Total		2,353	2,326	98.9%	17.2	2.1	B

Intersection 17 **15th St/W St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through	1,161	1,182	101.8%	21.3	6.1	C
	Right Turn	500	511	102.2%	10.8	0.9	B
	Subtotal	1,661	1,693	101.9%	18.2	4.6	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	835	816	97.8%	11.6	0.9	B
	Through	781	753	96.4%	14.4	0.7	B
	Right Turn						
	Subtotal	1,616	1,569	97.1%	12.9	0.5	B
Total		3,277	3,262	99.5%	15.6	2.2	B

Intersection 18 **16th St/W St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	219	226	103.4%	23.2	2.9	C
	Through	606	619	102.2%	30.2	1.6	C
	Right Turn						
	Subtotal	825	846	102.5%	28.3	1.6	C
WB	Left Turn						
	Through	1,058	1,030	97.3%	49.3	12.5	D
	Right Turn	83	90	108.4%	31.2	9.9	C
	Subtotal	1,141	1,120	98.1%	47.8	12.2	D
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
NW	Left Turn	339	342	100.8%	34.4	5.1	C
	Through						
	Right Turn	323	317	98.2%	27.3	3.3	C
	Subtotal	662	659	99.5%	31.1	3.6	C
Total		2,628	2,624	99.8%	37.5	5.5	D

Intersection 19 **15th St/X St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
EB	Left Turn						
	Through	667	662	99.3%	31.9	10.4	C
	Right Turn	80	84	105.0%	21.2	9.7	C
	Subtotal	747	746	99.9%	30.8	9.8	C
SB	Left Turn	613	603	98.4%	49.4	8.3	D
	Through	827	852	103.0%	34.5	6.6	C
	Right Turn						
	Subtotal	1,440	1,455	101.0%	40.7	6.8	D
SE	Left Turn	673	685	101.8%	43.8	28.9	D
	Through						
	Right Turn	202	199	98.6%	47.8	24.7	D
	Subtotal	875	884	101.0%	44.8	28.0	D
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,062	3,085	100.8%	39.6	9.9	D

Intersection 20 **16th St/X St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn						
	Through	502	507	101.0%	14.5	0.8	B
	Right Turn	212	219	103.2%	12.2	1.2	B
	Subtotal	714	726	101.6%	13.8	0.8	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	847	847	100.0%	19.4	3.5	B
	Through	1,106	1,089	98.5%	25.8	4.7	C
	Right Turn						
	Subtotal	1,953	1,936	99.1%	23.0	4.2	C
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,667	2,662	99.8%	20.5	3.2	C

SimTraffic Post-Processor **G.Bateson Building Renovation**
Average Results from 10 Runs **Existing Plus Project Conditions**
Queue Length **AM Peak Hour**
Intersection 11 **3rd St/Q St** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	Through	325	250	29	350	55	350	52	0%	1%
	Through/Right	325	200	25	275	41	275	39	0%	0%
EB										
	Left/Through	375	125	22	175	43	175	37	0%	0%
	Through	375	100	12	150	32	150	38	0%	0%
SB										
0										
0										

SimTraffic Post-Processor **G.Bateson Building Renovation**
Average Results from 10 Runs **Existing Plus Project Conditions**
Queue Length **AM Peak Hour**
Intersection 18 **16th St/W St** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
NB	Left Turn	225	125	30	250	36	225	5	0%	0%
	Left/Through	325	225	15	275	29	275	34	9%	0%
	Through	325	175	8	250	17	225	16	0%	0%
NW	Left Turn	575	100	50	250	93	250	59	0%	0%
	Shared	1,900	275	40	350	70	350	73	0%	0%
	Right Turn	475	225	39	325	63	300	66	0%	0%
WB	Through	1,125	200	18	250	27	250	32	0%	0%
	Through/Right	1,125	200	27	250	26	250	29	0%	0%
0										

SimTraffic Post-Processor **G.Bateson Building Renovation**
Average Results from 10 Runs **Existing Plus Project Conditions**
Queue Length **AM Peak Hour**
Intersection 19 **15th St/X St** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	Through	1,400	75	11	125	25	125	23	0%	0%
	Through/Right	1,400	75	8	100	17	125	21	0%	0%
EB										
	Left Turn	225	50	16	100	29	100	27	0%	0%
	Left/Through	350	100	11	125	17	125	22	0%	0%
	Through	350	75	11	125	13	125	21	0%	0%
SB										
	Left Turn	700	125	13	200	14	175	19	0%	0%
	Shared	1,975	175	12	225	21	225	20	0%	0%
SE										
0										

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
NB	Right Turn	1,800	25	4	25	19	25	27	0%	0%
SB	Left Turn	1,950	25	4	25	22	25	30	0%	0%
0										
0										

Notes:
Intersection 240 is the upstream node to Intersection 11. Therefore, any queue at Intersection 240 was added to the queue at Intersection 11.

SimTraffic Post-Processor **G.Bateson Building Renovation**
Average Results from 10 Runs **Existing Plus Project Conditions**
Queue Length **AM Peak Hour**
Intersection 253 **US 50 WB Off-Ramp & W St** **0**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
NW	Through									
0										
0										
0										

SimTraffic Post-Processor **G.Bateson Building Renovation**
Average Results from 10 Runs **Existing Plus Project Conditions**
Queue Length **PM Peak Hour**
Intersection 11 **3rd St/Q St** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	Through	325	75	10	100	16	100	24	0%	0%
	Through/Right	325	50	10	100	22	100	23	0%	0%
EB										
	Left/Through	375	125	13	150	18	175	20	0%	0%
	Through	375	125	13	150	15	150	17	0%	0%
SB										
0										
0										

SimTraffic Post-Processor **G.Bateson Building Renovation**
Average Results from 10 Runs **Existing Plus Project Conditions**
Queue Length **PM Peak Hour**
Intersection 18 **16th St/W St** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
NB	Left Turn	225	75	23	175	49	175	50	0%	0%
	Left/Through	325	175	22	225	40	225	49	3%	0%
	Through	325	150	21	200	37	200	37	0%	0%
NW	Left Turn	575	100	28	175	57	175	45	0%	0%
	Shared	1,900	200	25	275	27	250	22	0%	0%
	Right Turn	475	150	32	250	34	225	41	0%	0%
WB	Through	1,100	250	59	325	66	325	74	0%	0%
	Through/Right	1,100	200	54	275	70	275	73	0%	0%
0										

SimTraffic Post-Processor **G.Bateson Building Renovation**
Average Results from 10 Runs **Existing Plus Project Conditions**
Queue Length **PM Peak Hour**
Intersection 19 **15th St/X St** **Signal**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	95th Queue (ft) Average	95th Queue (ft) Std. Dev.	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time Pocket	Block Time Upstream
	Through	1,350	125	28	175	57	175	59	0%	0%
	Through/Right	1,350	125	25	200	55	200	56	0%	0%
EB										
	Left Turn	225	200	21	250	16	225	3	4%	0%
	Left/Through	350	250	49	300	54	300	51	20%	2%
	Through	350	200	41	275	50	275	59	0%	0%
SB										
	Left Turn	700	250	119	375	164	350	155	0%	0%
	Shared	1,975	300	119	400	164	400	142	0%	0%
SE										
0										

SimTraffic Post-Processor **G.Bateson Building Renovation**
Average Results from 10 Runs **Existing Plus Project Conditions**
Queue Length **PM Peak Hour**
Intersection 240 **I-5 NB Off-Ramp/I-5 SB Off-Ramp & Q St** **0**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
NB	Right Turn									
SB	Left Turn									
0										
0										

Notes:
Intersection 240 is the upstream node to Intersection 11. Therefore, any queue at Intersection 240 was added to the queue at Intersection 11.

SimTraffic Post-Processor **G.Bateson Building Renovation**
Average Results from 10 Runs **Existing Plus Project Conditions**
Queue Length **PM Peak Hour**
Intersection 253 **US 50 WB Off-Ramp & W St** **0**

Direction	Lane Group	Storage (ft)	Average Queue (ft) Average	Std. Dev.	95th Queue (ft) Average	Std. Dev.	Maximum Queue (ft) Average	Std. Dev.	Block Time Pocket	Upstream
NW	Through									
0										
0										
0										

4.4 TRANSPORTATION AND CIRCULATION

This section describes the existing transportation system in the vicinity of the project site and evaluates the potential impacts on the system associated with implementation of the project. Roadway, transit, bicycle, and pedestrian components of the overall transportation system are included in the analysis. Impacts are evaluated under near-term (present-day) conditions with and without the project, and cumulative (year 2036) conditions with and without the project. The traffic analysis focuses on a specific project study area for transportation and circulation, which is defined in Section 4.4.2, "Existing Conditions," below.

ANALYSIS SCENARIOS

The following scenarios are analyzed in this EIR:

- Existing Conditions – represents the baseline condition, against which project impacts are measured. The baseline condition represents conditions in February 2017.
- Existing-Plus-Project Conditions – reflects changes in travel conditions associated with implementation of the proposed project.
- Cumulative-No-Project Conditions – reflects conditions for a cumulative scenario, which includes reasonably foreseeable land uses, planned transportation improvement projects, without proposed project implementation.
- Cumulative-Plus-Project Conditions – represents conditions for a cumulative scenario, which includes reasonably foreseeable land uses, planned transportation improvement projects, and proposed project implementation.

4.4.1 Regulatory Background

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

No federal plans, policies, regulations, or laws related to transportation and circulation are applicable to the Resources Building Replacement Project. However, federal regulations relating to the Americans with Disabilities Act, Title VI, and Environmental Justice relate to transit service.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

Interstate 5 Transportation Corridor Concept Report

In 2010, Caltrans released the *Interstate 5 Transportation Corridor Concept Report* (TCCR) that includes portions of Interstate 5 (I-5) within the study area. Page 4 of this report shows existing operations on I-5 within the study area as being at level of service (LOS) F. The report also indicates a Concept LOS F for this corridor. The concept LOS represents the minimum acceptable service conditions over the next 20 years. The TCCR indicates that for existing LOS F conditions, no further degradation is permitted as indicated by the applicable performance measure.

US 50 Transportation Concept Report and Corridor System Management Plan

In 2014, Caltrans released the *United States Route 50 Transportation Concept Report and Corridor System Management Plan* for portions of U.S. Route 50 (US 50) within the study area. Table 13 of this report shows existing operations on US 50 as being at LOS F. The report also indicates a Concept LOS E for this corridor.

The above-referenced Caltrans LOS results are based on daily volume-to-capacity comparisons and do not necessarily consider specific operational characteristics (e.g., length of weave sections, peak hour factors) within the I-5 and US 50 corridors. Nevertheless, these data are valuable in understanding Caltrans' expectations of their current and projected operating performance.

Senate Bill 743

Senate Bill 743, passed in 2013, requires the Governor's Office of Planning and Research (OPR) to develop new CEQA guidelines that address traffic metrics to be used in CEQA analyses. As stated in the legislation, upon adoption of the new guidelines, "automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the guidelines, if any." OPR is currently updating its CEQA Guidelines to implement SB 743 and is proposing that vehicle miles traveled (VMT) be the primary metric used to identify transportation impacts.

REGIONAL PLANS AND PROGRAMS

The Sacramento Area Council of Governments (SACOG) is responsible for the preparation of, and updates to, the 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS, SACOG 2016) and the corresponding Metropolitan Transportation Improvement Program (MTIP) for the six-county Sacramento region. The MTP/SCS provides a 20-year transportation vision and corresponding list of projects. The MTIP identifies short-term (7-year horizon) projects in more detail. The current MTP/SCS was adopted by the SACOG board in 2016.

LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS

The project is located on State-owned property, has been authorized and funded by the State of California through the State Projects Infrastructure Fund (SPIF), and would be implemented by the California Department of General Services (DGS). As explained in Section 4.2 "Land Use" of this EIR, under Section 4.2.1 "Local Plans, Policies, Regulations, and Laws," State agencies are not subject to local plans, policies, and zoning regulations. Nevertheless, in the exercise of its discretion, DGS does reference, describe, and address local plans, policies, and regulations that are applicable to the project. This evaluation is also intended to be used by local agencies for determining, as part of their permit process, the project's consistency with local plans, policies, and regulations.

City of Sacramento 2035 General Plan

On March 3, 2015, the City of Sacramento City Council adopted its 2035 General Plan. The Mobility Element of the City of Sacramento 2035 General Plan outlines goals and policies that coordinate the transportation and circulation system with planned land uses. The following LOS policy is relevant to this study:

- **Policy M 1.2.2:** The City shall implement a flexible context-sensitive Level of Service (LOS) standard and will measure traffic operations against the vehicle LOS thresholds established in this policy. The City will measure vehicle LOS based on the methodology contained in the latest version of the Highway Capacity Manual (HCM) published by the Transportation Research Board. The City's specific vehicle LOS thresholds have been defined based on community values with respect to modal priorities, land use context, economic development, and environmental resources and constraints. As such, the City has established variable LOS thresholds appropriate for the unique characteristics of the City's diverse neighborhoods and communities. The City will strive to operate the roadway network at LOS D or better for vehicles during typical weekday conditions, including a.m. and p.m. peak hour, with certain exceptions mapped on Figure M-1 (and listed in the actual General Plan document).

    A. Core Area (Central City Community Plan Area) – LOS F allowed

    B. Priority Investment Areas – LOS F allowed

C. LOS E roadways (11 distinct segments listed). LOS E is also allowed on all roadway segments and associated intersections located within ½-mile walking distance of a light rail station.

D. LOS F roadways (24 distinct segments listed)

E. If maintaining the above LOS standards would, in the City's judgment, be infeasible and/or conflict with the achievement of other goals, LOS E or F conditions may be accepted provided that provisions are made to improve the overall system, promote non-vehicular transportation and/or implement vehicle trip reduction measures as part of a development project or a City-initiated project. Additionally, the City shall not expand the physical capacity of the planned roadway network to accommodate a project beyond that identified in Figure M4 and M4a (2035 General Plan Roadway Classification and Lanes).

According to Figure M1 (Vehicle Level of Service Exception Areas) of the 2035 City of Sacramento General Plan, the proposed project is located within one of three Priority Investment Areas. The project site is also located within the Core Area, which is bounded by the Sacramento River, American River, Broadway, and Alhambra Boulevard. All study intersections are located within the Core Area as well as a Priority Investment Area; therefore, LOS F is allowed at all study locations. The City's policy was adopted to allow decreased levels of service (i.e., LOS F) in the urbanized Core Area of the City that supports more transportation alternatives and places residents proximate to employment, entertainment, retail and neighborhood centers and thus reduces overall vehicle miles traveled and results in environmental benefits (e.g., improved air quality and reduced GHG emissions). Based on this evaluation, the City determined that LOS F is considered acceptable during peak hours within the Core Area.

The following policies from the City of Sacramento 2035 General Plan are also applicable to this study:

- **Policy M 1.1.1**: Rights-of-Way. The City shall preserve and manage rights-of-way consistent with: the circulation diagram, the City Street Design Standards, the goal to provide Complete Streets as described in Goal M 4.2, and the modal priorities for each street segment and intersection established in Policy M4.4.1: Roadway Network Development, Street Typology System.

- **Policy M 1.2.3**: Transportation Evaluation. The City shall evaluate discretionary projects for potential impacts to traffic operations, traffic safety, transit service, bicycle facilities, and pedestrian facilities, consistent with the City's Traffic Study Guidelines.

- **Policy M 1.2.4**: Multimodal Access. The City shall facilitate the provision of multimodal access to activity centers such as commercial centers and corridors, employment centers, transit stops/stations, airports, schools, parks, recreation areas, medical centers, and tourist attractions.

- **Policy M 1.3.1**: Grid Network. To promote efficient travel for all modes, the City shall require all new residential, commercial or mixed-use development that proposes or is required to construct or extend streets to develop a transportation network that is well connected, both internally and to off-site networks preferably with a grid or modified grid-form.

- **Policy M 1.3.2**: Eliminate Gaps. The City shall eliminate "gaps" in roadways, bikeways, and pedestrian networks. To this end:

  A. The City shall construct new multi-modal crossings of the Sacramento and American Rivers.

  B. The City shall plan and pursue funding to construct grade-separated crossings of freeways, rail lines, canals, creeks, and other barriers to improve connectivity.

  C. The City shall construct new bikeways and pedestrian paths in existing neighborhoods to improve connectivity.

- **Policy M 1.3.3:** Improve Transit Access. The City shall support the Sacramento Regional Transit District (RT) in addressing identified gaps in public transit networks by working with RT to appropriately locate

passenger facilities and stations, pedestrian walkways and bicycle access to transit stations and stops, and public rights-of-way as necessary for transit-only lanes, transit stops, and transit vehicle stations and layover.

- **Policy M 2.1.2**: Sidewalk Design. The City shall require that sidewalks wherever possible be developed at sufficient width to accommodate all users including persons with disabilities and complement the form and function of both the current and planned land use context of each street segment (i.e., necessary buffers, amenities, outdoor seating space).

- **Policy M 2.1.4**: Cohesive and Continuous Network. The City shall develop a pedestrian network of public sidewalks, street crossings, and other pedestrian paths that makes walking a convenient and safe way to travel citywide. The network should include a dense pattern of routes in pedestrian-oriented areas such as the Central City and include wayfinding where appropriate.

- **Policy M 3.1.12**: New Facilities. The City shall work with transit providers and private developers to incorporate transit facilities into new private development and City project designs including incorporation of transit infrastructure (i.e., electricity, fiber-optic cable), alignments for transit route extensions, new station locations, bus stops, and transit patron waiting area amenities (i.e., benches, real-time traveler information screens).

- **Policy M 3.1.14**: Direct Access to stations. The City shall ensure that development projects located in the Central City and within ½-mile walking distance of existing and planned light rail stations provide direct pedestrian and bicycle access to the station area, to the extent feasible.

- **Policy M 3.1.16**: Streetcar Facilities. The City shall support the development of streetcar lines and related infrastructure and services in the Central City and other multi-modal districts.

- **Policy M 4.2.1**: Accommodate All Users. The City shall ensure that all new roadway projects and any reconstruction projects designate sufficient travel space for all users including bicyclists, pedestrians, transit riders, and motorists except where pedestrians and bicyclists are prohibited by law from using a given facility.

- **Policy M 4.2.2**: Pedestrian- and Bicycle-Friendly Streets. In areas with high levels of pedestrian activity (e.g., employment centers, residential areas, mixed-use areas, schools), the City shall ensure that all street projects support pedestrian and bicycle travel. Improvements may include narrow lanes, target speeds less than 35 miles per hour, sidewalk widths consistent with the Pedestrian Master Plan, street trees, high-visibility pedestrian crossings, and bikeways (e.g. Class II and Class III bike lanes, bicycle boulevards, separated bicycle lanes and/or parallel multi-use pathways).

- **Policy M 4.2.5**: Multi-Modal Corridors. Consistent with the Roadway Network and Street Typologies established in this General Plan, the City shall designate multi-modal corridors in the Central City, within and between urban centers, along major transit lines, and/or along commercial corridors appropriate for comprehensive multimodal corridor planning and targeted investment in transit, bikeway, and pedestrian path improvements if discretionary funds become available.

- **Policy M 4.4.4**: Traffic Signal Management. To improve traffic flow and associated fuel economy of vehicles traveling on city streets, the City shall synchronize the remaining estimated 50 percent of the city's eligible traffic signals by 2035, while ensuring that signal timing considers safe and efficient travel for all modes.

- **Policy M 5.1.2**: Appropriate Bikeway Facilities. The City shall provide bikeway facilities that are appropriate to the street classifications and type, number of lanes, traffic volume, and speed on all rights-of-way.

- **Policy M 5.1.3**: Continuous Bikeway Network. The City shall provide a continuous bikeway network consisting of bike-friendly facilities connecting residential neighborhoods with key destinations and activity centers (e.g., transit facilities, shopping areas, education institutions, employment centers).

- **Policy M 5.1.5**: Motorists, Bicyclists, and Pedestrian Conflicts. The City shall develop safe and convenient bikeways, streets, roadways, and intersections that reduce conflicts between bicyclists and motor vehicles on streets, between bicyclists and pedestrians on multi-use trails and sidewalk, and between all users at intersections.

- **Policy M 5.1.6**: Connections between New Development and Bicycle Facilities. The City shall require that new development provides connections to and does not interfere with existing and proposed bicycle facilities.

- **Policy M 5.1.7**: Bikeway Requirements. The City shall provide bike lanes on all repaved and/or reconstructed arterial and collector streets to the maximum extent feasible. The appropriate facility type for each roadway segment shall be consistent with the Roadway Network and Street Typologies defined in this General Plan.

I-5 Freeway Subregional Corridor Mitigation Program

The I-5 Freeway Subregional Corridor Mitigation Program (SCMP) is a voluntary development impact fee for new developments within the I-5 corridor between Elk Grove, Downtown Sacramento, and West Sacramento that is intended to be used to construct a set of transportation improvements identified in the SACOG 2016 MTP/SCS. Under the SCMP, a project applicant whose project would generate vehicle trips over the threshold could choose to either pay the fee, which would constitute mitigation of their development project's impacts on the freeway mainline, or conduct a Traffic Impact Study, which would evaluate that project's impact on the freeway system and identify mitigation for those impacts.

According to the *Draft Final Nexus Study for the I-5 Freeway Subregional Corridor Mitigation Program* (DKS Associates, January 2016), the following roadway improvements would be partially funded by the plan (with the remainder coming from other sources):

- extension of light rail from the Township 9/Richards station to Natomas Center,
- new bridge across the American River,
- two new bridges across the Sacramento River,
- reconstruction of I-5/Richards Boulevard Interchange,
- construction of HOV lanes on I-5 from Elk Grove to US 50, and
- construction of a transition lane on I-5 between the Garden Highway off- and on-ramps.

Page 36 of the study specifies that "Caltrans would consider the fees as an adequate mitigation for freeway mainline impacts." Table 18 on Page 32 of the Nexus Study shows the proposed fee per dwelling unit, and per thousand square feet of non-residential space.

4.4.2 Existing Conditions

This section describes the existing environmental setting, which is the baseline scenario against which project-specific impacts are evaluated. The baseline for this study represents conditions based on data collection and field observations conducted in February 2017. The environmental setting for transportation includes baseline descriptions for roadway, bicycle, pedestrian, and transit facilities.

PROJECT STUDY AREA

An extensive study area was developed based on collaboration between the EIR consultants and City of Sacramento staff, and took into consideration the Notice of Preparation comment letters. The following factors were considered when developing the study area: the project's expected travel characteristics (including number of vehicle trips and directionality of those trips), primary travel routes to/from the project vicinity, anticipated parking locations, mode split, and other considerations. Exhibit 4.4-1 shows the study area, project site, and 24 study intersections selected for analysis. The study area also includes bicycle, pedestrian, and transit facilities in the project vicinity.

Source: Fehr & Peers 2017

Exhibit 4.4-1 **Study Area**

Intersections

1. N Street / 7th Street
2. N Street / 8th Street
3. N Street / 9th Street
4. N Street / 10th Street
5. O Street / 7th Street
6. O Street / 8th Street
7. Opera Alley / 7th Street
8. Opera Alley / 8th Street
9. P Street / 3rd Street
10. P Street / 7th Street
11. P Street / 8th Street
12. P Street / 9th Street
13. Q Street / 3rd Street
14. Q Street / 7th Street
15. Q Street / 8th Street
16. Q Street / 9th Street
17. Q Street / 10th Street
18. R Street / 8th Street
19. R Street / 9th Street
20. W Street / 11th Street
21. W Street / 15th Street
22. W Street / 16th Street
23. X Street / 15th Street
24. X Street / 16th Street

Roadway Network

The study area is served by a system of gridded streets comprised of numbered north-south streets and lettered east-west streets, spaced approximately every 400 feet. Most portions of the street grid feature east-west running alleys located halfway between lettered streets, resulting in 200 foot north-south spacing of public roadways. Key roadways within this system that would serve trips associated with the proposed project are described, as follows:

- 7th Street is a primary three-lane, one-way southbound roadway within the study area, and forms a couplet with 8th Street. North of O Street, the roadway features shared light-rail tracks with vehicle traffic on the eastern-most travel lane, and curbside parking on the west side of the roadway. South of O Street, the roadway features curbside parking on both sides of the roadway. The street transitions to two-lanes to the south of R Street.

- 8th Street is primary three-lane, one-way northbound roadway within the study area, and forms a couplet with 7th Street. North of O Street, the roadway features shared light-rail tracks with vehicle traffic on the western-most travel lane, and curbside parking on the east side of the roadway. Between O Street and T Street, the roadway features curbside parking on both sides of the roadway. South of T Street, 8th Street is a minor two-lane, two-way roadway with curbside parking.

- 9th Street is a primary two-lane, one-way southbound roadway within the study area, and forms a couplet with 10th Street. Bicycle lanes and curbside parking are located on both sides of the roadway.

- 10th Street is a primary one-way northbound roadway within the study area, and forms a couplet with 9th Street. The roadway has two lanes to the south of Q Street, and features bicycle lanes and curbside parking on both sides of the street. The roadway transitions to three lanes without bicycle lanes to the north of Q Street.

- 11th Street is minor two-lane, two-way, north-south roadway within the study area. Bicycle lanes are located on both sides of the street to the south of P Street. Curbside parking is located on both sides of the street throughout the study area.

- 12th Street is a minor two-lane, two-way, north-south roadway within the study area. The roadway features shared light-rail tracks/vehicle travel lanes between O Street and Q Street. Between Q Street and R Street, the roadway is disconnected for vehicle traffic because of the light-rail. Curbside parking is located on both sides of the roadway.

- 15th Street is a primary three-lane, one-way southbound roadway within the study area, and forms a couplet with 16th Street. The roadway connects to the US 50 westbound on-ramp and eastbound off-ramp in the southern portion of the study area. Curbside parking is located on both sides of the roadway.

- 16th Street is a primary three-lane, one-way northbound roadway within the study area, and forms a couplet with 15th Street. The roadway connects the US 50 eastbound on-ramp and westbound off-ramp in the southern portion of the study area. To the north, the roadway connects to State Route 160 (SR 160). Curbside parking is located on both sides of the roadway.

- N Street is a primary three-lane, one-way eastbound roadway within the study area. This three-lane roadway extends through Downtown Sacramento before transitioning to a two-lane, two-way roadway to the east of 21st Street. Curbside parking is located on both sides of the roadway.

- O Street is an intermittently connected east-west roadway within the study area. Between 7th Street and 9th Street, the roadway is one-way eastbound and is adjacent to separated light-rail tracks. Between 9th Street and 12th Street, the roadway serves light-rail and is closed to vehicle traffic. Between 12th Street and 13th Street, the roadway is closed to on-street parking. To the east of 13th Street, O Street is a two-lane, two-way street with curbside parking.

- P Street is a primary three-lane, one-way westbound roadway within the study area, and forms a couplet with Q Street. The roadway connects to the Interstate 5 (I-5) on-ramps in the western portion of the study area. Curbside parking is located on both sides of the roadway.

- Q Street is a primary three-lane, one-way eastbound roadway within the study area, and forms a couplet with P Street. The roadway originates from the Interstate 5 (I-5) off-ramps in the western portion of the study area. Curbside parking is located on both sides of the roadway.

- R Street is minor two-lane, two-way east-west roadway within the study area. Curbside parking is located on both sides of the roadway; the segment between 8th Street and 12th Street features perpendicular street parking. No sidewalks exist between 8th Street and 10th Street.

- W Street is generally a three-lane, one-way westbound roadway within the study area. This roadway functions as the westbound frontage road for the US 50 Freeway. Curbside parking is located on the north side of the roadway.

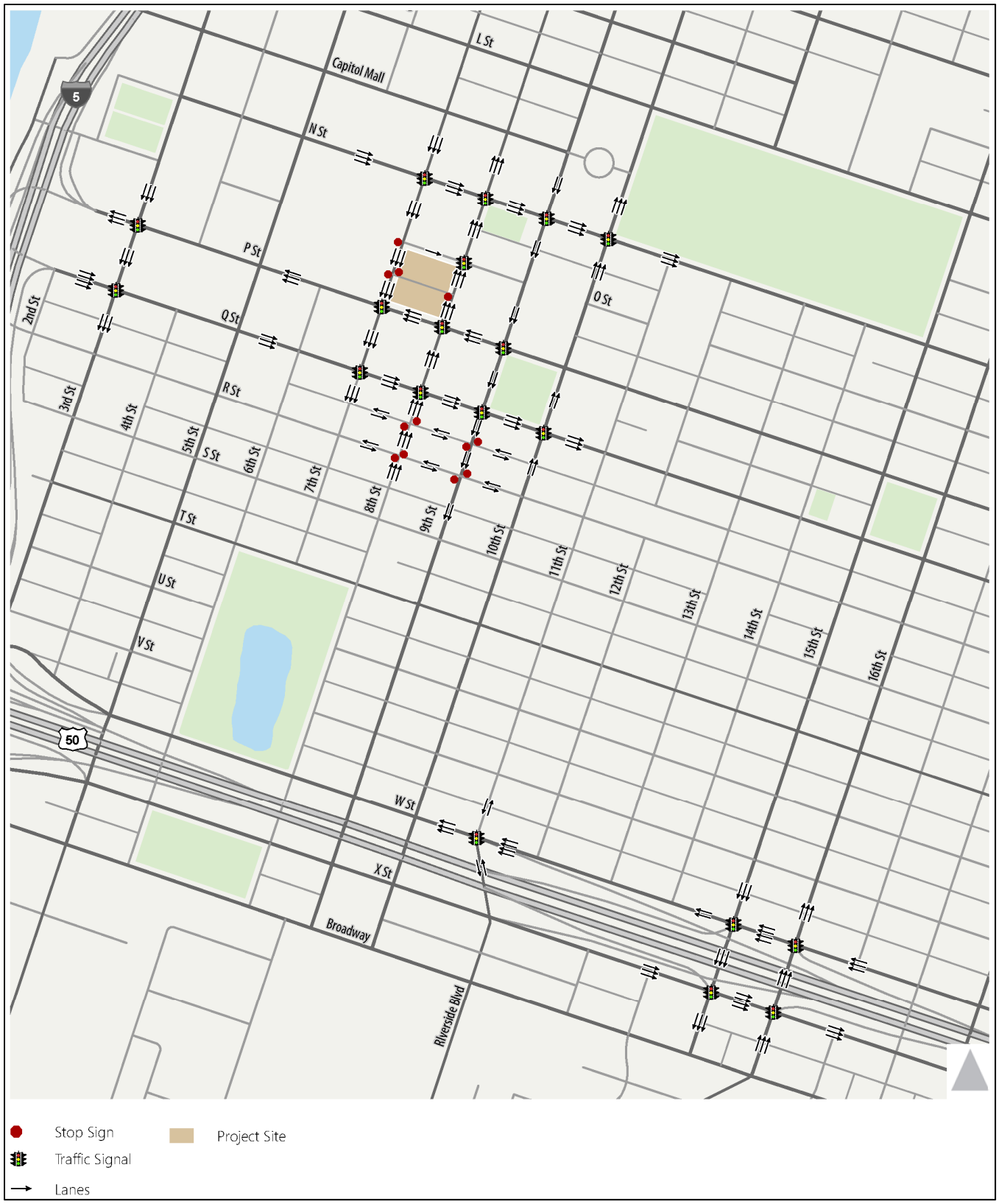
- X Street is generally a three-lane, one-way eastbound roadway within the study area. This roadway functions as the eastbound frontage road for the US 50 Freeway. Curbside parking is located on the south side of the roadway.

Exhibit 4.4-2 illustrates the study roadway facilities including the number and direction of travel lanes, as well as existing traffic controls present at all study intersections.

Truck Routes

All federal and state highways within the City of Sacramento have been designated as truck routes by Caltrans, including I-5 and US 50 within the study area, and are included in the National Network for Service Transportation Assistance Act of 1982. The City identified 31 two-way streets as City truck routes in a 1983 resolution, in addition to all one-way streets. Refer to the City's website for a city-wide map of truck routes (at http://portal.cityofsacramento.org/Public-Works/Transportation/Traffic-Data-Maps). Within the study area, the following streets are considered City truck routes:

- 3rd Street
- 5th Street
- 7th Street
- 8th Street
- 9th Street
- 10th Street
- 15th Street
- 16th Street
- N Street
- P Street
- Q Street



Source: Fehr & Peers 2017

Exhibit 4.4-2 **Existing Roadway Facilities and Traffic Controls**

TRAFFIC DATA COLLECTION

Traffic counts were collected at the study intersections on Wednesday, February 15, 2017 during the a.m. (7–9) and p.m. (4–6) peak periods. During all counts, weather conditions were generally dry, no unusual traffic patterns were observed, and the Sacramento City Unified School District was in full session. In addition to collecting vehicle turning movements at the study intersections, all counts included pedestrian and bicycle activity.

STUDY PERIODS

Based on the traffic data collection, the a.m. peak hour within most of the study area occurred from 7:45 to 8:45, and the p.m. peak hour within the entire study area occurred from 4:30 to 5:30. The a.m. peak hour for intersections 20-24 in the area of the US 50 on- and off-ramps occurred from 7:30 to 8:30. The a.m. and p.m. peak hours coincide with the expected peak commute times for office employees in Downtown Sacramento.

ROADWAY SYSTEM

Traffic operations at all study intersections were analyzed under weekday a.m. and p.m. peak hour conditions using procedures and methodologies contained in the Highway Capacity Manual (Transportation Research Board 2010) for calculating delay at intersections. These methodologies were applied using the SimTraffic software program, which considers the effects of lane utilization, turn pocket storage lengths, upstream/ downstream queue spillbacks, coordinated signal timings, pedestrian crossing activity, and other conditions on intersection and overall corridor operations. Use of SimTraffic microsimulation analysis is appropriate given the presence of coordinated signal timing plans, close spacing of signalized intersections, and overall levels of traffic and peak hour congestion within the study area. Reported results are based on an average of 10 runs. The following procedures and assumptions were applied in the development of the SimTraffic model:

- Roadway geometric data were gathered using aerial photographs and field observations.
- Peak hour traffic volumes were entered into the model according to the peak hour of the study area.
- The peak hour factor was set at 1.0 in accordance with City of Sacramento Traffic Impact Study Guidelines.
- The counted pedestrian and bicycle volumes were entered into the model according to the peak hour measurements.
- Signal phasing and timings were based on existing signal timing plans provided by the City of Sacramento and field observations.
- Speeds for the model network were based on the posted speed limits.

Level of Service Definitions

Each study intersection was analyzed using the concept of LOS. LOS is a qualitative measure of traffic operating conditions whereby a letter grade, from A (the best) to F (the worst), is assigned. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving. In general, LOS A represents free-flow conditions with no congestion, and LOS F represents severe congestion and delay under stop-and-go conditions. Table 4.4-1 displays the delay range associated with each LOS category for signalized and unsignalized intersections.

Table 4.4-1 Intersection Level of Service Definitions

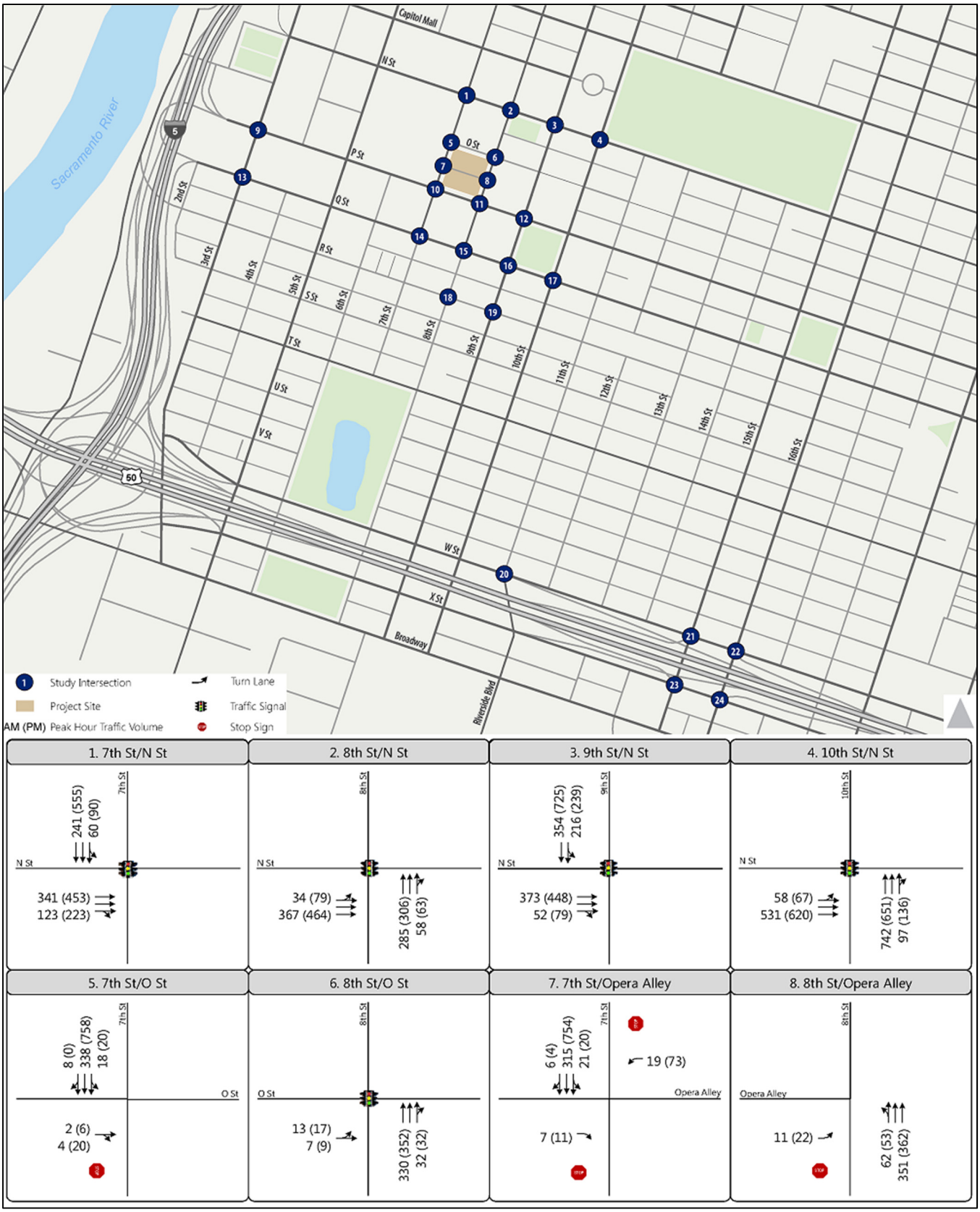
Level of Service	Description (for Signalized Intersections)	Average Delay (Seconds/Vehicle)	
		Signalized Intersections	Unsignalized Intersections
A	Operations with very low delay occurring with favorable traffic signal progression and/or short cycle lengths.	≤ 10.0	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 to 20.0	> 10.0 to 15.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0	> 15.0 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0	> 25.0 to 35.0
E	Operations with high delay values indicating poor progression, and long cycle lengths. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	> 55.0 to 80.0	> 35.0 to 50.0
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80.0	> 50.0

Note: LOS = level of service; V/C ratio= volume-to-capacity ratio
LOS at signalized intersections and roundabouts based on average delay for all vehicles. LOS at unsignalized intersections is reported for entire intersection and for minor street movement with greatest delay.
Source: Transportation Research Board 2010

For signalized intersections, LOS is based on the average delay experienced by all vehicles passing through the intersection. For side-street stop-controlled intersections, the delay and LOS for the overall intersection is reported along with the delay for the worst-case movement.

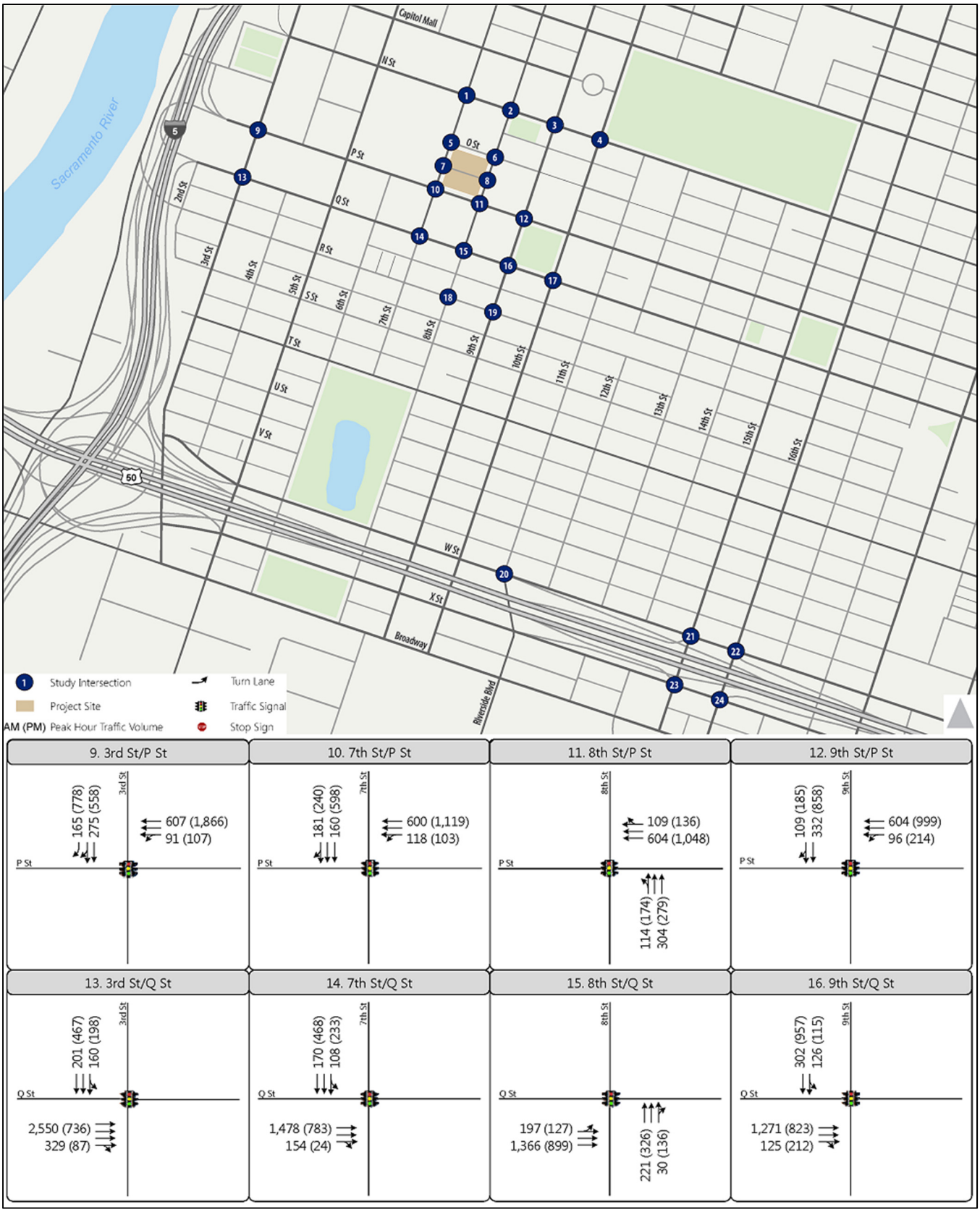
Existing Traffic Volumes

Exhibits 4.4-3A, 4.4-3B, and 4.4-3C display the existing a.m. and p.m. peak hour intersection traffic volumes, traffic controls, and lane configurations.



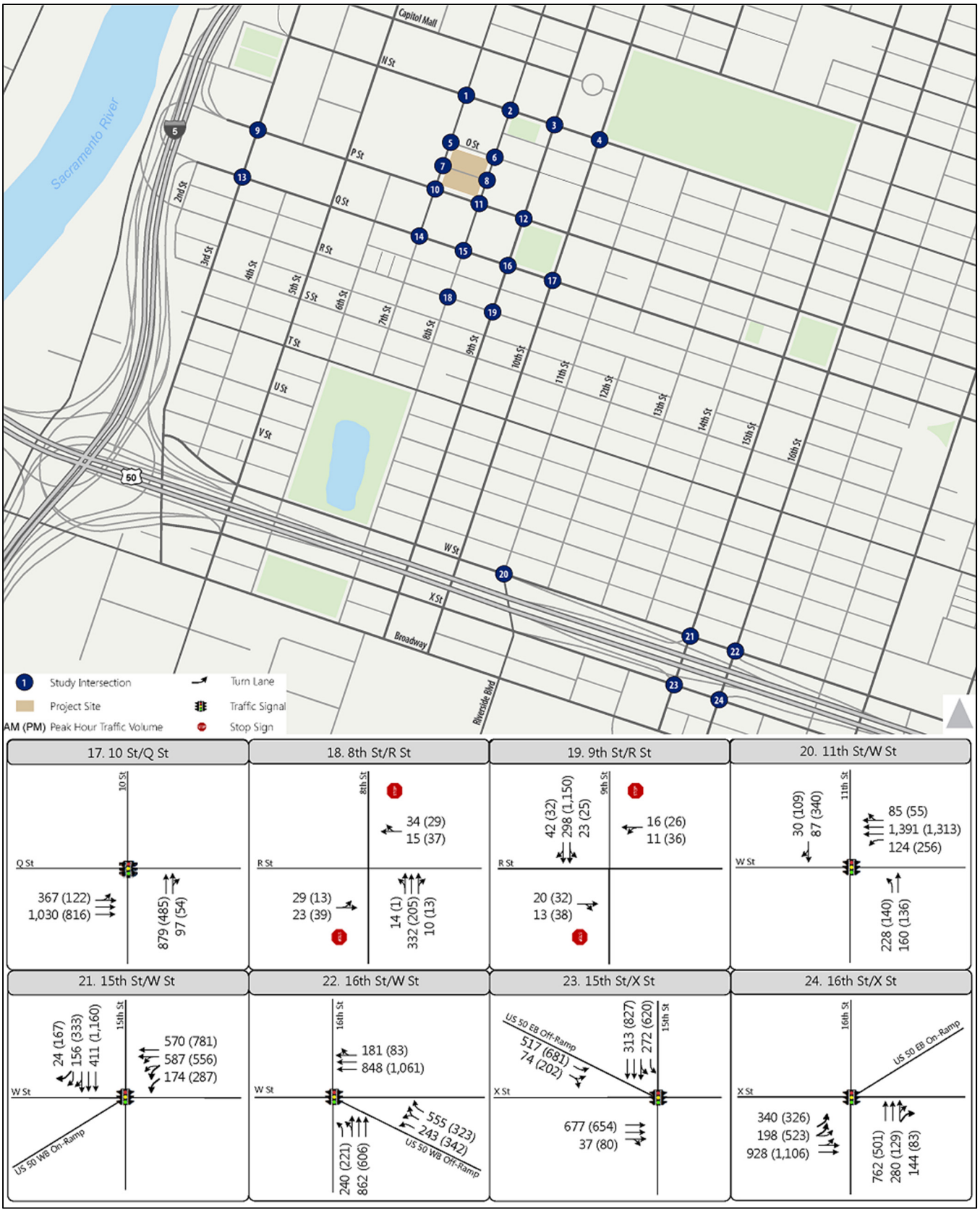
Source: Fehr & Peers, 2017.

Exhibit 4.4-3A **Peak Hour Traffic Volumes and Lane Configurations – Existing Conditions, Study Intersections 1 through 8**



Source: Fehr & Peers, 2017.

Exhibit 4.4-3B **Peak Hour Traffic Volumes and Lane Configurations – Existing Conditions, Study Intersections 9 through 16**



Source: Fehr & Peers, 2017.

Exhibit 4.4-3C **Peak Hour Traffic Volumes and Lane Configurations – Existing Conditions, Study Intersections 17 through 24**

Existing Intersection Operations

Table 4.4-2 displays the existing peak-hour intersection operations at the study intersections (refer to Appendix C for technical calculations).

Table 4.4-2 Intersection Operations – Existing Conditions

Intersection	Traffic Control	Peak Hour	Existing Conditions	
			Delay[1]	LOS
1. N Street / 7th Street	Signal	AM PM	7 9	A A
2. N Street / 8th Street	Signal	AM PM	7 7	A A
3. N Street / 9th Street	Signal	AM PM	10 13	A B
4. N Street / 10th Street	Signal	AM PM	11 12	B B
5. O Street / 7th Street	SSSC	AM PM	2 (4) 3 (14)	A (A) A (B)
6. O Street / 8th Street	Signal	AM PM	3 4	A A
7. Opera Alley / 7th Street	SSSC	AM PM	1 (5) 1 (8)	A (A) A (A)
8. Opera Alley / 8th Street	SSSC	AM PM	1 (4) 1 (5)	A (A) A (A)
9. P Street / 3rd Street	Signal	AM PM	9 13	A B
10. P Street / 7th Street	Signal	AM PM	5 6	A A
11. P Street / 8th Street	Signal	AM PM	5 6	A A
12. P Street / 9th Street	Signal	AM PM	11 21	B C
13. Q Street / 3rd Street	Signal	AM PM	28 9	C A
14. Q Street / 7th Street	Signal	AM PM	16 10	B B
15. Q Street / 8th Street	Signal	AM PM	12 8	B A
16. Q Street / 9th Street	Signal	AM PM	4 7	A A
17. Q Street / 10th Street	Signal	AM PM	17 15	B B
18. R Street / 8th Street	SSSC	AM PM	2 (8) 3 (8)	A (A) A (A)
19. R Street / 9th Street	SSSC	AM PM	1 (9) 3 (21)	A (A) A (C)
20. W Street / 11th Street	Signal	AM PM	15 18	B B

Table 4.4-2 Intersection Operations – Existing Conditions

Intersection	Traffic Control	Peak Hour	Existing Conditions	
			Delay[1]	LOS
21. W Street / 15th Street / US 50 WB On-Ramp	Signal	AM PM	11 16	B B
22. W Street / 16th Street / US 50 WB Off-Ramp	Signal	AM PM	26 39	C D
23. X Street / 15th Street / US 50 EB Off-Ramp	Signal	AM PM	18 31	B C
24. X Street / 16th Street / US 50 EB On-Ramp	Signal	AM PM	13 16	B B

Notes: LOS = Level of Service. SSSC = Side-Street Stop-Controlled

[1] For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches. For SSSC intersections, the LOS and control delay for the worst movement is shown in parentheses next to the average intersection LOS and delay. Impacts to intersections are determined based on the overall LOS and average delay. Intersection LOS and delay is calculated based on the procedures and methodology contained in the Highway Capacity Manual 2010 (Transportation Research Board, 2010). All intersections were analyzed in SimTraffic.

Source: Fehr & Peers 2017

All intersections currently operate at LOS C or better under both peak hours, except for Intersection 22 (W Street/16th Street/US 50 Westbound Off-Ramp), which operates at LOS D under the p.m. peak hour. Overall, the existing roadway system within the area can be characterized as operating efficiently. Motorists typically incur modest delays, do not experience substantial vehicle queues, and benefit from the coordinated traffic signal system along the primary commute corridors that connect Downtown to the regional freeway system. The highest vehicle delays in the study area occur around the US 50 off-ramps during the p.m. peak hour. The westbound off-ramp intersection at 16th Street operates at LOS D with an average delay of 39 seconds, while the eastbound off-ramp intersection at 15th Street operates at LOS C with an average delay of 31 seconds.

Existing Off-Ramp Queues

Table 4.4-3 displays the existing off-ramp queuing within the study are during the a.m. and p.m. peak hours. As shown, all study freeway off-ramp queues remain within the available storage area during the both peak hours.

Table 4.4-3 Off-Ramp Queuing – Existing Conditions

Location	Available Storage[1]	Peak Hour	Existing Conditions
			Queue[2]
Interstate 5 SB Off-Ramp at Q Street (from Q Street/3rd Street)	1,700 feet	AM PM	375 feet 125 feet
Interstate 5 NB Off-Ramp at Q Street (from Q Street/3rd Street)	2,075 feet	AM PM	325 feet 100 feet
US 50 WB Off-Ramp at 10th Street[3] (from W Street/11th Street)	2,150 feet	AM PM	- -
US 50 WB Off-Ramp at 16th Street (from W Street/16th Street)	1,050 feet	AM PM	225 feet 250 feet
US 50 EB Off-Ramp at 15th Street (from X Street/15th Street)	1,125 feet	AM PM	175 feet 275 feet

[1]The available storage length for off-ramp queuing is measured from the noted off-ramp terminal intersection to the freeway off-ramp gore point.

[2]Maximum queue length is based upon output from SimTraffic microsimulation software.

[3]The US 50 WB Off-Ramp at 10th Street (as specified by freeway wayfinding signage) is measured from the initial off-ramp terminal intersection of W Street/11th Street.

Source: Fehr & Peers 2017

Existing Vehicle Miles Traveled Per Service Population

Table 4.4-4 displays the existing daily VMT per service population (total residents and employees) within the study area. The study area used for the VMT calculations is the Sacramento Core Area, which is bounded by the Sacramento River, American River, Alhambra Boulevard, and Broadway.

Table 4.4-4 Sacramento Core Area VMT per Service Population – Existing Conditions

Scenario	Sacramento Core Area			Sacramento Core Area Generated		
	Residents	Employees	Service Population	Daily Vehicle Trips	Daily VMT	Daily VMT per Service Population
Existing Conditions	25,936	87,641	113,577	534,707	4,189,079	36.88

Source: Fehr & Peers 2017

TRANSIT SYSTEM

Local transit service within the study area is provided by Sacramento Regional Transit District (RT), which operates 69 bus routes and 42.9 miles of light rail on three lines (Blue Line, Gold Line, and Green Line) throughout a 418-square-mile service area. Buses and light rail run 365 days a year, using 87 light rail vehicles, 211 buses, and 29 shuttle vans. RT's annual ridership has steadily increased on both its bus and light rail systems from 14 million passengers in 1987 to more than 25 million passengers in Fiscal Year 2016. Currently, weekday light rail ridership averages about 36,000, and the weekday bus ridership is approximately 38,500 passengers per day.

The project site is located adjacent to the 8th and O Light Rail Station. This station is served by all three RT light rail lines. The Blue Line and Gold Line generally operate on 15-minute headways during the day and 30-minute headways in the evening and on weekends and holidays, while the Green Line operates on 30-minute headways throughout the day.

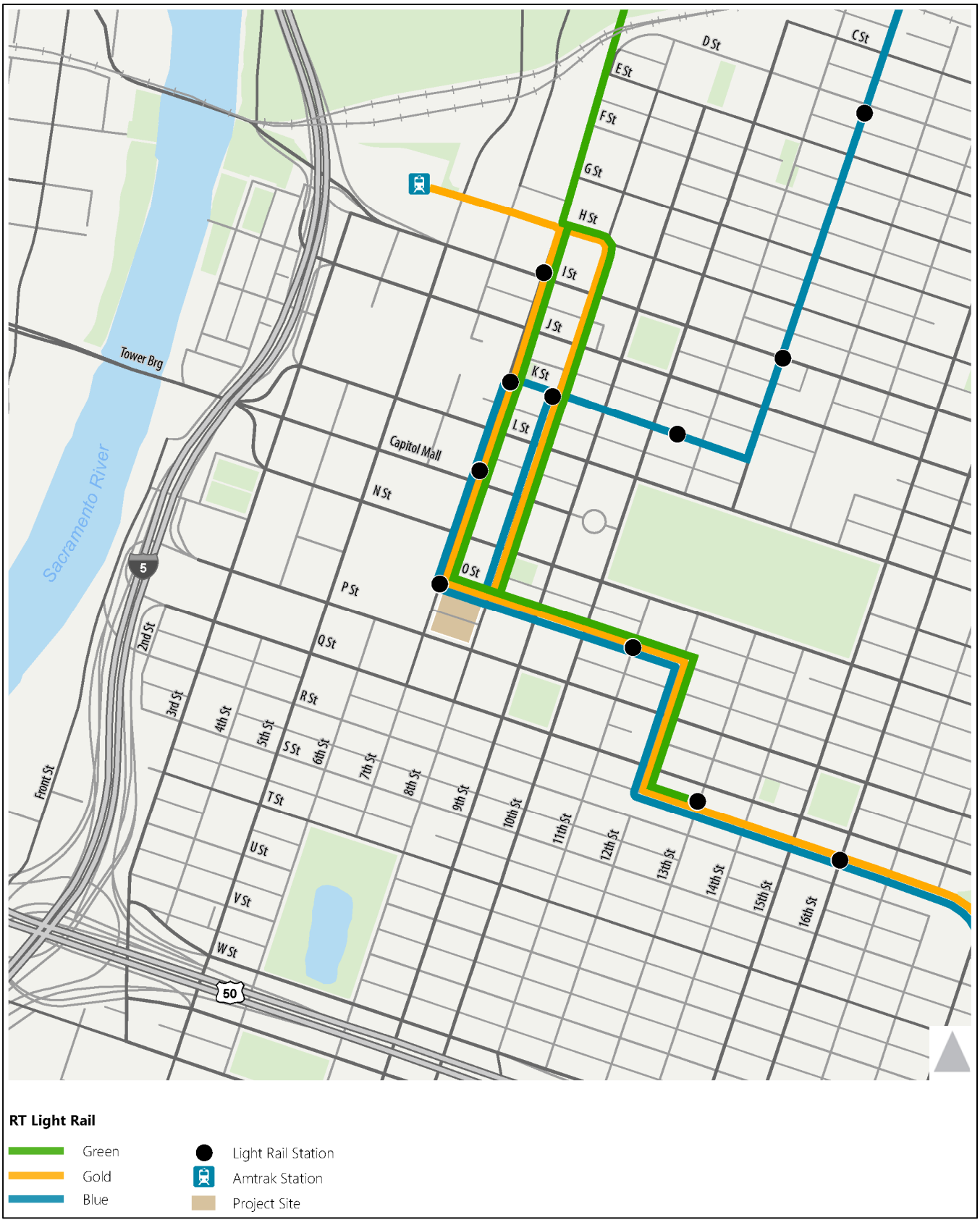
- Blue Line – connects to I-80/Watt Avenue to the north and Cosumnes River College to the south. The Blue Line operates from about 4:00 a.m. through 1:00 a.m. Monday through Friday, from about 4:30 a.m. through 1:00 a.m. on Saturday, and from about 5:00 a.m. through 11:00 p.m. on Sunday and holidays.

- Gold Line – connects to the Sacramento Valley Station (Amtrak) in Downtown Sacramento to regions east to Folsom. The Gold Line operates from about 4:00 a.m. through 12:30 a.m. Monday through Friday, from about 4:45 a.m. through 12:30 a.m. on Saturday, and from about 4:45 a.m. through 10:30 p.m. on Sunday and holidays.

- Green Line – serves Downtown Sacramento and connects to the 7th & Richards/Township 9 Station in the River District. The Green Line operates from about 6:00 a.m. through 8:45 p.m. Monday through Friday. No service is provided on Saturday, Sunday, or holidays.

All three light rail lines travel along the same route near the project site. Dedicated roadway space is allocated for light rail on O Street (between 7th Street and 12th Street), and between Q Street and R Street (from 12th Street to 24th Street). Light rail tracks are shared with vehicle traffic along 12th Street (between O Street and Q Street). Light rail crossings at the intersections along O Street (8th Street, 9th Street, 10th Street, and 11th Street) are at-grade without crossing gates. Light rail crossing between Q Street and R Street (at 13th Street, 14th Street, 15th Street, 16th Street, and 17th Street) are also at-grade, but include crossing gates.

Exhibit 4.4-4 displays the locations of existing rail service within the study area.



Source: Fehr & Peers 2017

Exhibit 4.4-4 **Existing Rail Service**

Multiple local bus routes provided by RT also serve the study area with stops within ¼ mile of the project site. These routes are described in detail below:

- Route 2 – Riverside: Provides connections between the Pocket Area, Land Park (via Riverside Boulevard), and Downtown Sacramento. Operates every hour on weekdays between 5:30 a.m. and 7:00 p.m.; no service is provided on weekends. Route 2 has a stop at 7th Street/O Street and at 8th Street/P Street, adjacent to the project site.

- Route 6 – Land Park: Provides connections between the Pocket Area, Land Park (via Land Park Drive), and Downtown Sacramento. Operates every hour on weekdays between 6:15 a.m. and 8 p.m.; no service is provided on weekends. Route 2 has a stop at 7th Street/O Street and at 8th Street/P Street, adjacent to the project site.

- Route 15 – Rio Linda Blvd/O Street: Provides connections between Watt/I-80, Del Paso Heights, Richards Boulevard, and Downtown Sacramento. Operates on 30 minute intervals on weekdays from about 5:30 a.m. to 7:30 p.m., and every hour from 7:30 p.m. to 9 p.m. Saturday operation runs every hour from about 7 a.m. to 9 p.m., and Sunday operation runs every hour from about 8 a.m. to 9 p.m. Route 15 has a stop at 7th Street/O Street and at 8th Street/P Street, adjacent to the project site.

- Route 34 – McKinley: Provides connections between CSU Sacramento, East Sacramento, Midtown, and Downtown Sacramento. Operates every hour on weekdays from about 5 a.m. to 7 p.m.; no service is provided on weekends. Route 34 has a stop at 7th Street/O Street and at 8th Street/P Street, adjacent to the project site.

- Route 38 – P/Q Streets: Connects Downtown Sacramento with the University/65th Street Light Rail Station and Upper Land Park. Operates every hour on weekdays from about 6:30 a.m. to 9 p.m. Saturday operation runs every hour from about 7:45 a.m. to 8:45 p.m., and Sunday operation runs every hour from about 8 a.m. to 6:30 p.m. Route 38 has a stop at 9th Street/O Street (one block from the project site) and at P Street/11th Street (three blocks from the project site).

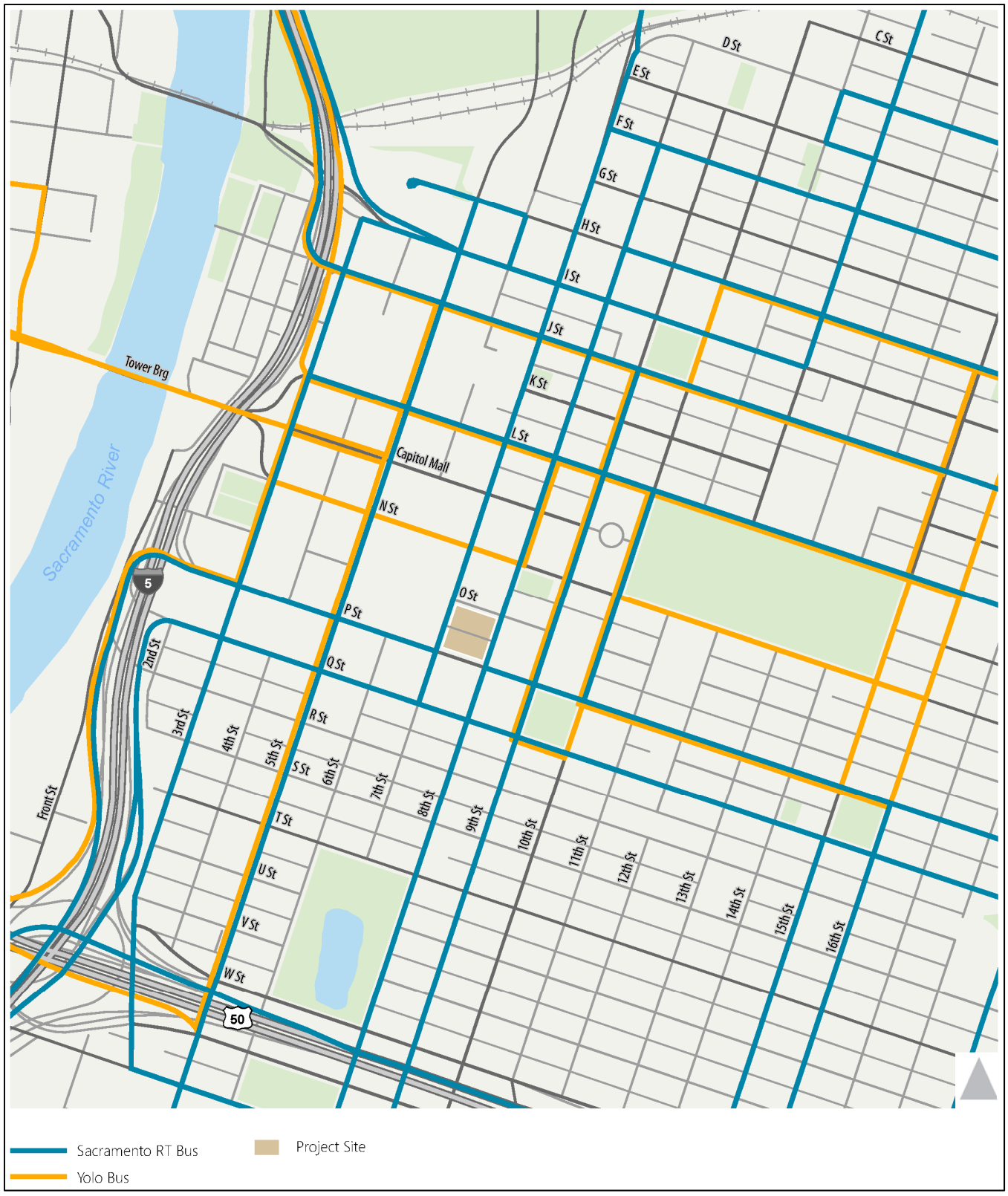
- Route 51 – Broadway/Stockton: Provides connections between Florin Area, Oak Park (via Stockton Boulevard), Broadway Area, and Downtown Sacramento. Operates on 15-minute intervals on weekdays from about 5:30 a.m. to 10:30 p.m. Saturday operation runs on 30-minute intervals from about 6:15 a.m. to 10:45 p.m.; Sunday operation runs on 5:15 a.m. to about 9:15 p.m. Route 51 has a stop at 7th Street/O Street and at 8th Street/P Street, adjacent to the project site.

Local transit service within the study area is also provided by the Yolo County Transportation District (Yolobus). Yolobus service operates fixed-route bus service between downtown areas of Sacramento, West Sacramento, Davis, and Woodland, and also provides the only fixed-route transit service linking these areas to the Sacramento International Airport. Yolobus also serves Winters, Cache Creek Casino, Esparto, Madison and Knights Landing, and operates non-fixed-route shuttle service between the Southport area and Raley Field for River Cats baseball games.

Exhibit 4.4-5 displays the routes of existing local bus service within the study area.

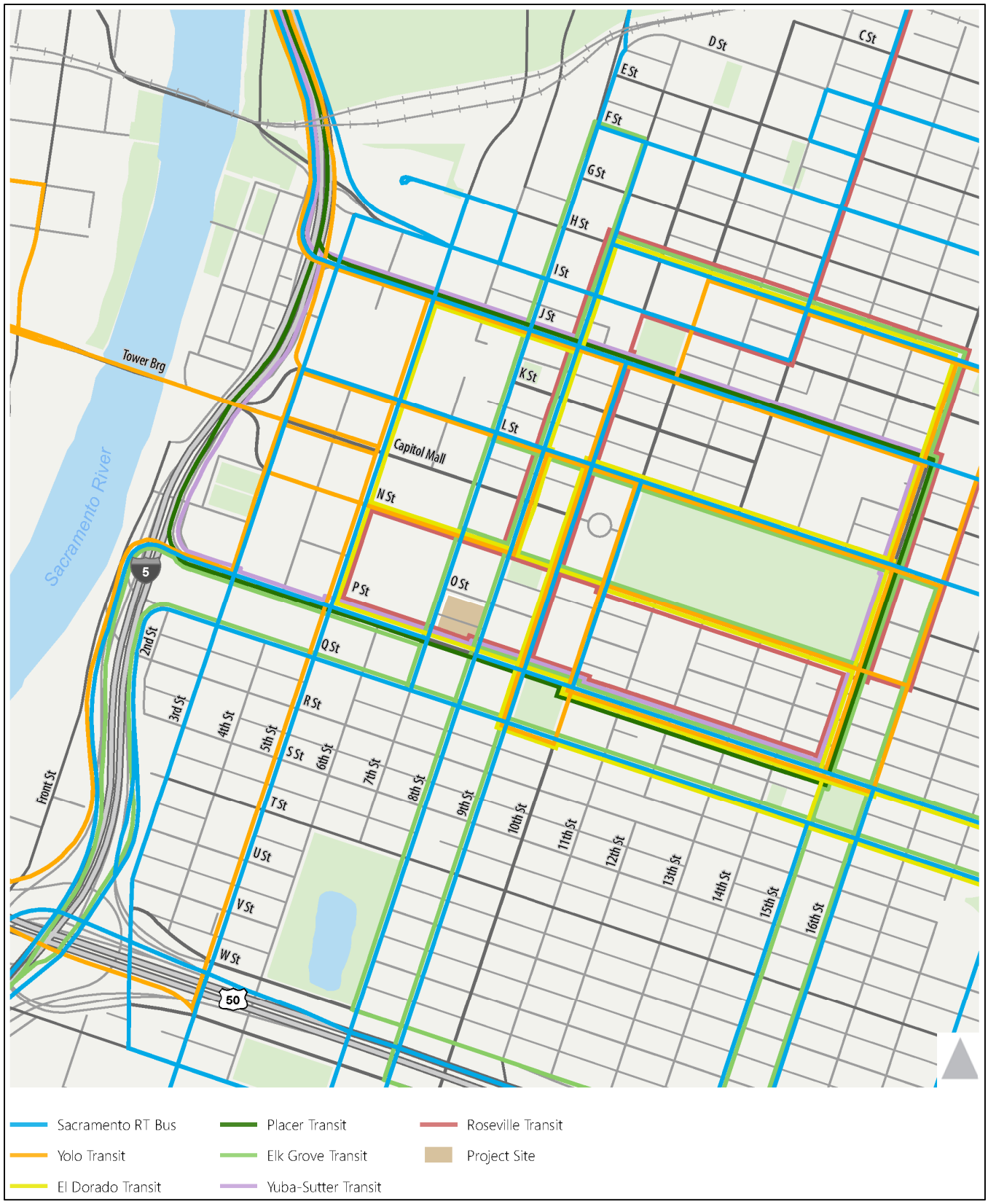
In addition to RT and Yolobus, multiple other transit agencies including Elk Grove Transit, Roseville Transit, El Dorado Transit, Yuba-Sutter Transit, Folsom Stage Lines, the San Joaquin Regional Transit District, and Amador Regional Transit System offer commuter service into downtown Sacramento. These bus routes generally run only during the peak a.m. and p.m. commute periods, and serve employees commuting into Downtown Sacramento from surrounding areas beyond RT service.

Exhibit 4.4-6 displays the existing commuter bus routes within the study area.



Source: Fehr & Peers 2017

Exhibit 4.4-5 **Existing Local Bus Service**



Source: Fehr & Peers 2017

Exhibit 4.4-6 **Existing Commuter Bus Service**

BICYCLE SYSTEM

Exhibit 4.4-7 displays existing bicycle facilities in the study area. The following types of bicycle facilities exist within the study area:

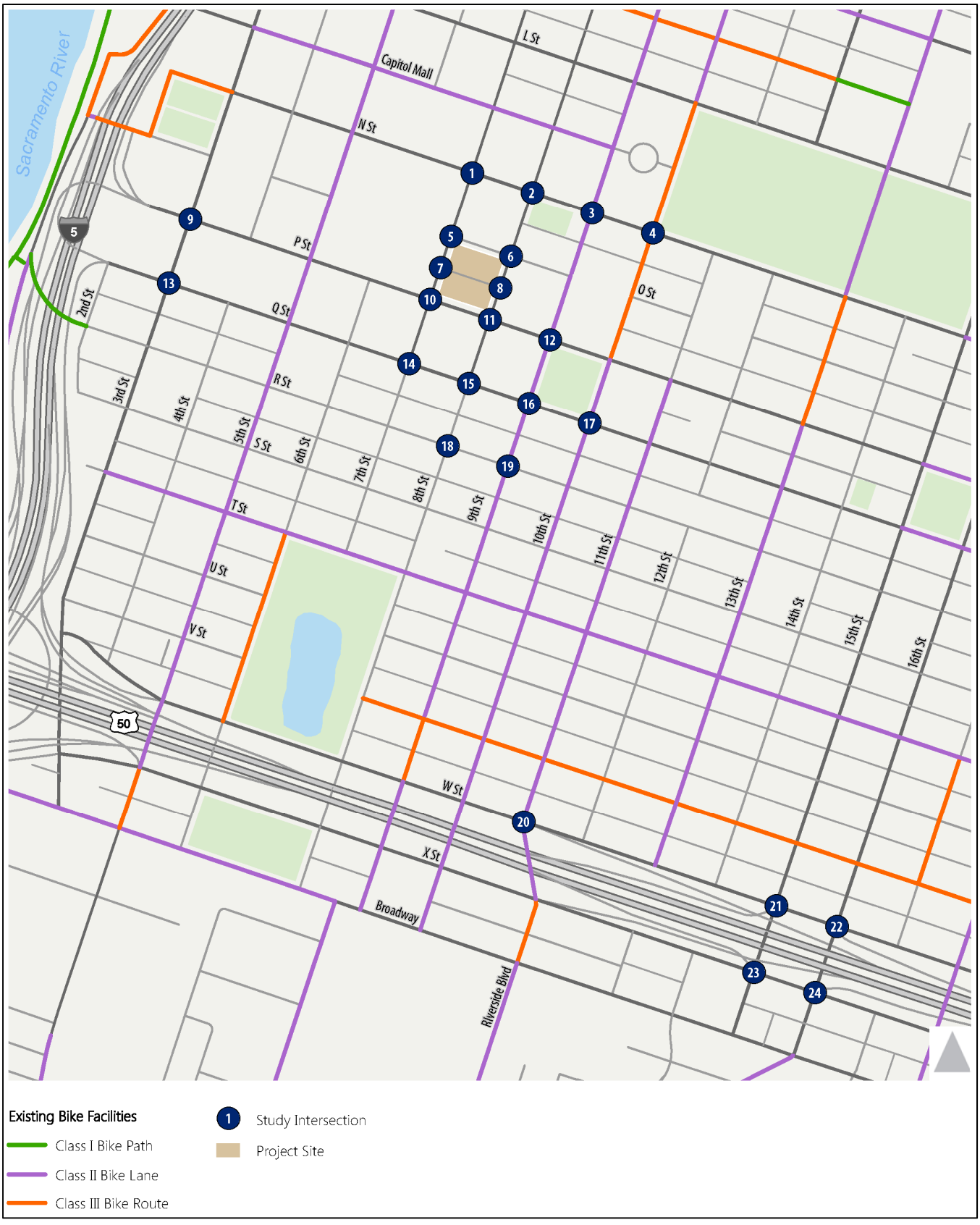
- Multi-use paths (Class I) – are paved trails that are separated from roadways and allow for shared use by both cyclists and pedestrians.
- On-street bike lanes (Class II) – are designated for use by bicycles by striping, pavement legends, and signs.
- On-street bike routes (Class III) – are designated by signage for shared bicycle use with vehicles but do not necessarily include any additional pavement width.

As shown, the Sacramento River Bike Trail (Class I multi-use path) to the west of the project site connects to Downtown Sacramento via R Street. Class II bicycle lanes exist within the study area along 5th Street, 9th Street, 10th Street, 11th Street, and 13th Street in the north/south directions and along T Street and Capitol Mall in the east/west directions. There are currently no bicycle lanes along the roadways immediately adjacent to the project site (on 7th Street, 8th Street, O Street, or P Street).

PEDESTRIAN SYSTEM

The high level of connectivity provided by the study area's gridded street system, concentration of land uses, and provision of consistent high-quality pedestrian facilities results in higher levels of pedestrian travel within the study area relative to other portions of the City. According to data from the 2010 Census, 15 percent of residents within the Central City (which is comprised of Midtown and Downtown) walk to work on a regular basis, which is approximately five times the rate of the City as a whole.

Nearly all streets in the study area feature sidewalks on both sides of the roadway, and sidewalk widths typically range between 6 and 15 feet. Sidewalks are present on all streets adjacent to the project site (along 7th Street, 8th Street, O Street, and P Street). The only notable gap in sidewalk coverage in the project vicinity is along R Street between 8th Street and 10th Street. Most sidewalks in Downtown are separated from the roadway by on-street parking and landscaped planter strips, which feature shade trees. These streetscape features increase pedestrian comfort. Crosswalks are typically provided on all approaches to intersections, and intersections between major streets typically feature marked crosswalks on all approaches. Traffic signals within the study area operate on relatively short cycle lengths, and nearly all have automatic walk signals for pedestrians; combined, these features result in low levels of crossing delay for pedestrians.



Source: Fehr & Peers 2017

Exhibit 4.4-7 **Existing Bicycle Facilities**

4.4.3 Environmental Impacts and Mitigation Measures

This section describes the analysis techniques, assumptions, and results used to identify potential significant impacts of the proposed project on the transportation system. Transportation and circulation impacts are described and assessed, and mitigation measures are recommended for impacts identified as significant or potentially significant.

ANALYSIS METHODOLOGY

The transportation and circulation analysis methodology uses the anticipated travel characteristics of the project, trip generation and mode split assumptions, and vehicle trip distribution, as described below.

Project Elements Affecting Transportation and Circulation

The Resources Building Replacement Project would accommodate the following number of office employees:

- 3,500 total employees:
  - 2,300 employees relocated from the current Resources Building (1416 9th Street)
  - 1,200 new employees

The project includes removal of 169 surface parking spaces currently allocated to State employees, and removal of 100 surface parking spaces currently leased to the Capital Athletic Club. The office building would include 50 below-grade, on-site parking spaces allocated to building employees. Access to the on-site parking would be via 7th Street.

The project also includes a child-care facility for children of State employees that would accommodate up to 60 children. The child-care facility would be located on the roof of the EDD Subterranean Building (750 N Street) and would have pick-up and drop-off access located on N Street. Considering that the facility would be used by State employees that are already destined to travel to and from the study area as part of their commute, few if any new trips would be generated by the child-care facility. It is conservatively assumed that all trips associated with the child-care facility would utilize the designated pick-up location on N Street before continuing to a parking facility (and vice versa). Therefore, trips to/from the child-care facility would consist of a pass-by stop along an already generated commute trip to the study area.

Project Trip Generation and Travel Mode Split

Project trip generation was determined by using, in part, trip equations from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (9th Edition) for office land use (code 710). Based on the 3,500 total employees, the equivalent trip rates under daily, a.m. peak hour, and p.m. peak hour are reported in Table 4.4-5.

Table 4.4-5 ITE Trip Generation Base Rates

Office Building	Employees	ITE Trip Equations			Equivalent Trip Rates				
		Daily	AM Peak Hour	PM Peak Hour	Daily	AM Peak Hour		PM Peak Hour	
					Rate	Rate	In/Out	Rate	In/Out
Total Employees	3,500	Ln(T) = 0.84 Ln(X) + 2.23	Ln(T) = 0.86 Ln(X) + 0.24	T = 0.37(X) + 60.08	3.01	0.47	88%/12%	0.42	17%/83%

Notes: Trip generation is based on the trip equations from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (9th Edition) for Office land use (code 710).

Source: Fehr & Peers 2017

ITE provides trip rates in units of vehicle trips; however, because the Resources Building Replacement Project would be located in an urban environment with convenient access to transit, walking, and bicycling as commute options, refined trip generation rates in units of person-trips are necessary for meaningful analysis. The base vehicle trip rates from ITE were converted to person-trips using the auto occupancy rate

of 1.13 persons per vehicle (calculated from information in the 2016 State Employee Commute Survey). The resulting person-trip rates and person-trip generation is presented in Table 4.4-6.

Table 4.4-6 Project Person-Trip Generation

Office Building	Employees	Person-Trip Rates					Person-Trips						
		Daily	AM Peak Hour		PM Peak Hour		Daily	AM Peak Hour			PM Peak Hour		
		Rate[1]	Rate[1]	In / Out	Rate[1]	In / Out	Total	Total	In	Out	Total	In	Out
Total Employees	3,500	2.85	0.46	88%/12%	0.44	17%/83%	9,967	1,604	1,412	192	1,531	260	1,271
Relocated Employees	2,300						6,550	1,054	928	126	1,006	171	835
New Employees[2]	1,200						3,417	550	484	66	525	89	436

[1]Conversion to total person-trips (based on an auto occupancy of 1.13 persons per vehicle) was used to determine the person-trip rates before calculating trips by each travel mode.

[2]Trip generation for New Employees (net trips added with the project) is the difference of Total Employees minus Relocated Employees.

Source: Fehr & Peers 2017

The expected project travel mode splits are based on the 2016 State Employee Commute Survey. The survey documents that 36 percent of state employees working in the City of Sacramento Core Area commute by transit (State Employee Commute Survey, page 2). More detailed travel mode splits are available for all State employees in the Sacramento region, but not for State employees working just in the Sacramento Core Area. Therefore, drive alone, carpool, and vanpool mode split percentages are based on the percentages for all State employees in the Sacramento region (initially 57.0 percent, 14.3 percent, and 1.4 percent, respectively) factored down to account for the higher transit mode share in the Core Area, where the project site is located. Bicycle and walk travel mode splits are conservatively assumed to be consistent with the percentages for all State employees in the region. Table 4.4-7 displays the travel mode split percentages and person-trips by mode for total project employees, relocated employees, and new employees.

Table 4.4-7 Project Person-Trip Generation By Mode

Travel Mode	Mode Split	Office Building	Person-Trips						
			Daily	AM Peak Hour			PM Peak Hour		
			Total	Total	In	Out	Total	In	Out
Drive Alone	45.6%	Total Employees	4,545	731	644	87	698	119	579
		Relocated Employees	2,987	481	423	58	459	78	381
		New Employees	1,558	250	221	29	239	41	198
Carpool (2-6 persons)	11.4%	Total Employees	1,146	184	162	22	176	30	146
		Relocated Employees	753	121	107	14	116	20	96
		New Employees	393	63	55	8	60	10	50
Vanpool (7+ persons)	1.1%	Total Employees	110	18	16	2	17	3	14
		Relocated Employees	72	12	10	2	11	2	9
		New Employees	38	6	6	0	6	1	5
Transit	36.0%	Total Employees	3,588	577	508	69	551	94	457
		Relocated Employees	2,358	379	334	45	362	62	300
		New Employees	1,230	198	174	24	189	32	157
Bicycle	3.5%	Total Employees	349	56	49	7	54	9	45
		Relocated Employees	229	37	32	5	35	6	29
		New Employees	120	19	17	2	19	3	16

Table 4.4-7 Project Person-Trip Generation By Mode

Travel Mode	Mode Split	Office Building	Person-Trips						
			Daily	AM Peak Hour			PM Peak Hour		
			Total	Total	In	Out	Total	In	Out
Walk	2.3%	Total Employees	229	37	32	5	35	6	29
		Relocated Employees	151	24	21	3	23	4	19
		New Employees	78	13	11	2	12	2	10

Notes: Travel mode split is based on the 2016 State Employee Commute Survey. Mode split percentages are based on the 36 percent transit use noted for employees working in the City of Sacramento Core Area (page 2). Further detailed travel mode splits for State employees in the City of Sacramento Core Area was not available. Therefore, drive alone, carpool, and vanpool mode split percentages are based on all State employees in the Sacramento region (initially 57.0%, 14.3%, and 1.4%, respectively) factored down to account for the higher transit mode share in the Sacramento Core Area, where the project site is located. Bicycle and walk travel mode percentages are based on all State employees in the Sacramento region.

Source: Fehr & Peers 2017

As shown in Table 4.4-7, 58 percent of the Resources Building Replacement Project employees are expected to commute by vehicle (i.e., drive alone, carpool, or vanpool). The refined number of person-trips using a vehicle was converted to vehicle trips using the 1.13 average auto occupancy (persons per vehicle) based on data from the 2016 State Employee Commute Survey. Table 4.4-8 shows the expected number of vehicle trips for the total project, relocated employees, and new employees.

Table 4.4-8 Project Vehicle Trip Generation

Office Building	Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
	Total	Total	In	Out	Total	In	Out
Total Employees	5,134	826	727	99	788	134	654
Relocated Employees	3,374	543	478	65	519	88	431
New Employees	1,760	283	249	34	269	46	223

Note: Vehicle trip generation is based on the combined number of person-trips for drive alone/carpool/vanpool travel modes, divided by the average auto occupancy (1.13 persons per vehicle).

Source: Fehr & Peers 2017

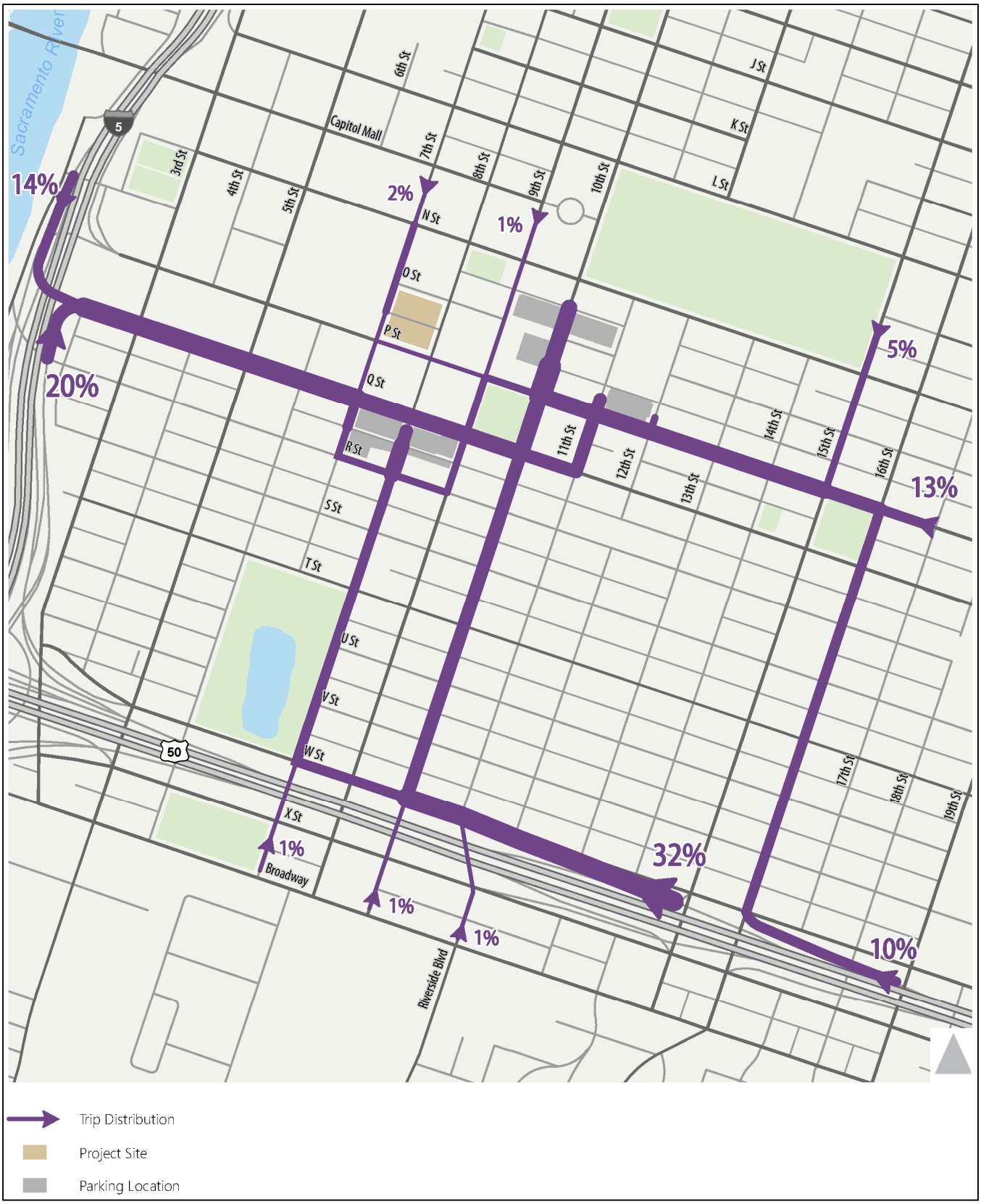
On a daily basis, the new office building would generate 5,134 total vehicle trips; however, because many of the trips are existing trips associated with employees that would be relocated to the new building, only 1,760 new vehicle trips would be added to the study area roadway network with implementation of the proposed project.

Project Vehicle Trip Distribution

Project vehicle trip distribution was developed using the following sources:

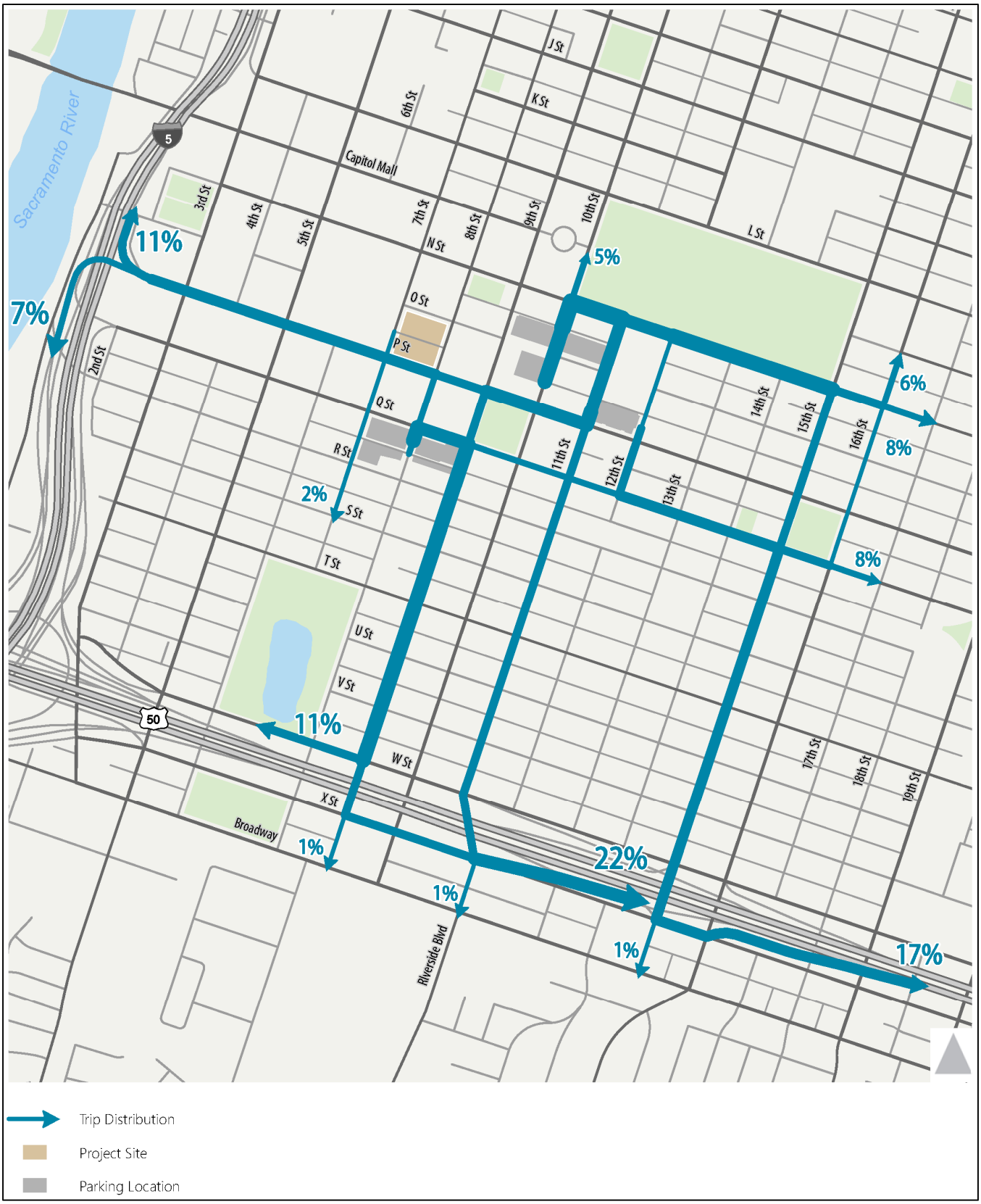
- 2016 State Employee Commute Survey – employee residences by zip code;
- travel time comparison from Google Maps during peak commute hours for routes to each parking location; and
- parking supply and availability in the vicinity of the project site (as outlined in the Existing Parking Supply and Availability Memorandum, December 16, 2016; see Appendix C).

Exhibits 4.4-8 and 4.4-9 show the expected distribution of inbound and outbound project trips under existing-plus-project conditions. It was necessary to develop separate distributions for inbound and outbound trips because of the number of one-way streets and differing inbound and outbound route travel times.



Source: Fehr & Peers 2017

Exhibit 4.4-8 **Inbound Trip Distribution – Existing-Plus-Project**



Source: Fehr & Peers 2017

Exhibit 4.4-9 **Outbound Trip Distribution – Existing-Plus-Project**

Because the Resources Building Replacement Project would be located within one block of the existing Resources Building, employee parking locations for the new and relocated employees are expected to remain the same. Exhibit 4.4-10 shows the changes in number of employees from existing to existing-plus-project conditions, and the relative changes in parking with the project based on reduction of parking spaces at the project site, and the existing parking availability at other nearby surface lots and garages.

THRESHOLDS OF SIGNIFICANCE

The significance criteria used to evaluate the project impacts to transportation and circulation under CEQA are based on Appendix G of the CEQA Guidelines, and thresholds of significance adopted by the City in its general plan and previous environmental documents, including the 2035 General Plan Master EIR (City of Sacramento 2014).

The following describes the significance criteria used to identify project-specific and cumulatively considerable impacts to the transportation and circulation system for the proposed project.

Intersections

Impacts to the roadway system would be significant if:

- traffic generated by the project degrades the overall roadway system operation to the extent that the project would not be consistent with General Plan Policy M 1.2.2 relating to the City's allowable Level of Service; or

- traffic generated by the project substantially degrades operation of intersections and roadway segments, despite compliance with General Plan policies.

General Plan Mobility Element Policy M 1.2.2 sets forth definitions for what is considered an acceptable LOS. All study intersections are in the Core Area and are governed by Policy M 1.2.2 (A), under which LOS F is acceptable during peak hours, provided the project contribute other acceptable improvements to transportation-system-wide roadway capacity, intersections, or non-auto travel modes in furtherance of General Plan goals. Road widening or other improvements to road segments are not required.

Freeway Facilities

Impacts to the freeway system would be significant if:

- project traffic causes off-ramp traffic to queue back to beyond the freeway gore point, or worsens an existing/projected queuing problem on a freeway off-ramp.

Vehicle Miles Traveled

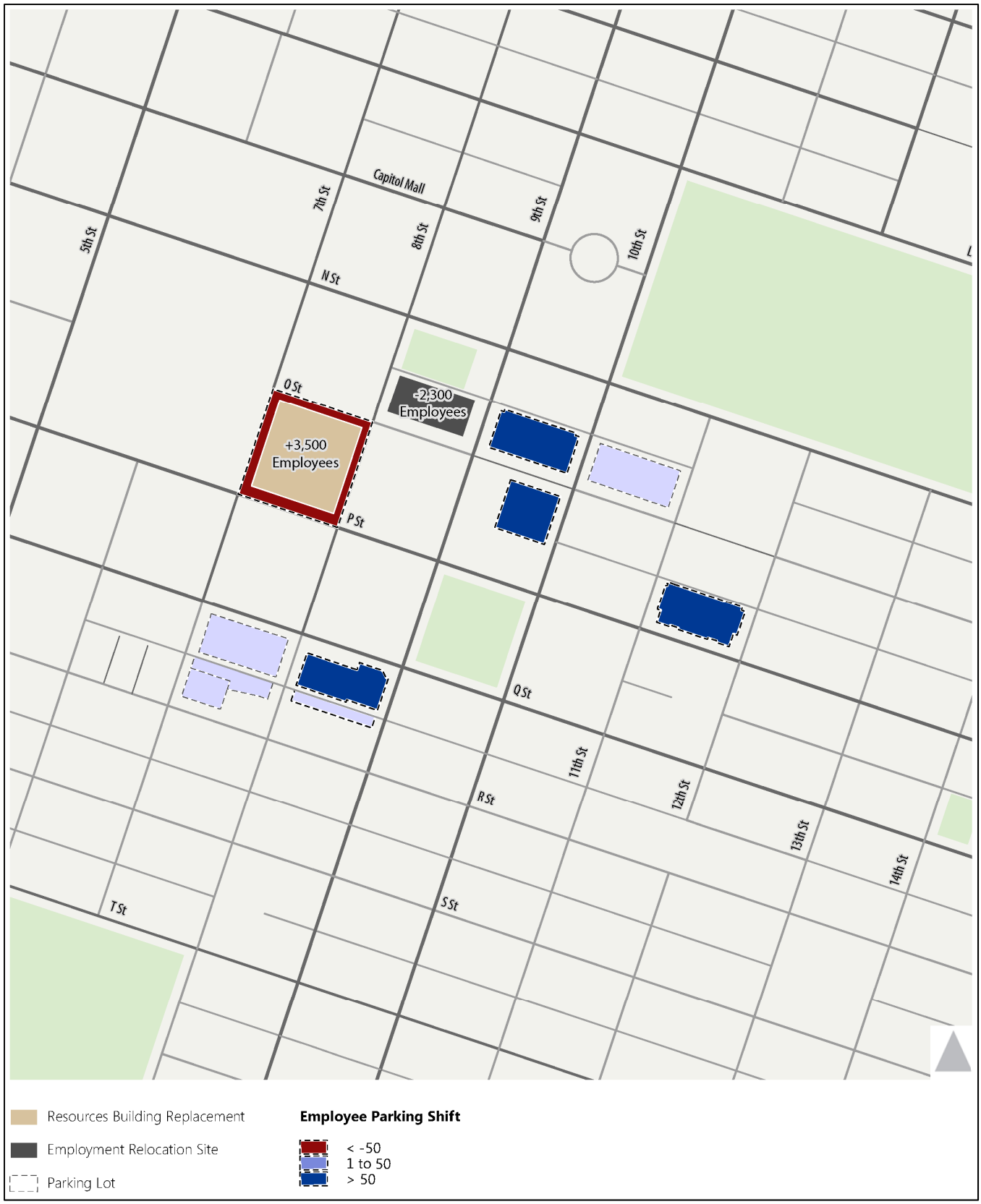
Impacts related to VMT would be considered significant if the project would:

- substantially increase VMT per service population (total residents and employees) within the Sacramento Core Area.

Transit

Impacts to the transit system would be significant if the project would:

- adversely affect public transit operations, or
- fail to adequately provide access to transit.



Source: Fehr & Peers 2017

Exhibit 4.4-10 Changes in Parking – Existing Conditions to Existing-Plus-Project Conditions

Bicycle Facilities

Impacts to bicycle facilities are considered significant if the project would:

- adversely affect existing or planned bicycle facilities, or
- fail to adequately provide for access by bicycle.

Pedestrian Circulation

Impacts to pedestrian circulation are considered significant if the project would:

- adversely affect existing or planned pedestrian facilities, or
- fail to adequately provide for access by pedestrians.

Construction-Related Traffic Impacts

Construction-related traffic impacts would be significant if they would:

- degrade level of service of an intersection or roadway to an unacceptable level;
- cause substantial inconvenience to motorists because of prolonged road closures; or
- result in substantially increased potential for conflicts between vehicles, pedestrians, and bicyclists.

The first significance criterion bullet listed above under "Intersections" is the City's interpretation of how General Plan Policy M 1.2.2 should be applied in the Core Area and Priority Investment Areas of the City. This policy allows these areas to have intersections that operate at LOS F. However, such conditions should not be detrimental to other General Plan circulation policies (including but not limited to policies M 1.2.1, 1.2.4, 1.3.3, and 1.3.5), which pertain to providing high-quality transit, walkable neighborhoods and business districts, continuous and connected bikeways, transportation demand management, emergency response, and other circulation considerations. So, while a single intersection operating at LOS F during the peak hour may be considered acceptable, an entire roadway system that experiences severe gridlock, and hampers all modes of travel is generally not acceptable. To this end, the evaluation of this significance criterion focuses on the totality of system operations to assess consistency with General Plan Policy M 1.2.2.

In developing Policy M 1.2.2, the City evaluated the benefits of allowing lower levels of service to promote infill development within an urbanized high density area of the city that reduces VMT and supports more transportation alternatives, including biking, walking, and transit, as compared to requiring a higher level of service that would accommodate more cars but may also require widening roads and would result in increased vehicle miles traveled and greenhouse gas emissions. Based on this evaluation, the City determined that LOS F is considered acceptable during peak hours within the Core Area, as long as the project provides acceptable improvements to other parts of the citywide transportation system, as described above.

The City's LOS policy was adopted to allow decreased levels of service (i.e., LOS F) in the urbanized Core Area of the City that supports more transportation alternatives and places residents proximate to employment, entertainment, retail, and neighborhood centers and thus reduces overall vehicle miles traveled and results in environmental benefits (e.g., improved air quality and reduced GHG emissions).

ENVIRONMENTAL IMPACTS

This section presents the results of the impact analysis, identifies significant impacts, and recommends mitigation measures, where necessary. First, the focus is on presenting the effects of the project on existing conditions (i.e., the existing-plus-project condition) and addressing these effects. Then, the focus of analysis is on presenting the transportation effects of the project in the context of cumulative conditions and addressing those effects.

Existing-Plus-Project Conditions

Potential impacts of the project on the transportation system are evaluated in this section based on the thresholds of significance and analysis results. Mitigation measures are recommended for any identified significant impacts.

Impact 4.4-1: Impacts to intersection operations

Implementation of the project would add an estimated 283 a.m. peak hour and 269 p.m. peak hour trips from new employees. Based on the traffic modeling and analysis, all study area intersections would operate at acceptable levels of service, with the exception of Intersection 20 (W Street/16th Street/US 50 Westbound Off-Ramp) which would operate at LOS D, as it does under existing conditions. Because the project would not cause any intersection operations to degrade to unacceptable levels, this would be a **less-than-significant** impact.

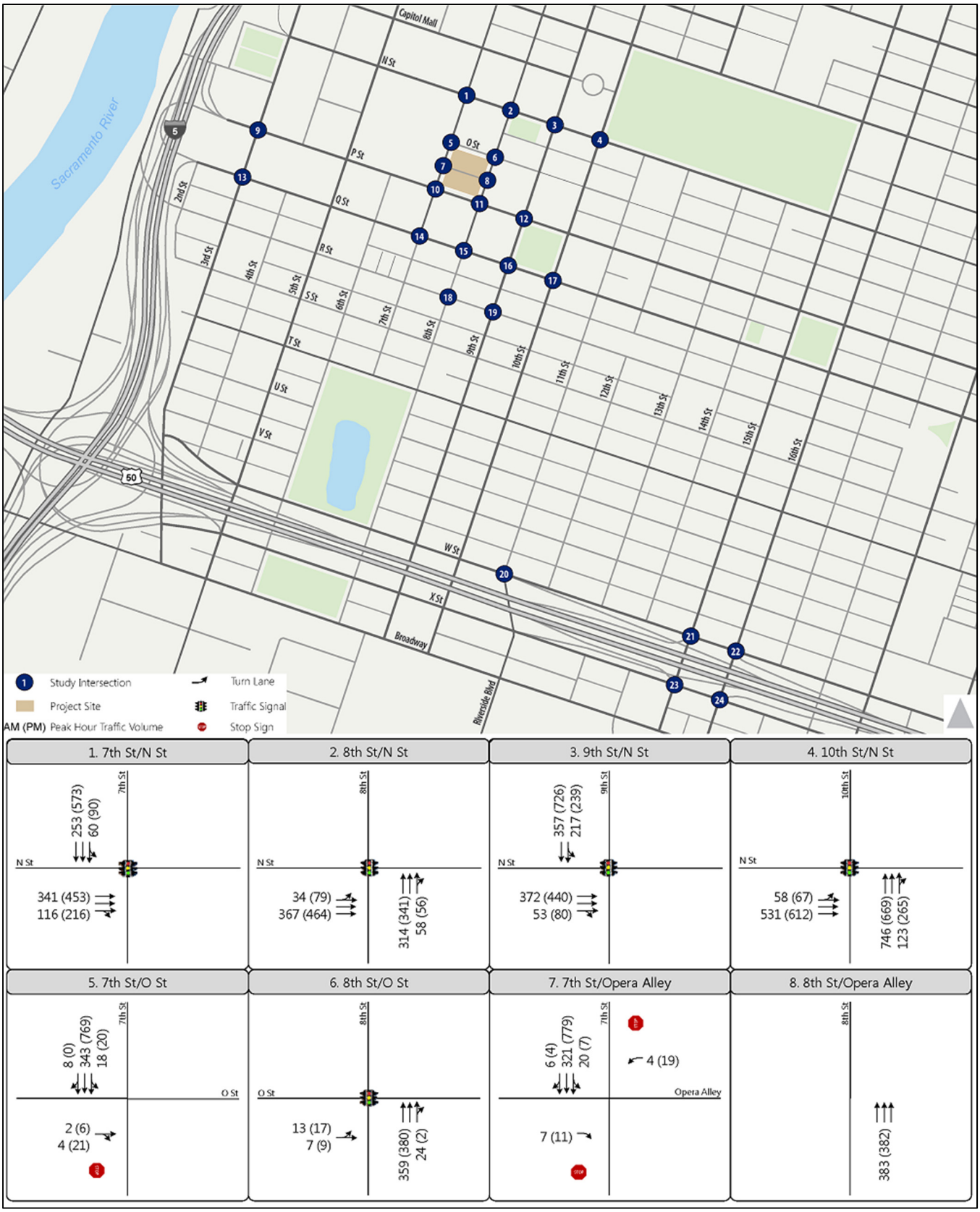
Existing-plus-project traffic volumes account for the addition of vehicle trips associated with the new employees to the existing volumes in accordance with the trip distribution previously presented. Exhibits 4.4-11A, 4.4-11B, and 4.4-11C display the resulting a.m. and p.m. peak hour intersection traffic volumes under existing-plus-project conditions.

Table 4.4-9 shows the existing-plus-project peak-hour intersection operations at the study intersections (refer to Appendix C for technical calculations). The vehicle access to the new office building would be located on 7th Street at Intersection 7, and the current surface parking access at Intersection 8 (8th Street/Opera Alley) would be removed. No vehicle delay or LOS is reported for Intersection 8 conditions under existing-plus-project conditions because there would be no movements that experience delay.

The project would shift travel patterns within the study area for State employees and Capital Athletic Club patrons currently parking at Resources Building Replacement project site, and would add 283 a.m. peak hour and 269 p.m. peak hour trips dispersed among the various nearby parking locations from the addition of the 1,200 new employees. All intersections would continue to operate at LOS C or better overall, except for Intersection 20 (W Street/16th Street/US 50 Westbound Off-Ramp) which would operate at LOS D, as it does under existing conditions. In general, the project would result in relatively minor changes in traffic operations within the study area. All intersections would maintain the same overall LOS with the addition of the project. This would be a **less-than-significant** impact

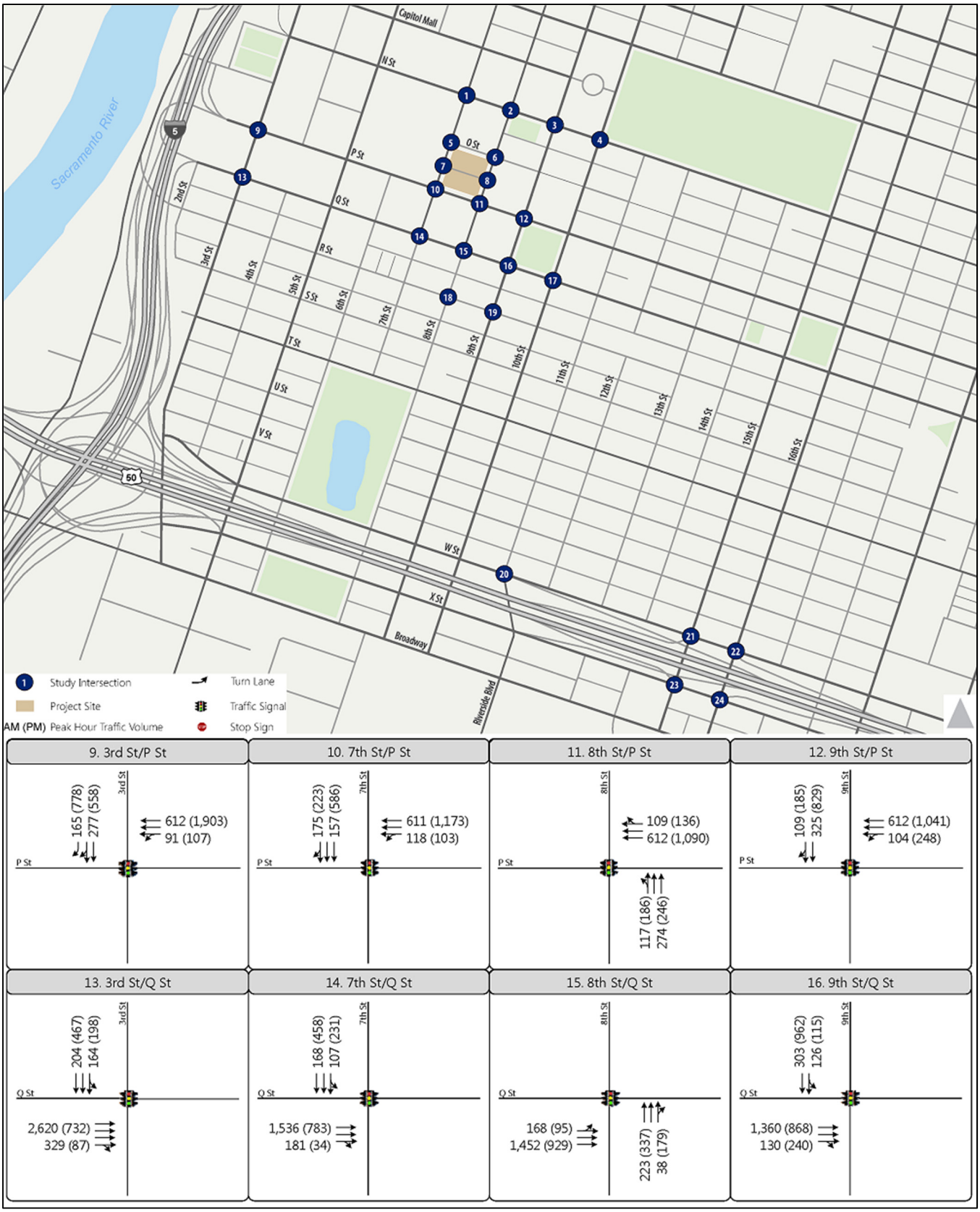
Mitigation Measures

No mitigation is required.



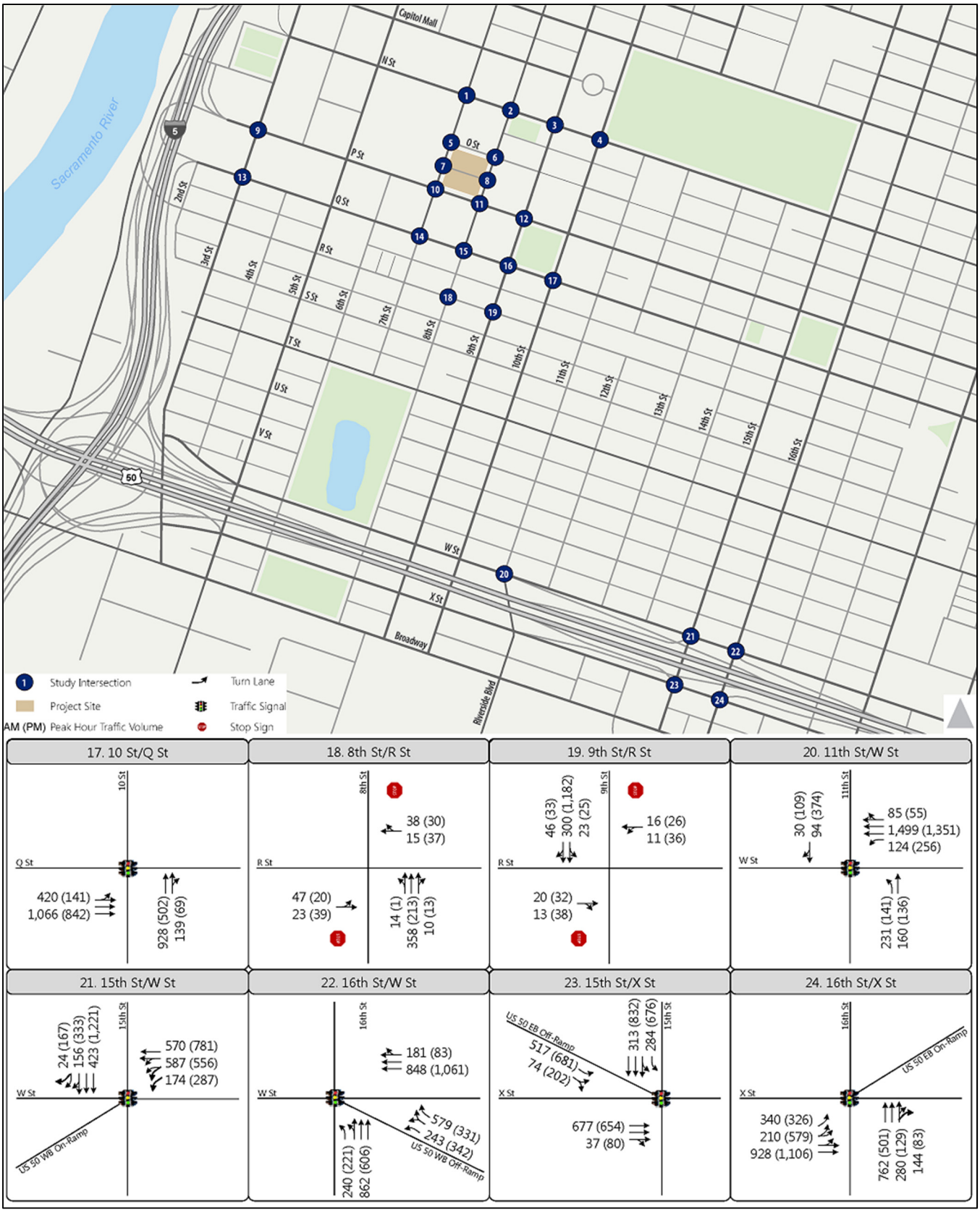
Source: Fehr & Peers 2017

Exhibit 4.4-11A **Peak Hour Traffic Volumes and Lane Configurations – Existing-Plus-Project, Study Intersections 1 through 8**



Source: Fehr & Peers 2017

Exhibit 4.4-11B **Peak Hour Traffic Volumes and Lane Configurations – Existing-Plus-Project, Study Intersections 9 through 16**



Source: Fehr & Peers 2017

Exhibit 4.4-11C **Peak Hour Traffic Volumes and Lane Configurations – Existing-Plus-Project, Study Intersections 17 through 24**

Table 4.4-9 Intersection Operations – Existing-Plus-Project Conditions

Intersection	Traffic Control	Peak Hour	Existing Conditions		Existing-Plus-Project Conditions	
			Delay[1]	LOS	Delay[1]	LOS
1. N Street / 7th Street	Signal	AM	7	A	8	A
		PM	9	A	9	A
2. N Street / 8th Street	Signal	AM	7	A	7	A
		PM	7	A	7	A
3. N Street / 9th Street	Signal	AM	10	A	9	A
		PM	13	B	13	B
4. N Street / 10th Street	Signal	AM	11	B	11	B
		PM	12	B	12	B
5. O Street / 7th Street	SSSC	AM	2 (4)	A (A)	2 (3)	A (A)
		PM	3 (14)	A (B)	3 (16)	A (C)
6. O Street / 8th Street	Signal	AM	3	A	5	A
		PM	4	A	5	A
7. Opera Alley / 7th Street	SSSC	AM	1 (5)	A (A)	1 (6)	A (A)
		PM	1 (8)	A (A)	1 (9)	A (A)
8. Opera Alley / 8th Street	SSSC	AM	1 (4)	A (A)	-	-
		PM	1 (5)	A (A)		
9. P Street / 3rd Street	Signal	AM	9	A	9	A
		PM	13	B	12	B
10. P Street / 7th Street	Signal	AM	5	A	6	A
		PM	6	A	7	A
11. P Street / 8th Street	Signal	AM	5	A	5	A
		PM	6	A	6	A
12. P Street / 9th Street	Signal	AM	11	B	11	B
		PM	21	C	18	B
13. Q Street / 3rd Street	Signal	AM	28	C	29	C
		PM	9	A	10	A
14. Q Street / 7th Street	Signal	AM	16	B	18	B
		PM	10	B	10	A
15. Q Street / 8th Street	Signal	AM	12	B	14	B
		PM	8	A	9	A
16. Q Street / 9th Street	Signal	AM	4	A	4	A
		PM	7	A	7	A
17. Q Street / 10th Street	Signal	AM	17	B	18	B
		PM	15	B	14	B
18. R Street / 8th Street	SSSC	AM	2 (8)	A (A)	2 (9)	A (A)
		PM	3 (8)	A (A)	3 (8)	A (A)
19. R Street / 9th Street	SSSC	AM	1 (9)	A (A)	1 (9)	A (A)
		PM	3 (21)	A (C)	3 (20)	A (C)
20. W Street / 11th Street	Signal	AM	15	B	17	B
		PM	18	B	18	B
21. W Street / 15th Street / US 50 WB On-Ramp	Signal	AM	11	B	12	B
		PM	16	B	17	B
22. W Street / 16th Street / US 50 WB Off-Ramp	Signal	AM	26	C	26	C
		PM	39	D	39	D
23. X Street / 15th Street / US 50 EB Off-Ramp	Signal	AM	18	B	19	B
		PM	31	C	35	C
24. X Street / 16th Street / US 50 EB On-Ramp	Signal	AM	13	B	13	B
		PM	16	B	18	B

Notes: LOS = Level of Service. SSSC = Side-Street Stop-Controlled

[1] For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches. For SSSC intersections, the LOS and control delay for the worst movement is shown in parentheses next to the average intersection LOS and delay. Impacts to intersections are determined based on the overall LOS and average delay. Intersection LOS and delay is calculated based on the procedures and methodology contained in the HCM 2010 (TRB, 2010). All intersections were analyzed in SimTraffic.

Source: Fehr & Peers 2017

Impact 4.4-2: Impacts to freeway off-ramp queuing

Implementation of the proposed project would result in either no change or minor increase (and even a slight decrease at one location in the p.m. peak hour) in queue lengths at study area freeway off-ramps. The project would not cause queuing at any freeway off-ramp to approach or extend beyond its storage capacity. Therefore, this would be a **less-than-significant** impact.

Table 4.4-10 displays the existing-plus-project off-ramp queuing results within the study area during the a.m. and p.m. peak hours. As shown, the project would result in minor changes in queuing. Queue lengths would either remain the same or slightly increase with implementation of the project. All study freeway off-ramp queues would continue to remain well within the available storage area with the addition of the project. This would be a **less-than-significant** impact

Table 4.4-10 Off-Ramp Queuing – Existing-Plus-Project Conditions

Location	Available Storage[1]	Peak Hour	Existing Conditions	Existing-Plus-Project
			Queue[2]	Queue[2]
Interstate 5 SB Off-Ramp at Q Street (from Q Street/3rd Street)	1,700 feet	AM PM	375 feet 125 feet	375 feet 125 feet
Interstate 5 NB Off-Ramp at Q Street (from Q Street/3rd Street)	2,075 feet	AM PM	325 feet 100 feet	375 feet 125 feet
US 50 WB Off-Ramp at 10th Street[3] (from W Street/11th Street)	2,150 feet	AM PM	- -	- -
US 50 WB Off-Ramp at 16th Street (from W Street/16th Street)	1,050 feet	AM PM	225 feet 250 feet	250 feet 250 feet
US 50 EB Off-Ramp at 15th Street (from X Street/15th Street)	1,125 feet	AM PM	175 feet 275 feet	175 feet 300 feet

Notes:
[1]The available storage length for off-ramp queuing is measured from the noted off-ramp terminal intersection to the freeway off-ramp gore point.
[2]Maximum queue length is based upon output from SimTraffic microsimulation software.
[3]The US 50 WB Off-Ramp at 10th Street (as specified by freeway wayfinding signage) is measured from the initial off-ramp terminal intersection of W Street/11th Street.
Source: Fehr & Peers 2017

Mitigation Measures

No mitigation is required.

Impact 4.4-3: Impacts to vehicle miles traveled

The proposed project would not increase daily VMT per service population in the study area. Therefore, this would be a **less-than-significant** impact.

Table 4.4-11 displays the daily VMT per employee generated by the project. Project-generated VMT was estimated using the most recent version of the SACMET regional travel demand model, developed and maintained by SACOG. The project was input into the SACMET base year (2012) travel demand model, which was refined in the study area to reflect 2017 traffic counts. The model was run, and all travel to/from the traffic analysis zone representing the project was tracked throughout the model. The model estimated that the project would generate 43,840 daily VMT under existing-plus-project conditions, which equates to 12.53 VMT per employee. It was assumed that on average, the daily VMT per employee would be consistent between relocated and new employees.

Table 4.4-11 Project VMT per Employee – Existing-Plus-Project Conditions

Office Building	Employees	Project Generated		
		Daily Vehicle Trips	Daily VMT	Daily VMT per Employee
Total Employees	3,500	5,134	43,840	12.53
Relocated Employees	2,300	3,374	28,809	12.53
New Employees	1,200	1,760	15,031	12.53

Source: Fehr & Peers 2017

Table 4.4-12 displays the daily VMT per service population (total residents and employees) within the Sacramento Core Area under existing and existing-plus-project conditions. The refined SACMET base year travel demand model was run with and without the project, and all travel to/from the traffic analysis zones representing the Core Area (bounded by the Sacramento River, American River, Alhambra Boulevard, and Broadway) was tracked throughout the model in both scenarios. As shown, the model estimates that the project would result increase daily VMT generated by the Sacramento Core Area from 4,189,079 to 4,215,637; however, this would result in a slight decrease in daily VMT per service population in the area from 36.88 to 36.73. The project would be served by multiple transit, bicycle, and pedestrian facilities in close proximity that would contribute to the lower automobile use and reduction in daily VMT per service population. This would be a **less-than-significant** impact

Table 4.4-12 Sacramento Core Area VMT per Service Population – Existing-Plus-Project Conditions

Scenario	Sacramento Core Area			Sacramento Core Area Generated		
	Residents	Employees	Service Population	Daily Vehicle Trips	Daily VMT	Daily VMT per Service Population
Existing Conditions	25,936	87,641	113,577	534,707	4,189,079	36.88
Existing-Plus-Project	25,936	88,841	114,777	537,549	4,215,637	36.73

Source: Fehr & Peers 2017

Mitigation Measures

No mitigation is required.

Impact 4.4-4: Impacts to transit

Implementation of the proposed project would generate 1,200 new employees which would in turn generate demand for 198 additional transit trips during the a.m. peak hour and 189 additional transit trips during the p.m. peak hour. Because the project area is served by multiple and substantial transit options, the increase in demand can be easily accommodated by existing available transit. Adequate access to transit would be available to project employees and the additional transit trips would not adversely affect public transit operations. Therefore, this would be a **less-than-significant** impact.

Implementation of the project would generate demand for 198 additional transit trips during the a.m. peak hour and 189 additional transit trips during the p.m. peak hour as a result of the new employees (see Table 4.4-7). Multiple transit options exist within the study area, including the Blue, Gold, and Green Line light rail lines, which all serve a station located adjacent to the project site (8th and O Station). Multiple RT bus lines also serve the study area (including RT Routes 2, 6, 15, 34, 38, and 51), as well as the multitude of commuter bus routes that have stops within a ¼ mile of the project site. The increase in demand generated by the project can be easily accommodated by existing available transit. Further, operations at the study intersections along these bus routes would not deteriorate by more than four seconds of delay with the addition of the project and would

operate at LOS D or better. Therefore, the proposed project would not disrupt any existing or proposed transit facility, or degrade access to transit. This would be a **less-than-significant** impact.

Mitigation Measures

No mitigation is required.

Impact 4.4-5: Impacts to bicycle facilities

The proposed project would result in 1,200 new employees which, based on mode-split assumptions, would generate 120 additional bicycle trips per day. The downtown area and vicinity offers numerous Class I and Class II bicycle facilities. Project employees would have adequate access to bicycle facilities, and the addition of the project would not adversely affect existing or planned bicycle facilities. Therefore, this would be a **less-than-significant** impact.

Implementation of the project would generate approximately 120 new bicycle trips per day (see Table 4.4-7). As described above, there are no bicycle facilities on the roadways immediately adjacent to the project site (7th Street, 8th Street, O Street, or P Street), but there are numerous bicycle facilities within the study area and beyond. These include a Class I multi-use path along the Sacramento River, and Class II bicycle lanes along 5th Street, 9th Street, 10th Street, 11th Street, and 13th Street in the north/south directions and along T Street and Capitol Mall in the east/west directions. Implementation of the project would not remove any existing bicycle facilities nor interfere with any planned bicycle facilities, including those planned on 7th Street (south of P Street), 8th Street, N Street, P Street (east of 9th Street), and Q Street (east of 9th Street). This would be a **less-than-significant** impact.

Mitigation Measures

No mitigation is required.

Impact 4.4-6: Impacts to pedestrian facilities

Pedestrian facilities in the vicinity of the proposed project are adequate to accommodate the proposed project. Additional employees would have adequate access to pedestrian facilities and would not adversely affect existing or planned facilities. Therefore, this would be a **less-than-significant** impact.

Based on mode-split assumptions, implementation of the project would generate approximately 78 new walking trips per day (see Table 4.4-7). All streets adjacent to the project site have continuous sidewalks that provide at least 6-foot-wide clear zones for pedestrian travel adjacent to planter strips that provide a buffer between the sidewalk and vehicular travel lanes/parking lanes. The proposed project would not disrupt any existing or planned pedestrian facilities in the study area. This would be a **less-than-significant** impact.

Mitigation Measures

No mitigation is required.

Impact 4.4-7: Construction related impacts

Project construction may require restricting or redirecting pedestrian, bicycle, and vehicular movements at locations around the site to accommodate demolition, material hauling, construction, staging, and modifications to existing infrastructure. Such restrictions could include lane closures, lane narrowing, and detours. Construction traffic impacts would be localized and temporary; sufficient staging area would be available to the construction contractor reducing the need for use of streets and other active areas; and DGS or its contractor would prepare and implement a Construction Traffic Management Plan to reduce the temporary impacts to the degree feasible, For these reasons, construction traffic impacts would be **less than significant**.

Project construction is anticipated to begin early 2018 and be complete, with tenant occupancy, sometime in 2021. Construction of the proposed project would generate truck and worker trips during demolition of the existing parking lot on the project site and during construction of the new building and support structures. The construction labor force would fluctuate depending on the phase of work, but is expected to range from 25 to 50 workers during initial phases and approximately 587 workers during the peak of construction. In addition, approximately 8,000 total haul trips could be required for all phases of construction (see Chapter 3, "Project Description"). Because the magnitude of these trips during peak hours would be less than that of the proposed project, absolute impacts (in terms of delay and queuing) when compared to existing-plus project operations would not be significant.

Some temporary construction staging would occur on the roof of EDD Subterranean building just north of the project site. Temporary construction offices could be placed on the roof or within the building and limited equipment and vehicle staging could occur consistent with the load bearing capacity of the roof. The temporary use of this space would not alter normal activity in the EDD Subterranean building. Additional staging would occur on the P Street Block itself.

Construction operations may require restricting or redirecting pedestrian, bicycle, and vehicular movements at other locations around the site to accommodate demolition, material hauling, construction, staging, and modifications to existing infrastructure. Such restrictions could include lane closures, lane narrowing, and detours, which would be temporary.

Construction staging and lane closures could cause adverse effects, if not carefully planned. In accordance with Sacramento City Code, DGS or its selected contractor will prepare a Construction Traffic Management Plan, which is subject to approval by the City's Traffic Engineer and subject to review by all affected agencies. The plan will be designed to ensure acceptable operating conditions on local roadways studied as a part of this EIR and affected by construction traffic. At a minimum, the plan shall include a:

- description of trucks, including: number and size of trucks per day, expected arrival/departure times, and truck circulation patterns;
- description of staging area, including: location, maximum number of trucks simultaneously permitted in staging area, use of traffic control personnel, and specific signage;
- description of street and lane closures and/or bicycle and pedestrian facility closures, including: duration, advance warning and posted signage, safe and efficient access routes for emergency vehicles, and use of manual traffic control; and/or
- description of driveway access plan, including: provisions for safe vehicular, pedestrian, and bicycle travel; minimum distance from any open trench; special signage; and private vehicle accesses.

Construction traffic impacts would be localized and temporary. In addition, because the project will use the EDD Subterranean Building roof immediately north of the project site and the P Street Block itself for construction staging, sufficient area would be available to the construction contractor, which reduces potential disruption of more actively used streets, alleys, and sidewalks. Finally, DGS or its contractor would prepare and implement a Construction Traffic Management Plan that meets with the approval of the City Traffic Engineer, in accordance with City Code, which would reduce the temporary impact to the degree feasible. For these reasons, construction traffic impacts of the proposed project would be **less than significant**.

Mitigation Measures

No mitigation is required.

FEHR PEERS

MEMORANDUM

Date: December 16, 2016

To: Sean Bechta (Ascent Environmental)

From: Jimmy Fong and David Carter (Fehr & Peers)

Subject: DGS 1215 O St and P St Office Building Projects – Existing Parking Supply and Availability

RS16-3489

This memorandum documents the existing parking supply and availability of the surface lots, garages, and on-street parking within the vicinity of the DGS 1215 O Street Office Building and P Street Office Building projects in Downtown Sacramento.

Parking Locations

The parking supply study area covers roughly a two-block radius around both project locations. This study area extends from 5th Street to 14th Street, and Capitol Mall to Q Street (with a few areas extending east to 15th Street and south to R St) [see Figure 1].

Parking facilities within this area include a mix of on-street parking, surface parking lots, and garages, some of which are reserved for employees of the State of California while others are open to public. Public parking locations include a few private-operated parking garages with an allocation open to the public. The on-street parking included in the survey are all metered parking and non-metered 2-hour/residential permit parking (loading zones were excluded).

Parking Supply and Availability

Fehr & Peers conducted parking supply and demand counts at all parking locations on mid-week days in mid-November with clear weather conditions (Wednesday, November 15, 2016 and Thursday, November 16, 2016), during the peak parking demand for office employees between 9 AM to 11 AM and 2 PM to 3 PM (excluding lunch-time parking demand).

The P Street Office Building Project site includes reserved parking for state employees, as well as parking reserved for patrons of the Capital Athletic Club [see Table 1]. This area includes 281 parking spaces in which 208 were occupied.

Table 1 – Parking Supply, Peak Demand and Availability on P Street Office Building Project Site					
Parking Facility Type	**Supply**	**Peak Demand**	**% Full**	**Available**	**% Available**
State Reserved Surface Lots	181	137	76%	44	24%
Capitol Athletic Club Parking	100	71	71%	29	29%
Total	**281**	**208**	**74%**	**73**	**26%**
Source: Fehr & Peers, 2016					

In the parking study area (excluding the P Street Office Building Project site), there is a total supply of approximately 6,530 parking spaces. During the peak parking demand period for office employees, the total availability was approximately 1,450 spaces [see Table 2]. Reserved parking spaces located in private garages (i.e., not available for public parking) are not included in the reported supply/availability numbers.

Table 2 – Parking Supply, Peak Demand and Availability in Study Area[1]					
Parking Facility Type	**Supply**	**Peak Demand**	**% Full**	**Available**	**% Available**
State Reserved Surface Lots and Garages[2]	3,398	2,497	73%	901	27%
Public Surface Lots and Garages[3]	1,882	1,467	78%	415	22%
Public On-Street 10-Hour Meter Parking	213	202	95%	11	5%
Public On-Street 2-Hour Meter Parking	691	612	89%	79	11%
Public On-Street 2-Hour/Residential Parking	285	256	90%	29	10%
Public On-Street <2-Hour Meter Parking	65	49	75%	16	25%
Total	**6,534**	**5,083**	**78%**	**1,451**	**22%**

Notes:
[1] Parking supply, peak demand, and availability in the study area excludes parking within the P Street Office Building Project site (presented in Table 1).
[2] 1500 10th Street Garage is a State parking facility that allows for public parking; it is included in the State reserved supply and availability.
[3] Public parking includes private lots and garages with an allocation for public parking; reserved parking for non-State employees are excluded in the supply and availability for this facility type. Westminster Presbyterian Church (1300 N Street), Quill Alley (between 7th and 9th Streets), and 7th/R Street parking lots offer public parking rented on a monthly basis.
Source: Fehr & Peers, 2016

Locations with the highest number of available spots were in the following parking garages:

- 293 available spaces in the 1517 11th Street State Garage (between 11th/12th/O/P Streets)
- 201 available spaces in the 1517 13th Street Public Garage (between 13th/14th/O/P Streets)
- 183 available spaces in the 1416 10th Street State Garage (between 9th/10th/N/O Streets)
- 119 available spaces in the 1500 10th Street State Garage (between 9th/10th/O/P Streets)
- 94 available spaces in the 500 Capitol Mall Tower Garage (between 5th/6th/Capitol Mall/N Streets)
- 79 available spaces in the State Garage (between 8th/9th/Q/R Streets)

The detailed parking supply and availability for the surface lots, garages, and on-street parking are presented in Figure 2.

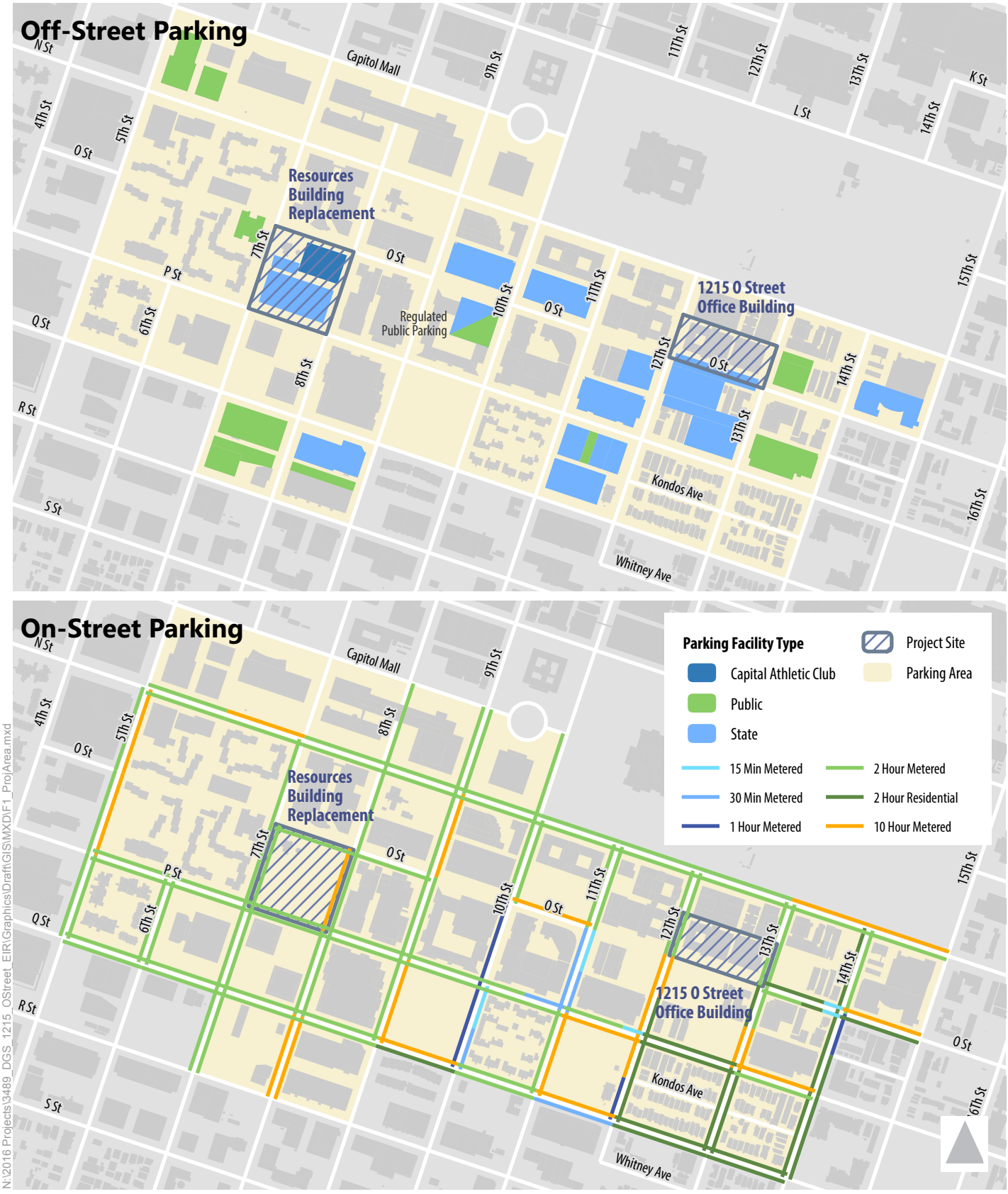


Figure 1

Parking Facilities

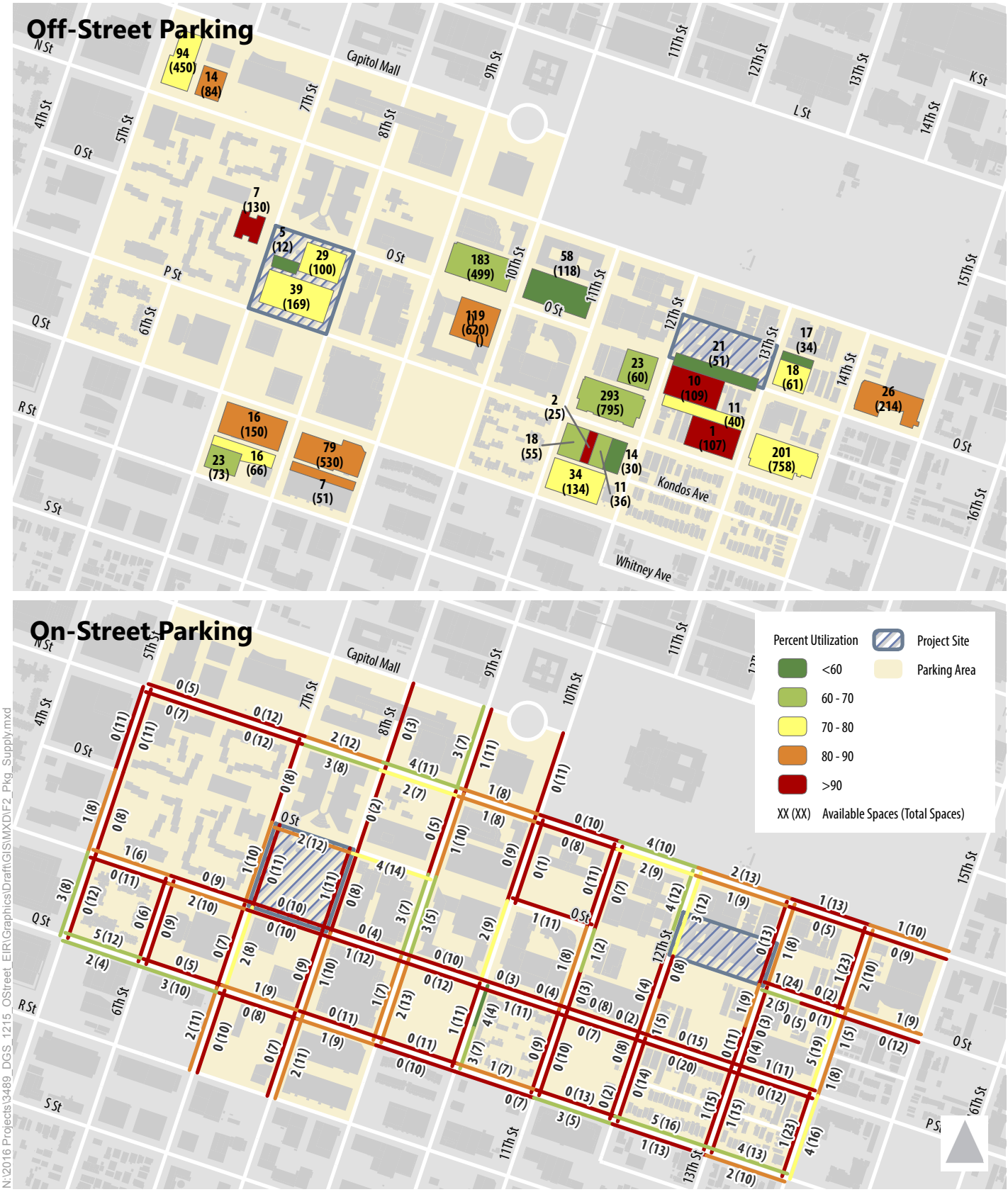


Figure 2

Parking Utilization