

Willowgrove Project

Local Transportation Analysis - Technical Appendix

Prepared for:

Raney Planning & Management, Inc.

The City of Davis

FINAL

June 2025

SA24-0248

FEHR  PEERS

Appendix A: Existing Conditions Technical Calculations

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

Willowgrove Property TIS
Existing Conditions
AM Peak Hour

Intersection 1 County Rd 99-Lake Blvd/W Covell Blvd All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	27	24	88.5%	5.8	1.1	A
	Through	49	49	99.8%	7.6	1.3	A
	Right Turn	157	158	100.6%	2.4	1.1	A
	Subtotal	233	231	99.1%	4.0	1.0	A
SB	Left Turn	30	31	101.7%	5.3	1.9	A
	Through	53	56	105.7%	10.4	1.0	B
	Right Turn	7	9	131.4%	3.7	2.1	A
	Subtotal	90	96	106.3%	8.3	0.9	A
EB	Left Turn	15	13	86.7%	5.5	1.8	A
	Through	222	229	102.9%	12.1	0.8	B
	Right Turn	31	33	104.8%	2.9	0.6	A
	Subtotal	268	274	102.2%	10.7	0.9	B
WB	Left Turn	80	81	101.3%	11.5	0.7	B
	Through	162	161	99.3%	15.5	1.2	C
	Right Turn	17	17	100.6%	12.1	1.9	B
	Subtotal	259	259	100.0%	14.0	1.0	B
Total		850	859	101.1%	9.6	0.5	A

Intersection 2 Denali Dr/W Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	29	27	91.7%	15.4	4.4	B
	Through						
	Right Turn	146	146	99.7%	1.4	0.2	A
	Subtotal	175	172	98.3%	3.7	1.0	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	378	383	101.2%	11.7	1.6	B
	Right Turn	22	26	119.1%	8.9	1.2	A
	Subtotal	400	409	102.2%	11.5	1.5	B
WB	Left Turn	85	81	95.1%	14.2	2.2	B
	Through	296	296	99.9%	5.9	0.9	A
	Right Turn						
	Subtotal	381	377	98.8%	7.6	0.9	A
Total		956	958	100.2%	8.5	1.0	A

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Intersection 3 **Risling Ct-Shasta Dr/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	12	12	101.7%	20.6	6.3	C
	Through	4	5	132.5%	19.3	16.5	B
	Right Turn	235	239	101.5%	2.3	0.6	A
	Subtotal	251	256	102.0%	3.6	1.0	A
SB	Left Turn	38	41	107.6%	25.8	7.8	C
	Through	3	3	93.3%	26.3	28.1	C
	Right Turn	13	11	86.9%	4.8	2.5	A
	Subtotal	54	55	101.9%	22.3	6.7	C
EB	Left Turn	26	26	99.6%	31.3	8.9	C
	Through	481	490	101.8%	17.3	3.5	B
	Right Turn	17	16	91.2%	7.4	1.2	A
	Subtotal	524	531	101.4%	17.6	3.2	B
WB	Left Turn	153	152	99.2%	23.1	5.6	C
	Through	356	353	99.1%	10.0	2.2	B
	Right Turn	64	65	101.3%	2.8	0.7	A
	Subtotal	573	569	99.3%	12.9	2.4	B
Total		1,402	1,411	100.7%	13.3	1.8	B

Intersection 4 **John Jones Rd/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	188	184	97.9%	31.3	3.2	C
	Through						
	Right Turn	55	50	90.2%	7.6	2.3	A
	Subtotal	243	234	96.1%	26.3	2.8	C
EB	Left Turn	71	73	103.0%	55.9	12.9	E
	Through	684	694	101.4%	14.0	3.9	B
	Right Turn						
	Subtotal	755	767	101.6%	18.1	3.4	B
WB	Left Turn						
	Through	518	521	100.6%	8.9	2.1	A
	Right Turn	283	289	102.2%	4.8	1.0	A
	Subtotal	801	811	101.2%	7.4	1.7	A
Total		1,799	1,811	100.7%	14.6	2.1	B

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

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Intersection 5 **SR 113 SB Ramps/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	265	273	103.1%	70.2	29.4	E
	Through	1	1	140.0%	21.7	29.9	C
	Right Turn	149	149	99.8%	36.4	4.1	D
	Subtotal	415	423	102.0%	58.6	19.9	E
EB	Left Turn						
	Through	546	552	101.0%	26.6	2.7	C
	Right Turn	326	328	100.7%	26.1	4.1	C
	Subtotal	872	880	100.9%	26.5	3.0	C
WB	Left Turn	356	354	99.5%	57.5	5.7	E
	Through	652	661	101.3%	10.6	1.3	B
	Right Turn						
	Subtotal	1,008	1,015	100.7%	26.8	2.8	C
Total		2,295	2,318	101.0%	32.7	3.0	C

Intersection 6 **SR 113 NB Ramps/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	235	238	101.3%	37.7	5.9	D
	Through						
	Right Turn	263	260	98.8%	12.5	2.8	B
	Subtotal	498	498	100.0%	24.7	4.8	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	65	63	96.6%	33.2	6.5	C
	Through	747	761	101.9%	8.4	1.4	A
	Right Turn						
	Subtotal	812	824	101.5%	10.2	1.6	B
WB	Left Turn						
	Through	773	778	100.6%	18.1	1.8	B
	Right Turn	165	174	105.5%	7.9	0.6	A
	Subtotal	938	952	101.5%	16.2	1.5	B
Total		2,248	2,274	101.2%	15.9	1.9	B

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Intersection 7 **Sycamore Ln/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	143	141	98.3%	43.1	5.5	D
	Through	27	25	91.1%	39.1	10.5	D
	Right Turn	38	41	106.8%	7.8	4.7	A
	Subtotal	208	206	98.9%	35.8	5.1	D
SB	Left Turn	99	100	100.5%	40.4	8.1	D
	Through	69	60	87.5%	26.7	4.0	C
	Right Turn	168	174	103.3%	4.8	1.9	A
	Subtotal	336	333	99.2%	19.6	4.0	B
EB	Left Turn	107	106	99.0%	41.7	4.5	D
	Through	626	634	101.3%	23.1	2.7	C
	Right Turn	160	165	103.3%	11.1	3.2	B
	Subtotal	893	905	101.4%	23.1	2.6	C
WB	Left Turn	34	30	86.8%	57.9	11.7	E
	Through	600	606	100.9%	26.5	7.6	C
	Right Turn	57	58	101.4%	11.9	6.3	B
	Subtotal	691	693	100.3%	26.5	7.0	C
Total		2,128	2,137	100.4%	25.0	2.8	C

Intersection 8 **Anderson Rd/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	158	158	100.3%	38.3	4.8	D
	Through	57	58	101.6%	27.7	7.1	C
	Right Turn	58	64	110.9%	3.8	3.1	A
	Subtotal	273	281	102.8%	28.8	3.2	C
SB	Left Turn	44	44	99.3%	55.6	16.7	E
	Through	161	163	101.1%	28.1	7.0	C
	Right Turn	77	81	104.9%	3.6	4.8	A
	Subtotal	282	287	101.8%	26.2	7.3	C
EB	Left Turn	30	29	97.7%	47.8	15.4	D
	Through	473	484	102.3%	33.8	6.3	C
	Right Turn	257	261	101.5%	13.4	3.8	B
	Subtotal	760	774	101.9%	27.3	5.1	C
WB	Left Turn	151	140	92.5%	46.2	7.6	D
	Through	467	468	100.2%	23.4	6.1	C
	Right Turn	41	45	109.0%	5.6	1.2	A
	Subtotal	659	652	99.0%	27.4	6.1	C
Total		1,974	1,995	101.0%	27.4	4.2	C

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

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Intersection 9 **Dummy Bike/Ped-Oak Ave/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	145	139	96.1%	32.9	5.8	C
	Through						
	Right Turn	171	182	106.7%	2.6	0.4	A
	Subtotal	316	322	101.8%	15.3	3.1	B
SB	Left Turn	5	4	82.0%	27.1	21.5	C
	Through	25	24	95.6%	22.1	7.5	C
	Right Turn						
	Subtotal	30	28	93.3%	23.8	6.7	C
EB	Left Turn						
	Through	419	437	104.3%	26.4	6.3	C
	Right Turn	184	184	100.2%	11.5	2.4	B
	Subtotal	603	621	103.1%	21.8	4.9	C
WB	Left Turn	188	198	105.4%	40.0	8.4	D
	Through	569	569	99.9%	18.6	2.4	B
	Right Turn						
	Subtotal	757	767	101.3%	24.1	3.5	C
Total		1,706	1,738	101.9%	21.6	3.1	C

Intersection 10 **Catalina Dr-Dummy Bike/Ped/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through	4	5	122.5%	28.0	17.9	C
	Right Turn						
	Subtotal	4	5	122.5%	28.0	17.9	C
SB	Left Turn	155	159	102.4%	18.3	3.8	B
	Through						
	Right Turn	64	68	105.6%	1.3	0.2	A
	Subtotal	219	226	103.3%	13.4	3.1	B
EB	Left Turn	28	27	97.1%	33.7	8.7	C
	Through	562	596	106.0%	12.0	2.6	B
	Right Turn						
	Subtotal	590	623	105.6%	12.7	2.7	B
WB	Left Turn						
	Through	693	698	100.7%	16.8	2.3	B
	Right Turn	73	73	100.3%	7.0	0.8	A
	Subtotal	766	771	100.7%	15.9	2.2	B
Total		1,579	1,625	102.9%	14.4	2.1	B

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AM Peak Hour

Intersection 11 **F St/W Covell Blvd-E Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	56	53	94.5%	42.5	8.9	D
	Through	105	102	97.2%	37.2	6.7	D
	Right Turn	165	164	99.3%	8.2	2.4	A
	Subtotal	326	319	97.8%	24.0	2.7	C
SB	Left Turn	179	177	98.8%	56.2	32.3	E
	Through	188	185	98.3%	41.8	26.0	D
	Right Turn	85	88	103.4%	25.1	32.4	C
	Subtotal	452	450	99.4%	43.8	29.2	D
EB	Left Turn	32	33	101.9%	51.5	8.3	D
	Through	593	621	104.7%	26.1	4.4	C
	Right Turn	114	120	105.4%	6.6	1.3	A
	Subtotal	739	774	104.7%	24.1	3.5	C
WB	Left Turn	212	209	98.5%	52.7	7.9	D
	Through	656	657	100.2%	25.3	2.8	C
	Right Turn	111	105	94.7%	19.3	4.6	B
	Subtotal	979	971	99.2%	30.1	2.9	C
Total		2,496	2,513	100.7%	29.7	4.9	C

Intersection 12 **F St/E 14th St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	89	89	100.0%	32.9	3.3	C
	Through	138	134	96.7%	13.8	3.8	B
	Right Turn						
	Subtotal	227	223	98.0%	21.8	3.5	C
SB	Left Turn						
	Through	219	213	97.3%	33.1	4.9	C
	Right Turn	295	302	102.3%	18.9	3.8	B
	Subtotal	514	515	100.2%	25.0	4.0	C
EB	Left Turn	166	165	99.5%	31.2	3.9	C
	Through						
	Right Turn	83	87	105.3%	7.6	0.9	A
	Subtotal	249	253	101.4%	23.0	3.0	C
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		990	990	100.0%	23.7	2.3	C

SimTraffic Post-Processor
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Intersection 13 **Market Ave/E Covell Blvd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	124	122	98.3%	10.4	3.4	B
	Subtotal	124	122	98.3%	10.4	3.4	B
EB	Left Turn						
	Through	937	957	102.2%	5.6	0.7	A
	Right Turn						
	Subtotal	937	957	102.2%	5.6	0.7	A
WB	Left Turn						
	Through	855	850	99.4%	3.1	0.3	A
	Right Turn	25	25	98.8%	2.4	0.7	A
	Subtotal	880	875	99.4%	3.0	0.3	A
Total		1,941	1,954	100.6%	4.8	0.3	A

Intersection 14 **Cannery Ave/Cannery Loop** **Roundabout**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	23	23	101.7%	2.8	0.5	A
	Through	70	69	97.9%	3.4	0.5	A
	Right Turn						
	Subtotal	93	92	98.8%	3.2	0.4	A
SB	Left Turn						
	Through	70	67	96.3%	2.2	0.2	A
	Right Turn	6	6	103.3%	1.7	0.6	A
	Subtotal	76	74	96.8%	2.1	0.2	A
EB	Left Turn	5	5	94.0%	0.8	0.9	A
	Through						
	Right Turn	51	51	100.8%	1.9	0.2	A
	Subtotal	56	56	100.2%	1.9	0.2	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		225	222	98.5%	2.5	0.3	A

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Intersection 15 Cannery Ave-J St/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	150	150	100.1%	38.1	6.5	D
	Through	13	12	90.8%	31.4	28.9	C
	Right Turn	68	67	98.1%	13.8	3.7	B
	Subtotal	231	229	99.0%	30.8	4.6	C
SB	Left Turn	70	69	97.9%	40.4	9.2	D
	Through	29	30	103.1%	43.9	17.7	D
	Right Turn	22	21	93.6%	15.6	11.3	B
	Subtotal	121	119	98.3%	36.2	8.8	D
EB	Left Turn	61	58	95.1%	57.1	11.1	E
	Through	689	706	102.5%	34.6	6.4	C
	Right Turn	187	196	104.9%	25.1	5.9	C
	Subtotal	937	961	102.5%	34.2	6.2	C
WB	Left Turn	60	60	99.2%	57.4	13.5	E
	Through	703	700	99.5%	33.9	6.8	C
	Right Turn	24	24	101.3%	25.3	10.7	C
	Subtotal	787	784	99.6%	35.5	6.7	D
Total		2,076	2,092	100.8%	34.5	5.3	C

Intersection 16 L St/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	76	71	92.8%	23.3	5.4	C
	Through	4	4	107.5%	17.9	18.8	B
	Right Turn	68	69	101.3%	16.9	4.8	B
	Subtotal	148	144	97.1%	20.2	3.8	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	733	743	101.3%	14.4	4.7	B
	Right Turn	95	99	103.9%	27.4	4.5	C
	Subtotal	828	841	101.6%	15.9	4.4	B
WB	Left Turn	72	72	99.9%	41.1	13.3	D
	Through	711	712	100.1%	9.1	2.0	A
	Right Turn						
	Subtotal	783	784	100.1%	12.4	2.8	B
Total		1,759	1,769	100.5%	14.8	3.5	B

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Intersection 18 **Pole Line Rd/Moore Blvd** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	311	313	100.5%	15.2	3.1	C
	Right Turn	60	60	100.0%	12.1	3.0	B
	Subtotal	371	373	100.5%	14.7	3.0	B
SB	Left Turn	59	58	98.1%	9.2	1.2	A
	Through	405	408	100.6%	15.6	1.6	C
	Right Turn						
	Subtotal	464	466	100.3%	14.9	1.5	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	100	98	98.3%	6.8	0.9	A
	Through						
	Right Turn	79	78	98.2%	5.7	0.6	A
	Subtotal	179	176	98.3%	6.3	0.5	A
Total		1,014	1,014	100.0%	13.3	1.6	B

Intersection 19 **Pole Line Rd/Donner Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	353	353	100.1%	1.3	0.2	A
	Right Turn	19	22	114.2%	0.8	0.4	A
	Subtotal	372	375	100.8%	1.3	0.2	A
SB	Left Turn	8	7	86.3%	5.9	4.1	A
	Through	497	499	100.3%	4.0	0.3	A
	Right Turn						
	Subtotal	505	505	100.1%	4.1	0.3	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	72	71	98.3%	14.3	4.5	B
	Through						
	Right Turn	18	20	111.7%	5.7	1.2	A
	Subtotal	90	91	101.0%	12.4	3.8	B
Total		967	971	100.4%	3.8	0.5	A

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Intersection 20 **Pole Line Rd/Picasso Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	353	355	100.6%	4.7	1.2	A
	Right Turn	95	99	104.5%	3.3	1.2	A
	Subtotal	448	455	101.5%	4.4	1.1	A
SB	Left Turn	23	19	82.6%	5.3	3.8	A
	Through	546	551	100.9%	1.3	0.4	A
	Right Turn						
	Subtotal	569	570	100.2%	1.5	0.4	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	52	53	101.9%	23.0	16.1	C
	Through						
	Right Turn	19	20	104.2%	9.2	8.3	A
	Subtotal	71	73	102.5%	19.1	13.4	C
Total		1,088	1,097	100.9%	3.9	1.1	A

Intersection 21 **Pole Line Rd/E Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	142	141	98.9%	37.6	5.9	D
	Through	167	168	100.4%	28.3	3.0	C
	Right Turn	41	44	106.3%	12.8	6.5	B
	Subtotal	350	352	100.5%	30.1	3.2	C
SB	Left Turn	142	141	99.2%	44.8	5.2	D
	Through	246	250	101.4%	39.4	6.7	D
	Right Turn	210	214	101.7%	19.2	4.5	B
	Subtotal	598	604	101.0%	33.7	5.0	C
EB	Left Turn	157	155	98.6%	36.8	7.0	D
	Through	442	443	100.3%	24.6	4.4	C
	Right Turn	134	141	105.3%	7.0	0.9	A
	Subtotal	733	739	100.8%	23.9	3.1	C
WB	Left Turn	66	66	99.4%	39.8	8.2	D
	Through	431	431	99.9%	29.7	4.3	C
	Right Turn	124	129	104.0%	5.5	1.6	A
	Subtotal	621	625	100.7%	25.7	2.6	C
Total		2,302	2,320	100.8%	28.1	2.0	C

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

Willowgrove Property TIS
Existing Conditions
AM Peak Hour

Intersection 22 **Dummy Bike/Ped-Birch Ln/E Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	65	63	96.6%	27.2	5.5	C
	Through						
	Right Turn	27	29	105.9%	27.7	8.9	C
	Subtotal	92	91	99.3%	27.5	5.0	C
SB	Left Turn						
	Through	73	72	99.2%	20.5	5.6	C
	Right Turn	4	5	112.5%	3.8	3.3	A
	Subtotal	77	77	99.9%	19.2	4.6	B
EB	Left Turn						
	Through	556	562	101.0%	24.0	5.9	C
	Right Turn	69	69	99.6%	24.5	8.1	C
	Subtotal	625	630	100.8%	24.1	6.1	C
WB	Left Turn	70	71	101.9%	37.4	7.2	D
	Through	552	557	100.9%	19.1	3.3	B
	Right Turn						
	Subtotal	622	629	101.0%	21.1	3.3	C
Total		1,416	1,427	100.8%	22.8	4.1	C

Intersection 23 **Baywood Ln/E Covell Blvd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	22	21	93.6%	14.0	5.8	B
	Through						
	Right Turn	23	24	106.1%	4.6	1.4	A
	Subtotal	45	45	100.0%	8.5	2.7	A
SB	Left Turn	4	4	97.5%	6.5	5.5	A
	Through						
	Right Turn	9	10	110.0%	0.8	0.3	A
	Subtotal	13	14	106.2%	3.1	2.1	A
EB	Left Turn	2	2	105.0%	4.5	2.2	A
	Through	575	580	100.9%	3.6	0.8	A
	Right Turn	23	21	90.9%	3.2	0.6	A
	Subtotal	600	603	100.5%	3.6	0.8	A
WB	Left Turn	25	24	95.6%	9.8	3.8	A
	Through	570	578	101.4%	3.4	0.6	A
	Right Turn	3	4	123.3%	3.4	0.8	A
	Subtotal	598	605	101.2%	3.6	0.6	A
Total		1,256	1,267	100.9%	3.8	0.3	A

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

Willowgrove Property TIS
Existing Conditions
AM Peak Hour

Intersection 24 Manzanita Ln/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	47	44	94.5%	14.8	3.2	B
	Through						
	Right Turn	26	26	101.5%	6.6	2.8	A
	Subtotal	73	71	97.0%	11.3	2.3	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	581	586	100.8%	5.2	0.8	A
	Right Turn	21	22	105.2%	5.4	1.6	A
	Subtotal	602	608	101.0%	5.2	0.9	A
WB	Left Turn	12	11	88.3%	5.9	4.0	A
	Through	551	561	101.8%	2.5	0.4	A
	Right Turn						
	Subtotal	563	572	101.5%	2.5	0.4	A
Total		1,238	1,250	101.0%	4.4	0.5	A

Intersection 25 Wright Blvd/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	132	132	100.2%	15.2	2.3	B
	Through						
	Right Turn	112	116	103.6%	1.5	0.2	A
	Subtotal	244	248	101.7%	8.8	1.6	A
EB	Left Turn	41	40	96.6%	24.1	4.9	C
	Through	566	574	101.4%	10.8	1.0	B
	Right Turn						
	Subtotal	607	614	101.1%	11.8	1.3	B
WB	Left Turn						
	Through	451	456	101.1%	9.7	1.0	A
	Right Turn	69	72	104.2%	4.9	0.7	A
	Subtotal	520	528	101.5%	9.1	0.9	A
Total		1,371	1,390	101.4%	10.2	0.6	B

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

Willowgrove Property TIS
Existing Conditions
AM Peak Hour

Intersection 26 Monarch Ln/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	27	27	98.5%	13.6	5.4	B
	Through						
	Right Turn	41	42	102.4%	3.6	1.7	A
	Subtotal	68	69	100.9%	7.1	2.4	A
SB	Left Turn						
	Through						
	Right Turn	1	1	90.0%	2.2	3.1	A
	Subtotal	1	1	90.0%	2.2	3.1	A
EB	Left Turn						
	Through	668	673	100.7%	2.4	0.4	A
	Right Turn	30	32	106.7%	2.5	0.9	A
	Subtotal	698	705	101.0%	2.4	0.4	A
WB	Left Turn	15	13	84.0%	6.2	2.8	A
	Through	492	499	101.4%	2.5	0.2	A
	Right Turn	1	2	160.0%	2.0	0.2	A
	Subtotal	508	513	101.0%	2.6	0.2	A
Total		1,275	1,288	101.0%	2.7	0.3	A

Intersection 27 Alhambra Dr/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	125	124	99.5%	12.6	2.4	B
	Through						
	Right Turn	39	40	103.1%	4.0	1.6	A
	Subtotal	164	165	100.4%	10.6	2.3	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	609	615	101.0%	7.9	1.1	A
	Right Turn	100	100	100.0%	3.2	0.4	A
	Subtotal	709	715	100.8%	7.2	1.0	A
WB	Left Turn	32	33	102.2%	17.6	3.8	B
	Through	383	389	101.5%	7.1	0.8	A
	Right Turn						
	Subtotal	415	421	101.5%	7.8	0.8	A
Total		1,288	1,301	101.0%	7.9	1.0	A

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

Willowgrove Property TIS
Existing Conditions
AM Peak Hour

Intersection 29 Harper Hr HS Access/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	90	87	96.6%	18.3	2.5	B
	Through						
	Right Turn	3	4	130.0%	6.0	8.2	A
	Subtotal	93	91	97.6%	17.6	2.7	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	523	531	101.5%	12.4	2.4	B
	Right Turn	125	123	98.0%	5.7	1.1	A
	Subtotal	648	654	100.8%	11.1	2.1	B
WB	Left Turn	139	135	97.3%	26.3	3.8	C
	Through	325	335	102.9%	13.9	3.0	B
	Right Turn						
	Subtotal	464	470	101.3%	17.4	3.1	B
Total		1,205	1,214	100.8%	14.1	2.2	B

Intersection 30 Mace Blvd/Alhambra Dr Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	157	156	99.3%	23.8	3.8	C
	Through	444	450	101.3%	7.7	2.3	A
	Right Turn						
	Subtotal	601	606	100.8%	12.0	2.0	B
SB	Left Turn						
	Through	608	612	100.7%	17.0	1.9	B
	Right Turn	28	27	97.5%	9.6	1.5	A
	Subtotal	636	640	100.6%	16.7	1.9	B
EB	Left Turn	14	16	115.0%	23.0	10.1	C
	Through						
	Right Turn	278	277	99.5%	1.9	0.2	A
	Subtotal	292	293	100.2%	3.4	0.7	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,529	1,538	100.6%	12.1	0.8	B

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

Willowgrove Property TIS
Existing Conditions
AM Peak Hour

Intersection 31 **2nd St/Target Main Dwy-Fermi Place** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	21	21	101.0%	15.7	6.4	B
	Through	188	191	101.8%	2.6	0.6	A
	Right Turn	3	4	126.7%	0.9	1.1	A
	Subtotal	212	216	102.0%	3.9	1.0	A
SB	Left Turn	49	48	98.8%	14.6	6.2	B
	Through	401	390	97.2%	3.2	0.9	A
	Right Turn	58	60	102.8%	0.9	0.3	A
	Subtotal	508	498	98.0%	4.3	1.3	A
EB	Left Turn	14	14	100.7%	13.3	7.5	B
	Through	1	2	200.0%	8.3	10.0	A
	Right Turn	31	33	106.8%	6.2	1.4	A
	Subtotal	46	49	107.0%	9.1	2.4	A
WB	Left Turn	6	6	103.3%	10.5	7.0	B
	Through	1	1	80.0%	6.9	14.5	A
	Right Turn	8	9	106.3%	4.4	2.0	A
	Subtotal	15	16	103.3%	9.1	3.7	A
Total		781	779	99.7%	4.6	0.9	A

Intersection 32 **Mace Blvd/2nd St-County Rd 32A** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	457	444	97.1%	34.9	6.6	C
	Through	559	560	100.1%	18.7	5.7	B
	Right Turn	10	10	101.0%	4.8	1.0	A
	Subtotal	1,026	1,014	98.8%	25.4	6.1	C
SB	Left Turn	19	21	109.5%	40.5	13.2	D
	Through	803	800	99.6%	51.7	19.4	D
	Right Turn	63	66	104.4%	14.0	9.5	B
	Subtotal	885	887	100.2%	48.7	18.5	D
EB	Left Turn	34	36	106.2%	39.5	8.7	D
	Through	5	6	110.0%	37.3	27.3	D
	Right Turn	207	210	101.5%	3.3	0.4	A
	Subtotal	246	252	102.4%	9.1	1.4	A
WB	Left Turn	13	13	100.0%	43.7	13.8	D
	Through	22	25	114.1%	33.2	14.5	C
	Right Turn	17	17	102.4%	9.8	6.0	A
	Subtotal	52	56	106.7%	28.4	9.5	C
Total		2,209	2,207	99.9%	32.8	9.3	C

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

Willowgrove Property TIS
Existing Conditions
AM Peak Hour

Intersection 33 **Mace Blvd/I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	359	357	99.3%	27.1	3.2	C
	Through	507	505	99.7%	7.9	1.4	A
	Right Turn						
	Subtotal	866	862	99.5%	15.6	2.1	B
SB	Left Turn						
	Through	875	876	100.1%	38.1	18.9	D
	Right Turn	148	150	101.1%	15.7	5.5	B
	Subtotal	1,023	1,026	100.3%	34.8	17.0	C
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	294	300	102.0%	24.2	3.8	C
	Through	2	3	160.0%	4.0	8.4	A
	Right Turn	519	508	97.9%	2.9	0.2	A
	Subtotal	815	811	99.5%	10.8	1.6	B
Total		2,704	2,699	99.8%	22.0	7.3	C

Intersection 34 **Mace Blvd/Chiles Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	22	21	94.5%	60.9	17.5	E
	Through	575	580	100.8%	39.8	4.2	D
	Right Turn	20	22	110.0%	18.7	6.1	B
	Subtotal	617	623	100.9%	39.6	4.2	D
SB	Left Turn	164	163	99.3%	69.7	27.8	E
	Through	285	295	103.4%	31.4	10.7	C
	Right Turn	271	275	101.4%	6.9	0.6	A
	Subtotal	720	732	101.7%	30.6	11.2	C
EB	Left Turn	400	402	100.4%	63.1	16.5	E
	Through	149	151	101.3%	42.5	5.8	D
	Right Turn	129	129	99.8%	2.1	0.2	A
	Subtotal	678	681	100.5%	46.1	10.9	D
WB	Left Turn	17	17	97.6%	49.2	18.6	D
	Through	67	63	93.3%	31.0	5.5	C
	Right Turn	328	327	99.8%	23.1	4.7	C
	Subtotal	412	406	98.6%	25.4	3.5	C
Total		2,427	2,442	100.6%	36.4	5.9	D

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

Willowgrove Property TIS
Existing Conditions
AM Peak Hour

Intersection 35 **I-80 EB Off Ramp/Chiles Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	301	300	99.7%	5.4	1.0	A
	Through						
	Right Turn	75	74	98.0%	3.0	0.7	A
	Subtotal	376	374	99.4%	5.0	0.9	A
EB	Left Turn						
	Through	377	375	99.5%	15.0	3.9	B
	Right Turn						
	Subtotal	377	375	99.5%	15.0	3.9	B
WB	Left Turn						
	Through	360	357	99.2%	10.3	1.2	B
	Right Turn						
	Subtotal	360	357	99.2%	10.3	1.2	B
Total		1,113	1,106	99.3%	10.1	1.4	B

Intersection 36 **Mace Blvd/Cowell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	9	8	87.8%	33.0	13.4	C
	Through	270	268	99.1%	20.9	3.1	C
	Right Turn	48	47	97.5%	14.2	4.7	B
	Subtotal	327	322	98.6%	20.2	3.4	C
SB	Left Turn	80	80	100.0%	32.5	4.7	C
	Through	189	188	99.6%	18.8	3.1	B
	Right Turn	52	56	107.3%	9.3	2.9	A
	Subtotal	321	324	101.0%	20.6	2.9	C
EB	Left Turn	123	127	102.9%	23.6	3.5	C
	Through	88	89	100.7%	20.9	4.0	C
	Right Turn	10	10	100.0%	7.0	4.0	A
	Subtotal	221	225	101.9%	21.8	2.7	C
WB	Left Turn	39	38	97.9%	35.2	10.9	D
	Through	77	76	98.8%	25.9	4.0	C
	Right Turn	101	104	102.6%	12.9	3.1	B
	Subtotal	217	218	100.4%	20.8	3.1	C
Total		1,086	1,090	100.3%	20.8	1.8	C

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

Willowgrove Property TIS
Existing Conditions
AM Peak Hour

Intersection 37

Mace Blvd/N El Macero Dr

All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	6	5	88.3%	4.3	1.7	A
	Through	217	212	97.7%	7.1	0.2	A
	Right Turn	3	3	106.7%	1.5	1.6	A
	Subtotal	226	221	97.6%	7.0	0.2	A
SB	Left Turn	75	74	98.4%	10.3	2.2	B
	Through	142	139	98.1%	11.9	1.7	B
	Right Turn	21	22	106.7%	3.5	1.0	A
	Subtotal	238	236	98.9%	10.6	1.7	B
EB	Left Turn	19	19	100.5%	4.8	0.8	A
	Through	5	5	106.0%	5.4	4.9	A
	Right Turn	3	4	123.3%	1.9	1.3	A
	Subtotal	27	28	104.1%	5.0	1.8	A
WB	Left Turn	4	2	57.5%	2.9	2.7	A
	Through	4	4	95.0%	4.3	3.3	A
	Right Turn	91	92	100.9%	3.7	0.5	A
	Subtotal	99	98	98.9%	3.8	0.6	A
Total		590	582	98.6%	7.8	0.8	A

Intersection												
Int Delay, s/veh	9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↘	↑						↕	
Traffic Vol, veh/h	0	209	32	43	130	0	0	0	0	220	0	83
Future Vol, veh/h	0	209	32	43	130	0	0	0	0	220	0	83
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	195	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	238	36	49	148	0	0	0	0	250	0	94

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	274	0	0		502	520	148
Stage 1	-	-	-	-	-	-		246	246	-
Stage 2	-	-	-	-	-	-		256	274	-
Critical Hdwy	-	-	-	4.13	-	-		6.43	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-		5.43	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.43	5.53	-
Follow-up Hdwy	-	-	-	2.227	-	-		3.527	4.027	3.327
Pot Cap-1 Maneuver	0	-	-	1283	-	0		527	459	896
Stage 1	0	-	-	-	-	0		793	701	-
Stage 2	0	-	-	-	-	0		784	681	-
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1283	-	-		507	0	896
Mov Cap-2 Maneuver	-	-	-	-	-	-		507	0	-
Stage 1	-	-	-	-	-	-		793	0	-
Stage 2	-	-	-	-	-	-		754	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	2	20.2
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1283	-	575
HCM Lane V/C Ratio	-	-	0.038	-	0.599
HCM Control Delay (s)	-	-	7.9	-	20.2
HCM Lane LOS	-	-	A	-	C
HCM 95th %tile Q(veh)	-	-	0.1	-	3.9

HCM 6th TWSC
 39: County Rd 29 & SR 113 NB Ramps

08/06/2024

Intersection							
Int Delay, s/veh	1.3						
Movement	EBL	EBT	WBT	WBR	SBU	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	42	387	144	185	1	21	29
Future Vol, veh/h	42	387	144	185	1	21	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	-	None
Storage Length	115	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	-	0	-
Grade, %	-	0	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3
Mvmt Flow	48	440	164	210	1	24	33

Major/Minor	Major1	Major2	Minor2				
Conflicting Flow All	374	0	-	0	0	805	269
Stage 1	-	-	-	-	0	269	-
Stage 2	-	-	-	-	0	536	-
Critical Hdwy	4.13	-	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1179	-	-	-	0	350	767
Stage 1	-	-	-	-	0	774	-
Stage 2	-	-	-	-	0	585	-
Platoon blocked, %		-	-	-	-		
Mov Cap-1 Maneuver	1179	-	-	-	0	336	767
Mov Cap-2 Maneuver	-	-	-	-	0	336	-
Stage 1	-	-	-	-	0	742	-
Stage 2	-	-	-	-	0	585	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1179	-	-	-	498
HCM Lane V/C Ratio	0.04	-	-	-	0.114
HCM Control Delay (s)	8.2	-	-	-	13.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

HCM 6th TWSC
 40: County Rd 100A & County Rd 29

08/06/2024

Intersection													
Int Delay, s/veh	1.3												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	1	3	327	77	20	290	1	34	0	12	2	0	4
Future Vol, veh/h	1	3	327	77	20	290	1	34	0	12	2	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Stop	Stop	Stop	Stop	Stop	Stop						
RT Channelized	-	-	-	None									
Storage Length	-	115	-	-	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	3	372	88	23	330	1	39	0	14	2	0	5

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	331	0	0	460	0	0	801	801	416	806	845	331
Stage 1	-	-	-	-	-	-	-	422	424	-	377	377	-
Stage 2	-	-	-	-	-	-	-	379	377	-	429	468	-
Critical Hdwy	-	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	-	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	-	1223	-	-	1096	-	-	301	317	634	299	298	708
Stage 1	-	-	-	-	-	-	-	607	585	-	642	614	-
Stage 2	-	-	-	-	-	-	-	641	614	-	602	560	-
Platoon blocked, %			-	-	-	-	-						
Mov Cap-1 Maneuver	~ -4	~ -4	-	-	1096	-	-	294	310	634	288	292	708
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	294	310	-	288	292	-
Stage 1	-	-	-	-	-	-	-	607	585	-	642	601	-
Stage 2	-	-	-	-	-	-	-	624	601	-	589	560	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s				0.5			17.4			12.7		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	342	+	-	-	1096	-	-	476
HCM Lane V/C Ratio	0.153	-	-	-	0.021	-	-	0.014
HCM Control Delay (s)	17.4	-	-	-	8.4	-	-	12.7
HCM Lane LOS	C	-	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0.1	-	-	0

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	142	200	69	168	141	21
Future Vol, veh/h	142	200	69	168	141	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	163	230	79	193	162	24

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	393	0	629 278
Stage 1	-	-	-	-	278 -
Stage 2	-	-	-	-	351 -
Critical Hdwy	-	-	4.13	-	6.43 6.23
Critical Hdwy Stg 1	-	-	-	-	5.43 -
Critical Hdwy Stg 2	-	-	-	-	5.43 -
Follow-up Hdwy	-	-	2.227	-	3.527 3.327
Pot Cap-1 Maneuver	-	-	1160	-	445 758
Stage 1	-	-	-	-	767 -
Stage 2	-	-	-	-	710 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1160	-	411 758
Mov Cap-2 Maneuver	-	-	-	-	411 -
Stage 1	-	-	-	-	767 -
Stage 2	-	-	-	-	656 -

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	19.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	437	-	-	1160	-
HCM Lane V/C Ratio	0.426	-	-	0.068	-
HCM Control Delay (s)	19.2	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.1	-	-	0.2	-

Intersection						
Int Delay, s/veh	4.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↗	↙	↑	↗	
Traffic Vol, veh/h	52	114	140	229	377	100
Future Vol, veh/h	52	114	140	229	377	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	215	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	60	131	161	263	433	115

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1076	491	548	0	-	0
Stage 1	491	-	-	-	-	-
Stage 2	585	-	-	-	-	-
Critical Hdwy	6.44	6.24	4.14	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	2.236	-	-	-
Pot Cap-1 Maneuver	241	573	1011	-	-	-
Stage 1	611	-	-	-	-	-
Stage 2	553	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	203	573	1011	-	-	-
Mov Cap-2 Maneuver	203	-	-	-	-	-
Stage 1	514	-	-	-	-	-
Stage 2	553	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.4	3.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1011	-	203	573	-	-
HCM Lane V/C Ratio	0.159	-	0.294	0.229	-	-
HCM Control Delay (s)	9.2	-	30	13.1	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.6	-	1.2	0.9	-	-

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘↗		↑	↗↘	↘↗	↑
Traffic Vol, veh/h	16	24	254	27	57	461
Future Vol, veh/h	16	24	254	27	57	461
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Yield	-	None
Storage Length	0	-	-	280	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	18	28	292	31	66	530

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	954	-	0	0	292
Stage 1	292	-	-	-	-
Stage 2	662	-	-	-	-
Critical Hdwy	6.44	-	-	-	4.14
Critical Hdwy Stg 1	5.44	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-
Follow-up Hdwy	3.536	-	-	-	2.236
Pot Cap-1 Maneuver	285	0	-	-	1258
Stage 1	753	0	-	-	-
Stage 2	509	0	-	-	-
Platoon blocked, %		-	-	-	-
Mov Cap-1 Maneuver	270	-	-	-	1258
Mov Cap-2 Maneuver	270	-	-	-	-
Stage 1	753	-	-	-	-
Stage 2	483	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.3	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	270	1258
HCM Lane V/C Ratio	-	-	0.068	0.052
HCM Control Delay (s)	-	-	19.3	8
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.2	0.2

Intersection	
Intersection Delay, s/veh	13.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	6	61	2	3	0	46	211	2	4	452	43
Future Vol, veh/h	15	6	61	2	3	0	46	211	2	4	452	43
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	16	6	66	2	3	0	49	227	2	4	486	46
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	9.2	10.7	16.1
HCM LOS	A	A	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	18%	40%	1%
Vol Thru, %	81%	7%	60%	91%
Vol Right, %	1%	74%	0%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	259	82	5	499
LT Vol	46	15	2	4
Through Vol	211	6	3	452
RT Vol	2	61	0	43
Lane Flow Rate	278	88	5	537
Geometry Grp	1	1	1	1
Degree of Util (X)	0.373	0.131	0.009	0.668
Departure Headway (Hd)	4.819	5.356	6.021	4.483
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	744	664	588	805
Service Time	2.871	3.434	4.119	2.525
HCM Lane V/C Ratio	0.374	0.133	0.009	0.667
HCM Control Delay	10.7	9.3	9.2	16.1
HCM Lane LOS	B	A	A	C
HCM 95th-tile Q	1.7	0.4	0	5.2

Intersection							
Int Delay, s/veh	2.3						
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↘	↗	↘
Traffic Vol, veh/h	15	105	26	199	1	405	15
Future Vol, veh/h	15	105	26	199	1	405	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	250	0	390	-	370	-	370
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89
Heavy Vehicles, %	3	3	3	3	3	3	3
Mvmt Flow	17	118	29	224	1	455	17

Major/Minor	Minor2	Major1	Major2				
Conflicting Flow All	737	455	472	0	-	-	0
Stage 1	455	-	-	-	-	-	-
Stage 2	282	-	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-	-
Pot Cap-1 Maneuver	384	603	1085	-	-	-	-
Stage 1	637	-	-	-	-	-	-
Stage 2	763	-	-	-	-	-	-
Platoon blocked, %				-	-	-	-
Mov Cap-1 Maneuver	374	603	1085	-	-	-	-
Mov Cap-2 Maneuver	374	-	-	-	-	-	-
Stage 1	620	-	-	-	-	-	-
Stage 2	763	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.7	1	
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	1085	-	374	603	-	-	-
HCM Lane V/C Ratio	0.027	-	0.045	0.196	-	-	-
HCM Control Delay (s)	8.4	-	15.1	12.4	-	-	-
HCM Lane LOS	A	-	C	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0.7	-	-	-

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	1	90	46	7	10	2
Future Vol, veh/h	1	90	46	7	10	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	20	20	20	20	20	20
Mvmt Flow	1	95	48	7	11	2

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	55	0	-	0	149 52
Stage 1	-	-	-	-	52 -
Stage 2	-	-	-	-	97 -
Critical Hdwy	4.3	-	-	-	6.6 6.4
Critical Hdwy Stg 1	-	-	-	-	5.6 -
Critical Hdwy Stg 2	-	-	-	-	5.6 -
Follow-up Hdwy	2.38	-	-	-	3.68 3.48
Pot Cap-1 Maneuver	1442	-	-	-	803 967
Stage 1	-	-	-	-	926 -
Stage 2	-	-	-	-	884 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1442	-	-	-	802 967
Mov Cap-2 Maneuver	-	-	-	-	802 -
Stage 1	-	-	-	-	925 -
Stage 2	-	-	-	-	884 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1442	-	-	-	825
HCM Lane V/C Ratio	0.001	-	-	-	0.015
HCM Control Delay (s)	7.5	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑	↗	↘	↘
Traffic Vol, veh/h	21	69	35	14	13	22
Future Vol, veh/h	21	69	35	14	13	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	265	-	-	305	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	25	25	25	25	25	25
Mvmt Flow	22	73	37	15	14	23

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	52	0	-	0	154 37
Stage 1	-	-	-	-	37 -
Stage 2	-	-	-	-	117 -
Critical Hdwy	4.35	-	-	-	6.65 6.45
Critical Hdwy Stg 1	-	-	-	-	5.65 -
Critical Hdwy Stg 2	-	-	-	-	5.65 -
Follow-up Hdwy	2.425	-	-	-	3.725 3.525
Pot Cap-1 Maneuver	1419	-	-	-	787 973
Stage 1	-	-	-	-	929 -
Stage 2	-	-	-	-	854 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1419	-	-	-	774 973
Mov Cap-2 Maneuver	-	-	-	-	774 -
Stage 1	-	-	-	-	914 -
Stage 2	-	-	-	-	854 -

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1419	-	-	-	888
HCM Lane V/C Ratio	0.016	-	-	-	0.041
HCM Control Delay (s)	7.6	-	-	-	9.2
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	3.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2	82	1	1	49	2
Future Vol, veh/h	2	82	1	1	49	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	20	20	20	20	20	20
Mvmt Flow	2	95	1	1	57	2

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	97	0	53
Stage 1	-	-	-	-	50
Stage 2	-	-	-	-	3
Critical Hdwy	-	-	4.3	-	6.6
Critical Hdwy Stg 1	-	-	-	-	5.6
Critical Hdwy Stg 2	-	-	-	-	5.6
Follow-up Hdwy	-	-	2.38	-	3.68
Pot Cap-1 Maneuver	-	-	1391	-	912
Stage 1	-	-	-	-	928
Stage 2	-	-	-	-	975
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1391	-	911
Mov Cap-2 Maneuver	-	-	-	-	911
Stage 1	-	-	-	-	928
Stage 2	-	-	-	-	974

Approach	EB	WB	NB
HCM Control Delay, s	0	3.8	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	913	-	-	1391	-
HCM Lane V/C Ratio	0.065	-	-	0.001	-
HCM Control Delay (s)	9.2	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	0	7	30	72	8	0	41	0	52	0	0	0
Future Vol, veh/h	0	7	30	72	8	0	41	0	52	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	83	83	83	83	84	83	84	83	84	84	84
Heavy Vehicles, %	10	9	9	9	9	10	9	10	9	10	10	10
Mvmt Flow	0	8	36	87	10	0	49	0	63	0	0	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	162	1	153	131	-	1	0	0	63	0	0
Stage 1	-	1	-	130	130	-	-	-	-	-	-	-
Stage 2	-	161	-	23	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.59	6.29	7.19	6.59	-	4.19	-	-	4.2	-	-
Critical Hdwy Stg 1	-	5.59	-	6.19	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.59	-	6.19	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.081	3.381	3.581	4.081	-	2.281	-	-	2.29	-	-
Pot Cap-1 Maneuver	0	718	1063	798	747	0	1577	-	-	1490	-	-
Stage 1	0	881	-	857	775	0	-	-	-	-	-	-
Stage 2	0	752	-	977	881	0	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	-	695	1063	745	723	-	1577	-	-	1490	-	-
Mov Cap-2 Maneuver	-	695	-	745	723	-	-	-	-	-	-	-
Stage 1	-	881	-	830	750	-	-	-	-	-	-	-
Stage 2	-	728	-	935	881	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	8.9		10.6		3.2		0	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1577	-	-	966	743	1490	-	-
HCM Lane V/C Ratio	0.031	-	-	0.046	0.13	-	-	-
HCM Control Delay (s)	7.4	0	-	8.9	10.6	0	-	-
HCM Lane LOS	A	A	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.4	0	-	-

2: I-80 EB Ramps Performance by movement

Movement	EBR	NBL	NBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Del/Veh (s)	5.4	5.8	7.2	6.6

50: I-80 WB Ramps & County Rd 32A Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.2	0.2	0.2
Total Del/Veh (s)	1.3	3.4	6.5	1.6	8.9	8.6	5.7

51: Chiles Road & I-80 EB Ramps Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.0		0.0	0.0	0.1
Total Del/Veh (s)	2.4	3.3	7.5	1.5		2.4	2.8	3.5

Total Network Performance

Denied Del/Veh (s)	0.2
Total Del/Veh (s)	13.1

Intersection: 2: I-80 EB Ramps

Movement	EB	NB	NB
Directions Served	R	L	T
Maximum Queue (ft)	45	72	82
Average Queue (ft)	4	39	44
95th Queue (ft)	24	70	77
Link Distance (ft)	143	68	68
Upstream Blk Time (%)		1	1
Queuing Penalty (veh)		1	1
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 50: I-80 WB Ramps & County Rd 32A

Movement	NB
Directions Served	LR
Maximum Queue (ft)	90
Average Queue (ft)	46
95th Queue (ft)	77
Link Distance (ft)	446
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 51: Chiles Road & I-80 EB Ramps

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	64	67	29
Average Queue (ft)	8	5	4
95th Queue (ft)	37	34	20
Link Distance (ft)	5890	2911	68
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 2

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

Willowgrove Property TIS
Existing Conditions
PM Peak Hour

Intersection 1 **County Rd 99-Lake Blvd/W Covell Blvd** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	32	31	95.9%	5.7	0.7	A
	Through	63	63	100.2%	8.2	1.1	A
	Right Turn	148	149	100.9%	2.0	0.3	A
	Subtotal	243	243	100.1%	4.0	0.6	A
SB	Left Turn	12	12	96.7%	3.7	1.5	A
	Through	49	51	103.9%	10.2	1.2	B
	Right Turn	17	16	96.5%	3.5	1.6	A
	Subtotal	78	79	101.2%	7.9	1.4	A
EB	Left Turn	37	35	93.5%	5.4	1.0	A
	Through	193	189	98.1%	11.8	1.0	B
	Right Turn	36	35	98.3%	2.7	0.6	A
	Subtotal	266	259	97.5%	9.7	1.1	A
WB	Left Turn	190	188	98.7%	10.4	1.2	B
	Through	196	197	100.4%	13.0	1.1	B
	Right Turn	27	27	99.3%	7.8	1.8	A
	Subtotal	413	411	99.6%	11.4	1.1	B
Total		1,000	993	99.3%	8.9	0.7	A

Intersection 2 **Denali Dr/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	12	13	105.0%	16.0	7.5	B
	Through						
	Right Turn	91	93	101.9%	1.2	0.1	A
	Subtotal	103	105	102.2%	2.9	0.7	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	428	423	98.8%	11.2	1.7	B
	Right Turn	20	21	105.0%	9.0	1.2	A
	Subtotal	448	444	99.0%	11.1	1.7	B
WB	Left Turn	91	87	95.3%	12.0	1.7	B
	Through	428	425	99.3%	4.9	1.1	A
	Right Turn						
	Subtotal	519	512	98.6%	6.2	1.2	A
Total		1,070	1,061	99.1%	8.0	1.0	A

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

Willowgrove Property TIS
Existing Conditions
PM Peak Hour

Intersection 3 **Risling Ct-Shasta Dr/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	13	11	83.8%	17.1	10.0	B
	Through	3	3	100.0%	29.5	27.2	C
	Right Turn	204	204	100.1%	1.6	0.2	A
	Subtotal	220	218	99.2%	3.0	0.6	A
SB	Left Turn	74	73	98.0%	17.6	4.5	B
	Through	5	5	96.0%	18.9	14.4	B
	Right Turn	23	25	107.8%	4.8	2.8	A
	Subtotal	102	102	100.1%	14.7	3.5	B
EB	Left Turn	12	12	99.2%	26.0	16.5	C
	Through	492	490	99.5%	13.0	2.6	B
	Right Turn	15	14	94.7%	5.2	0.8	A
	Subtotal	519	516	99.4%	13.1	2.4	B
WB	Left Turn	181	180	99.6%	18.9	3.9	B
	Through	484	480	99.1%	7.5	1.5	A
	Right Turn	34	33	95.9%	2.3	0.8	A
	Subtotal	699	692	99.1%	10.2	1.2	B
Total		1,540	1,529	99.3%	10.5	1.1	B

Intersection 4 **John Jones Rd/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	228	220	96.3%	34.5	4.3	C
	Through						
	Right Turn	77	75	96.9%	5.9	1.0	A
	Subtotal	305	294	96.5%	27.7	3.1	C
EB	Left Turn	48	45	92.7%	52.6	7.9	D
	Through	723	723	100.0%	8.4	1.7	A
	Right Turn						
	Subtotal	771	768	99.5%	10.8	2.0	B
WB	Left Turn						
	Through	622	622	100.0%	9.1	1.9	A
	Right Turn	200	198	99.1%	3.0	0.5	A
	Subtotal	822	820	99.8%	7.5	1.4	A
Total		1,898	1,882	99.2%	12.0	1.8	B

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

Willowgrove Property TIS
Existing Conditions
PM Peak Hour

Intersection 5 **SR 113 SB Ramps/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	150	148	98.9%	51.7	17.2	D
	Through						
	Right Turn	76	75	98.0%	35.9	6.7	D
	Subtotal	226	223	98.6%	47.1	12.2	D
EB	Left Turn						
	Through	768	752	97.9%	12.3	2.7	B
	Right Turn	183	189	103.3%	9.3	3.4	A
	Subtotal	951	941	98.9%	11.7	2.5	B
WB	Left Turn	240	244	101.5%	45.2	4.5	D
	Through	746	744	99.8%	4.4	1.1	A
	Right Turn						
	Subtotal	986	988	100.2%	15.0	2.4	B
Total		2,163	2,152	99.5%	17.0	1.7	B

Intersection 6 **SR 113 NB Ramps/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	261	258	98.8%	34.8	6.0	C
	Through						
	Right Turn	504	504	100.0%	27.5	7.8	C
	Subtotal	765	762	99.6%	30.2	5.3	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	113	110	97.1%	59.8	9.7	E
	Through	816	799	97.9%	7.1	1.1	A
	Right Turn						
	Subtotal	929	909	97.8%	13.0	2.9	B
WB	Left Turn						
	Through	723	726	100.5%	23.3	2.1	C
	Right Turn	176	181	102.6%	9.6	0.6	A
	Subtotal	899	907	100.9%	20.6	1.4	C
Total		2,593	2,577	99.4%	20.7	2.6	C

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

Willowgrove Property TIS
Existing Conditions
PM Peak Hour

Intersection 7 **Sycamore Ln/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	117	116	99.2%	42.4	3.8	D
	Through	66	62	94.2%	30.1	7.7	C
	Right Turn	47	45	95.5%	8.5	4.2	A
	Subtotal	230	223	97.0%	31.9	5.0	C
SB	Left Turn	139	138	99.6%	47.8	8.8	D
	Through	72	76	105.3%	36.8	8.2	D
	Right Turn	93	91	98.0%	7.7	4.9	A
	Subtotal	304	305	100.4%	33.3	7.9	C
EB	Left Turn	122	122	99.8%	49.6	8.1	D
	Through	845	827	97.9%	19.7	2.6	B
	Right Turn	110	113	102.3%	8.3	2.9	A
	Subtotal	1,077	1,062	98.6%	21.9	2.4	C
WB	Left Turn	32	30	94.1%	52.1	9.2	D
	Through	557	557	100.1%	23.4	2.2	C
	Right Turn	87	86	99.2%	9.5	2.1	A
	Subtotal	676	674	99.7%	22.9	1.9	C
Total		2,287	2,264	99.0%	24.8	2.2	C

Intersection 8 **Anderson Rd/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	197	199	101.1%	38.0	6.8	D
	Through	124	122	98.0%	28.1	8.9	C
	Right Turn	142	141	99.6%	7.1	4.4	A
	Subtotal	463	462	99.8%	25.8	5.7	C
SB	Left Turn	71	77	107.9%	47.1	6.8	D
	Through	87	92	106.2%	35.1	5.3	D
	Right Turn	49	52	105.1%	2.3	2.4	A
	Subtotal	207	221	106.5%	30.3	4.9	C
EB	Left Turn	58	56	95.7%	53.1	8.9	D
	Through	825	812	98.4%	33.5	6.5	C
	Right Turn	134	133	99.3%	16.3	4.3	B
	Subtotal	1,017	1,001	98.4%	32.2	5.8	C
WB	Left Turn	99	102	103.1%	49.2	6.2	D
	Through	390	388	99.6%	23.1	3.3	C
	Right Turn	57	57	99.1%	4.8	0.5	A
	Subtotal	546	547	100.2%	26.3	3.6	C
Total		2,233	2,230	99.9%	29.3	3.5	C

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

Willowgrove Property TIS
Existing Conditions
PM Peak Hour

Intersection 9 **Dummy Bike/Ped-Oak Ave/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	109	110	100.8%	27.7	8.2	C
	Through						
	Right Turn	117	125	106.5%	2.3	0.7	A
	Subtotal	226	235	103.8%	14.1	4.4	B
SB	Left Turn						
	Through	25	25	98.8%	23.6	8.1	C
	Right Turn						
	Subtotal	25	25	98.8%	23.6	8.1	C
EB	Left Turn						
	Through	980	977	99.7%	24.9	4.6	C
	Right Turn	124	123	99.0%	18.8	4.4	B
	Subtotal	1,104	1,100	99.6%	24.2	4.4	C
WB	Left Turn	88	85	96.5%	31.0	7.6	C
	Through	535	537	100.3%	11.7	4.0	B
	Right Turn						
	Subtotal	623	622	99.8%	14.3	4.7	B
Total		1,978	1,981	100.2%	19.8	4.0	B

Intersection 10 **Catalina Dr-Dummy Bike/Ped/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through	4	4	107.5%	20.2	16.6	C
	Right Turn						
	Subtotal	4	4	107.5%	20.2	16.6	C
SB	Left Turn	148	149	100.6%	17.1	2.2	B
	Through						
	Right Turn	58	57	98.3%	1.2	0.2	A
	Subtotal	206	206	100.0%	13.1	1.4	B
EB	Left Turn	71	72	100.8%	32.2	7.2	C
	Through	1,026	1,029	100.3%	13.9	2.7	B
	Right Turn						
	Subtotal	1,097	1,101	100.4%	15.1	2.8	B
WB	Left Turn						
	Through	565	558	98.7%	14.0	2.9	B
	Right Turn	137	139	101.1%	6.3	0.6	A
	Subtotal	702	696	99.1%	12.6	2.5	B
Total		2,009	2,007	99.9%	14.1	2.0	B

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

Willowgrove Property TIS
Existing Conditions
PM Peak Hour

Intersection 11 **F St/W Covell Blvd-E Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	128	130	101.6%	44.0	4.3	D
	Through	170	172	101.2%	37.0	4.5	D
	Right Turn	212	210	98.9%	10.5	2.4	B
	Subtotal	510	512	100.4%	27.2	3.1	C
SB	Left Turn	140	145	103.3%	46.8	8.0	D
	Through	151	152	100.7%	35.4	6.7	D
	Right Turn	60	65	108.0%	11.5	6.2	B
	Subtotal	351	362	103.0%	35.9	5.9	D
EB	Left Turn	63	65	102.4%	56.2	5.4	E
	Through	926	936	101.1%	29.8	4.3	C
	Right Turn	187	181	96.8%	11.8	2.2	B
	Subtotal	1,176	1,182	100.5%	28.5	4.1	C
WB	Left Turn	135	135	99.9%	53.6	8.8	D
	Through	547	534	97.6%	27.0	4.2	C
	Right Turn	165	160	96.8%	18.5	4.9	B
	Subtotal	847	829	97.8%	29.3	4.1	C
Total		2,884	2,884	100.0%	29.5	3.5	C

Intersection 12 **F St/E 14th St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	54	54	99.4%	29.1	5.5	C
	Through	340	342	100.6%	15.4	3.5	B
	Right Turn						
	Subtotal	394	396	100.4%	17.2	3.2	B
SB	Left Turn						
	Through	334	327	98.0%	21.9	4.3	C
	Right Turn	124	126	101.8%	9.0	1.0	A
	Subtotal	458	453	99.0%	18.3	3.5	B
EB	Left Turn	154	155	100.5%	23.8	5.8	C
	Through						
	Right Turn	75	79	105.7%	7.7	1.0	A
	Subtotal	229	234	102.2%	18.5	4.1	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,081	1,083	100.2%	17.9	3.2	B

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

Willowgrove Property TIS
Existing Conditions
PM Peak Hour

Intersection 13 Market Ave/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	43	41	95.8%	6.8	3.0	A
	Subtotal	43	41	95.8%	6.8	3.0	A
EB	Left Turn						
	Through	1,278	1,290	101.0%	17.3	15.7	C
	Right Turn						
	Subtotal	1,278	1,290	101.0%	17.3	15.7	C
WB	Left Turn						
	Through	804	789	98.1%	3.5	0.5	A
	Right Turn	38	37	96.1%	3.0	0.7	A
	Subtotal	842	825	98.0%	3.5	0.5	A
Total		2,163	2,157	99.7%	11.9	9.5	B

Intersection 14 Cannery Ave/Cannery Loop Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	53	54	102.5%	2.8	0.5	A
	Through	100	98	97.8%	3.1	0.2	A
	Right Turn						
	Subtotal	153	152	99.4%	3.0	0.2	A
SB	Left Turn						
	Through	80	77	95.6%	2.4	0.2	A
	Right Turn	15	16	105.3%	1.6	0.6	A
	Subtotal	95	92	97.2%	2.3	0.2	A
EB	Left Turn	5	4	80.0%	0.9	0.8	A
	Through						
	Right Turn	24	24	100.8%	1.8	0.5	A
	Subtotal	29	28	97.2%	1.7	0.3	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		277	273	98.4%	2.6	0.2	A

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

Willowgrove Property TIS
Existing Conditions
PM Peak Hour

Intersection 15 Cannery Ave-J St/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	89	88	98.3%	31.3	8.6	C
	Through	18	16	87.8%	34.4	20.0	C
	Right Turn	65	67	103.2%	18.5	7.2	B
	Subtotal	172	170	99.1%	27.1	6.7	C
SB	Left Turn	69	68	98.6%	39.0	9.1	D
	Through	16	17	105.0%	37.0	19.7	D
	Right Turn	19	18	92.6%	13.2	10.9	B
	Subtotal	104	102	98.5%	35.5	6.2	D
EB	Left Turn	91	88	96.8%	88.6	30.5	F
	Through	1,097	1,115	101.6%	63.9	30.8	E
	Right Turn	90	88	98.2%	58.2	29.8	E
	Subtotal	1,278	1,291	101.0%	64.9	30.3	E
WB	Left Turn	48	46	95.2%	48.6	8.4	D
	Through	715	702	98.2%	33.0	6.2	C
	Right Turn	63	67	106.3%	28.4	5.2	C
	Subtotal	826	815	98.6%	33.5	5.7	C
Total		2,380	2,379	99.9%	49.8	16.7	D

Intersection 16 L St/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	128	128	99.6%	22.2	4.1	C
	Through	5	6	114.0%	7.4	11.7	A
	Right Turn	105	113	108.0%	15.6	2.2	B
	Subtotal	238	247	103.6%	19.1	2.5	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,116	1,139	102.0%	23.0	6.2	C
	Right Turn	115	116	100.6%	13.5	2.6	B
	Subtotal	1,231	1,255	101.9%	22.1	5.8	C
WB	Left Turn	70	72	102.7%	37.4	11.3	D
	Through	698	682	97.7%	12.6	3.5	B
	Right Turn						
	Subtotal	768	754	98.2%	14.9	3.8	B
Total		2,237	2,255	100.8%	19.3	4.2	B

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

Willowgrove Property TIS
Existing Conditions
PM Peak Hour

Intersection 18 **Pole Line Rd/Moore Blvd** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	470	479	101.8%	31.3	10.1	D
	Right Turn	153	156	102.0%	26.2	8.7	D
	Subtotal	623	635	101.9%	30.0	9.6	D
SB	Left Turn	87	83	95.5%	11.2	1.4	B
	Through	492	493	100.2%	16.8	1.9	C
	Right Turn						
	Subtotal	579	576	99.5%	15.9	1.9	C
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	118	118	100.0%	7.3	0.8	A
	Through						
	Right Turn	52	53	102.1%	5.2	0.7	A
	Subtotal	170	171	100.6%	6.6	0.7	A
Total		1,372	1,382	100.7%	21.2	4.7	C

Intersection 19 **Pole Line Rd/Donner Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	614	626	102.0%	1.2	0.1	A
	Right Turn	59	58	98.0%	1.6	0.3	A
	Subtotal	673	684	101.6%	1.3	0.1	A
SB	Left Turn	22	22	97.7%	10.3	2.2	B
	Through	588	591	100.5%	4.0	0.2	A
	Right Turn						
	Subtotal	610	613	100.4%	4.1	0.3	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	48	48	100.4%	23.5	6.2	C
	Through						
	Right Turn	9	10	107.8%	8.6	2.2	A
	Subtotal	57	58	101.6%	20.6	4.6	C
Total		1,340	1,355	101.1%	3.5	0.4	A

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

Willowgrove Property TIS
Existing Conditions
PM Peak Hour

Intersection 20 Pole Line Rd/Picasso Ave Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	645	655	101.6%	5.2	0.9	A
	Right Turn	104	108	103.8%	6.0	1.7	A
	Subtotal	749	763	101.9%	5.3	0.7	A
SB	Left Turn	20	22	110.0%	15.0	5.5	B
	Through	616	619	100.5%	1.4	0.3	A
	Right Turn						
	Subtotal	636	641	100.8%	1.9	0.4	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	69	71	102.3%	33.4	8.3	D
	Through						
	Right Turn	28	29	103.9%	14.0	8.8	B
	Subtotal	97	100	102.8%	27.4	7.0	D
Total		1,482	1,504	101.5%	5.3	0.6	A

Intersection 21 Pole Line Rd/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	139	136	98.1%	63.0	18.1	E
	Through	335	345	103.1%	52.5	15.3	D
	Right Turn	43	43	99.5%	38.4	15.5	D
	Subtotal	517	525	101.5%	54.2	15.6	D
SB	Left Turn	164	162	98.5%	55.4	6.8	E
	Through	295	298	100.9%	38.6	4.9	D
	Right Turn	226	230	101.6%	16.6	3.0	B
	Subtotal	685	689	100.6%	35.4	4.5	D
EB	Left Turn	298	306	102.7%	47.1	6.7	D
	Through	691	701	101.4%	32.3	4.2	C
	Right Turn	189	192	101.3%	9.9	1.3	A
	Subtotal	1,178	1,198	101.7%	32.7	3.1	C
WB	Left Turn	84	83	98.6%	41.0	5.0	D
	Through	360	349	97.1%	36.1	4.7	D
	Right Turn	116	111	96.0%	5.2	2.4	A
	Subtotal	560	544	97.1%	29.8	3.5	C
Total		2,940	2,955	100.5%	36.7	3.8	D

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

Willowgrove Property TIS
Existing Conditions
PM Peak Hour

Intersection 22 **Dummy Bike/Ped-Birch Ln/E Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	41	40	98.5%	18.0	5.1	B
	Through						
	Right Turn	18	19	106.7%	15.8	9.5	B
	Subtotal	59	60	101.0%	16.8	3.9	B
SB	Left Turn						
	Through	9	8	91.1%	10.5	8.1	B
	Right Turn						
	Subtotal	9	8	91.1%	10.5	8.1	B
EB	Left Turn						
	Through	869	875	100.7%	10.6	2.8	B
	Right Turn	29	29	99.3%	10.5	6.4	B
	Subtotal	898	904	100.7%	10.5	2.9	B
WB	Left Turn	23	23	97.8%	22.2	9.2	C
	Through	519	500	96.3%	10.0	2.5	A
	Right Turn						
	Subtotal	542	523	96.4%	10.5	2.5	B
Total		1,508	1,494	99.1%	10.8	2.7	B

Intersection 23 **Baywood Ln/E Covell Blvd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	12	12	98.3%	19.5	7.9	C
	Through	1	1	90.0%	1.4	4.4	A
	Right Turn	15	16	104.7%	8.0	3.2	A
	Subtotal	28	28	101.4%	12.4	3.5	B
SB	Left Turn	3	2	73.3%	3.6	8.1	A
	Through	1	1	110.0%	3.2	6.3	A
	Right Turn	12	14	120.0%	1.0	0.2	A
	Subtotal	16	18	110.6%	3.0	3.9	A
EB	Left Turn	26	26	98.5%	4.8	0.8	A
	Through	846	850	100.5%	3.4	0.6	A
	Right Turn	27	28	105.2%	3.2	0.6	A
	Subtotal	899	904	100.6%	3.4	0.6	A
WB	Left Turn	11	10	90.9%	14.2	9.6	B
	Through	543	521	95.9%	3.6	0.7	A
	Right Turn	2	2	105.0%	3.0	1.4	A
	Subtotal	556	533	95.8%	3.8	0.7	A
Total		1,499	1,483	98.9%	3.8	0.3	A

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

Willowgrove Property TIS
Existing Conditions
PM Peak Hour

Intersection 24 **Manzanita Ln/E Covell Blvd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	28	23	80.4%	16.2	7.9	C
	Through						
	Right Turn	15	17	113.3%	8.2	4.5	A
	Subtotal	43	40	91.9%	13.2	4.7	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	828	827	99.8%	5.5	0.9	A
	Right Turn	36	40	110.3%	5.8	1.4	A
	Subtotal	864	866	100.3%	5.5	0.9	A
WB	Left Turn	27	22	83.0%	11.4	5.6	B
	Through	528	511	96.8%	2.6	0.5	A
	Right Turn						
	Subtotal	555	534	96.1%	3.0	0.7	A
Total		1,462	1,439	98.4%	4.8	0.7	A

Intersection 25 **Wright Blvd/E Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	109	103	94.3%	19.0	3.1	B
	Through						
	Right Turn	64	65	101.3%	1.5	0.1	A
	Subtotal	173	168	96.9%	12.9	2.7	B
EB	Left Turn	86	84	97.4%	26.8	5.7	C
	Through	758	757	99.9%	11.7	1.4	B
	Right Turn						
	Subtotal	844	841	99.7%	13.2	1.6	B
WB	Left Turn						
	Through	491	469	95.4%	11.0	1.6	B
	Right Turn	105	106	100.5%	5.4	1.0	A
	Subtotal	596	574	96.3%	10.0	1.5	B
Total		1,613	1,583	98.1%	12.1	1.3	B

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

Willowgrove Property TIS
Existing Conditions
PM Peak Hour

Intersection 26 Monarch Ln/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	22	22	100.9%	20.0	9.4	C
	Through						
	Right Turn	24	25	103.8%	5.2	2.7	A
	Subtotal	46	47	102.4%	11.2	4.4	B
SB	Left Turn						
	Through						
	Right Turn	1	1	110.0%	0.9	2.1	A
	Subtotal	1	1	110.0%	0.9	2.1	A
EB	Left Turn						
	Through	832	822	98.8%	2.5	0.6	A
	Right Turn	35	35	100.0%	2.7	0.4	A
	Subtotal	867	857	98.8%	2.5	0.5	A
WB	Left Turn	22	20	92.7%	8.0	4.8	A
	Through	573	549	95.8%	2.6	0.4	A
	Right Turn						
	Subtotal	595	570	95.7%	2.8	0.4	A
Total		1,509	1,474	97.7%	3.0	0.6	A

Intersection 27 Alhambra Dr/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	97	93	96.0%	11.2	2.1	B
	Through						
	Right Turn	4	4	87.5%	0.9	1.0	A
	Subtotal	101	97	95.6%	10.8	2.1	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	701	688	98.1%	6.0	1.4	A
	Right Turn	155	160	103.5%	4.0	0.2	A
	Subtotal	856	848	99.1%	5.7	1.2	A
WB	Left Turn	18	18	101.1%	15.8	7.5	B
	Through	498	473	94.9%	6.9	1.3	A
	Right Turn						
	Subtotal	516	491	95.2%	7.2	1.3	A
Total		1,473	1,436	97.5%	6.5	1.0	A

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

Willowgrove Property TIS
Existing Conditions
PM Peak Hour

Intersection 29 Harper Hr HS Access/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	1	1	70.0%	2.0	6.3	A
	Through						
	Right Turn	1	1	140.0%	1.6	2.1	A
	Subtotal	2	2	105.0%	2.5	3.8	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	699	685	98.1%	5.1	1.0	A
	Right Turn	6	7	121.7%	2.3	2.1	A
	Subtotal	705	693	98.3%	5.0	1.0	A
WB	Left Turn	3	4	116.7%	15.6	3.2	B
	Through	515	491	95.3%	12.5	1.7	B
	Right Turn						
	Subtotal	518	494	95.4%	12.5	1.6	B
Total		1,225	1,189	97.1%	8.1	0.6	A

Intersection 30 Mace Blvd/Alhambra Dr Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	187	178	95.2%	21.6	2.3	C
	Through	488	465	95.3%	6.2	2.0	A
	Right Turn						
	Subtotal	675	643	95.3%	10.5	2.0	B
SB	Left Turn						
	Through	710	697	98.2%	14.5	1.0	B
	Right Turn	16	19	116.9%	8.4	0.7	A
	Subtotal	726	716	98.6%	14.3	1.0	B
EB	Left Turn	10	10	103.0%	19.9	13.0	B
	Through						
	Right Turn	185	177	95.5%	1.7	0.2	A
	Subtotal	195	187	95.9%	2.4	0.7	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,596	1,546	96.9%	11.5	1.2	B

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

Willowgrove Property TIS
Existing Conditions
PM Peak Hour

Intersection 31 **2nd St/Target Main Dwy-Fermi Place** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	156	153	98.3%	25.7	3.1	C
	Through	656	661	100.7%	11.5	1.9	B
	Right Turn	13	15	117.7%	9.0	5.5	A
	Subtotal	825	829	100.5%	14.2	2.0	B
SB	Left Turn	50	46	91.0%	25.6	5.8	C
	Through	248	238	95.9%	15.1	3.0	B
	Right Turn	115	111	96.6%	4.1	0.8	A
	Subtotal	413	395	95.5%	13.3	2.4	B
EB	Left Turn	187	181	96.7%	21.7	3.1	C
	Through	2	2	120.0%	7.9	20.5	A
	Right Turn	86	83	96.4%	5.8	2.0	A
	Subtotal	275	266	96.8%	17.1	2.7	B
WB	Left Turn	10	11	109.0%	19.6	11.7	B
	Through	8	9	106.3%	33.7	22.5	C
	Right Turn	37	36	98.4%	11.4	4.4	B
	Subtotal	55	56	101.5%	17.5	5.3	B
Total		1,568	1,546	98.6%	14.6	1.2	B

Intersection 32 **Mace Blvd/2nd St-County Rd 32A** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	330	308	93.3%	34.1	4.5	C
	Through	531	504	94.9%	23.1	3.5	C
	Right Turn	23	24	105.7%	5.8	1.5	A
	Subtotal	884	836	94.6%	26.7	3.1	C
SB	Left Turn	115	113	97.9%	46.8	11.8	D
	Through	637	621	97.4%	39.2	14.2	D
	Right Turn	136	131	96.3%	5.9	2.7	A
	Subtotal	888	864	97.3%	35.2	11.0	D
EB	Left Turn	137	132	96.1%	33.8	7.9	C
	Through	147	146	99.5%	30.7	3.9	C
	Right Turn	602	599	99.5%	17.1	13.4	B
	Subtotal	886	877	99.0%	22.1	8.6	C
WB	Left Turn	72	69	95.7%	49.8	23.5	D
	Through	27	27	98.9%	38.9	14.1	D
	Right Turn	20	21	103.5%	10.9	8.8	B
	Subtotal	119	116	97.7%	39.6	13.4	D
Total		2,777	2,693	97.0%	28.6	6.1	C

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

Willowgrove Property TIS
Existing Conditions
PM Peak Hour

Intersection 33 **Mace Blvd/I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	203	172	84.9%	33.3	5.0	C
	Through	383	336	87.8%	8.7	1.9	A
	Right Turn						
	Subtotal	586	509	86.8%	16.9	2.5	B
SB	Left Turn						
	Through	1,169	1,130	96.6%	106.7	62.3	F
	Right Turn	142	146	102.7%	58.6	44.2	E
	Subtotal	1,311	1,276	97.3%	101.1	60.3	F
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	362	357	98.7%	24.9	4.1	C
	Through	1	3	280.0%	3.1	5.4	A
	Right Turn	501	497	99.2%	2.8	0.3	A
	Subtotal	864	857	99.2%	11.9	1.8	B
Total		2,761	2,641	95.7%	56.6	29.7	E

Intersection 34 **Mace Blvd/Chiles Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	22	24	107.3%	83.4	28.7	F
	Through	501	501	100.0%	79.6	34.6	E
	Right Turn	133	131	98.1%	57.2	35.9	E
	Subtotal	656	655	99.9%	75.2	35.0	E
SB	Left Turn	255	235	92.3%	187.8	72.0	F
	Through	397	389	98.0%	68.1	25.5	E
	Right Turn	225	219	97.5%	35.2	21.2	D
	Subtotal	877	844	96.2%	93.8	37.6	F
EB	Left Turn	387	204	52.7%	241.0	29.9	F
	Through	317	177	55.7%	64.7	10.1	E
	Right Turn	55	28	50.9%	2.4	0.4	A
	Subtotal	759	409	53.8%	153.8	19.6	F
WB	Left Turn	29	28	97.2%	36.2	12.9	D
	Through	33	33	98.8%	30.9	10.1	C
	Right Turn	198	192	97.0%	21.6	9.8	C
	Subtotal	260	253	97.3%	24.5	8.0	C
Total		2,552	2,160	84.7%	89.3	16.9	F

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

Willowgrove Property TIS
Existing Conditions
PM Peak Hour

Intersection 35 **I-80 EB Off Ramp/Chiles Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	73	72	98.5%	48.9	28.0	D
	Through						
	Right Turn	38	39	102.4%	3.0	0.7	A
	Subtotal	111	111	99.8%	33.0	19.4	C
EB	Left Turn						
	Through	685	333	48.6%	561.5	87.1	F
	Right Turn						
	Subtotal	685	333	48.6%	561.5	87.1	F
WB	Left Turn	1	0	20.0%	2.6	#DIV/0!	A
	Through	279	277	99.3%	7.5	1.8	A
	Right Turn						
	Subtotal	280	277	99.0%	7.5	1.8	A
Total		1,076	721	67.0%	245.1	19.7	F

Intersection 36 **Mace Blvd/Cowell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	14	14	101.4%	38.1	29.5	D
	Through	380	380	99.9%	41.8	40.9	D
	Right Turn	20	23	114.5%	38.9	40.3	D
	Subtotal	414	417	100.6%	41.7	40.4	D
SB	Left Turn	108	102	94.2%	40.6	6.7	D
	Through	210	198	94.4%	18.3	3.5	B
	Right Turn	69	65	94.5%	9.2	2.0	A
	Subtotal	387	365	94.3%	22.5	3.3	C
EB	Left Turn	120	119	99.3%	23.1	9.7	C
	Through	65	66	101.2%	23.8	8.9	C
	Right Turn	26	26	101.5%	9.7	5.5	A
	Subtotal	211	211	100.2%	21.6	8.8	C
WB	Left Turn	13	12	93.8%	39.3	15.9	D
	Through	40	40	100.8%	25.3	11.2	C
	Right Turn	63	63	100.5%	14.4	9.1	B
	Subtotal	116	116	99.8%	21.0	8.1	C
Total		1,128	1,109	98.3%	28.6	15.1	C

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

Willowgrove Property TIS
Existing Conditions
PM Peak Hour

Intersection 37

Mace Blvd/N El Macero Dr

All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	12	11	92.5%	4.9	2.5	A
	Through	333	332	99.7%	7.4	0.3	A
	Right Turn	6	7	110.0%	3.2	1.9	A
	Subtotal	351	350	99.7%	7.3	0.3	A
SB	Left Turn	86	84	97.9%	11.5	3.3	B
	Through	152	144	94.6%	12.5	1.9	B
	Right Turn	11	10	90.0%	2.0	1.4	A
	Subtotal	249	238	95.5%	11.7	2.2	B
EB	Left Turn	7	7	94.3%	4.6	2.8	A
	Through	10	11	113.0%	5.5	1.3	A
	Right Turn	4	4	107.5%	1.6	1.4	A
	Subtotal	21	22	105.7%	4.9	1.0	A
WB	Left Turn	8	7	90.0%	4.5	2.3	A
	Through	24	24	98.3%	6.0	1.3	A
	Right Turn	74	77	104.2%	4.1	0.7	A
	Subtotal	106	108	101.8%	4.6	0.8	A
Total		727	718	98.7%	8.3	1.0	A

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↘	↑						↕	
Traffic Vol, veh/h	0	258	36	20	147	0	0	0	0	154	1	46
Future Vol, veh/h	0	258	36	20	147	0	0	0	0	154	1	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	195	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	297	41	23	169	0	0	0	0	177	1	53

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	338	0	0		533	533	169
Stage 1	-	-	-	-	-	-		215	215	-
Stage 2	-	-	-	-	-	-		318	338	-
Critical Hdwy	-	-	-	4.12	-	-		6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-		5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-		3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1221	-	0		507	441	875
Stage 1	0	-	-	-	-	0		821	725	-
Stage 2	0	-	-	-	-	0		738	641	-
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1221	-	-		497	0	875
Mov Cap-2 Maneuver	-	-	-	-	-	-		497	0	-
Stage 1	-	-	-	-	-	-		821	0	-
Stage 2	-	-	-	-	-	-		724	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1	16.1
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1221	-	552
HCM Lane V/C Ratio	-	-	0.019	-	0.419
HCM Control Delay (s)	-	-	8	-	16.1
HCM Lane LOS	-	-	A	-	C
HCM 95th %tile Q(veh)	-	-	0.1	-	2.1

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	116	296	136	171	30	31
Future Vol, veh/h	116	296	136	171	30	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	133	340	156	197	34	36

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	353	0	-	0	861 255
Stage 1	-	-	-	-	255 -
Stage 2	-	-	-	-	606 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1206	-	-	-	326 784
Stage 1	-	-	-	-	788 -
Stage 2	-	-	-	-	545 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1206	-	-	-	290 784
Mov Cap-2 Maneuver	-	-	-	-	290 -
Stage 1	-	-	-	-	701 -
Stage 2	-	-	-	-	545 -

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1206	-	-	-	427
HCM Lane V/C Ratio	0.111	-	-	-	0.164
HCM Control Delay (s)	8.4	-	-	-	15.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	4	294	28	14	267	3	36	2	18	0	1	4
Future Vol, veh/h	4	294	28	14	267	3	36	2	18	0	1	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	115	-	-	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	338	32	16	307	3	41	2	21	0	1	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	310	0	0	370	0	0	708	706	354	717	721	309
Stage 1	-	-	-	-	-	-	364	364	-	341	341	-
Stage 2	-	-	-	-	-	-	344	342	-	376	380	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1250	-	-	1189	-	-	350	361	690	345	353	731
Stage 1	-	-	-	-	-	-	655	624	-	674	639	-
Stage 2	-	-	-	-	-	-	671	638	-	645	614	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1250	-	-	1189	-	-	342	355	690	328	347	731
Mov Cap-2 Maneuver	-	-	-	-	-	-	342	355	-	328	347	-
Stage 1	-	-	-	-	-	-	652	622	-	671	631	-
Stage 2	-	-	-	-	-	-	657	630	-	621	612	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.4			15.4			11.1		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	409	1250	-	-	1189	-	-	599
HCM Lane V/C Ratio	0.157	0.004	-	-	0.014	-	-	0.01
HCM Control Delay (s)	15.4	7.9	-	-	8.1	-	-	11.1
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.6	0	-	-	0	-	-	0

Intersection							
Int Delay, s/veh	3.9						
Movement	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↔				↔	↔	
Traffic Vol, veh/h	176	134	1	40	150	132	31
Future Vol, veh/h	176	134	1	40	150	132	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	210	160	1	48	179	157	37

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	370
Stage 1	-	-	290
Stage 2	-	-	275
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1189
Stage 1	-	-	759
Stage 2	-	-	771
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	~ -42	~ -42
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	759
Stage 2	-	-	771

Approach	EB	WB	NB
HCM Control Delay, s	0		16
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	521	-	-	+	-
HCM Lane V/C Ratio	0.372	-	-	-	-
HCM Control Delay (s)	16	-	-	-	-
HCM Lane LOS	C	-	-	-	-
HCM 95th %tile Q(veh)	1.7	-	-	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	5.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↗	↙	↑	↗	
Traffic Vol, veh/h	110	100	106	391	347	79
Future Vol, veh/h	110	100	106	391	347	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	215	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	104	110	407	361	82

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1029	402	443	0	-	0
Stage 1	402	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	259	648	1117	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	532	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	234	648	1117	-	-	-
Mov Cap-2 Maneuver	234	-	-	-	-	-
Stage 1	610	-	-	-	-	-
Stage 2	532	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.5	1.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1117	-	234	648	-	-
HCM Lane V/C Ratio	0.099	-	0.49	0.161	-	-
HCM Control Delay (s)	8.6	-	34.3	11.6	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.3	-	2.5	0.6	-	-

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑	↑	↑	↑
Traffic Vol, veh/h	28	87	457	44	48	398
Future Vol, veh/h	28	87	457	44	48	398
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Yield	-	None
Storage Length	0	-	-	280	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	91	476	46	50	415

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	991	-	0	0	476
Stage 1	476	-	-	-	-
Stage 2	515	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218
Pot Cap-1 Maneuver	273	0	-	-	1086
Stage 1	625	0	-	-	-
Stage 2	600	0	-	-	-
Platoon blocked, %		-	-	-	-
Mov Cap-1 Maneuver	260	-	-	-	1086
Mov Cap-2 Maneuver	260	-	-	-	-
Stage 1	625	-	-	-	-
Stage 2	572	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.6	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	260	1086
HCM Lane V/C Ratio	-	-	0.112	0.046
HCM Control Delay (s)	-	-	20.6	8.5
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1

Intersection	
Intersection Delay, s/veh	17.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	9	82	3	13	4	55	474	1	3	367	18
Future Vol, veh/h	35	9	82	3	13	4	55	474	1	3	367	18
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	9	85	3	13	4	57	489	1	3	378	19
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.6	9.8	21.6	14.5
HCM LOS	B	A	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	28%	15%	1%
Vol Thru, %	89%	7%	65%	95%
Vol Right, %	0%	65%	20%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	530	126	20	388
LT Vol	55	35	3	3
Through Vol	474	9	13	367
RT Vol	1	82	4	18
Lane Flow Rate	546	130	21	400
Geometry Grp	1	1	1	1
Degree of Util (X)	0.755	0.213	0.037	0.564
Departure Headway (Hd)	4.974	5.904	6.461	5.078
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	732	607	552	712
Service Time	2.974	3.951	4.521	3.109
HCM Lane V/C Ratio	0.746	0.214	0.038	0.562
HCM Control Delay	21.6	10.6	9.8	14.5
HCM Lane LOS	C	B	A	B
HCM 95th-tile Q	7	0.8	0.1	3.6

Intersection							
Int Delay, s/veh	1.1						
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↙	↗	↙	↑	↘	↑	↗
Traffic Vol, veh/h	10	38	55	455	0	345	28
Future Vol, veh/h	10	38	55	455	0	345	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	250	0	390	-	370	-	370
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	11	40	59	484	0	367	30

Major/Minor	Minor2	Major1	Major2				
Conflicting Flow All	969	367	397	0	-	-	0
Stage 1	367	-	-	-	-	-	-
Stage 2	602	-	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-	-
Pot Cap-1 Maneuver	281	678	1162	-	-	-	-
Stage 1	701	-	-	-	-	-	-
Stage 2	547	-	-	-	-	-	-
Platoon blocked, %				-	-	-	-
Mov Cap-1 Maneuver	267	678	1162	-	-	-	-
Mov Cap-2 Maneuver	267	-	-	-	-	-	-
Stage 1	665	-	-	-	-	-	-
Stage 2	547	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.4	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	1162	-	267	678	-	-	-
HCM Lane V/C Ratio	0.05	-	0.04	0.06	-	-	-
HCM Control Delay (s)	8.3	-	19	10.6	0	-	-
HCM Lane LOS	A	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	0.2	-	-	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	0	94	107	22	11	4
Future Vol, veh/h	0	94	107	22	11	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	12	12	12	12	12	12
Mvmt Flow	0	111	126	26	13	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	152	0	-	0	250 139
Stage 1	-	-	-	-	139 -
Stage 2	-	-	-	-	111 -
Critical Hdwy	4.22	-	-	-	6.52 6.32
Critical Hdwy Stg 1	-	-	-	-	5.52 -
Critical Hdwy Stg 2	-	-	-	-	5.52 -
Follow-up Hdwy	2.308	-	-	-	3.608 3.408
Pot Cap-1 Maneuver	1370	-	-	-	717 883
Stage 1	-	-	-	-	864 -
Stage 2	-	-	-	-	889 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1370	-	-	-	717 883
Mov Cap-2 Maneuver	-	-	-	-	717 -
Stage 1	-	-	-	-	864 -
Stage 2	-	-	-	-	889 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1370	-	-	-	755
HCM Lane V/C Ratio	-	-	-	-	0.023
HCM Control Delay (s)	0	-	-	-	9.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗	↘	↘	↘
Traffic Vol, veh/h	1	105	65	0	16	48
Future Vol, veh/h	1	105	65	0	16	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	265	-	-	305	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	9	9	9	9	9	9
Mvmt Flow	1	127	78	0	19	58

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	78	0	-	0	207 78
Stage 1	-	-	-	-	78 -
Stage 2	-	-	-	-	129 -
Critical Hdwy	4.19	-	-	-	6.49 6.29
Critical Hdwy Stg 1	-	-	-	-	5.49 -
Critical Hdwy Stg 2	-	-	-	-	5.49 -
Follow-up Hdwy	2.281	-	-	-	3.581 3.381
Pot Cap-1 Maneuver	1477	-	-	-	766 964
Stage 1	-	-	-	-	928 -
Stage 2	-	-	-	-	880 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1477	-	-	-	765 964
Mov Cap-2 Maneuver	-	-	-	-	765 -
Stage 1	-	-	-	-	927 -
Stage 2	-	-	-	-	880 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1477	-	-	-	905
HCM Lane V/C Ratio	0.001	-	-	-	0.085
HCM Control Delay (s)	7.4	-	-	-	9.3
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection						
Int Delay, s/veh	3.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	121	1	0	66	0
Future Vol, veh/h	0	121	1	0	66	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	7	7	7	7	7	7
Mvmt Flow	0	142	1	0	78	0

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	142	0	73
Stage 1	-	-	-	-	71
Stage 2	-	-	-	-	2
Critical Hdwy	-	-	4.17	-	6.47
Critical Hdwy Stg 1	-	-	-	-	5.47
Critical Hdwy Stg 2	-	-	-	-	5.47
Follow-up Hdwy	-	-	2.263	-	3.563
Pot Cap-1 Maneuver	-	-	1411	-	919
Stage 1	-	-	-	-	939
Stage 2	-	-	-	-	1008
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1411	-	918
Mov Cap-2 Maneuver	-	-	-	-	918
Stage 1	-	-	-	-	939
Stage 2	-	-	-	-	1007

Approach	EB	WB	NB
HCM Control Delay, s	0	7.6	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	918	-	-	1411	-
HCM Lane V/C Ratio	0.085	-	-	0.001	-
HCM Control Delay (s)	9.3	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection												
Int Delay, s/veh	9.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↶			↷			↷			↷	
Traffic Vol, veh/h	0	5	194	122	9	0	41	0	59	0	0	0
Future Vol, veh/h	0	5	194	122	9	0	41	0	59	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	81	81	81	81	87	81	87	81	87	87	87
Heavy Vehicles, %	2	3	3	3	3	2	3	2	3	2	2	2
Mvmt Flow	0	6	240	151	11	0	51	0	73	0	0	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	176	1	263	140	-	1	0	0	73	0	0
Stage 1	-	1	-	139	139	-	-	-	-	-	-	-
Stage 2	-	175	-	124	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.53	6.23	7.13	6.53	-	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.027	3.327	3.527	4.027	-	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	716	1081	688	749	0	1615	-	-	1527	-	-
Stage 1	0	893	-	862	780	0	-	-	-	-	-	-
Stage 2	0	752	-	878	893	0	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	-	692	1081	519	724	-	1615	-	-	1527	-	-
Mov Cap-2 Maneuver	-	692	-	519	724	-	-	-	-	-	-	-
Stage 1	-	893	-	834	754	-	-	-	-	-	-	-
Stage 2	-	727	-	679	893	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.4	14.8	3	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1615	-	-	1066	529	1527	-	-
HCM Lane V/C Ratio	0.031	-	-	0.23	0.306	-	-	-
HCM Control Delay (s)	7.3	0	-	9.4	14.8	0	-	-
HCM Lane LOS	A	A	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9	1.3	0	-	-

2: I-80 EB Ramps Performance by movement

Movement	EBR	NBL	NBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Del/Veh (s)	3.0	25.2	24.0	24.4

50: I-80 WB Ramps & County Rd 32A Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.3	0.1	0.0	0.0	0.2	0.2	0.2
Total Del/Veh (s)	3.2	3.3	5.7	5.3	6.1	4.4	3.9

51: Chiles Road & I-80 EB Ramps Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.3	0.2	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	392.2	387.4	157.7	161.5	4.4	2.4	275.5

Total Network Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	261.7

Intersection: 2: I-80 EB Ramps

Movement	EB	NB	NB
Directions Served	R	L	T
Maximum Queue (ft)	28	86	86
Average Queue (ft)	4	83	82
95th Queue (ft)	20	86	91
Link Distance (ft)	143	68	68
Upstream Blk Time (%)		69	62
Queuing Penalty (veh)		229	209
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 50: I-80 WB Ramps & County Rd 32A

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	21	84
Average Queue (ft)	1	41
95th Queue (ft)	10	68
Link Distance (ft)	2911	446
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 51: Chiles Road & I-80 EB Ramps

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	1797	936	27
Average Queue (ft)	1128	500	5
95th Queue (ft)	2000	1112	21
Link Distance (ft)	5890	2911	68
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 438

Major Street **CR 29**
 Minor Street **SR 113 SB Ramps**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

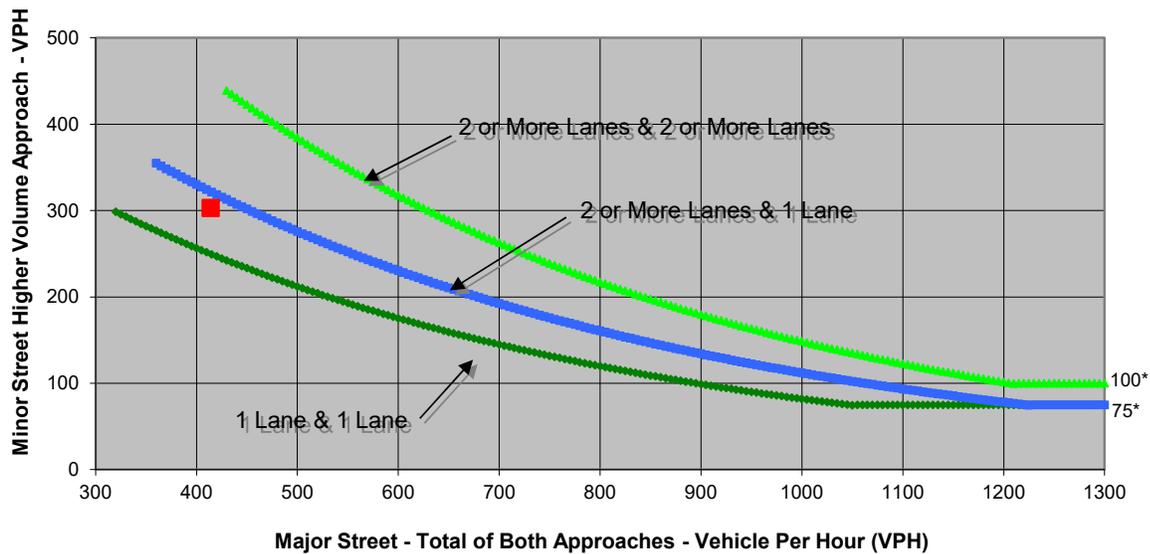
	NB	SB	EB	WB
Left	0	220	0	43
Through	0	0	209	130
Right	0	83	32	0
Total	0	303	241	173

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	SR 113 SB Ramps	
Number of Approach Lanes	1	1	<u>YES</u>
Traffic Volume (VPH) *	414	303	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 29
 Minor Street SR 113 SB Ramps

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	220	0	43
Through	0	0	209	130
Right	0	83	32	0
Total	0	303	241	173

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	20.2
Approach with Worst Case Delay	SB
Total Vehicles on Approach	303

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	1.7	303	717
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 29**
 Minor Street **SR 113 NB Ramps**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

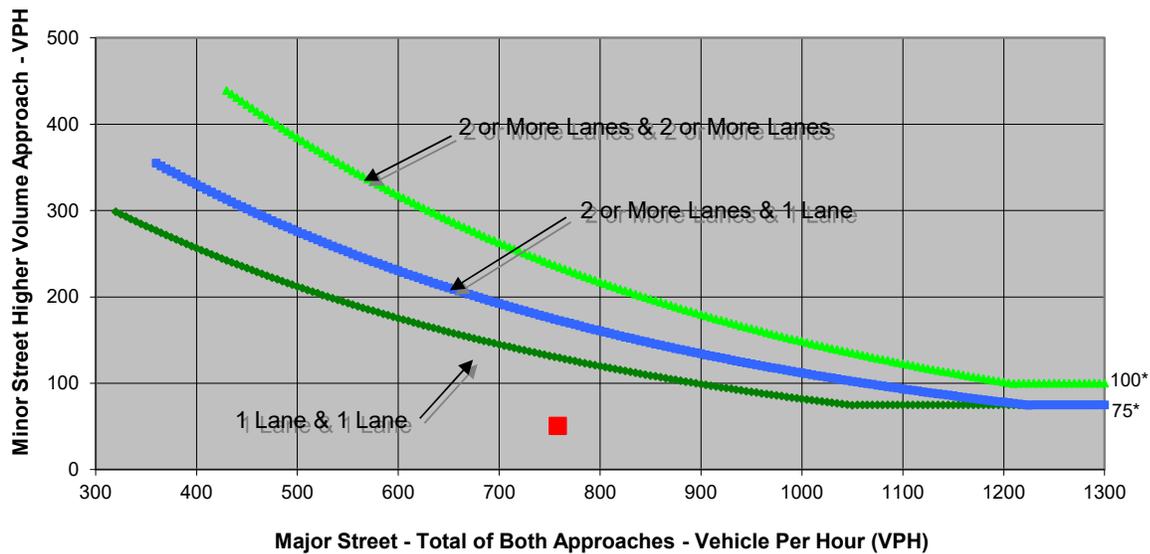
	NB	SB	EB	WB
Left	0	1	42	0
Through	0	21	387	144
Right	0	29	0	185
Total	0	51	429	329

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	SR 113 NB Ramps	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	758	51	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 29
 Minor Street SR 113 NB Ramps

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	1	42	0
Through	0	21	387	144
Right	0	29	0	185
Total	0	51	429	329

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.2
Approach with Worst Case Delay	SB
Total Vehicles on Approach	51

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.2	51	809
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		

Major Street **CR 29**
 Minor Street **CR 100A**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

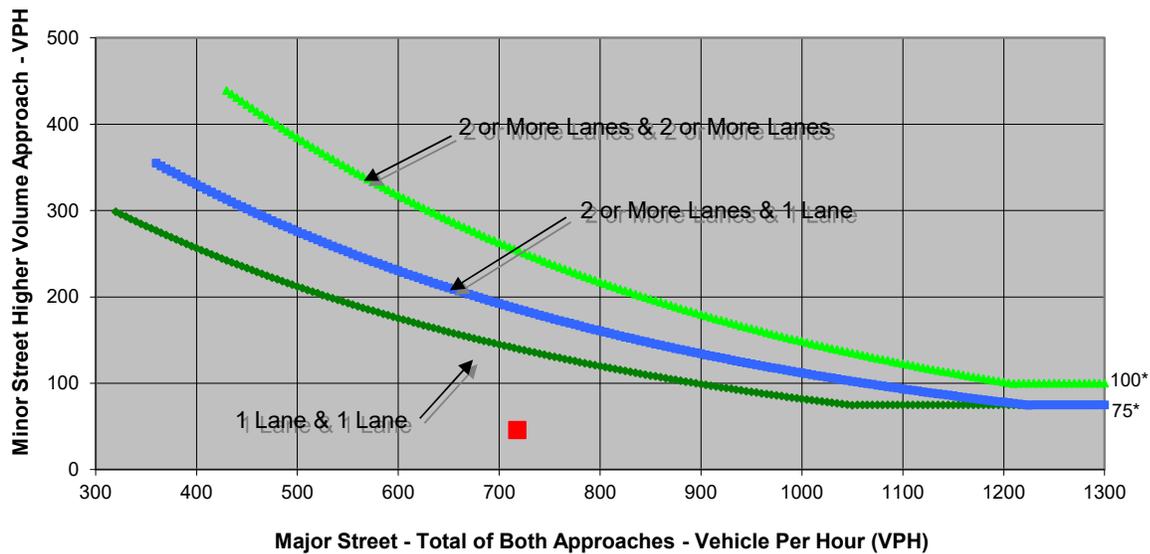
	NB	SB	EB	WB
Left	34	2	3	20
Through	0	0	327	290
Right	12	4	77	1
Total	46	6	407	311

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	CR 100A	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	718	46	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 29
 Minor Street CR 100A

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	34	2	3	20
Through	0	0	327	290
Right	12	4	77	1
Total	46	6	407	311

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	17.4
Approach with Worst Case Delay	NB
Total Vehicles on Approach	46

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.2	46	770
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
	<u>NO</u>		



Major Street **CR 29**
 Minor Street **CR 101A**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

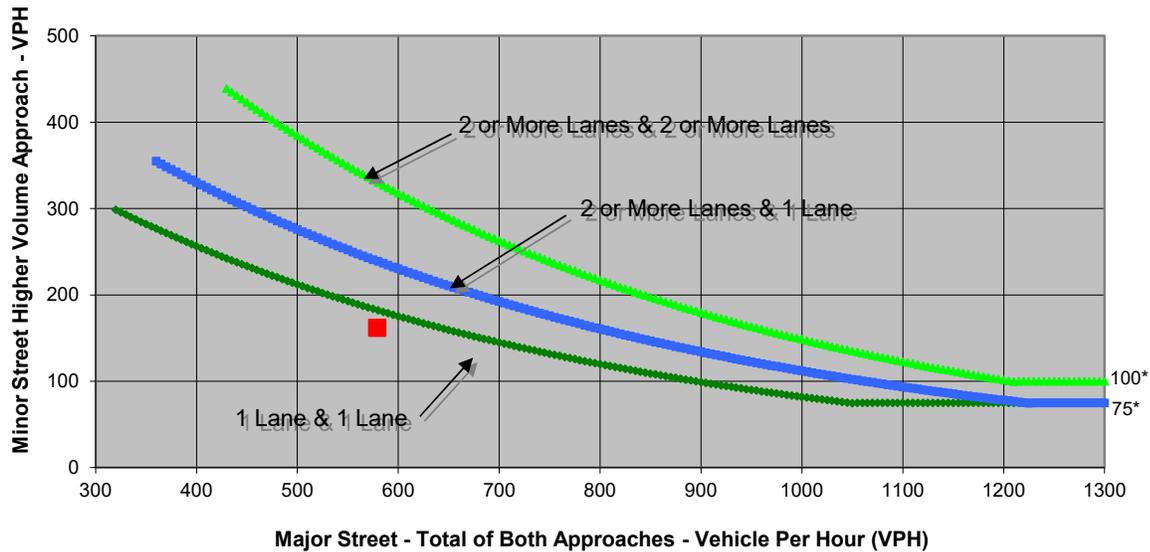
	NB	SB	EB	WB
Left	141	0	0	69
Through	0	0	142	168
Right	21	0	200	0
Total	162	0	342	237

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	CR 101A	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	579	162	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 29
 Minor Street CR 101A

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	141	0	0	69
Through	0	0	142	168
Right	21	0	200	0
Total	162	0	342	237

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	19.2
Approach with Worst Case Delay	NB
Total Vehicles on Approach	162

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.9	162	741
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 102**
 Minor Street **CR 29**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

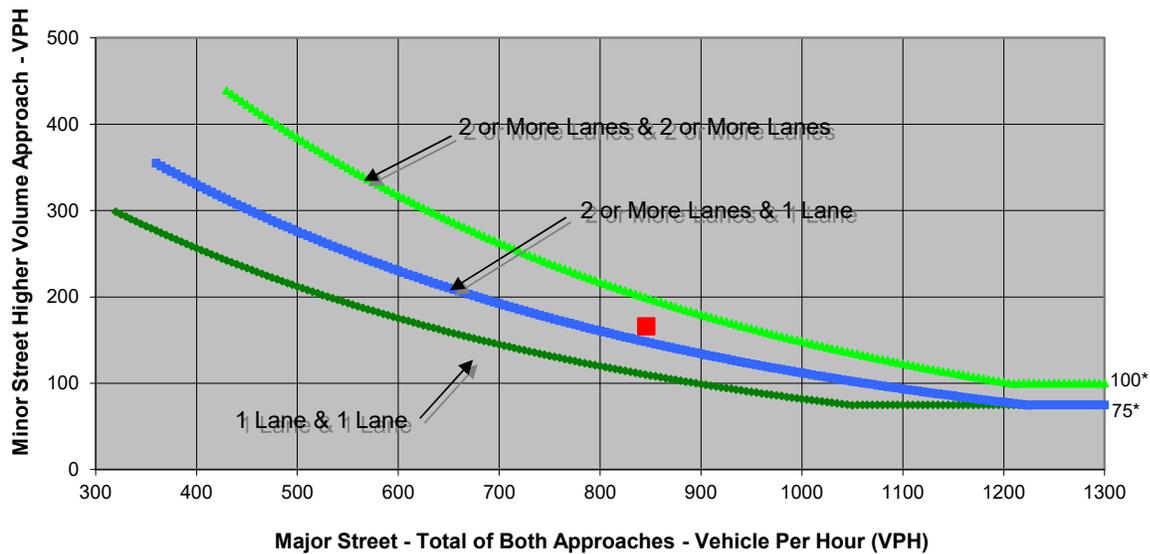
	NB	SB	EB	WB
Left	140	0	52	0
Through	229	377	0	0
Right	0	100	114	0
Total	369	477	166	0

Major Street Direction

x North/South
 East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 29	
Number of Approach Lanes	1	2	<u>YES</u>
Traffic Volume (VPH) *	846	166	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street **CR 102**
 Minor Street **CR 29**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

	NB	SB	EB	WB
Left	140	0	52	0
Through	229	377	0	0
Right	0	100	114	0
Total	369	477	166	0

Major Street Direction

x North/South
 East/West

Intersection Geometry

Number of Approach Lanes for Minor Street **2**
 Total Approaches **3**

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle) **18.4**
 Approach with Worst Case Delay **EB**
 Total Vehicles on Approach **166**

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.8	166	1,012
Limiting Value	5	150	800
Condition Satisfied?	Not Met	Met	Met
Warrant Met	<u>NO</u>		

Major Street **CR 102**
 Minor Street **CR 28H**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

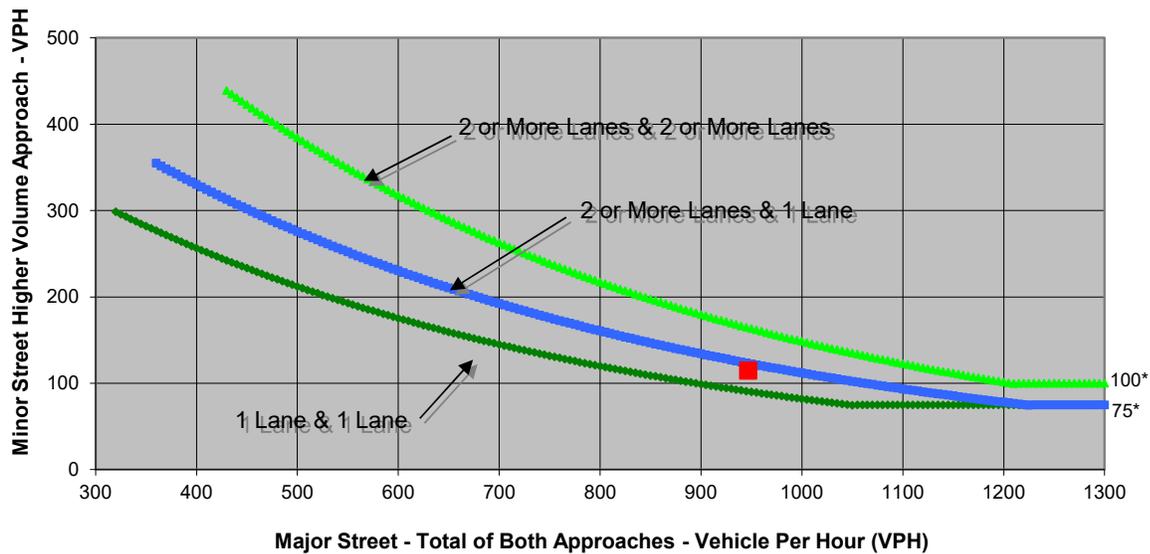
	NB	SB	EB	WB
Left	0	48	0	28
Through	457	398	0	0
Right	44	0	0	87
Total	501	446	0	115

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 28H	
Number of Approach Lanes	1	2	<u>NO</u>
Traffic Volume (VPH) *	947	115	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 28H

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	48	0	28
Through	457	398	0	0
Right	44	0	0	87
Total	501	446	0	115

Major Street Direction

x North/South
 East/West

Intersection Geometry

Number of Approach Lanes for Minor Street 2
 Total Approaches 3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle) 20.6
 Approach with Worst Case Delay WB
 Total Vehicles on Approach 115

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.7	115	1,062
Limiting Value	5	150	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		

Major Street **CR 102**
 Minor Street **CR 27**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

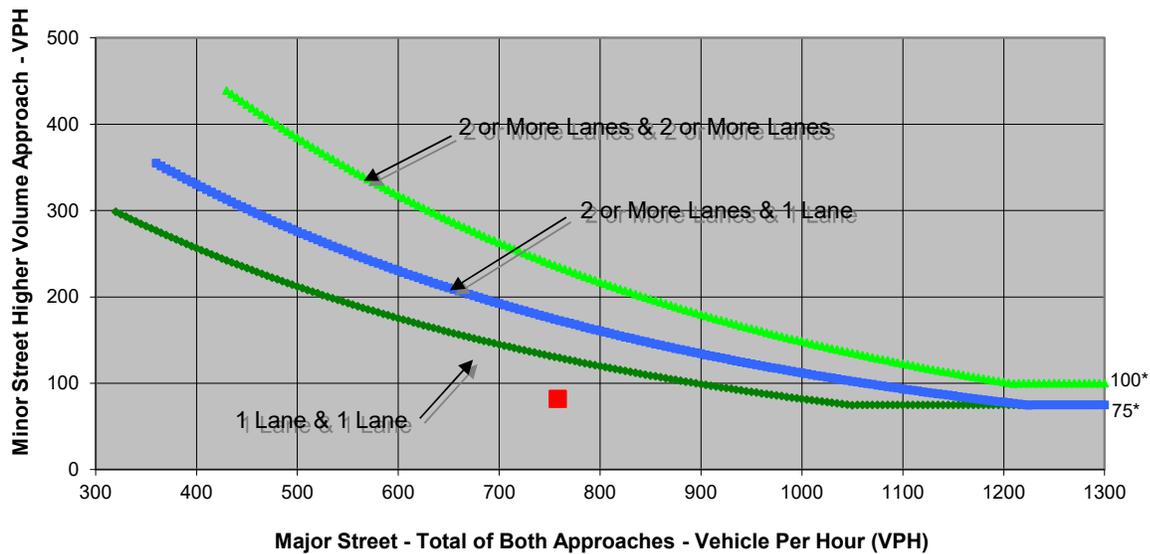
	NB	SB	EB	WB
Left	46	4	15	2
Through	211	452	6	3
Right	2	43	61	0
Total	259	499	82	5

Major Street Direction

x North/South
 East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 27	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	758	82	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 27

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	46	4	15	2
Through	211	452	6	3
Right	2	43	61	0
Total	259	499	82	5

Major Street Direction

x North/South
 East/West

Intersection Geometry

Number of Approach Lanes for Minor Street 1
 Total Approaches 4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle) 16.1
 Approach with Worst Case Delay EB
 Total Vehicles on Approach 82

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.4	82	845
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		

Major Street **CR 102**
 Minor Street **CR 25A**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

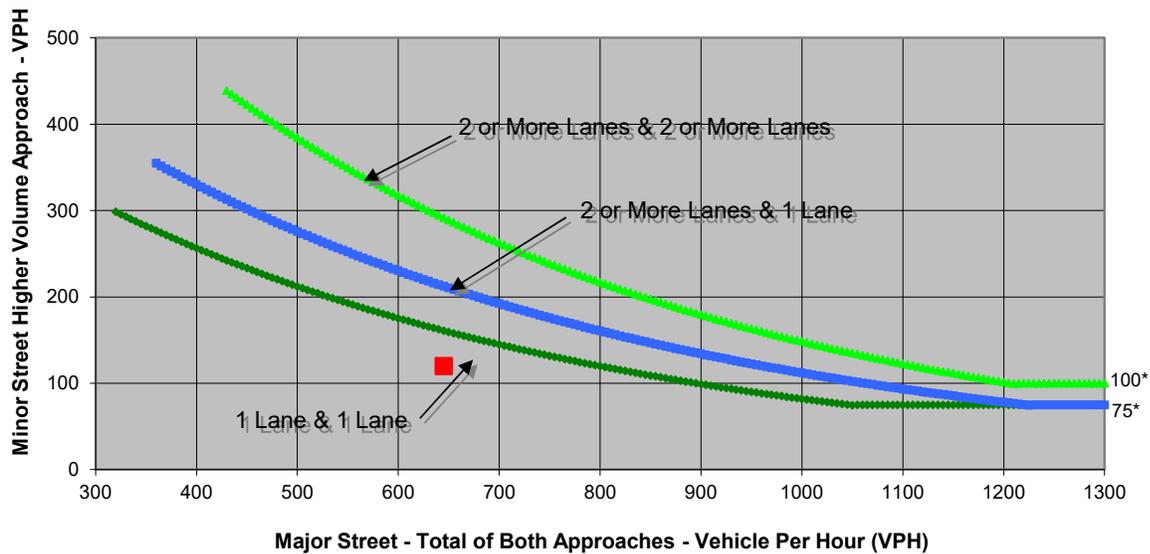
	NB	SB	EB	WB
Left	26	0	15	0
Through	199	405	0	0
Right	0	15	105	0
Total	225	420	120	0

Major Street Direction

x North/South
 East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 25A	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	645	120	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 25A

Project Palomino Place LTA
 Scenario Existing Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	26	0	15	0
Through	199	405	0	0
Right	0	15	105	0
Total	225	420	120	0

Major Street Direction

x North/South
 East/West

Intersection Geometry

Number of Approach Lanes for Minor Street 1
 Total Approaches 3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle) 12.7
 Approach with Worst Case Delay EB
 Total Vehicles on Approach 120

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.4	120	765
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 28H**
 Minor Street **CR 103**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

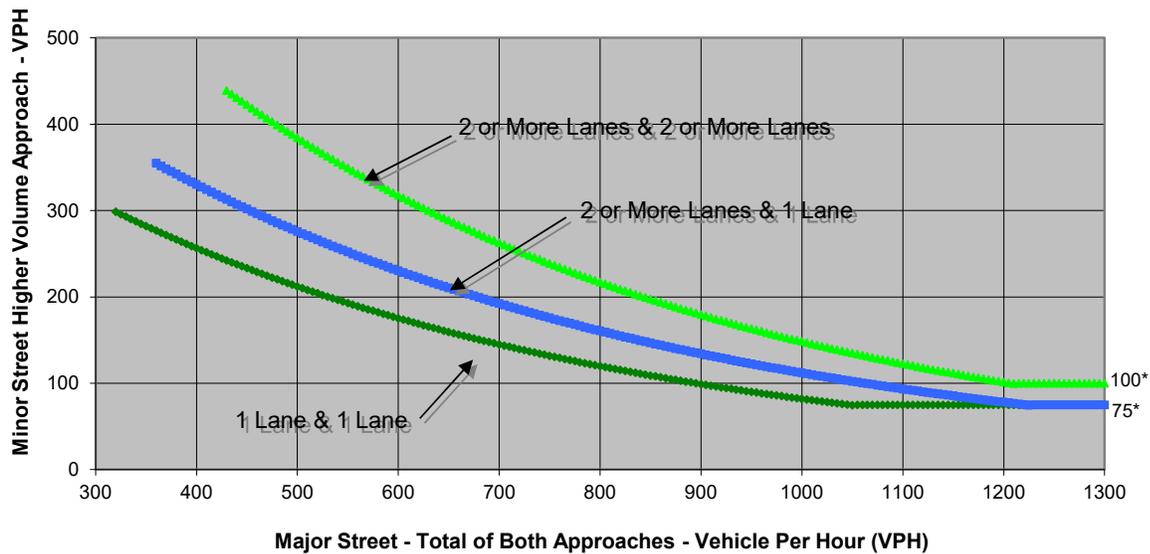
	NB	SB	EB	WB
Left	0	10	1	0
Through	0	0	90	46
Right	0	2	0	7
Total	0	12	91	53

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 28H	CR 103	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	144	12	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 28H
 Minor Street CR 103

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	10	1	0
Through	0	0	90	46
Right	0	2	0	7
Total	0	12	91	53

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.4
Approach with Worst Case Delay	SB
Total Vehicles on Approach	12

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0	12	156
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 28H**
 Minor Street **Yolo County Landfill Dwy**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

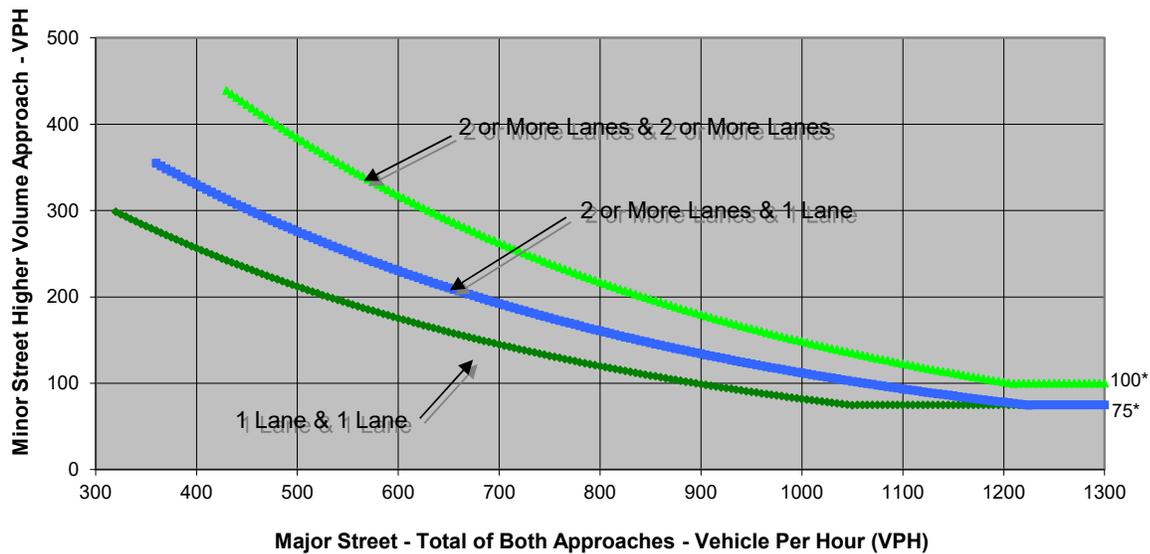
	NB	SB	EB	WB
Left	0	13	21	0
Through	0	0	69	35
Right	0	22	0	14
Total	0	35	90	49

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 28H	Yolo County Landfill Dwy	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	139	35	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 28H
 Minor Street Yolo County Landfill Dwy

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	13	21	0
Through	0	0	69	35
Right	0	22	0	14
Total	0	35	90	49

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.2
Approach with Worst Case Delay	SB
Total Vehicles on Approach	35

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.1	35	174
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 28H**
 Minor Street **CR 105**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

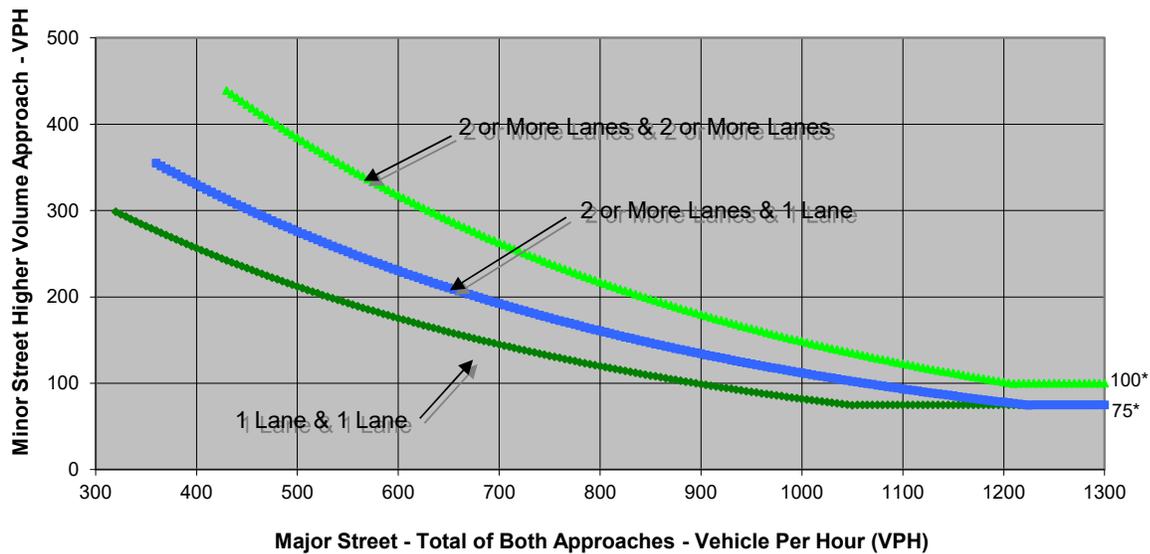
	NB	SB	EB	WB
Left	49	0	0	1
Through	0	0	2	1
Right	2	0	82	0
Total	51	0	84	2

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 28H	CR 105	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	86	51	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 28H
 Minor Street CR 105

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	49	0	0	1
Through	0	0	2	1
Right	2	0	82	0
Total	51	0	84	2

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.2
Approach with Worst Case Delay	NB
Total Vehicles on Approach	51

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.1	51	137
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 32A**
 Minor Street **CR 105**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

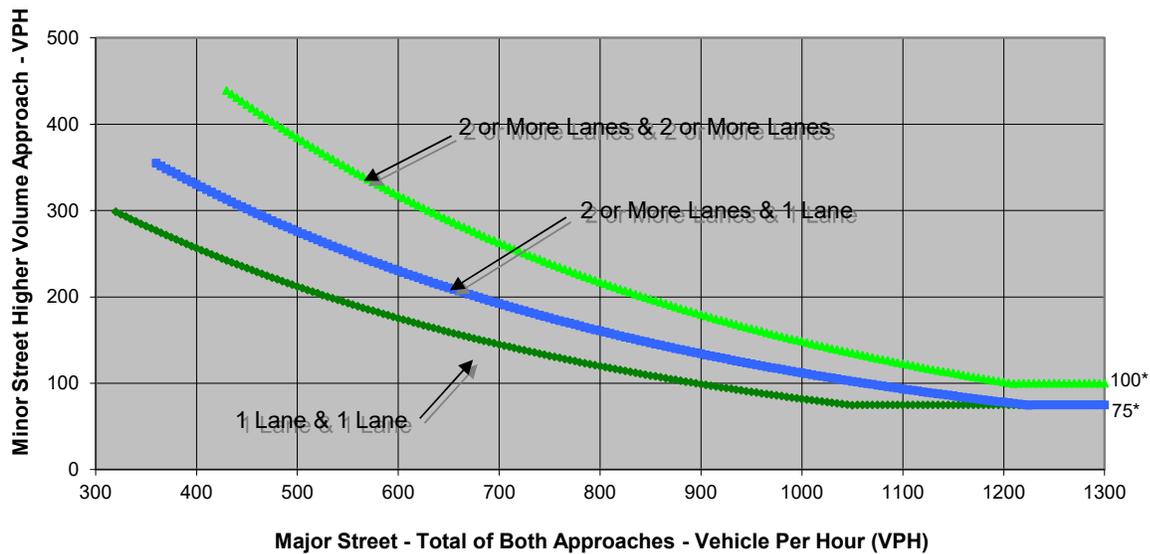
	NB	SB	EB	WB
Left	41	0	0	72
Through	0	0	7	8
Right	52	0	30	0
Total	93	0	37	80

Major Street Direction

x North/South
 East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 32A	CR 105	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	93	80	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 32A
 Minor Street CR 105

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	41	0	0	72
Through	0	0	7	8
Right	52	0	30	0
Total	93	0	37	80

Major Street Direction

x North/South
 East/West

Intersection Geometry

Number of Approach Lanes for Minor Street 1
 Total Approaches 3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle) 10.6
 Approach with Worst Case Delay WB
 Total Vehicles on Approach 80

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.2	80	210
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 32A**
 Minor Street **I-80 WB Ramps**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

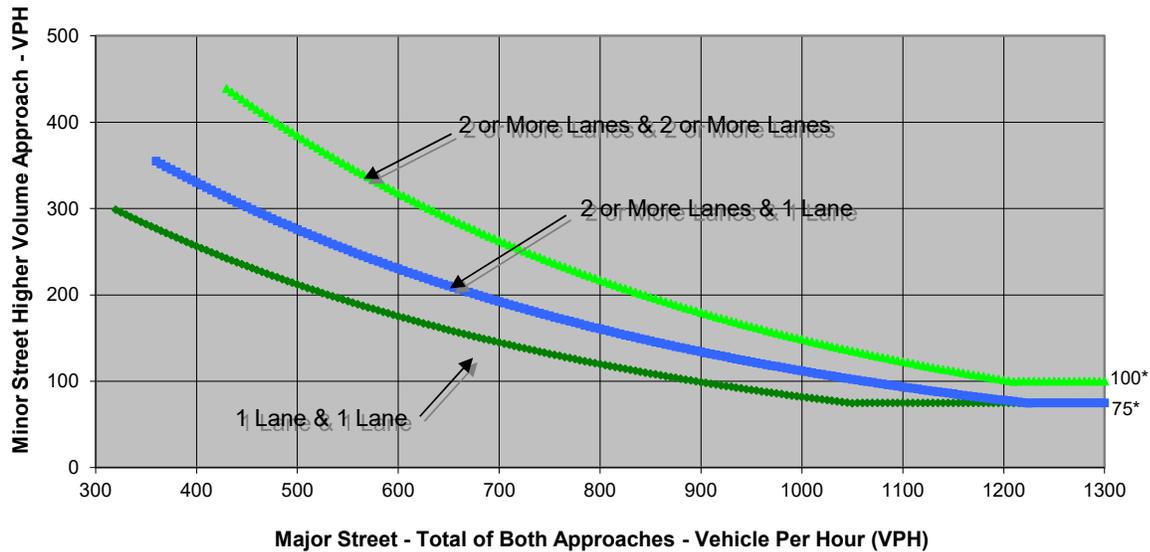
	NB	SB	EB	WB
Left	89	0	0	3
Through	0	0	100	5
Right	68	0	2	0
Total	157	0	102	8

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 32A	I-80 WB Ramps	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	110	157	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 32A
 Minor Street I-80 WB Ramps

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	89	0	0	3
Through	0	0	100	5
Right	68	0	2	0
Total	157	0	102	8

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	8.9
Approach with Worst Case Delay	NB
Total Vehicles on Approach	157

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Conditions	0.4	157	267
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **Chiles Road**
 Minor Street **I-80 EB Ramps**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

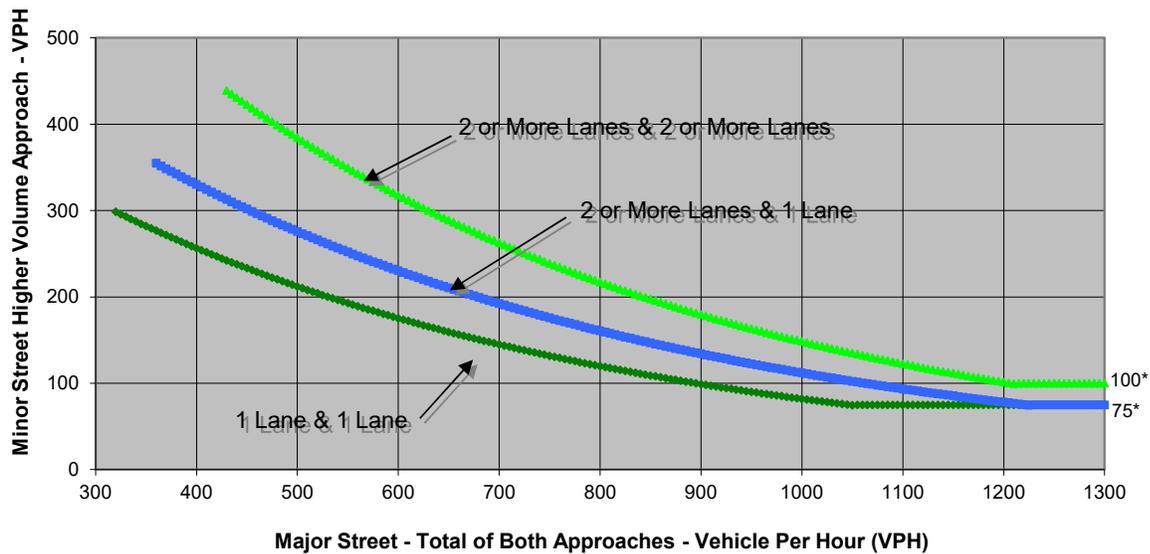
	NB	SB	EB	WB
Left	0	1	72	0
Through	0	0	7	55
Right	0	4	0	113
Total	0	5	79	168

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Chiles Road	I-80 EB Ramps	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	247	5	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street Chiles Road
 Minor Street I-80 EB Ramps

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	1	72	0
Through	0	0	7	55
Right	0	4	0	113
Total	0	5	79	168

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	7.5
Approach with Worst Case Delay	WB
Total Vehicles on Approach	168

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.4	5	252
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 29**
 Minor Street **SR 113 SB Ramps**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

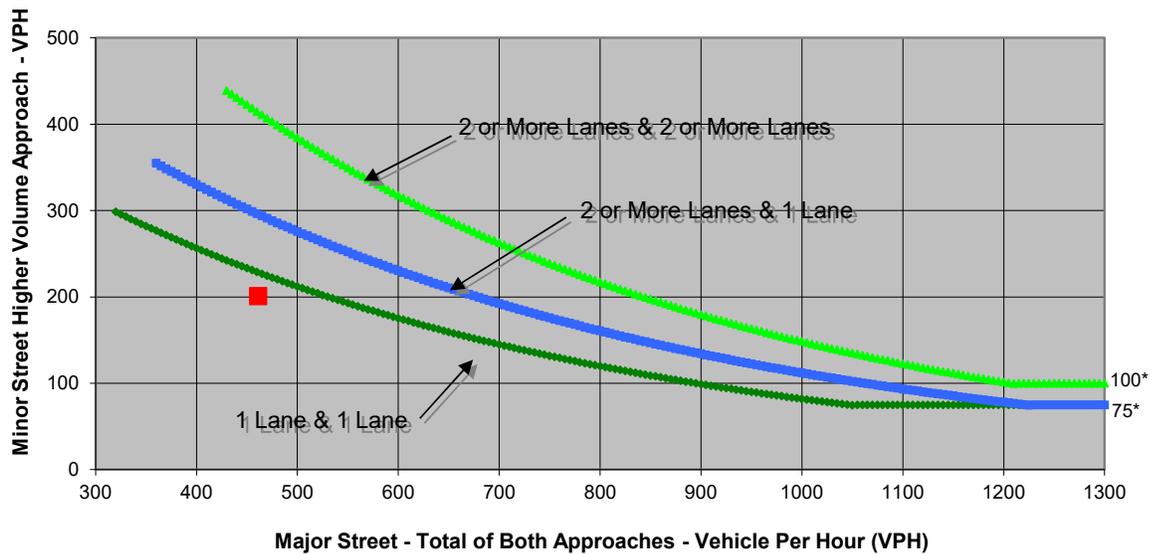
	NB	SB	EB	WB
Left	0	154	0	20
Through	0	1	258	147
Right	0	46	36	0
Total	0	201	294	167

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	SR 113 SB Ramps	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	461	201	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 29
 Minor Street SR 113 SB Ramps

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	154	0	20
Through	0	1	258	147
Right	0	46	36	0
Total	0	201	294	167

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	16.1
Approach with Worst Case Delay	SB
Total Vehicles on Approach	201

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.9	201	662
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 29**
 Minor Street **SR 113 NB Ramps**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

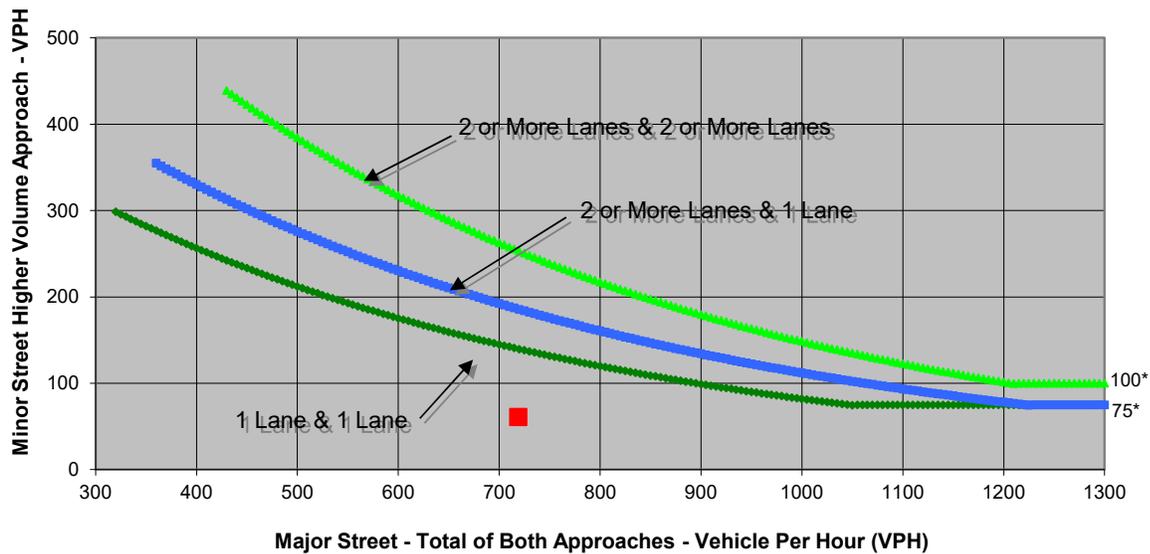
	NB	SB	EB	WB
Left	0	30	116	0
Through	0	0	296	136
Right	0	31	0	171
Total	0	61	412	307

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	SR 113 NB Ramps	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	719	61	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 29
 Minor Street SR 113 NB Ramps

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	30	116	0
Through	0	0	296	136
Right	0	31	0	171
Total	0	61	412	307

Major Street Direction

North/South
 East/West

Intersection Geometry

Number of Approach Lanes for Minor Street
 Total Approaches

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)
 Approach with Worst Case Delay
 Total Vehicles on Approach

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.3	61	780
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 29**
 Minor Street **CR 100A**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

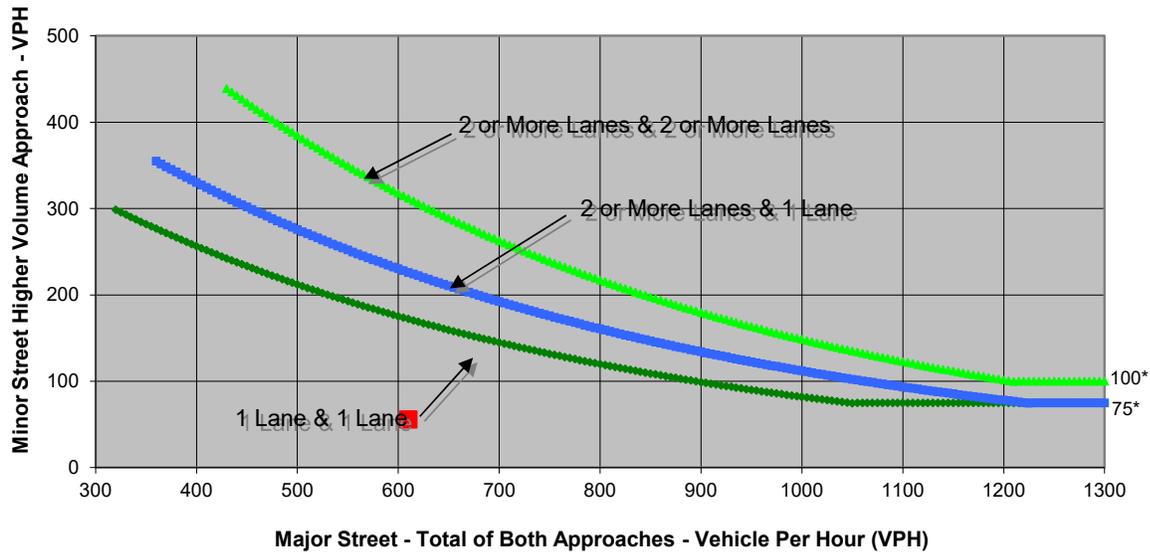
	NB	SB	EB	WB
Left	36	0	4	14
Through	2	1	294	267
Right	18	4	28	3
Total	56	5	326	284

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	CR 100A	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	610	56	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 29
 Minor Street CR 100A

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	36	0	4	14
Through	2	1	294	267
Right	18	4	28	3
Total	56	5	326	284

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	15.4
Approach with Worst Case Delay	NB
Total Vehicles on Approach	56

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.2	56	671
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 29**
 Minor Street **CR 101A**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

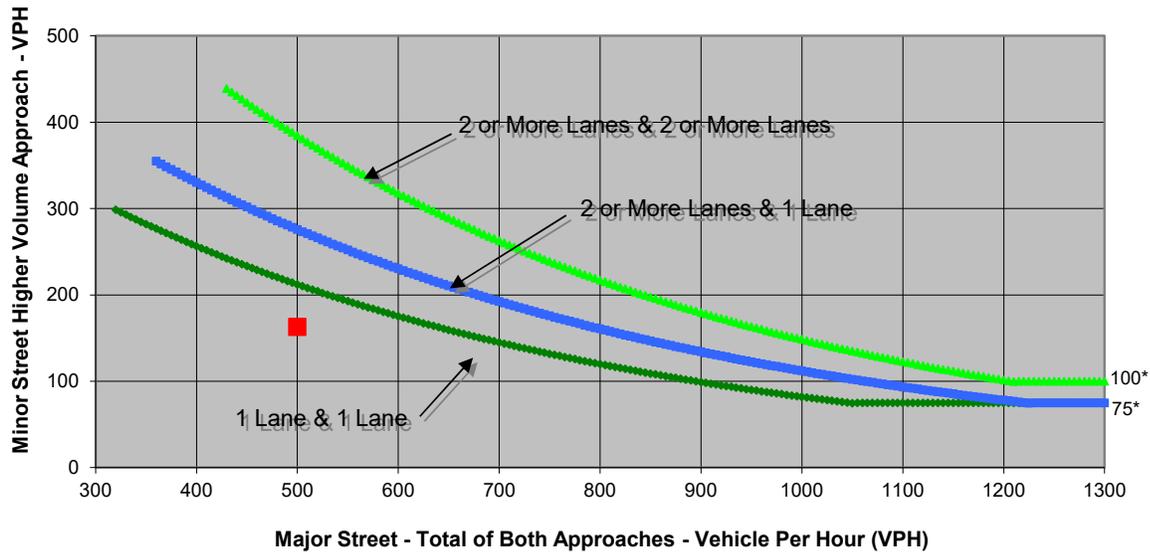
	NB	SB	EB	WB
Left	132	0	0	40
Through	0	0	176	150
Right	31	0	134	0
Total	163	0	310	190

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	CR 101A	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	500	163	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 29
 Minor Street CR 101A

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	132	0	0	40
Through	0	0	176	150
Right	31	0	134	0
Total	163	0	310	190

Major Street Direction

North/South
 East/West

Intersection Geometry

Number of Approach Lanes for Minor Street
 Total Approaches

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)
 Approach with Worst Case Delay
 Total Vehicles on Approach

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.7	163	663
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		



Major Street	CR 102
Minor Street	CR 29

Project	Willowgrove LTA
Scenario	Existing Conditions
Peak Hour	PM Peak Hour

Turn Movement Volumes

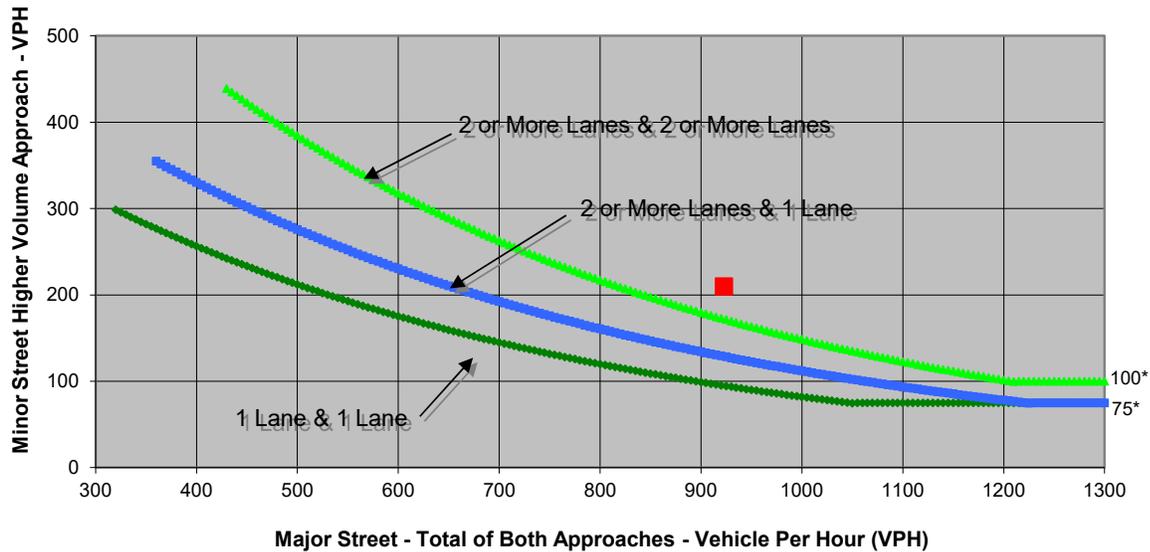
	NB	SB	EB	WB
Left	106	0	110	0
Through	391	347	0	0
Right	0	79	100	0
Total	497	426	210	0

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 29	
Number of Approach Lanes	1	2	YES
Traffic Volume (VPH) *	923	210	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 29

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	106	0	110	0
Through	391	347	0	0
Right	0	79	100	0
Total	497	426	210	0

Major Street Direction

x North/South
 East/West

Intersection Geometry

Number of Approach Lanes for Minor Street 2
 Total Approaches 3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle) 23.5
 Approach with Worst Case Delay EB
 Total Vehicles on Approach 210

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	1.4	210	1,133
Limiting Value	5	150	800
Condition Satisfied?	Not Met	Met	Met
Warrant Met	<u>NO</u>		

Major Street **CR 102**
 Minor Street **CR 28H**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

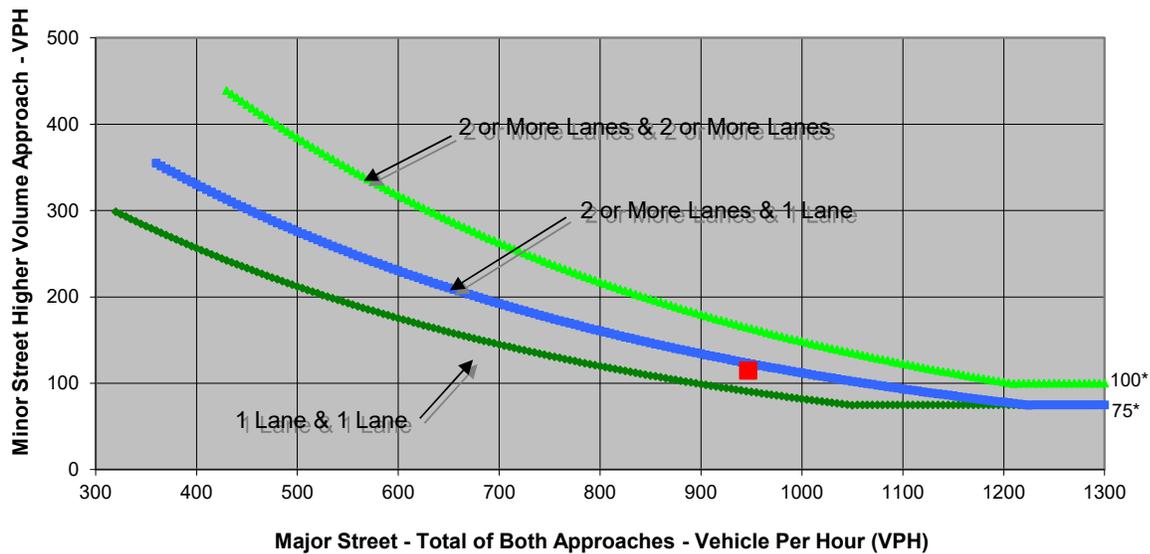
	NB	SB	EB	WB
Left	0	48	0	28
Through	457	398	0	0
Right	44	0	0	87
Total	501	446	0	115

Major Street Direction

x North/South
 East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 28H	
Number of Approach Lanes	1	2	<u>NO</u>
Traffic Volume (VPH) *	947	115	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 28H

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	48	0	28
Through	457	398	0	0
Right	44	0	0	87
Total	501	446	0	115

Major Street Direction

x North/South
 East/West

Intersection Geometry

Number of Approach Lanes for Minor Street 2
 Total Approaches 3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle) 20.6
 Approach with Worst Case Delay WB
 Total Vehicles on Approach 115

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.7	115	1,062
Limiting Value	5	150	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		



Major Street **CR 102**
 Minor Street **CR 27**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

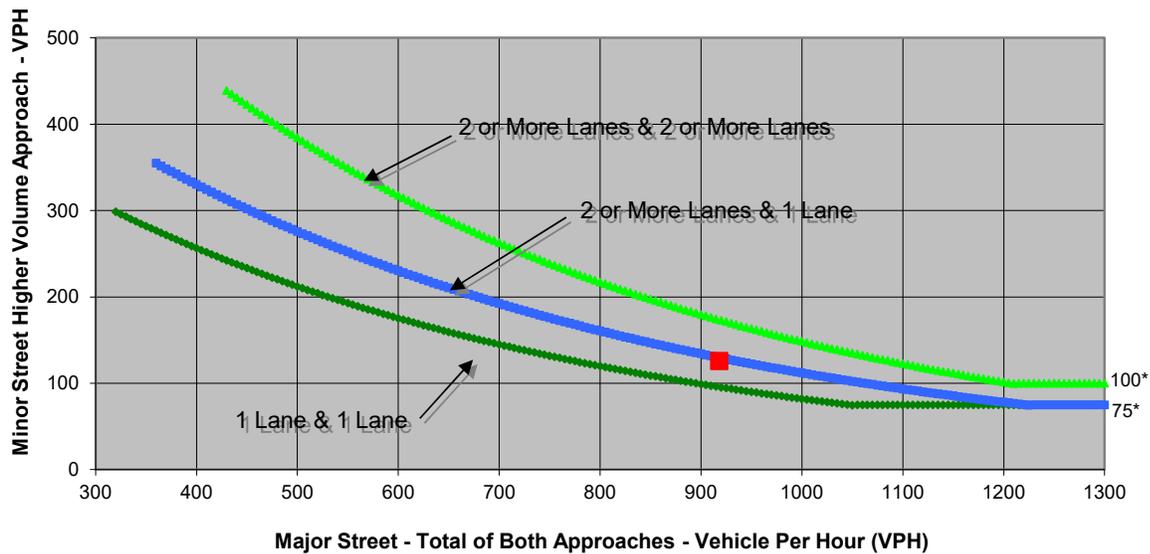
	NB	SB	EB	WB
Left	55	3	35	3
Through	474	367	9	13
Right	1	18	82	4
Total	530	388	126	20

Major Street Direction

x North/South
 East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 27	
Number of Approach Lanes	1	1	<u>YES</u>
Traffic Volume (VPH) *	918	126	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 27

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	55	3	35	3
Through	474	367	9	13
Right	1	18	82	4
Total	530	388	126	20

Major Street Direction

x North/South
 East/West

Intersection Geometry

Number of Approach Lanes for Minor Street 1
 Total Approaches 4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle) 21.6
 Approach with Worst Case Delay NB
 Total Vehicles on Approach 530

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Conditions	3.2	126	1,064
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Met
Warrant Met	<u>NO</u>		



Major Street **CR 102**
 Minor Street **CR 25A**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

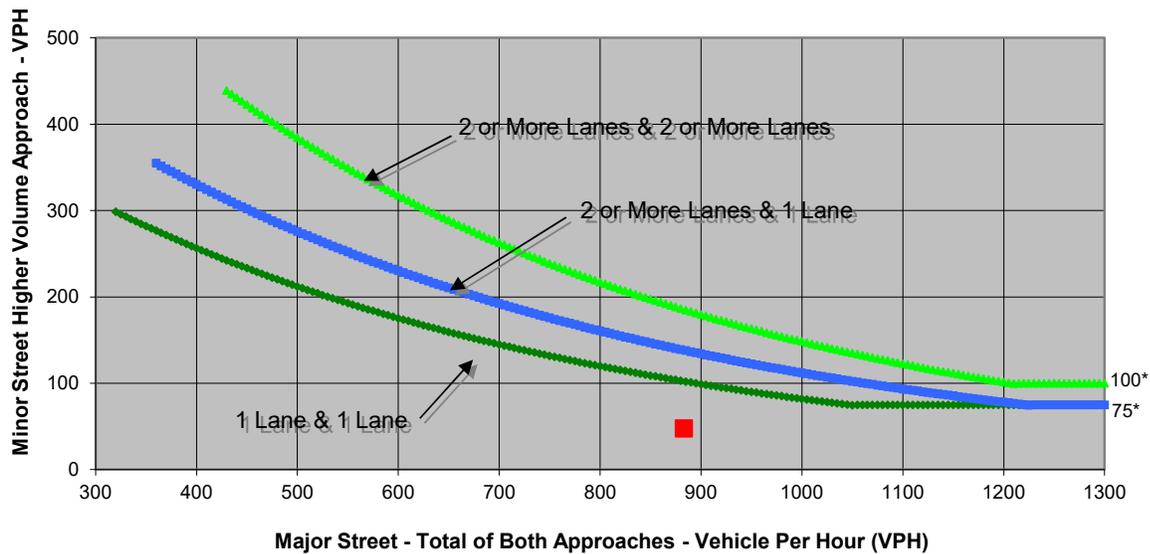
	NB	SB	EB	WB
Left	55	0	10	0
Through	455	345	0	0
Right	0	28	38	0
Total	510	373	48	0

Major Street Direction

x North/South
 East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 25A	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	883	48	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 25A

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	55	0	10	0
Through	455	345	0	0
Right	0	28	38	0
Total	510	373	48	0

Major Street Direction

x North/South
 East/West

Intersection Geometry

Number of Approach Lanes for Minor Street 1
 Total Approaches 3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle) 12.4
 Approach with Worst Case Delay EB
 Total Vehicles on Approach 48

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.2	48	931
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		

Major Street **CR 28H**
 Minor Street **CR 103**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

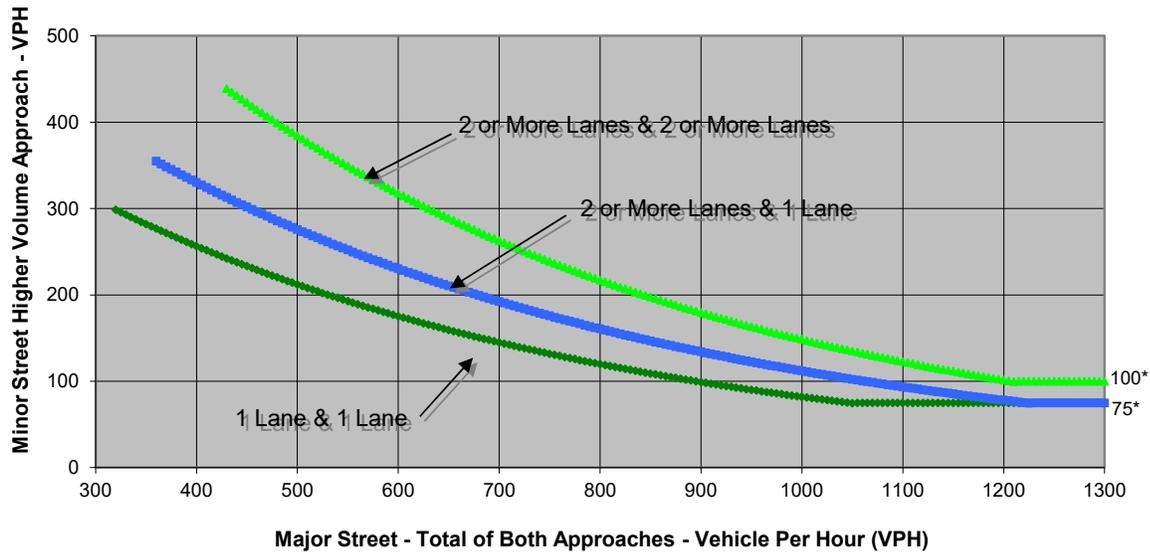
	NB	SB	EB	WB
Left	0	11	0	0
Through	0	0	94	107
Right	0	4	0	22
Total	0	15	94	129

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 28H	CR 103	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	223	15	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 28H
 Minor Street CR 103

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	11	0	0
Through	0	0	94	107
Right	0	4	0	22
Total	0	15	94	129

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.9
Approach with Worst Case Delay	SB
Total Vehicles on Approach	15

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0	15	238
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 28H**
 Minor Street **Yolo County Landfill Dwy**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

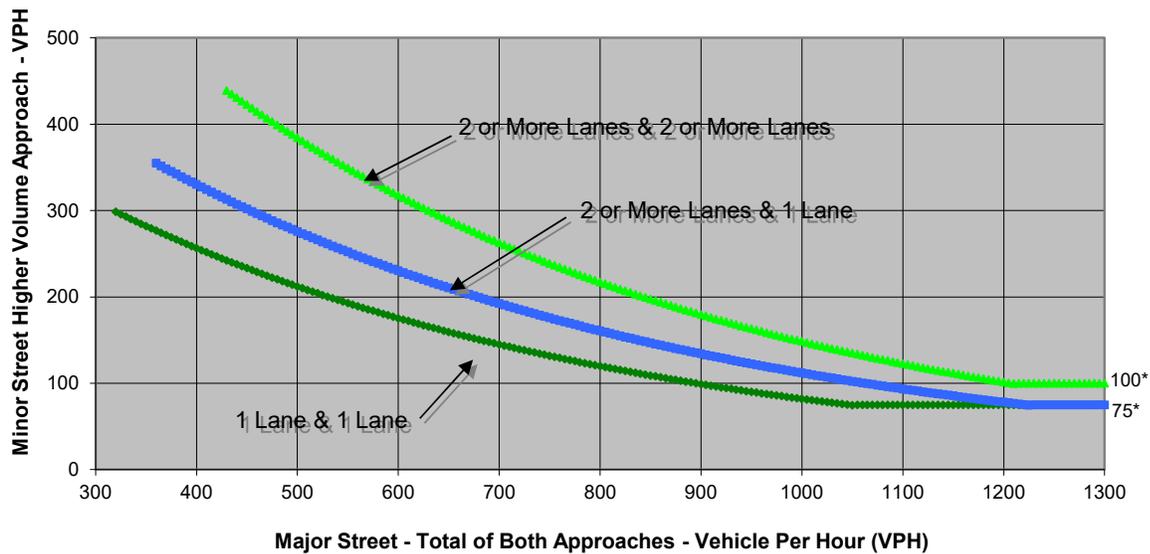
	NB	SB	EB	WB
Left	0	16	1	0
Through	0	0	105	65
Right	0	48	0	0
Total	0	64	106	65

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 28H	Yolo County Landfill Dwy	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	171	64	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street **CR 28H**
 Minor Street **Yolo County Landfill Dwy**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	16	1	0
Through	0	0	105	65
Right	0	48	0	0
Total	0	64	106	65

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.3
Approach with Worst Case Delay	SB
Total Vehicles on Approach	64

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.2	64	235
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 28H**
 Minor Street **CR 105**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

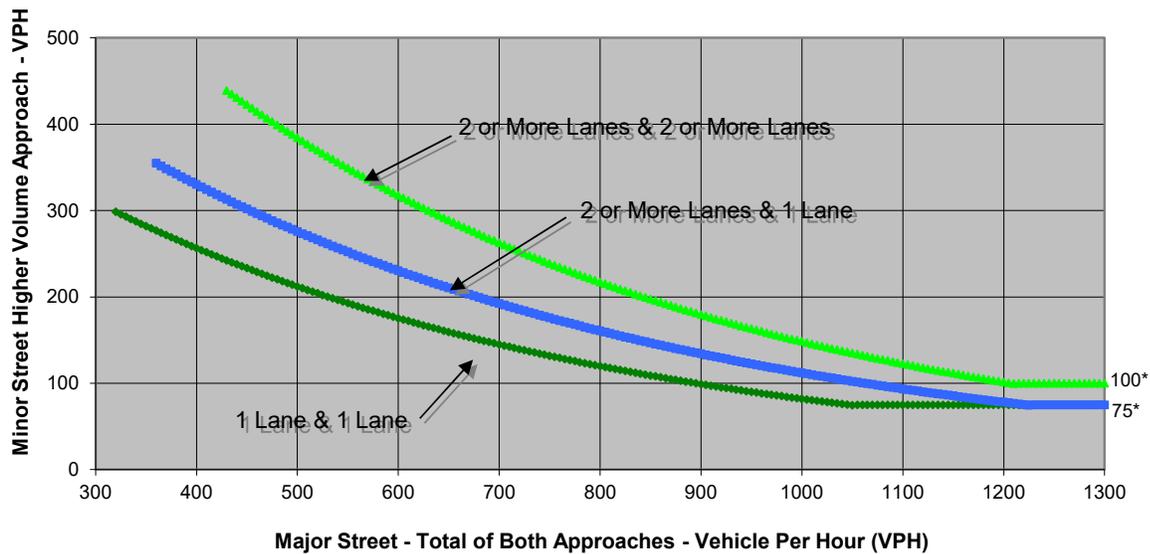
	NB	SB	EB	WB
Left	66	0	0	1
Through	0	0	0	0
Right	0	0	121	0
Total	66	0	121	1

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 28H	CR 105	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	122	66	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 28H
 Minor Street CR 105

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	66	0	0	1
Through	0	0	0	0
Right	0	0	121	0
Total	66	0	121	1

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.3
Approach with Worst Case Delay	NB
Total Vehicles on Approach	66

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.2	66	188
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 32A**
 Minor Street **CR 105**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

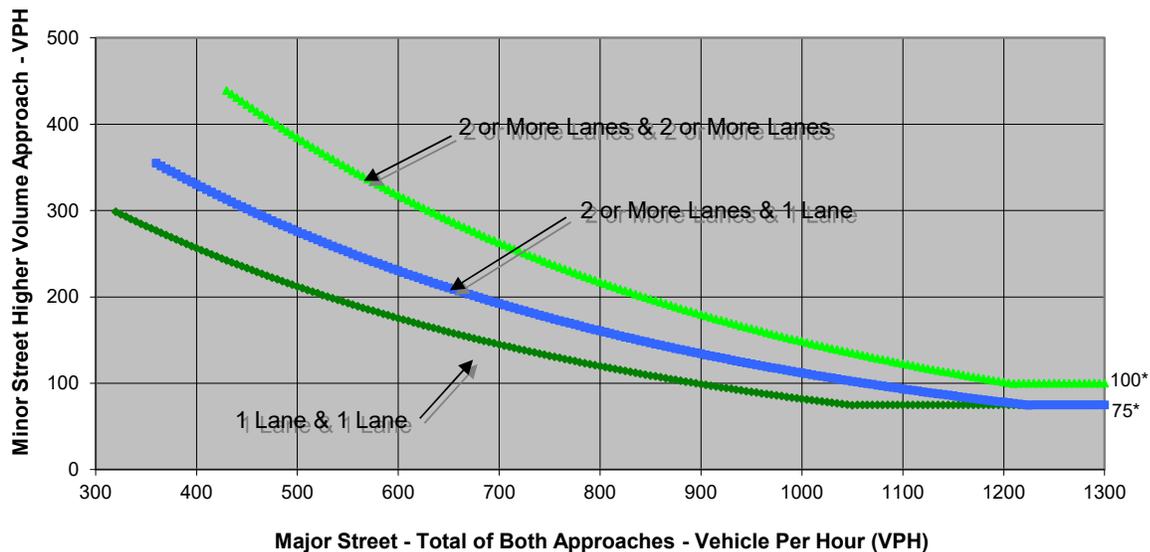
	NB	SB	EB	WB
Left	41	0	0	122
Through	0	0	5	9
Right	59	0	194	0
Total	100	0	199	131

Major Street Direction

x North/South
 East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 32A	CR 105	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	100	199	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 32A
 Minor Street CR 105

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	41	0	0	122
Through	0	0	5	9
Right	59	0	194	0
Total	100	0	199	131

Major Street Direction

x North/South
 East/West

Intersection Geometry

Number of Approach Lanes for Minor Street 1
 Total Approaches 3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle) 14.8
 Approach with Worst Case Delay WB
 Total Vehicles on Approach 131

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.5	199	430
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 32A**
 Minor Street **I-80 WB Ramps**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

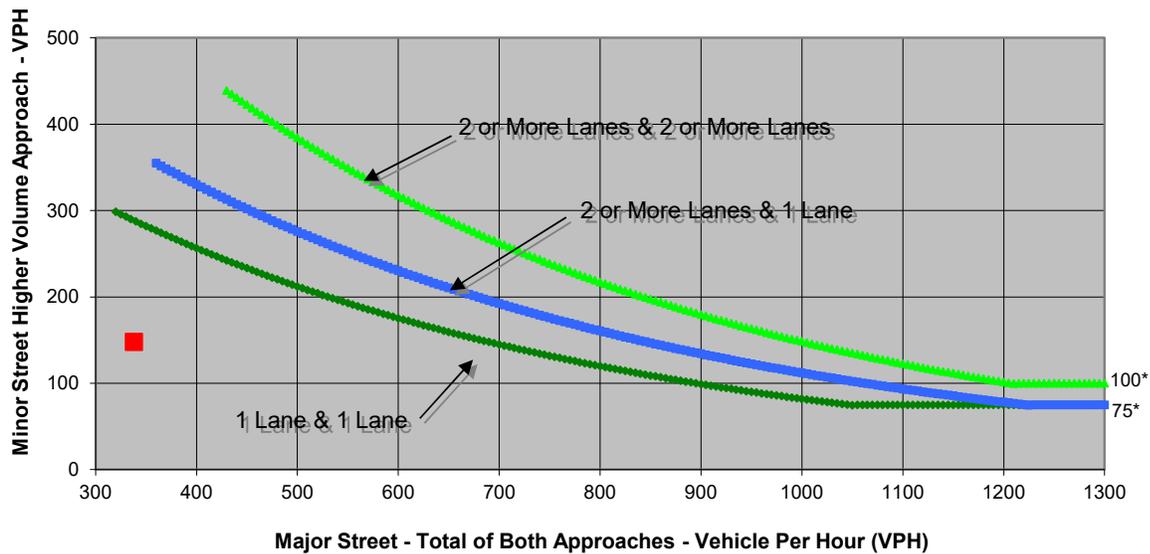
	NB	SB	EB	WB
Left	97	0	0	8
Through	0	0	321	7
Right	51	0	2	0
Total	148	0	323	15

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 32A	I-80 WB Ramps	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	338	148	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street **CR 32A**
 Minor Street **I-80 WB Ramps**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

	NB	SB	EB	WB
Left	97	0	0	8
Through	0	0	321	7
Right	51	0	2	0
Total	148	0	323	15

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	6.1
Approach with Worst Case Delay	NB
Total Vehicles on Approach	148

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	0.3	148	486
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **Chiles Road**
 Minor Street **I-80 EB Ramps**

Project **Willowgrove LTA**
 Scenario **Existing Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

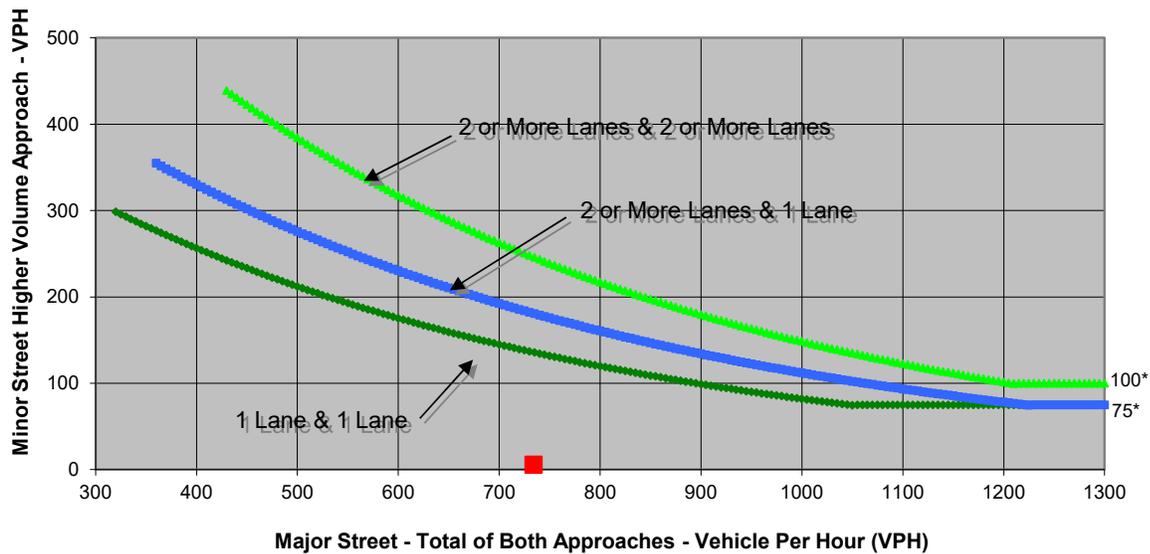
	NB	SB	EB	WB
Left	0	2	349	0
Through	0	0	13	52
Right	0	4	0	320
Total	0	6	362	372

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Chiles Road	I-80 EB Ramps	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	734	6	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street Chiles Road
 Minor Street I-80 EB Ramps

Project Willowgrove LTA
 Scenario Existing Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	2	349	0
Through	0	0	13	52
Right	0	4	0	320
Total	0	6	362	372

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	392.2
Approach with Worst Case Delay	EB
Total Vehicles on Approach	362

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Existing Conditions	39.4	6	740
Limiting Value	4	100	800
Condition Satisfied?	Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Appendix B: Trip Generation Memo

MEMORANDUM

Date: March 4, 2025
To: Nick Pappani, Raney Planning & Management
From: Greg Behrens and Raina Joby, Fehr & Peers
Subject: Willowgrove Property Project Trip Generation

SA24-0248

This memorandum summarizes the proposed Willowgrove Property (formerly Shriners) project's land uses and estimated weekday daily and peak hour project trip generation.

Project Location

The approximately 232-acre proposed project is located north of the intersection of East Covell Boulevard and Alhambra Drive and adjacent to the northeastern boundary of the City of Davis. The project site is located outside of the City of Davis City Limits and Sphere of Influence. Surrounding uses include agricultural land to the north and east; a City-owned public trail easement to the northeast; Frances Harper Junior High School to the southeast, across East Covell Boulevard; single-family residences to the south, across East Covell Boulevard; and the recently approved Palomino Place residential development, single-family residences, and Wildhorse Golf Course to the west.

Approximate travel distances between the project site and other local activity centers (as measured from the center of the project site) are as follows:

- Harper Junior High School – 0.8 mile
- Korematsu Elementary School – 0.8 mile
- Birch Lane Elementary School – 1.5 miles
- Oak Tree Plaza Shopping Center – 1.7 miles
- Target Shopping Center – 2.0 miles
- El Macero Shopping Center – 2.2 miles
- Davis Senior High School – 2.9 miles
- Downtown Davis – 3.3 miles
- UC Davis (Memorial Union Building) – 3.8 miles

Project Description

According to the project description (*Willowgrove Project Description*, January 2025), the proposed project would consist of the following uses:

- A total of 1,250 dwelling units, comprised of both affordable and market-rate single- and multi-family residences.
- 19.5 acres of parks, including a community park, mini-park, and dog park. The community park would include a playground, recreation center, two lighted softball fields, one multi-purpose (soccer/lacrosse) field, and six lighted pickleball courts.

- A 1.5-acre site for neighborhood retail.
- 43.9 acres of urban agricultural transition area.
- 7.3 acres of neighborhood greenbelts.
- A daycare facility (within the High Density Residential parcel) with approximately 6,300 square feet of building space and 2,700 square feet of playing area.

Vehicle access would be provided via two intersections on East Covell Boulevard. Bicycle and pedestrian access would be provided via East Covell Boulevard on the south edge of the project site and via on-site trails on the east, west, and north edges of the project site. Several connections to the west would be made to the Wildhorse Agricultural Buffer trail system.

Trip Generation Methodology

MXD+

This analysis utilizes the mixed-use trip generation (MXD+) tool to estimate project vehicle trip generation, including internal trip capture that would result from complementary land uses within the project site.

Prior to 2007, conventional methods available to transportation engineers systematically overestimated the trips generated by and impacts of mixed-use development because they did not accurately reflect the amount of internal trip linking or the level of external trips made by transit, biking, and/or walking. This resulted in increased development costs, due to oversized infrastructure, skewed public perception, and resistance to approving smart growth. While the Institute of Transportation Engineers (ITE) *Trip Generation Handbook* does include a methodology for estimating internal trips, it only applies to AM and PM peak hour conditions and has been shown to be less accurate than more academically-oriented efforts.

In the early 2000's, two significant research studies provided the opportunity to improve the state of practice. One study sponsored by the US EPA (MXD) and another by the Transportation Research Board (NCHRP 684) have developed means to improve trip generation estimation for mixed-use development (MXD). The two studies examined over 240 mixed-use development sites throughout the U.S. and, using different approaches, developed new quantification methods. Fehr & Peers has reviewed the two methods, including the basis, capabilities, and appropriate uses of each, to produce a new method (MXD+) that combines the strengths of the two individual tools to establish a new best practice. MXD+ recognizes that traffic generation by mixed-use and other forms of sustainable development relate closely to the density, diversity, design, destination accessibility, transit proximity, and scale of development.

The MXD+ method explains 97 percent of the variation in trip generation among mixed-use developments, compared to 65 percent for the methods previously recommended by ITE. While remaining slightly (2 to 4 percent) conservative to avoid systematically understating impacts, it substantially reduces the 35 to 37 percent average overestimate of traffic generation produced by conventional ITE methods.

MXD+ improves the accuracy of impact estimation and gives planners a tool to rationally balance land use mix and to incorporate urban design, context compatibility, and transit orientation to create lower impact development. Fehr & Peers has applied MXD+ on hundreds of EIRs throughout California over the past

decade, including EIRs for several projects in the City of Davis such as Village Farms Davis, The Cannery, the West Davis Active Adult Community, and the DiSC 2022 projects.

Inputs for the MXD+ tool include the types and quantities of project land uses, in accordance with land use categories included in the *ITE Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers, 2021). Other inputs include on-site walkability, presence and quality of transit service, number of jobs within one-mile of the project site, household auto ownership in area, and other variables.

Table 1 summarizes the individual Willowgrove Property project land uses per the updated *Project Description* (January 2025) as well as their corresponding ITE land use type, code, and quantity used in this analysis. Information needed to identify the appropriate ITE residential land use categories was previously verified by City of Davis staff and the project applicant team

Bicycle, Walking, and Transit Trip Reductions

This analysis utilizes US Census Bureau American Community Survey (ACS) journey to work mode share data to estimate external peak hour vehicle trip reductions attributable to bicycle, pedestrian, and transit (i.e., non-auto) use. Because trip rates from the *ITE Trip Generation Manual* are derived from primarily suburban locations (across the US) that have limited transit and bicycle/pedestrian facilities, this process requires accounting for local and national commute mode share patterns, as follows:

1. Calculate non-auto journey to work mode share for existing residential neighborhoods near the project site with similar land use and transportation system characteristics.¹
2. Calculate non-auto journey to work mode share for the United States.
3. Calculate the difference between local and national non-auto journey to work mode share.
4. Apply the local/national non-auto mode share difference to the raw external peak hour vehicle trip estimates attributable to home-based-work trips generated by the project's residential uses.²

Table 2 summarizes the non-auto journey to work mode share used in this analysis.

¹ Journey to work commute mode share data derived from ACS 2022 5-year estimates. Non-motorized mode share estimates represent the weighted averages for Census Tracts 105.05, 106.05, and 106.09, which include Wildhorse, Mace Ranch, and East Davis (east of L Street, north of East Eighth Street, and east of Pole Line Road). Travel behavior associated with existing residential uses within these Census Tracts would reasonably be expected to approximate that of the project residential uses given a) the proximity of these Census Tracts to the project site and b) their comparable land use patterns and transportation system setting relative to those of the project site.

² Home-based-work trip purpose percentages for residential uses derived from the Transportation Research Board (TRB) *National Cooperative Highway Research Program (NCHRP) Report 716: Travel Demand Forecasting: Parameters and Techniques* (2012). Residential home-based-work trip purpose percentages used in this analysis are 23%, 46%, and 31% for the daily, AM peak hour, and PM peak hour time periods, respectively.

Table 1: Willowgrove Property Project – Proposed Land Uses

Notice of Preparation Project Description			Transportation Analysis Land Use Inputs	
Land Use Designation	Land Use Type	Quantity ¹	ITE Land Use Category (Type and Code)	Quantity ¹
Residential Low Density	Single-Family Detached Units	197 DU	Single Family Detached Housing (210)	197 DU
Residential Medium Density	Single-Family Detached Units	515 DU	Single Family Detached Housing (210)	515 DU
Residential High Density	Affordable Multifamily Units	250 DU	Affordable Housing Income Limits (223)	250 DU
	Other Multifamily Units	288 DU	Multifamily Housing Low Rise (220)	288 DU
Community Park	Recreation Center	9.5 KSF	Recreational Community Center (495)	9.5 KSF
	Softball Fields	2 Fields	Soccer Complex (488) ²	2 Fields
	Multi-Purpose (Soccer/Lacrosse) Field	1 Field	Soccer Complex (488)	1 Field
	Pickleball Courts	6 Courts	Tennis Courts (490) ³	6 Courts
	Neighborhood Retail	1.5 Acres	Strip Retail Plaza (822)	5 KSF
Daycare Center	Daycare Center	6.3 KSF	Daycare center (565)	6.3 KSF

Notes: ¹ DU = Dwelling Unit. KSF = 1,000 square feet.

² ITE does not provide trip generation rates for softball fields. Therefore, ITE trip generation information for soccer fields is used as a reasonable approximation for softball fields due to the similar characteristics of the two uses (e.g., similar number of players utilizing fields, similar weekday practice schedules, etc.).

³ ITE does not provide trip generation rates for pickleball courts. Therefore, ITE trip generation information for tennis courts is used as a reasonable approximation for pickleball courts due to the similar characteristics of the two uses (e.g., similar number of players utilizing courts, similar weekday utilization, etc.).

Sources: *Willowgrove Property Project Description*, January 17, 2025; Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*, 2021; N. Pappani, personal communication, May 14, 2024; Fehr & Peers, 2025.

Table 2: Willowgrove Property Project – Non-Auto Journey to Work Mode Share

Mode	Journey to Work Mode Share		
	Local ¹	National	Difference (Local – National)
Public Transportation	3.2%	3.8%	-0.6%
Walked	1.7%	2.4%	-0.7%
Bicycle	6.7%	0.5%	6.2%
Non-Auto Total	11.6%	6.7%	4.9%

Notes: ¹ Local non-auto mode share estimates represent the weighted averages for Census Tracts 105.05, 106.05, and 106.09, which include Wildhorse, Mace Ranch, and East Davis neighborhoods immediately adjacent to the project site.
 Source: US Census Bureau American Community Survey (ACS) 2022 5-year estimates, Table S0801; Fehr & Peers, 2025.

Project Trip Generation

Table 3 summarizes the estimated weekday and peak hour trip generation for the Willowgrove Property project using the methods described previously. The project would generate an estimated 10,428 net new daily trips, 740 net new AM peak hour trips, and 1,046 net new PM peak hour trips during a typical weekday.

Table 3: Willowgrove Property Project – Vehicle Trip Generation

Land Use	ITE Code	Units	Quantity	Daily	AM In	AM Out	AM Peak Hour Total	PM In	PM Out	PM Total
Net New Uses										
Single-Family Detached	210 ¹	Dwelling Units	712	6,714	129	369	498	421	248	669
Multifamily Housing Low Rise	220 ²	Dwelling Units	288	1,941	28	87	115	93	54	147
Affordable Housing	223 ³	Dwelling Units	250	1,203	36	89	125	68	47	115
Recreational Community Center	495 ⁴	1,000 Sq. Ft. GLA	9.5	274	12	6	18	11	13	24
Soccer Complex	488 ⁵	Fields	3	215	2	2	4	33	15	48
Tennis Courts	490 ⁶	Courts	6	182	3	3	6	18	7	25
Strip Retail Plaza	822 ⁷	1,000 Sq. Ft. GLA	5	272	7	5	12	17	17	33
Daycare Center	565 ⁸	1,000 Sq. Ft. GLA	6.3	300	37	32	69	33	37	70
<i>Raw External Vehicle Trips</i>				<i>11,101</i>	<i>254</i>	<i>593</i>	<i>847</i>	<i>694</i>	<i>438</i>	<i>1,131</i>
Reductions										
Internal Capture ⁹				-568	-14	-34	-48	-36	-24	-60
External Walk, Bike, and Transit ¹⁰				-111	-4	-21	-25	-21	-5	-26
<i>Total Reductions</i>				<i>-679</i>	<i>-18</i>	<i>-55</i>	<i>-73</i>	<i>-57</i>	<i>-29</i>	<i>-86</i>
Net New External Vehicle Trips				10,422	236	538	774	637	409	1,045

Notes: Number of trips presented in the table above have been rounded to whole numbers and therefore might not match the exact value obtained when trip rates and directional distribution percentages are applied.

¹ ITE Trip Generation land use category (210) Single-Family Detached Housing (Adj Streets, 7-9A, 4-6P)

Daily: T = 9.43(X)

AM Peak Hour: T = 0.70(X) (25% in, 75% out)

PM Peak Hour: T = 0.94(X) (63% in, 37% out):

² ITE Trip Generation land use category (220) Multifamily Housing (Low-Rise) Not Close to Rail Transit (Adj Streets, 7-9A, 4-6P)

Daily: T = 6.74(X)

AM Peak Hour: T = 0.40(X) (24% in, 76% out)

PM Peak Hour: T = 0.51(X) (63% in, 37% out)

³ ITE Trip Generation land use category (223) Affordable Housing - Income Limits (Adj Streets, 7-9A, 4-6P)

Daily: T = 4.81(X)

AM Peak Hour: T = 0.50(X) (29% in, 71% out)

PM Peak Hour: T = 0.46(X) (59% in, 41% out)

⁴ ITE Trip Generation land use category (495) - Recreational Community Center (Adj Streets, 7-9A, 4-6P)

Daily: T = 28.82(X)

AM Peak Hour: T = 1.91(X) (66% in, 34% out)

PM Peak Hour: T = 2.50(X) (47% in, 53% out)

⁵ ITE Trip Generation land use category (488) - Soccer Complex (Adj Streets, 7-9A, 4-6P). Includes multi-purpose field and softball fields project components.

Daily: T = 71.33(X)

AM Peak Hour: T = 0.99(X) 61% in, 39% out

PM Peak Hour: T = 16.43(X) (66% in, 34% out)

⁶ ITE Trip Generation land use category (490) - Tennis Courts (Adj Streets, 4-6P). Includes pickleball courts project component.

Daily: T = 30.32(X)

PM Peak Hour: T = 4.21(X)

Peak hour directional distribution for tennis courts not provided in ITE TGM. Percentages estimated by Fehr & Peers based on typical court arrivals and departures.

⁷ ITE Trip Generation land use category (822) Strip Retail Plaza (<40k) (Adj Streets, 7-9A, 4-6P)

Daily: T = 54.45(X)

AM Peak Hour: T = 2.36(X) (60% in, 40% out)

PM Peak Hour: T = 6.59(X) (50% in, 50% out)

⁸ ITE Trip Generation land use category (565) Daycare Center (Adj Streets, 7-9A, 4-6P)

Daily: T = 47.62(X)

AM Peak Hour: T = 11.00(X) (53% in, 47% out)

PM Peak Hour: T = 11.12(X) (47% in, 53% out)

⁹ Internal capture reductions based on application of MXD+ model: Daily = 5.1%, AM Peak Hour = 5.9%, PM Peak Hour = 5.3%.

¹⁰ External walk, bike, and transit trip reductions are derived from MXD+ model for daily trips and US Census Bureau ACS journey to work data.

Sources: Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition, 2021*; US Census Bureau American Community Survey (ACS) 2022 5-year estimates, Table S0801; Fehr & Peers, 2025.

Appendix C: Existing Plus Project Conditions Technical Calculations

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

Willowgrove Property TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 1 **County Rd 99-Lake Blvd/W Covell Blvd** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	27	25	91.9%	5.2	0.8	A
	Through	49	50	101.6%	7.5	0.9	A
	Right Turn	159	161	101.2%	2.3	0.6	A
	Subtotal	235	236	100.2%	3.6	0.5	A
SB	Left Turn	30	28	94.7%	5.5	1.5	A
	Through	53	57	106.6%	10.7	1.2	B
	Right Turn	7	8	120.0%	4.2	2.5	A
	Subtotal	90	93	103.7%	8.5	0.7	A
EB	Left Turn	15	14	90.7%	6.1	2.8	A
	Through	224	222	99.2%	12.3	1.2	B
	Right Turn	31	32	103.9%	2.9	0.6	A
	Subtotal	270	268	99.3%	10.8	1.3	B
WB	Left Turn	85	84	99.2%	13.7	3.4	B
	Through	167	169	101.2%	17.3	2.9	C
	Right Turn	17	18	105.3%	14.4	4.1	B
	Subtotal	269	271	100.8%	16.0	3.0	C
Total		864	868	100.5%	10.2	1.2	B

Intersection 2 **Denali Dr/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	29	27	94.1%	17.0	4.4	B
	Through						
	Right Turn	148	144	97.4%	1.4	0.2	A
	Subtotal	177	172	96.9%	3.9	1.2	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	382	380	99.5%	12.6	2.3	B
	Right Turn	22	23	105.5%	9.4	2.1	A
	Subtotal	404	403	99.9%	12.4	2.3	B
WB	Left Turn	90	85	94.4%	14.3	2.1	B
	Through	306	306	100.1%	5.4	1.2	A
	Right Turn						
	Subtotal	396	391	98.8%	7.2	1.5	A
Total		977	966	98.9%	8.9	1.3	A

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

Willowgrove Property TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 3 Risling Ct-Shasta Dr/W Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	12	13	106.7%	25.9	11.5	C
	Through	4	5	120.0%	22.1	15.0	C
	Right Turn	237	237	100.0%	2.3	0.5	A
	Subtotal	253	255	100.7%	4.1	1.5	A
SB	Left Turn	38	38	100.8%	23.4	6.3	C
	Through	3	4	140.0%	6.5	10.0	A
	Right Turn	13	12	90.0%	5.0	2.3	A
	Subtotal	54	54	100.4%	18.8	3.6	B
EB	Left Turn	26	24	90.8%	32.3	8.8	C
	Through	487	479	98.3%	16.9	1.2	B
	Right Turn	17	19	108.8%	7.3	0.9	A
	Subtotal	530	521	98.3%	17.3	1.4	B
WB	Left Turn	158	156	98.9%	23.5	4.1	C
	Through	371	367	98.9%	9.3	3.0	A
	Right Turn	69	72	104.8%	2.6	0.6	A
	Subtotal	598	596	99.6%	12.4	3.1	B
Total		1,435	1,426	99.3%	12.9	1.8	B

Intersection 4 John Jones Rd/W Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	190	189	99.4%	33.5	5.1	C
	Through						
	Right Turn	55	59	107.6%	6.6	1.9	A
	Subtotal	245	248	101.2%	27.0	3.7	C
EB	Left Turn	71	68	95.4%	64.1	13.8	E
	Through	692	688	99.4%	14.8	4.1	B
	Right Turn						
	Subtotal	763	755	99.0%	19.4	4.1	B
WB	Left Turn						
	Through	543	537	99.0%	8.9	1.6	A
	Right Turn	288	298	103.4%	4.5	0.7	A
	Subtotal	831	835	100.5%	7.3	1.0	A
Total		1,839	1,838	100.0%	15.2	2.1	B

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

Willowgrove Property TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 5 **SR 113 SB Ramps/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	270	281	104.1%	59.2	13.7	E
	Through	1	2	150.0%	18.0	29.9	B
	Right Turn	149	150	100.9%	36.8	5.7	D
	Subtotal	420	433	103.1%	51.9	9.5	D
EB	Left Turn						
	Through	556	555	99.8%	31.7	4.1	C
	Right Turn	326	320	98.1%	30.6	6.1	C
	Subtotal	882	875	99.2%	31.3	4.6	C
WB	Left Turn	378	364	96.4%	58.4	7.7	E
	Through	682	684	100.3%	10.5	1.5	B
	Right Turn						
	Subtotal	1,060	1,048	98.9%	26.8	3.7	C
Total		2,362	2,356	99.8%	33.4	3.7	C

Intersection 6 **SR 113 NB Ramps/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	235	244	104.0%	37.1	2.2	D
	Through						
	Right Turn	280	280	100.1%	14.5	2.5	B
	Subtotal	515	525	101.9%	24.7	1.5	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	65	63	97.5%	34.6	6.5	C
	Through	762	774	101.6%	8.7	1.6	A
	Right Turn						
	Subtotal	827	837	101.2%	10.6	1.6	B
WB	Left Turn						
	Through	825	805	97.6%	20.0	3.9	B
	Right Turn	176	171	97.4%	8.6	1.0	A
	Subtotal	1,001	977	97.6%	18.0	3.5	B
Total		2,343	2,339	99.8%	16.8	1.8	B

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

Willowgrove Property TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 7 Sycamore Ln/W Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	143	137	95.7%	44.7	3.6	D
	Through	27	30	109.6%	32.5	9.6	C
	Right Turn	38	39	102.4%	7.1	5.5	A
	Subtotal	208	205	98.8%	35.3	4.1	D
SB	Left Turn	101	107	105.5%	39.3	5.4	D
	Through	69	68	98.0%	30.6	6.7	C
	Right Turn	168	161	95.9%	4.3	1.7	A
	Subtotal	338	335	99.2%	20.3	3.2	C
EB	Left Turn	107	104	97.0%	44.0	12.4	D
	Through	658	663	100.8%	24.6	2.9	C
	Right Turn	160	165	102.9%	13.1	4.3	B
	Subtotal	925	932	100.7%	25.0	3.8	C
WB	Left Turn	34	32	95.3%	54.4	9.8	D
	Through	663	648	97.8%	27.6	5.1	C
	Right Turn	57	60	105.3%	12.2	3.8	B
	Subtotal	754	741	98.2%	27.5	4.7	C
Total		2,225	2,213	99.5%	26.2	2.3	C

Intersection 8 Anderson Rd/W Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	158	159	100.9%	40.2	6.0	D
	Through	57	56	98.2%	28.8	10.1	C
	Right Turn	67	70	105.1%	3.0	1.5	A
	Subtotal	282	286	101.3%	28.9	4.3	C
SB	Left Turn	44	40	90.0%	40.2	12.4	D
	Through	161	161	100.1%	31.0	4.0	C
	Right Turn	77	78	100.6%	2.4	1.1	A
	Subtotal	282	278	98.7%	24.6	2.5	C
EB	Left Turn	30	31	102.7%	50.2	10.2	D
	Through	507	508	100.2%	35.5	6.3	D
	Right Turn	257	266	103.6%	15.5	4.1	B
	Subtotal	794	805	101.4%	29.5	5.7	C
WB	Left Turn	178	175	98.5%	47.1	8.9	D
	Through	530	515	97.2%	23.8	5.4	C
	Right Turn	41	42	101.7%	6.0	0.5	A
	Subtotal	749	733	97.8%	29.0	3.0	C
Total		2,107	2,102	99.7%	28.5	2.3	C

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

Willowgrove Property TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 9 **Dummy Bike/Ped-Oak Ave/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	145	143	98.4%	30.6	4.4	C
	Through						
	Right Turn	171	170	99.6%	2.7	0.4	A
	Subtotal	316	313	99.1%	15.4	2.7	B
SB	Left Turn	5	3	68.0%	27.6	26.6	C
	Through	25	27	106.4%	28.4	6.1	C
	Right Turn						
	Subtotal	30	30	100.0%	29.2	5.7	C
EB	Left Turn						
	Through	462	465	100.6%	31.0	7.2	C
	Right Turn	184	184	100.1%	16.9	4.6	B
	Subtotal	646	649	100.5%	27.0	6.3	C
WB	Left Turn	215	218	101.4%	48.1	12.7	D
	Through	659	645	97.9%	18.9	3.5	B
	Right Turn						
	Subtotal	874	863	98.7%	26.2	5.3	C
Total		1,866	1,855	99.4%	24.6	3.8	C

Intersection 10 **Catalina Dr-Dummy Bike/Ped/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through	4	5	120.0%	14.7	17.6	B
	Right Turn						
	Subtotal	4	5	120.0%	14.7	17.6	B
SB	Left Turn	155	157	101.0%	18.1	2.7	B
	Through						
	Right Turn	64	64	100.6%	1.3	0.2	A
	Subtotal	219	221	100.9%	13.0	2.2	B
EB	Left Turn	28	27	96.8%	35.9	14.0	D
	Through	605	609	100.6%	12.6	2.8	B
	Right Turn						
	Subtotal	633	636	100.4%	13.4	2.8	B
WB	Left Turn						
	Through	810	803	99.1%	17.4	3.4	B
	Right Turn	73	68	93.7%	7.5	1.8	A
	Subtotal	883	871	98.6%	16.5	3.1	B
Total		1,739	1,732	99.6%	15.0	2.0	B

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

Willowgrove Property TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 11 F St/W Covell Blvd-E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	56	51	90.5%	45.1	7.1	D
	Through	105	102	96.7%	42.4	4.3	D
	Right Turn	170	181	106.2%	9.8	3.2	A
	Subtotal	331	333	100.5%	25.3	4.5	C
SB	Left Turn	184	196	106.5%	53.8	26.2	D
	Through	188	185	98.4%	38.3	22.2	D
	Right Turn	85	87	102.4%	22.6	22.2	C
	Subtotal	457	468	102.4%	41.8	24.3	D
EB	Left Turn	32	28	87.5%	47.0	8.8	D
	Through	636	641	100.7%	29.9	4.1	C
	Right Turn	114	115	101.0%	7.9	2.4	A
	Subtotal	782	784	100.2%	27.1	3.5	C
WB	Left Turn	244	234	95.7%	59.0	7.1	E
	Through	773	761	98.4%	27.3	4.3	C
	Right Turn	122	118	96.5%	20.1	4.5	C
	Subtotal	1,139	1,112	97.6%	32.8	3.7	C
Total		2,709	2,696	99.5%	32.2	7.3	C

Intersection 12 F St/E 14th St Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	89	89	100.4%	34.9	5.0	C
	Through	138	139	100.5%	15.7	2.3	B
	Right Turn						
	Subtotal	227	228	100.5%	22.9	3.7	C
SB	Left Turn						
	Through	219	212	96.8%	34.5	5.9	C
	Right Turn	327	319	97.6%	19.5	2.6	B
	Subtotal	546	531	97.3%	25.3	3.3	C
EB	Left Turn	171	171	100.1%	32.9	5.8	C
	Through						
	Right Turn	83	83	100.2%	7.8	2.6	A
	Subtotal	254	254	100.2%	24.8	3.8	C
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,027	1,014	98.7%	24.7	2.7	C

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

Willowgrove Property TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 13 Market Ave/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	124	118	95.3%	10.5	2.2	B
	Subtotal	124	118	95.3%	10.5	2.2	B
EB	Left Turn						
	Through	990	1,011	102.2%	12.4	19.0	B
	Right Turn						
	Subtotal	990	1,011	102.2%	12.4	19.0	B
WB	Left Turn						
	Through	1,015	999	98.4%	3.4	0.4	A
	Right Turn	25	24	94.8%	2.8	1.1	A
	Subtotal	1,040	1,023	98.4%	3.4	0.5	A
Total		2,154	2,153	99.9%	8.0	8.9	A

Intersection 14 Cannery Ave/Cannery Loop Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	23	22	95.7%	2.6	0.4	A
	Through	70	72	102.9%	3.3	0.3	A
	Right Turn						
	Subtotal	93	94	101.1%	3.1	0.2	A
SB	Left Turn						
	Through	70	72	103.1%	2.2	0.2	A
	Right Turn	6	9	151.7%	2.1	0.7	A
	Subtotal	76	81	107.0%	2.2	0.2	A
EB	Left Turn	5	4	86.0%	1.6	0.9	A
	Through						
	Right Turn	51	55	106.9%	1.9	0.2	A
	Subtotal	56	59	105.0%	1.9	0.2	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		225	234	104.0%	2.5	0.1	A

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

Willowgrove Property TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 15 Cannery Ave-J St/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	150	149	99.0%	36.0	5.7	D
	Through	13	13	96.9%	40.1	28.0	D
	Right Turn	68	66	96.8%	14.0	6.0	B
	Subtotal	231	227	98.2%	30.5	3.8	C
SB	Left Turn	70	71	102.0%	37.4	6.1	D
	Through	29	31	105.9%	35.7	11.0	D
	Right Turn	22	24	110.0%	15.7	11.8	B
	Subtotal	121	126	104.4%	32.8	6.6	C
EB	Left Turn	61	64	105.1%	68.9	35.3	E
	Through	742	768	103.5%	51.9	36.1	D
	Right Turn	187	188	100.7%	40.4	34.5	D
	Subtotal	990	1,021	103.1%	50.7	35.6	D
WB	Left Turn	71	73	102.8%	54.7	8.9	D
	Through	863	847	98.2%	38.9	7.3	D
	Right Turn	24	21	88.8%	36.3	13.7	D
	Subtotal	958	942	98.3%	40.2	7.0	D
Total		2,300	2,315	100.7%	44.0	16.0	D

Intersection 16 L St/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	76	71	93.4%	24.4	5.2	C
	Through	4	3	80.0%	11.2	23.3	B
	Right Turn	92	95	102.8%	17.4	2.8	B
	Subtotal	172	169	98.1%	20.5	3.8	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	786	804	102.3%	15.8	4.1	B
	Right Turn	95	99	104.0%	29.2	2.2	C
	Subtotal	881	903	102.5%	17.2	3.7	B
WB	Left Turn	83	81	97.8%	41.9	10.9	D
	Through	882	869	98.5%	10.7	2.7	B
	Right Turn						
	Subtotal	965	950	98.4%	13.4	3.6	B
Total		2,018	2,022	100.2%	15.7	2.8	B

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

Willowgrove Property TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 18 **Pole Line Rd/Moore Blvd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	327	325	99.3%	16.0	4.1	C
	Right Turn	60	62	103.2%	13.7	4.0	B
	Subtotal	387	387	99.9%	15.6	4.0	C
SB	Left Turn	59	55	93.9%	10.6	1.4	B
	Through	412	425	103.1%	16.3	1.3	C
	Right Turn						
	Subtotal	471	480	101.9%	15.6	1.3	C
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	100	100	99.9%	6.5	1.0	A
	Through						
	Right Turn	79	82	104.2%	5.8	0.5	A
	Subtotal	179	182	101.8%	6.2	0.6	A
Total		1,037	1,049	101.1%	14.0	2.1	B

Intersection 19 **Pole Line Rd/Donner Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	369	366	99.3%	1.4	0.3	A
	Right Turn	19	21	109.5%	0.7	0.5	A
	Subtotal	388	387	99.8%	1.3	0.3	A
SB	Left Turn	8	7	88.8%	6.2	3.6	A
	Through	504	518	102.7%	4.4	0.2	A
	Right Turn						
	Subtotal	512	525	102.5%	4.5	0.2	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	72	71	98.6%	14.9	4.6	B
	Through						
	Right Turn	18	20	110.0%	5.7	1.0	A
	Subtotal	90	91	100.9%	13.2	4.1	B
Total		990	1,003	101.3%	4.2	0.4	A

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

Willowgrove Property TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 20 Pole Line Rd/Picasso Ave Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	369	369	99.9%	5.3	1.2	A
	Right Turn	95	97	102.5%	3.9	1.3	A
	Subtotal	464	466	100.4%	5.0	1.1	A
SB	Left Turn	23	22	95.2%	5.5	3.1	A
	Through	553	566	102.4%	1.7	0.5	A
	Right Turn						
	Subtotal	576	588	102.1%	1.8	0.5	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	52	55	105.0%	19.5	4.8	C
	Through						
	Right Turn	19	18	94.7%	5.7	2.8	A
	Subtotal	71	73	102.3%	17.1	4.3	C
Total		1,111	1,127	101.4%	4.2	0.8	A

Intersection 21 Pole Line Rd/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	142	142	100.2%	43.7	12.4	D
	Through	167	165	98.8%	37.6	13.7	D
	Right Turn	69	74	107.4%	9.6	5.4	A
	Subtotal	378	381	100.9%	34.6	11.2	C
SB	Left Turn	149	155	103.8%	49.9	3.6	D
	Through	246	254	103.2%	47.8	9.6	D
	Right Turn	210	211	100.5%	24.3	6.6	C
	Subtotal	605	620	102.4%	40.0	7.2	D
EB	Left Turn	157	159	101.0%	45.2	6.1	D
	Through	519	531	102.3%	32.1	3.5	C
	Right Turn	134	139	103.5%	8.1	1.4	A
	Subtotal	810	828	102.2%	30.3	2.7	C
WB	Left Turn	114	110	96.7%	47.0	4.5	D
	Through	613	605	98.7%	33.4	3.2	C
	Right Turn	140	140	99.8%	7.9	2.2	A
	Subtotal	867	855	98.6%	30.6	2.0	C
Total		2,660	2,684	100.9%	33.6	2.4	C

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

Willowgrove Property TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 22 **Dummy Bike/Ped-Birch Ln/E Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	65	63	96.2%	31.1	5.9	C
	Through						
	Right Turn	29	25	84.8%	27.0	9.5	C
	Subtotal	94	87	92.7%	29.6	4.0	C
SB	Left Turn						
	Through	73	67	91.6%	24.5	4.4	C
	Right Turn	4	4	105.0%	12.9	15.0	B
	Subtotal	77	71	92.3%	23.6	4.5	C
EB	Left Turn						
	Through	668	684	102.4%	24.8	5.6	C
	Right Turn	69	72	104.8%	26.4	9.4	C
	Subtotal	737	756	102.6%	24.8	5.7	C
WB	Left Turn	81	80	98.1%	38.4	5.6	D
	Through	798	787	98.7%	20.7	3.3	C
	Right Turn						
	Subtotal	879	867	98.6%	22.3	3.3	C
Total		1,787	1,781	99.7%	23.8	3.8	C

Intersection 23 **Baywood Ln/E Covell Blvd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	22	19	86.8%	16.8	7.1	C
	Through						
	Right Turn	25	28	110.8%	5.9	2.0	A
	Subtotal	47	47	99.6%	10.2	3.7	B
SB	Left Turn	4	3	67.5%	12.8	17.1	B
	Through						
	Right Turn	9	9	95.6%	0.8	0.3	A
	Subtotal	13	11	86.9%	6.0	9.4	A
EB	Left Turn	2	2	80.0%	3.6	0.6	A
	Through	689	703	102.1%	4.4	0.6	A
	Right Turn	23	23	100.0%	3.8	0.7	A
	Subtotal	714	728	101.9%	4.4	0.6	A
WB	Left Turn	25	21	84.4%	11.2	4.4	B
	Through	827	818	98.9%	3.8	0.4	A
	Right Turn	3	4	136.7%	3.5	0.8	A
	Subtotal	855	843	98.6%	4.0	0.5	A
Total		1,629	1,629	100.0%	4.4	0.5	A

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

Willowgrove Property TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 24 **Manzanita Ln/E Covell Blvd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	47	46	97.4%	18.1	3.8	C
	Through						
	Right Turn	26	29	112.7%	8.7	3.7	A
	Subtotal	73	75	102.9%	14.7	2.9	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	697	713	102.2%	6.3	0.7	A
	Right Turn	21	21	100.0%	6.5	0.9	A
	Subtotal	718	734	102.2%	6.3	0.7	A
WB	Left Turn	12	10	86.7%	10.9	9.1	B
	Through	808	796	98.5%	2.5	0.3	A
	Right Turn						
	Subtotal	820	807	98.4%	2.6	0.4	A
Total		1,611	1,615	100.3%	4.9	0.5	A

Intersection 25 **Wright Blvd/E Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	134	133	99.2%	18.1	2.9	B
	Through						
	Right Turn	112	104	92.7%	1.7	0.4	A
	Subtotal	246	237	96.2%	11.2	1.8	B
EB	Left Turn	41	37	90.0%	30.9	5.0	C
	Through	682	705	103.4%	11.4	1.6	B
	Right Turn						
	Subtotal	723	742	102.6%	12.4	1.4	B
WB	Left Turn						
	Through	708	704	99.5%	10.8	1.3	B
	Right Turn	69	66	96.2%	6.8	0.6	A
	Subtotal	777	771	99.2%	10.4	1.2	B
Total		1,746	1,750	100.2%	11.3	1.1	B

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

Willowgrove Property TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 26 Monarch Ln/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	27	24	87.4%	17.7	9.8	C
	Through						
	Right Turn	43	43	100.9%	4.9	2.0	A
	Subtotal	70	67	95.7%	8.9	3.9	A
SB	Left Turn						
	Through						
	Right Turn	1	1	60.0%	0.3	0.9	A
	Subtotal	1	1	60.0%	0.3	0.9	A
EB	Left Turn						
	Through	786	800	101.8%	2.6	0.5	A
	Right Turn	30	33	110.3%	2.1	1.1	A
	Subtotal	816	834	102.1%	2.6	0.5	A
WB	Left Turn	15	16	103.3%	8.8	4.8	A
	Through	749	745	99.4%	3.7	0.3	A
	Right Turn	1	1	120.0%	3.0	0.3	A
	Subtotal	765	762	99.5%	3.8	0.3	A
Total		1,652	1,663	100.6%	3.4	0.3	A

Intersection 27 Alhambra Dr/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	125	126	100.6%	47.1	7.7	D
	Through	26	27	104.6%	43.8	15.1	D
	Right Turn	39	36	91.3%	41.7	8.8	D
	Subtotal	190	189	99.3%	45.3	7.0	D
SB	Left Turn	206	202	98.0%	49.1	9.5	D
	Through	49	50	101.4%	48.4	11.2	D
	Right Turn	198	199	100.7%	49.1	11.3	D
	Subtotal	453	451	99.5%	49.4	9.8	D
EB	Left Turn	120	122	102.0%	54.9	8.8	D
	Through	609	620	101.8%	23.1	2.2	C
	Right Turn	100	103	102.7%	21.4	5.7	C
	Subtotal	829	845	102.0%	28.0	2.6	C
WB	Left Turn	58	58	100.2%	74.9	21.2	E
	Through	442	438	99.0%	51.1	27.4	D
	Right Turn	45	40	88.4%	45.5	35.9	D
	Subtotal	545	535	98.2%	53.2	27.2	D
Total		2,017	2,020	100.2%	40.9	8.9	D

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

Willowgrove Property TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 28 Willowgrove Road East/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	85	79	93.1%	7.2	1.4	A
	Subtotal	85	79	93.1%	7.2	1.4	A
EB	Left Turn						
	Through	864	864	100.0%	5.8	1.1	A
	Right Turn						
	Subtotal	864	864	100.0%	5.8	1.1	A
WB	Left Turn						
	Through	460	453	98.6%	1.8	0.3	A
	Right Turn	45	48	106.4%	1.0	0.5	A
	Subtotal	505	501	99.3%	1.7	0.3	A
Total		1,454	1,445	99.4%	4.5	0.7	A

Intersection 29 Harper Hr HS Access/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	96	95	99.3%	21.5	4.1	C
	Through						
	Right Turn	3	4	140.0%	5.0	5.5	A
	Subtotal	99	100	100.5%	20.7	3.8	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	723	719	99.4%	15.8	2.5	B
	Right Turn	141	147	104.2%	8.5	1.6	A
	Subtotal	864	866	100.2%	14.5	2.4	B
WB	Left Turn	139	131	94.2%	26.7	3.0	C
	Through	409	406	99.3%	10.3	1.4	B
	Right Turn						
	Subtotal	548	537	98.0%	14.2	1.8	B
Total		1,511	1,503	99.4%	14.8	1.6	B

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

Willowgrove Property TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 30 **Mace Blvd/Alhambra Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	157	156	99.6%	23.2	3.2	C
	Through	526	516	98.2%	7.5	1.8	A
	Right Turn						
	Subtotal	683	673	98.5%	11.1	1.9	B
SB	Left Turn						
	Through	803	793	98.7%	25.3	7.6	C
	Right Turn	33	36	108.8%	13.6	1.9	B
	Subtotal	836	829	99.1%	24.7	7.2	C
EB	Left Turn	16	14	87.5%	27.2	18.2	C
	Through						
	Right Turn	278	275	99.0%	1.8	0.2	A
	Subtotal	294	289	98.4%	3.4	1.1	A
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,813	1,790	98.8%	16.5	3.5	B

Intersection 31 **2nd St/Target Main Dwy-Fermi Place** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	21	21	99.0%	13.8	5.3	B
	Through	195	194	99.6%	3.5	0.5	A
	Right Turn	3	3	100.0%	1.4	3.2	A
	Subtotal	219	218	99.5%	4.5	0.9	A
SB	Left Turn	49	49	100.2%	14.7	3.7	B
	Through	417	420	100.8%	3.2	1.1	A
	Right Turn	63	60	94.4%	0.9	0.5	A
	Subtotal	529	529	100.0%	3.9	1.3	A
EB	Left Turn	21	20	94.8%	14.7	4.4	B
	Through	1	2	160.0%	10.9	13.3	B
	Right Turn	31	30	95.5%	6.1	1.4	A
	Subtotal	53	51	96.4%	9.7	1.6	A
WB	Left Turn	6	5	86.7%	11.3	8.8	B
	Through	1	1	60.0%	6.1	13.4	A
	Right Turn	8	7	85.0%	3.7	1.3	A
	Subtotal	15	13	84.0%	12.8	9.6	B
Total		816	811	99.3%	4.6	1.1	A

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

Willowgrove Property TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 32 Mace Blvd/2nd St-County Rd 32A Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	457	459	100.4%	32.5	13.7	C
	Through	625	616	98.6%	9.5	2.5	A
	Right Turn	10	9	94.0%	4.0	1.9	A
	Subtotal	1,092	1,084	99.3%	19.5	7.0	B
SB	Left Turn	19	20	103.7%	110.2	32.8	F
	Through	977	947	96.9%	133.6	31.8	F
	Right Turn	84	85	101.0%	82.7	30.4	F
	Subtotal	1,080	1,051	97.3%	129.2	31.9	F
EB	Left Turn	48	45	92.7%	28.6	3.4	C
	Through	5	6	118.0%	35.6	23.5	D
	Right Turn	207	206	99.3%	3.3	0.7	A
	Subtotal	260	256	98.5%	8.3	1.6	A
WB	Left Turn	13	14	110.8%	27.1	18.6	C
	Through	22	22	101.4%	29.8	10.7	C
	Right Turn	19	19	101.6%	7.6	6.0	A
	Subtotal	54	56	103.7%	23.3	8.1	C
Total		2,486	2,447	98.4%	68.0	15.1	E

Intersection 33 Mace Blvd/I-80 WB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	359	368	102.4%	30.0	3.5	C
	Through	542	541	99.8%	6.4	1.5	A
	Right Turn						
	Subtotal	901	909	100.9%	15.8	1.5	B
SB	Left Turn						
	Through	971	950	97.9%	49.2	16.8	D
	Right Turn	226	215	95.0%	23.6	8.2	C
	Subtotal	1,197	1,165	97.3%	44.6	15.1	D
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	294	296	100.8%	26.0	3.5	C
	Through	2	2	115.0%	21.3	20.6	C
	Right Turn	550	548	99.6%	3.0	0.4	A
	Subtotal	846	847	100.1%	11.3	1.3	B
Total		2,944	2,920	99.2%	27.0	6.9	C

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

Willowgrove Property TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 34 Mace Blvd/Chiles Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	22	25	112.7%	52.6	14.2	D
	Through	579	585	101.1%	37.3	3.2	D
	Right Turn	20	19	92.5%	19.5	8.8	B
	Subtotal	621	629	101.2%	37.3	2.8	D
SB	Left Turn	180	176	97.6%	60.5	13.8	E
	Through	295	290	98.1%	23.8	3.6	C
	Right Turn	287	286	99.5%	3.6	0.2	A
	Subtotal	762	751	98.5%	24.9	4.6	C
EB	Left Turn	426	430	101.0%	54.5	13.0	D
	Through	149	154	103.6%	37.4	6.2	D
	Right Turn	129	133	103.3%	2.1	0.2	A
	Subtotal	704	718	102.0%	41.3	8.9	D
WB	Left Turn	17	17	100.6%	42.8	11.9	D
	Through	67	68	100.9%	35.6	9.0	D
	Right Turn	333	343	103.0%	29.0	8.0	C
	Subtotal	417	428	102.6%	30.7	7.5	C
Total		2,504	2,525	100.8%	33.7	2.8	C

Intersection 35 I-80 EB Off Ramp/Chiles Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	313	316	101.1%	5.0	0.6	A
	Through						
	Right Turn	75	74	98.4%	3.1	0.7	A
	Subtotal	388	390	100.6%	4.7	0.5	A
EB	Left Turn						
	Through	391	396	101.4%	13.9	2.5	B
	Right Turn						
	Subtotal	391	396	101.4%	13.9	2.5	B
WB	Left Turn						
	Through	376	379	100.8%	11.0	1.8	B
	Right Turn						
	Subtotal	376	379	100.8%	11.0	1.8	B
Total		1,155	1,166	100.9%	9.8	1.4	A

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

Willowgrove Property TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 36 Mace Blvd/Cowell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	9	9	97.8%	41.7	9.0	D
	Through	272	274	100.7%	20.1	2.3	C
	Right Turn	48	48	99.2%	11.0	2.5	B
	Subtotal	329	330	100.4%	19.4	2.2	B
SB	Left Turn	80	77	96.1%	33.5	4.2	C
	Through	194	194	100.1%	16.8	4.5	B
	Right Turn	52	51	97.3%	6.6	1.4	A
	Subtotal	326	322	98.7%	18.9	3.5	B
EB	Left Turn	123	123	99.6%	21.8	3.4	C
	Through	88	88	99.5%	20.1	4.0	C
	Right Turn	10	10	99.0%	9.8	8.8	A
	Subtotal	221	220	99.5%	20.7	3.0	C
WB	Left Turn	39	37	94.9%	31.7	10.8	C
	Through	77	76	98.3%	23.4	6.3	C
	Right Turn	101	103	101.5%	12.1	3.7	B
	Subtotal	217	215	99.2%	18.9	4.5	B
Total		1,093	1,087	99.5%	19.4	2.4	B

Intersection 37 Mace Blvd/N El Macero Dr All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	6	6	105.0%	3.1	2.8	A
	Through	219	227	103.7%	7.2	0.5	A
	Right Turn	3	3	106.7%	2.7	5.4	A
	Subtotal	228	237	103.8%	7.1	0.5	A
SB	Left Turn	75	74	98.4%	10.0	1.6	A
	Through	147	146	99.1%	11.7	2.0	B
	Right Turn	21	22	105.2%	3.8	1.3	A
	Subtotal	243	242	99.4%	10.4	1.8	B
EB	Left Turn	19	17	87.4%	5.1	1.1	A
	Through	5	6	120.0%	4.4	2.0	A
	Right Turn	3	6	193.3%	3.3	2.6	A
	Subtotal	27	28	105.2%	4.8	0.8	A
WB	Left Turn	4	4	95.0%	4.9	3.4	A
	Through	4	4	97.5%	4.4	3.3	A
	Right Turn	91	86	94.7%	3.9	0.6	A
	Subtotal	99	94	94.8%	4.1	0.6	A
Total		597	601	100.6%	7.8	0.8	A

HCM 6th TWSC **EXISTING PLUS PROJECT**

38: SR 113 SB On-Ramp/SR 113 SB Off-Ramp & County Rd 29

04/09/2025

Intersection												
Int Delay, s/veh	9.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑						↕	
Traffic Vol, veh/h	0	209	32	43	130	0	0	0	0	229	0	83
Future Vol, veh/h	0	209	32	43	130	0	0	0	0	229	0	83
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	195	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	238	36	49	148	0	0	0	0	260	0	94

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	274	0	0		502	520	148
Stage 1	-	-	-	-	-	-		246	246	-
Stage 2	-	-	-	-	-	-		256	274	-
Critical Hdwy	-	-	-	4.13	-	-		6.43	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-		5.43	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.43	5.53	-
Follow-up Hdwy	-	-	-	2.227	-	-		3.527	4.027	3.327
Pot Cap-1 Maneuver	0	-	-	1283	-	0		527	459	896
Stage 1	0	-	-	-	-	0		793	701	-
Stage 2	0	-	-	-	-	0		784	681	-
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1283	-	-		507	0	896
Mov Cap-2 Maneuver	-	-	-	-	-	-		507	0	-
Stage 1	-	-	-	-	-	-		793	0	-
Stage 2	-	-	-	-	-	-		754	0	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	2	20.9
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1283	-	573
HCM Lane V/C Ratio	-	-	0.038	-	0.619
HCM Control Delay (s/veh)	-	-	7.9	-	20.9
HCM Lane LOS	-	-	A	-	C
HCM 95th %tile Q (veh)	-	-	0.1	-	4.2

HCM 6th TWSC
 39: County Rd 29 & SR 113 NB Ramps

04/09/2025

Intersection							
Int Delay, s/veh	1.2						
Movement	EBL	EBT	WBT	WBR	SBU	SBL	SBR
Lane Configurations	↙	↑	↗			↘	
Traffic Vol, veh/h	42	396	144	206	1	21	29
Future Vol, veh/h	42	396	144	206	1	21	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	-	None
Storage Length	115	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	-	0	-
Grade, %	-	0	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3
Mvmt Flow	48	450	164	234	1	24	33

Major/Minor	Major1	Major2	Minor2				
Conflicting Flow All	398	0	-	0	0	827	281
Stage 1	-	-	-	-	0	281	-
Stage 2	-	-	-	-	0	546	-
Critical Hdwy	4.13	-	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1155	-	-	-	0	340	755
Stage 1	-	-	-	-	0	764	-
Stage 2	-	-	-	-	0	578	-
Platoon blocked, %		-	-	-	-		
Mov Cap-1 Maneuver	1155	-	-	-	0	326	755
Mov Cap-2 Maneuver	-	-	-	-	0	326	-
Stage 1	-	-	-	-	0	732	-
Stage 2	-	-	-	-	0	578	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.8	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1155	-	-	-	486
HCM Lane V/C Ratio	0.041	-	-	-	0.117
HCM Control Delay (s/veh)	8.3	-	-	-	13.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q (veh)	0.1	-	-	-	0.4

HCM 6th TWSC
40: County Rd 100A & County Rd 29

04/09/2025

Intersection													
Int Delay, s/veh	1.3												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗		↕	↕		↕	↕	
Traffic Vol, veh/h	1	3	336	77	20	311	1	34	0	12	2	0	4
Future Vol, veh/h	1	3	336	77	20	311	1	34	0	12	2	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Stop	Stop	Stop	Stop	Stop	Stop						
RT Channelized	-	-	-	None									
Storage Length	-	115	-	-	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	3	382	88	23	353	1	39	0	14	2	0	5

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	354	0	0	470	0	0	834	834	426	839	878	354
Stage 1	-	-	-	-	-	-	-	432	434	-	400	400	-
Stage 2	-	-	-	-	-	-	-	402	400	-	439	478	-
Critical Hdwy	-	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	-	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	-	1199	-	-	1086	-	-	286	303	626	284	286	688
Stage 1	-	-	-	-	-	-	-	600	579	-	624	600	-
Stage 2	-	-	-	-	-	-	-	623	600	-	595	554	-
Platoon blocked, %			-	-	-	-	-						
Mov Cap-1 Maneuver	~ -4	~ -4	-	-	1086	-	-	279	297	626	273	280	688
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	279	297	-	273	280	-
Stage 1	-	-	-	-	-	-	-	600	579	-	624	587	-
Stage 2	-	-	-	-	-	-	-	606	587	-	582	554	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v				0.5			18.1			13		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	326	+	-	-	1086	-	-	457
HCM Lane V/C Ratio	0.16	-	-	-	0.021	-	-	0.015
HCM Control Delay (s/veh)	18.1	-	-	-	8.4	-	-	13
HCM Lane LOS	C	-	-	-	A	-	-	B
HCM 95th %tile Q (veh)	0.6	-	-	-	0.1	-	-	0

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	5.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	146	205	69	178	152	21
Future Vol, veh/h	146	205	69	178	152	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	168	236	79	205	175	24

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	404	0	649	286
Stage 1	-	-	-	-	286	-
Stage 2	-	-	-	-	363	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1149	-	433	751
Stage 1	-	-	-	-	760	-
Stage 2	-	-	-	-	702	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1149	-	399	751
Mov Cap-2 Maneuver	-	-	-	-	399	-
Stage 1	-	-	-	-	760	-
Stage 2	-	-	-	-	647	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	2.3	20.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	423	-	-	1149	-
HCM Lane V/C Ratio	0.47	-	-	0.069	-
HCM Control Delay (s/veh)	20.8	-	-	8.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q (veh)	2.4	-	-	0.2	-

Intersection						
Int Delay, s/veh	4.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↗	↙	↑	↗	
Traffic Vol, veh/h	52	118	150	235	380	100
Future Vol, veh/h	52	118	150	235	380	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	215	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	60	136	172	270	437	115

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1109	495	552	0	-	0
Stage 1	495	-	-	-	-	-
Stage 2	614	-	-	-	-	-
Critical Hdwy	6.44	6.24	4.14	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	2.236	-	-	-
Pot Cap-1 Maneuver	230	571	1008	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	536	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	191	571	1008	-	-	-
Mov Cap-2 Maneuver	191	-	-	-	-	-
Stage 1	504	-	-	-	-	-
Stage 2	536	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	19.1	3.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1008	-	191	571	-	-
HCM Lane V/C Ratio	0.171	-	0.313	0.238	-	-
HCM Control Delay (s/veh)	9.3	-	32.2	13.3	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q (veh)	0.6	-	1.3	0.9	-	-

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑	↑	↑	↑
Traffic Vol, veh/h	16	24	260	27	57	464
Future Vol, veh/h	16	24	260	27	57	464
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Yield	-	None
Storage Length	0	-	-	280	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	18	28	299	31	66	533

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	964	-	0	0	299
Stage 1	299	-	-	-	-
Stage 2	665	-	-	-	-
Critical Hdwy	6.44	-	-	-	4.14
Critical Hdwy Stg 1	5.44	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-
Follow-up Hdwy	3.536	-	-	-	2.236
Pot Cap-1 Maneuver	281	0	-	-	1251
Stage 1	748	0	-	-	-
Stage 2	508	0	-	-	-
Platoon blocked, %		-	-	-	-
Mov Cap-1 Maneuver	266	-	-	-	1251
Mov Cap-2 Maneuver	266	-	-	-	-
Stage 1	748	-	-	-	-
Stage 2	481	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	19.5	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	266	1251
HCM Lane V/C Ratio	-	-	0.069	0.052
HCM Control Delay (s/veh)	-	-	19.5	8
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q (veh)	-	-	0.2	0.2

Intersection	
Intersection Delay, s/veh	13.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	6	61	2	3	0	46	217	2	4	455	43
Future Vol, veh/h	15	6	61	2	3	0	46	217	2	4	455	43
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	16	6	66	2	3	0	49	233	2	4	489	46
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.3	9.2	10.9	16.3
HCM LOS	A	A	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	18%	40%	1%
Vol Thru, %	82%	7%	60%	91%
Vol Right, %	1%	74%	0%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	265	82	5	502
LT Vol	46	15	2	4
Through Vol	217	6	3	455
RT Vol	2	61	0	43
Lane Flow Rate	285	88	5	540
Geometry Grp	1	1	1	1
Degree of Util (X)	0.382	0.132	0.009	0.673
Departure Headway (Hd)	4.823	5.377	6.144	4.49
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	744	661	586	804
Service Time	2.877	3.456	4.144	2.536
HCM Lane V/C Ratio	0.383	0.133	0.009	0.672
HCM Control Delay, s/veh	10.9	9.3	9.2	16.3
HCM Lane LOS	B	A	A	C
HCM 95th-tile Q	1.8	0.5	0	5.3

Intersection							
Int Delay, s/veh	2.3						
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↶	↷	↶	↷	↶	↷	↷
Traffic Vol, veh/h	15	105	26	199	1	405	15
Future Vol, veh/h	15	105	26	199	1	405	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	250	0	390	-	370	-	370
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89
Heavy Vehicles, %	3	3	3	3	3	3	3
Mvmt Flow	17	118	29	224	1	455	17

Major/Minor	Minor2	Major1	Major2				
Conflicting Flow All	737	455	472	0	-	-	0
Stage 1	455	-	-	-	-	-	-
Stage 2	282	-	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-	-
Pot Cap-1 Maneuver	384	603	1085	-	-	-	-
Stage 1	637	-	-	-	-	-	-
Stage 2	763	-	-	-	-	-	-
Platoon blocked, %				-	-	-	-
Mov Cap-1 Maneuver	374	603	1085	-	-	-	-
Mov Cap-2 Maneuver	374	-	-	-	-	-	-
Stage 1	620	-	-	-	-	-	-
Stage 2	763	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	12.7	1	
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	1085	-	374	603	-	-	-
HCM Lane V/C Ratio	0.027	-	0.045	0.196	-	-	-
HCM Control Delay (s/veh)	8.4	-	15.1	12.4	-	-	-
HCM Lane LOS	A	-	C	B	-	-	-
HCM 95th %tile Q (veh)	0.1	-	0.1	0.7	-	-	-

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	1	90	46	7	10	2
Future Vol, veh/h	1	90	46	7	10	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	20	20	20	20	20	20
Mvmt Flow	1	95	48	7	11	2

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	55	0	-	0	149 52
Stage 1	-	-	-	-	52 -
Stage 2	-	-	-	-	97 -
Critical Hdwy	4.3	-	-	-	6.6 6.4
Critical Hdwy Stg 1	-	-	-	-	5.6 -
Critical Hdwy Stg 2	-	-	-	-	5.6 -
Follow-up Hdwy	2.38	-	-	-	3.68 3.48
Pot Cap-1 Maneuver	1442	-	-	-	803 967
Stage 1	-	-	-	-	926 -
Stage 2	-	-	-	-	884 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1442	-	-	-	802 967
Mov Cap-2 Maneuver	-	-	-	-	802 -
Stage 1	-	-	-	-	925 -
Stage 2	-	-	-	-	884 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.1	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1442	-	-	-	825
HCM Lane V/C Ratio	0.001	-	-	-	0.015
HCM Control Delay (s/veh)	7.5	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗	↗	↘	↘
Traffic Vol, veh/h	21	69	35	14	13	22
Future Vol, veh/h	21	69	35	14	13	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	265	-	-	305	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	25	25	25	25	25	25
Mvmt Flow	22	73	37	15	14	23

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	52	0	-	0	154 37
Stage 1	-	-	-	-	37 -
Stage 2	-	-	-	-	117 -
Critical Hdwy	4.35	-	-	-	6.65 6.45
Critical Hdwy Stg 1	-	-	-	-	5.65 -
Critical Hdwy Stg 2	-	-	-	-	5.65 -
Follow-up Hdwy	2.425	-	-	-	3.725 3.525
Pot Cap-1 Maneuver	1419	-	-	-	787 973
Stage 1	-	-	-	-	929 -
Stage 2	-	-	-	-	854 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1419	-	-	-	774 973
Mov Cap-2 Maneuver	-	-	-	-	774 -
Stage 1	-	-	-	-	914 -
Stage 2	-	-	-	-	854 -

Approach	EB	WB	SB
HCM Control Delay, s/v	1.8	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1419	-	-	-	888
HCM Lane V/C Ratio	0.016	-	-	-	0.041
HCM Control Delay (s/veh)	7.6	-	-	-	9.2
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	3.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	2	82	1	1	49	2
Future Vol, veh/h	2	82	1	1	49	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	20	20	20	20	20	20
Mvmt Flow	2	95	1	1	57	2

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	97	0	53
Stage 1	-	-	-	-	50
Stage 2	-	-	-	-	3
Critical Hdwy	-	-	4.3	-	6.6
Critical Hdwy Stg 1	-	-	-	-	5.6
Critical Hdwy Stg 2	-	-	-	-	5.6
Follow-up Hdwy	-	-	2.38	-	3.68
Pot Cap-1 Maneuver	-	-	1391	-	912
Stage 1	-	-	-	-	928
Stage 2	-	-	-	-	975
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1391	-	911
Mov Cap-2 Maneuver	-	-	-	-	911
Stage 1	-	-	-	-	928
Stage 2	-	-	-	-	974

Approach	EB	WB	NB
HCM Control Delay, s/v	0	3.8	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	913	-	-	1391	-
HCM Lane V/C Ratio	0.065	-	-	0.001	-
HCM Control Delay (s/veh)	9.2	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q (veh)	0.2	-	-	0	-

HCM 6th TWSC
 49: Country Rd 32A & County Rd 105/County Rd 32A

04/09/2025

Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	0	7	30	72	8	0	43	0	52	0	0	0
Future Vol, veh/h	0	7	30	72	8	0	43	0	52	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	83	83	83	83	84	83	84	83	84	84	84
Heavy Vehicles, %	10	9	9	9	9	10	9	10	9	10	10	10
Mvmt Flow	0	8	36	87	10	0	52	0	63	0	0	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	168	1	159	137	-	1	0	0	63	0	0
Stage 1	-	1	-	136	136	-	-	-	-	-	-	-
Stage 2	-	167	-	23	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.59	6.29	7.19	6.59	-	4.19	-	-	4.2	-	-
Critical Hdwy Stg 1	-	5.59	-	6.19	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.59	-	6.19	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.081	3.381	3.581	4.081	-	2.281	-	-	2.29	-	-
Pot Cap-1 Maneuver	0	712	1063	791	741	0	1577	-	-	1490	-	-
Stage 1	0	881	-	851	771	0	-	-	-	-	-	-
Stage 2	0	747	-	977	881	0	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	-	688	1063	737	716	-	1577	-	-	1490	-	-
Mov Cap-2 Maneuver	-	688	-	737	716	-	-	-	-	-	-	-
Stage 1	-	881	-	822	745	-	-	-	-	-	-	-
Stage 2	-	722	-	935	881	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	8.9	10.6	3.3	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1577	-	-	964	735	1490	-	-
HCM Lane V/C Ratio	0.033	-	-	0.046	0.131	-	-	-
HCM Control Delay (s/veh)	7.4	0	-	8.9	10.6	0	-	-
HCM Lane LOS	A	A	-	A	B	A	-	-
HCM 95th %tile Q (veh)	0.1	-	-	0.1	0.5	0	-	-

2: I-80 EB Ramps Performance by movement

Movement	EBR	NBL	NBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	0.1	0.2	0.3
Total Del/Veh (s)	5.3	5.9	7.1	6.5

50: I-80 WB Ramps & County Rd 32A Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.3	0.0	0.0	0.2	0.2	0.2
Total Delay (hr)	0.1	0.0	0.0	0.0	0.3	0.2	0.5
Total Del/Veh (s)	1.7	3.8	5.8	1.6	9.3	9.0	6.2

51: Chiles Road & I-80 EB Ramps Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0			0.0	0.0
Total Delay (hr)	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.3
Total Del/Veh (s)	2.5	2.5	7.3	1.8			3.1	3.6

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	1.5
Total Del/Veh (s)	13.7

Intersection: 2: I-80 EB Ramps

Movement	EB	NB	NB
Directions Served	R	L	T
Maximum Queue (ft)	43	76	80
Average Queue (ft)	5	40	46
95th Queue (ft)	25	69	77
Link Distance (ft)	143	68	68
Upstream Blk Time (%)		1	2
Queuing Penalty (veh)		1	2
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 50: I-80 WB Ramps & County Rd 32A

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	3	112
Average Queue (ft)	0	53
95th Queue (ft)	0	86
Link Distance (ft)	2911	446
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 51: Chiles Road & I-80 EB Ramps

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	72	66	48
Average Queue (ft)	10	4	5
95th Queue (ft)	43	26	26
Link Distance (ft)	5890	2911	68
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 3

SimTraffic Post-Processor
Average Results from 11 Runs
Volume and Delay by Movement

Willowgrove Property TIS
Existing Plus Project Conditions
PM Peak Hour

Intersection 1 **County Rd 99-Lake Blvd/W Covell Blvd** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	32	31	96.6%	6.6	1.2	A
	Through	63	65	103.5%	7.9	0.6	A
	Right Turn	154	149	96.4%	2.1	0.3	A
	Subtotal	249	245	98.2%	4.2	0.6	A
SB	Left Turn	12	11	88.3%	4.5	2.0	A
	Through	49	48	97.1%	10.3	1.0	B
	Right Turn	17	17	102.4%	2.5	1.1	A
	Subtotal	78	76	96.9%	7.5	0.9	A
EB	Left Turn	37	37	99.2%	6.2	1.3	A
	Through	199	200	100.5%	11.9	0.8	B
	Right Turn	36	36	98.9%	2.8	0.4	A
	Subtotal	272	272	100.1%	9.9	1.1	A
WB	Left Turn	194	196	101.2%	10.9	1.0	B
	Through	200	201	100.7%	13.3	1.6	B
	Right Turn	27	23	85.6%	7.7	2.2	A
	Subtotal	421	421	100.0%	11.8	1.2	B
Total		1,020	1,013	99.3%	9.2	0.7	A

Intersection 2 **Denali Dr/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	12	12	100.8%	15.0	10.2	B
	Through						
	Right Turn	97	97	100.0%	1.2	0.1	A
	Subtotal	109	109	100.1%	2.7	1.1	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	440	434	98.7%	11.4	1.2	B
	Right Turn	20	20	102.0%	9.7	1.5	A
	Subtotal	460	455	98.9%	11.3	1.2	B
WB	Left Turn	95	90	94.4%	13.5	2.4	B
	Through	436	434	99.6%	4.9	1.2	A
	Right Turn						
	Subtotal	531	524	98.7%	6.3	1.4	A
Total		1,100	1,088	98.9%	8.1	0.8	A

SimTraffic Post-Processor
Average Results from 11 Runs
Volume and Delay by Movement

Willowgrove Property TIS
Existing Plus Project Conditions
PM Peak Hour

Intersection 3 **Risling Ct-Shasta Dr/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	13	12	93.8%	23.6	7.9	C
	Through	3	3	93.3%	15.2	17.1	B
	Right Turn	210	211	100.6%	1.7	0.2	A
	Subtotal	226	226	100.1%	3.0	0.7	A
SB	Left Turn	74	78	105.7%	17.8	3.8	B
	Through	5	5	104.0%	18.8	24.7	B
	Right Turn	23	22	93.9%	4.7	1.9	A
	Subtotal	102	105	102.9%	15.6	4.0	B
EB	Left Turn	12	13	106.7%	25.3	6.0	C
	Through	510	502	98.3%	13.4	1.7	B
	Right Turn	15	16	106.7%	5.9	1.3	A
	Subtotal	537	530	98.8%	13.4	1.7	B
WB	Left Turn	185	189	102.1%	21.7	4.4	C
	Through	496	493	99.5%	7.3	2.4	A
	Right Turn	38	38	100.0%	2.0	0.3	A
	Subtotal	719	720	100.2%	10.6	2.4	B
Total		1,584	1,582	99.9%	10.8	1.7	B

Intersection 4 **John Jones Rd/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	234	232	99.3%	34.4	5.0	C
	Through						
	Right Turn	77	74	96.0%	6.3	2.1	A
	Subtotal	311	306	98.5%	28.5	4.5	C
EB	Left Turn	48	44	92.5%	53.6	11.0	D
	Through	747	749	100.3%	8.4	1.3	A
	Right Turn						
	Subtotal	795	793	99.8%	11.0	1.8	B
WB	Left Turn						
	Through	642	647	100.7%	9.5	2.1	A
	Right Turn	204	199	97.3%	3.2	0.6	A
	Subtotal	846	845	99.9%	8.0	1.7	A
Total		1,952	1,945	99.6%	12.5	1.6	B

SimTraffic Post-Processor
Average Results from 11 Runs
Volume and Delay by Movement

Willowgrove Property TIS
Existing Plus Project Conditions
PM Peak Hour

Intersection 5 **SR 113 SB Ramps/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	163	159	97.6%	46.7	11.1	D
	Through						
	Right Turn	76	81	106.8%	35.2	4.4	D
	Subtotal	239	240	100.5%	43.3	9.0	D
EB	Left Turn						
	Through	798	791	99.1%	13.0	2.7	B
	Right Turn	183	191	104.2%	10.1	3.6	B
	Subtotal	981	981	100.0%	12.5	2.7	B
WB	Left Turn	256	249	97.4%	44.0	6.1	D
	Through	770	760	98.8%	4.3	1.0	A
	Right Turn						
	Subtotal	1,026	1,010	98.4%	14.1	2.2	B
Total		2,246	2,232	99.4%	16.6	2.4	B

Intersection 6 **SR 113 NB Ramps/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	261	266	101.8%	35.4	4.5	D
	Through						
	Right Turn	549	548	99.8%	42.8	16.8	D
	Subtotal	810	814	100.5%	40.3	11.6	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	113	116	102.3%	62.4	2.8	E
	Through	859	846	98.5%	7.6	0.5	A
	Right Turn						
	Subtotal	972	961	98.9%	14.0	1.3	B
WB	Left Turn						
	Through	763	742	97.3%	24.7	1.8	C
	Right Turn	184	186	100.9%	10.4	0.8	B
	Subtotal	947	928	98.0%	21.8	1.7	C
Total		2,729	2,703	99.1%	24.8	4.2	C

SimTraffic Post-Processor
Average Results from 11 Runs
Volume and Delay by Movement

Willowgrove Property TIS
Existing Plus Project Conditions
PM Peak Hour

Intersection 7 **Sycamore Ln/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	117	117	99.7%	42.1	5.0	D
	Through	66	59	90.0%	27.8	4.1	C
	Right Turn	47	45	95.3%	7.1	3.3	A
	Subtotal	230	221	96.0%	32.1	4.0	C
SB	Left Turn	145	149	102.8%	48.3	8.0	D
	Through	72	73	100.7%	31.8	10.5	C
	Right Turn	93	88	95.1%	6.1	5.2	A
	Subtotal	310	310	100.0%	32.7	7.0	C
EB	Left Turn	122	123	100.9%	43.3	6.4	D
	Through	933	920	98.6%	20.8	2.7	C
	Right Turn	110	110	100.4%	8.8	1.9	A
	Subtotal	1,165	1,154	99.0%	22.2	2.1	C
WB	Left Turn	32	30	94.7%	46.0	13.7	D
	Through	605	600	99.2%	26.9	4.4	C
	Right Turn	87	83	95.6%	10.4	2.8	B
	Subtotal	724	714	98.6%	26.0	3.9	C
Total		2,429	2,398	98.7%	25.6	1.8	C

Intersection 8 **Anderson Rd/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	197	197	100.1%	45.0	10.8	D
	Through	124	126	101.2%	31.5	9.5	C
	Right Turn	167	169	101.1%	6.4	3.2	A
	Subtotal	488	492	100.7%	28.7	7.8	C
SB	Left Turn	71	72	101.3%	44.4	10.9	D
	Through	87	84	96.1%	38.2	6.6	D
	Right Turn	49	47	96.3%	1.8	1.4	A
	Subtotal	207	203	97.9%	32.3	6.7	C
EB	Left Turn	58	57	97.4%	63.9	12.8	E
	Through	919	912	99.2%	37.9	8.7	D
	Right Turn	134	131	97.9%	22.0	7.9	C
	Subtotal	1,111	1,099	98.9%	37.3	8.2	D
WB	Left Turn	119	122	102.4%	50.6	5.2	D
	Through	438	429	97.9%	23.6	3.9	C
	Right Turn	57	59	103.2%	4.8	0.5	A
	Subtotal	614	610	99.3%	27.3	2.2	C
Total		2,420	2,403	99.3%	32.6	4.7	C

SimTraffic Post-Processor
Average Results from 11 Runs
Volume and Delay by Movement

Willowgrove Property TIS
Existing Plus Project Conditions
PM Peak Hour

Intersection 9 **Dummy Bike/Ped-Oak Ave/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	109	114	104.9%	32.5	4.5	C
	Through						
	Right Turn	117	124	106.2%	2.5	0.8	A
	Subtotal	226	239	105.6%	17.5	3.0	B
SB	Left Turn						
	Through	25	26	102.0%	29.0	8.7	C
	Right Turn						
	Subtotal	25	26	102.0%	29.0	8.7	C
EB	Left Turn						
	Through	1,099	1,103	100.4%	40.9	8.3	D
	Right Turn	124	122	98.4%	31.0	8.1	C
	Subtotal	1,223	1,225	100.2%	39.9	8.2	D
WB	Left Turn	108	109	100.6%	40.1	7.5	D
	Through	603	591	97.9%	11.7	3.7	B
	Right Turn						
	Subtotal	711	699	98.3%	16.2	4.1	B
Total		2,185	2,189	100.2%	29.5	5.4	C

Intersection 10 **Catalina Dr-Dummy Bike/Ped/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through	4	2	57.5%	13.7	17.6	B
	Right Turn						
	Subtotal	4	2	57.5%	13.7	17.6	B
SB	Left Turn	148	146	98.3%	18.7	2.4	B
	Through						
	Right Turn	58	57	97.8%	1.4	0.2	A
	Subtotal	206	202	98.2%	13.6	2.1	B
EB	Left Turn	71	71	99.3%	30.6	5.2	C
	Through	1,145	1,157	101.1%	14.9	3.2	B
	Right Turn						
	Subtotal	1,216	1,228	101.0%	15.7	3.2	B
WB	Left Turn						
	Through	653	642	98.3%	14.6	1.9	B
	Right Turn	137	129	94.4%	6.8	0.5	A
	Subtotal	790	771	97.6%	13.1	1.5	B
Total		2,216	2,204	99.4%	14.6	2.0	B

SimTraffic Post-Processor
Average Results from 11 Runs
Volume and Delay by Movement

Willowgrove Property TIS
Existing Plus Project Conditions
PM Peak Hour

Intersection 11 **F St/W Covell Blvd-E Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	128	126	98.4%	49.1	6.0	D
	Through	170	167	97.9%	39.9	9.2	D
	Right Turn	225	223	99.1%	12.2	8.3	B
	Subtotal	523	515	98.5%	30.5	8.9	C
SB	Left Turn	153	146	95.1%	50.7	10.0	D
	Through	151	146	96.7%	36.3	10.6	D
	Right Turn	60	60	99.2%	13.2	10.4	B
	Subtotal	364	351	96.4%	38.2	9.9	D
EB	Left Turn	63	63	99.7%	63.6	22.7	E
	Through	1,045	1,050	100.5%	38.7	9.9	D
	Right Turn	187	193	103.3%	17.4	6.8	B
	Subtotal	1,295	1,306	100.8%	36.7	9.9	D
WB	Left Turn	160	152	95.0%	60.1	7.1	E
	Through	635	619	97.5%	31.6	5.8	C
	Right Turn	173	167	96.6%	26.0	5.4	C
	Subtotal	968	938	96.9%	35.5	5.0	D
Total		3,150	3,111	98.7%	35.7	5.9	D

Intersection 12 **F St/E 14th St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	54	52	97.0%	34.0	10.1	C
	Through	340	331	97.3%	13.8	3.2	B
	Right Turn						
	Subtotal	394	383	97.3%	17.0	4.1	B
SB	Left Turn						
	Through	334	328	98.1%	23.4	6.0	C
	Right Turn	149	152	102.3%	9.6	1.8	A
	Subtotal	483	480	99.4%	19.0	4.8	B
EB	Left Turn	167	171	102.2%	24.2	2.6	C
	Through						
	Right Turn	75	73	97.1%	10.0	2.8	A
	Subtotal	242	244	100.6%	19.7	2.2	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,119	1,107	98.9%	18.5	3.1	B

SimTraffic Post-Processor
Average Results from 11 Runs
Volume and Delay by Movement

Willowgrove Property TIS
Existing Plus Project Conditions
PM Peak Hour

Intersection 13 Market Ave/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	43	43	99.5%	7.2	3.2	A
	Subtotal	43	43	99.5%	7.2	3.2	A
EB	Left Turn						
	Through	1,423	1,408	98.9%	20.1	30.3	C
	Right Turn						
	Subtotal	1,423	1,408	98.9%	20.1	30.3	C
WB	Left Turn						
	Through	925	894	96.6%	3.4	0.5	A
	Right Turn	38	35	93.2%	3.0	0.9	A
	Subtotal	963	929	96.5%	3.4	0.5	A
Total		2,429	2,380	98.0%	13.5	18.3	B

Intersection 14 Cannery Ave/Cannery Loop Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	53	51	96.6%	2.6	0.3	A
	Through	100	99	99.2%	3.2	0.3	A
	Right Turn						
	Subtotal	153	150	98.3%	3.0	0.2	A
SB	Left Turn						
	Through	80	73	91.8%	2.3	0.2	A
	Right Turn	15	15	97.3%	1.9	0.2	A
	Subtotal	95	88	92.6%	2.2	0.2	A
EB	Left Turn	5	4	82.0%	0.8	0.8	A
	Through						
	Right Turn	24	26	108.8%	1.7	0.2	A
	Subtotal	29	30	104.1%	1.7	0.2	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		277	269	97.0%	2.6	0.2	A

SimTraffic Post-Processor
Average Results from 11 Runs
Volume and Delay by Movement

Willowgrove Property TIS
Existing Plus Project Conditions
PM Peak Hour

Intersection 15 Cannery Ave-J St/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	89	89	100.1%	31.4	5.4	C
	Through	18	18	97.8%	41.1	16.2	D
	Right Turn	65	68	104.3%	18.5	6.0	B
	Subtotal	172	175	101.5%	27.8	5.0	C
SB	Left Turn	69	66	95.1%	34.2	5.0	C
	Through	16	17	107.5%	38.9	13.6	D
	Right Turn	19	18	95.8%	11.8	7.7	B
	Subtotal	104	101	97.1%	31.3	4.9	C
EB	Left Turn	91	92	101.2%	79.3	38.4	E
	Through	1,242	1,220	98.3%	57.7	37.7	E
	Right Turn	90	85	94.8%	49.7	37.5	D
	Subtotal	1,423	1,398	98.2%	58.6	37.7	E
WB	Left Turn	56	58	102.7%	49.7	6.6	D
	Through	836	805	96.3%	30.1	5.2	C
	Right Turn	63	59	93.8%	28.9	7.3	C
	Subtotal	955	922	96.5%	31.1	5.0	C
Total		2,654	2,595	97.8%	46.3	22.1	D

Intersection 16 L St/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	128	126	98.6%	21.9	4.5	C
	Through	5	4	84.0%	7.8	10.8	A
	Right Turn	169	169	99.7%	18.1	6.1	B
	Subtotal	302	299	99.0%	19.6	2.6	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,261	1,231	97.6%	31.6	15.2	C
	Right Turn	115	118	102.8%	22.9	14.8	C
	Subtotal	1,376	1,349	98.0%	30.8	15.1	C
WB	Left Turn	78	76	97.2%	46.5	11.0	D
	Through	827	801	96.8%	13.9	4.3	B
	Right Turn						
	Subtotal	905	877	96.9%	16.5	3.6	B
Total		2,583	2,524	97.7%	24.5	8.5	C

SimTraffic Post-Processor
Average Results from 11 Runs
Volume and Delay by Movement

Willowgrove Property TIS
Existing Plus Project Conditions
PM Peak Hour

Intersection 18 Pole Line Rd/Moore Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	482	460	95.4%	27.5	6.4	D
	Right Turn	153	146	95.4%	22.4	7.8	C
	Subtotal	635	606	95.4%	26.3	6.7	D
SB	Left Turn	87	85	97.2%	11.2	2.4	B
	Through	511	518	101.3%	17.4	2.8	C
	Right Turn						
	Subtotal	598	602	100.7%	16.6	2.5	C
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	118	117	99.2%	7.0	0.9	A
	Through						
	Right Turn	52	51	98.7%	5.1	0.5	A
	Subtotal	170	168	99.0%	6.4	0.6	A
Total		1,403	1,376	98.1%	19.7	4.0	C

Intersection 19 Pole Line Rd/Donner Ave Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	626	597	95.3%	1.2	0.3	A
	Right Turn	59	60	102.4%	1.4	0.2	A
	Subtotal	685	657	95.9%	1.2	0.3	A
SB	Left Turn	22	21	93.2%	10.3	2.2	B
	Through	607	615	101.3%	4.1	0.2	A
	Right Turn						
	Subtotal	629	636	101.0%	4.3	0.2	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	48	47	98.3%	19.4	5.4	C
	Through						
	Right Turn	9	10	105.6%	9.6	5.7	A
	Subtotal	57	57	99.5%	17.5	4.6	C
Total		1,371	1,349	98.4%	3.4	0.3	A

SimTraffic Post-Processor
Average Results from 11 Runs
Volume and Delay by Movement

Willowgrove Property TIS
Existing Plus Project Conditions
PM Peak Hour

Intersection 20 **Pole Line Rd/Picasso Ave** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	657	630	95.8%	4.5	0.6	A
	Right Turn	104	103	98.8%	4.9	1.6	A
	Subtotal	761	732	96.2%	4.6	0.4	A
SB	Left Turn	20	20	99.5%	11.1	4.3	B
	Through	635	642	101.1%	1.7	1.0	A
	Right Turn						
	Subtotal	655	662	101.0%	2.0	0.9	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	69	64	92.2%	34.6	14.0	D
	Through						
	Right Turn	28	28	100.0%	11.3	8.4	B
	Subtotal	97	92	94.4%	27.3	12.1	D
Total		1,513	1,486	98.2%	4.9	1.2	A

Intersection 21 **Pole Line Rd/E Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	139	133	95.8%	65.6	21.3	E
	Through	335	330	98.4%	56.2	20.4	E
	Right Turn	119	127	106.3%	32.2	16.2	C
	Subtotal	593	589	99.4%	53.2	18.9	D
SB	Left Turn	183	178	97.3%	61.3	13.0	E
	Through	295	301	102.0%	48.3	7.0	D
	Right Turn	226	226	100.2%	19.5	5.8	B
	Subtotal	704	705	100.2%	42.7	7.6	D
EB	Left Turn	298	290	97.4%	60.9	7.6	E
	Through	900	873	97.0%	43.5	8.5	D
	Right Turn	189	187	98.7%	15.2	3.4	B
	Subtotal	1,387	1,349	97.3%	43.6	6.4	D
WB	Left Turn	121	113	93.1%	47.6	7.7	D
	Through	497	474	95.3%	36.9	3.5	D
	Right Turn	128	114	88.8%	5.1	1.7	A
	Subtotal	746	700	93.8%	33.5	3.4	C
Total		3,430	3,344	97.5%	43.0	5.3	D

SimTraffic Post-Processor
Average Results from 11 Runs
Volume and Delay by Movement

Willowgrove Property TIS
Existing Plus Project Conditions
PM Peak Hour

Intersection 22 **Dummy Bike/Ped-Birch Ln/E Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	41	40	98.3%	15.5	6.1	B
	Through						
	Right Turn	24	25	105.8%	18.5	6.8	B
	Subtotal	65	66	101.1%	16.6	4.5	B
SB	Left Turn						
	Through	9	9	101.1%	22.2	14.4	C
	Right Turn						
	Subtotal	9	9	101.1%	22.2	14.4	C
EB	Left Turn						
	Through	1,173	1,149	97.9%	14.7	5.2	B
	Right Turn	29	29	99.7%	13.9	6.6	B
	Subtotal	1,202	1,178	98.0%	14.7	5.2	B
WB	Left Turn	31	34	108.1%	24.9	6.4	C
	Through	705	665	94.4%	10.0	1.7	A
	Right Turn						
	Subtotal	736	699	94.9%	10.5	1.7	B
Total		2,012	1,951	97.0%	13.3	3.5	B

Intersection 23 **Baywood Ln/E Covell Blvd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	12	11	89.2%	21.4	10.6	C
	Through	1	1	110.0%	2.1	5.2	A
	Right Turn	21	24	112.9%	8.9	4.5	A
	Subtotal	34	36	104.4%	14.7	6.5	B
SB	Left Turn	3	3	90.0%	10.3	15.8	B
	Through	1	1	100.0%	8.9	15.9	A
	Right Turn	12	12	101.7%	1.0	0.4	A
	Subtotal	16	16	99.4%	5.9	6.7	A
EB	Left Turn	26	24	91.2%	7.4	1.3	A
	Through	1,156	1,139	98.5%	4.2	0.6	A
	Right Turn	27	27	101.5%	3.6	0.6	A
	Subtotal	1,209	1,190	98.4%	4.3	0.6	A
WB	Left Turn	11	10	94.5%	16.1	14.0	C
	Through	737	702	95.3%	3.7	0.5	A
	Right Turn	2	2	120.0%	3.1	0.8	A
	Subtotal	750	715	95.3%	3.9	0.4	A
Total		2,009	1,956	97.4%	4.3	0.4	A

SimTraffic Post-Processor
Average Results from 11 Runs
Volume and Delay by Movement

Willowgrove Property TIS
Existing Plus Project Conditions
PM Peak Hour

Intersection 24 **Manzanita Ln/E Covell Blvd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	28	28	101.1%	31.2	26.8	D
	Through						
	Right Turn	15	15	98.0%	9.1	3.9	A
	Subtotal	43	43	100.0%	22.8	15.8	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,144	1,128	98.6%	6.4	0.7	A
	Right Turn	36	34	95.3%	6.5	0.8	A
	Subtotal	1,180	1,162	98.5%	6.4	0.7	A
WB	Left Turn	27	25	93.7%	12.3	3.8	B
	Through	722	691	95.6%	2.6	0.3	A
	Right Turn						
	Subtotal	749	716	95.6%	3.0	0.4	A
Total		1,972	1,921	97.4%	5.6	0.5	A

Intersection 25 **Wright Blvd/E Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	118	120	101.9%	19.1	4.5	B
	Through						
	Right Turn	64	63	98.9%	1.6	0.3	A
	Subtotal	182	184	100.9%	12.8	2.6	B
EB	Left Turn	86	85	98.5%	31.1	4.1	C
	Through	1,074	1,058	98.5%	14.3	1.8	B
	Right Turn						
	Subtotal	1,160	1,143	98.5%	15.6	1.8	B
WB	Left Turn						
	Through	685	654	95.5%	12.5	1.4	B
	Right Turn	105	99	94.7%	7.9	1.3	A
	Subtotal	790	754	95.4%	11.8	1.2	B
Total		2,132	2,080	97.6%	14.0	1.3	B

SimTraffic Post-Processor
Average Results from 11 Runs
Volume and Delay by Movement

Willowgrove Property TIS
Existing Plus Project Conditions
PM Peak Hour

Intersection 26 Monarch Ln/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	22	22	99.1%	24.1	9.2	C
	Through						
	Right Turn	30	27	90.7%	8.6	5.8	A
	Subtotal	52	49	94.2%	15.4	6.1	C
SB	Left Turn						
	Through						
	Right Turn	1	1	120.0%	0.8	1.2	A
	Subtotal	1	1	120.0%	0.8	1.2	A
EB	Left Turn						
	Through	1,154	1,142	98.9%	3.0	0.4	A
	Right Turn	35	35	100.6%	2.5	0.9	A
	Subtotal	1,189	1,177	99.0%	3.0	0.4	A
WB	Left Turn	22	20	90.0%	10.9	4.2	B
	Through	767	730	95.2%	3.9	0.3	A
	Right Turn						
	Subtotal	789	750	95.1%	4.1	0.3	A
Total		2,031	1,977	97.4%	3.8	0.4	A

Intersection 27 Alhambra Dr/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	97	99	102.3%	53.1	8.2	D
	Through	67	66	98.2%	50.8	10.4	D
	Right Turn	4	4	92.5%	26.0	31.6	C
	Subtotal	168	169	100.4%	51.2	6.7	D
SB	Left Turn	156	157	100.6%	59.0	5.8	E
	Through	37	39	104.3%	49.4	16.9	D
	Right Turn	150	148	98.7%	50.0	10.8	D
	Subtotal	343	344	100.2%	54.7	5.7	D
EB	Left Turn	328	316	96.2%	79.3	31.2	E
	Through	701	687	97.9%	16.3	3.1	B
	Right Turn	155	154	99.2%	14.9	3.3	B
	Subtotal	1,184	1,156	97.6%	34.3	10.7	C
WB	Left Turn	40	37	91.3%	187.4	70.7	F
	Through	542	505	93.2%	163.4	68.4	F
	Right Turn	121	110	91.2%	158.9	67.6	F
	Subtotal	703	652	92.8%	163.8	68.2	F
Total		2,398	2,320	96.8%	76.0	20.5	E

SimTraffic Post-Processor
Average Results from 11 Runs
Volume and Delay by Movement

Willowgrove Property TIS
Existing Plus Project Conditions
PM Peak Hour

Intersection 28 Willowgrove Road East/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	67	66	98.8%	94.0	158.0	F
	Subtotal	67	66	98.8%	94.0	158.0	F
EB	Left Turn						
	Through	871	857	98.4%	4.7	1.1	A
	Right Turn						
	Subtotal	871	857	98.4%	4.7	1.1	A
WB	Left Turn						
	Through	636	613	96.3%	13.7	17.0	B
	Right Turn	121	121	99.8%	11.2	17.0	B
	Subtotal	757	733	96.9%	13.3	16.9	B
Total		1,695	1,657	97.7%	11.9	13.4	B

Intersection 29 Harper Hr HS Access/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	14	13	93.6%	9.8	7.5	A
	Through						
	Right Turn	1	2	200.0%	1.6	2.1	A
	Subtotal	15	15	100.7%	9.3	6.6	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	853	840	98.5%	2.3	0.8	A
	Right Turn	18	17	96.1%	0.2	0.4	A
	Subtotal	871	858	98.5%	2.3	0.8	A
WB	Left Turn	3	2	63.3%	20.8	6.9	C
	Through	743	725	97.6%	25.8	21.0	C
	Right Turn						
	Subtotal	746	727	97.4%	25.8	21.0	C
Total		1,632	1,599	98.0%	13.0	9.8	B

SimTraffic Post-Processor
Average Results from 11 Runs
Volume and Delay by Movement

Willowgrove Property TIS
Existing Plus Project Conditions
PM Peak Hour

Intersection 30 **Mace Blvd/Alhambra Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	187	179	95.8%	32.1	2.3	C
	Through	710	692	97.4%	16.9	2.5	B
	Right Turn						
	Subtotal	897	871	97.1%	19.9	2.1	B
SB	Left Turn						
	Through	860	838	97.4%	24.7	26.1	C
	Right Turn	20	22	107.5%	13.2	9.8	B
	Subtotal	880	859	97.7%	24.5	26.2	C
EB	Left Turn	16	17	108.8%	28.1	10.3	C
	Through						
	Right Turn	185	178	96.4%	1.7	0.2	A
	Subtotal	201	196	97.4%	4.2	1.3	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,978	1,926	97.4%	20.1	10.1	C

Intersection 31 **2nd St/Target Main Dwy-Fermi Place** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	156	156	100.0%	25.5	2.6	C
	Through	675	675	100.0%	12.2	1.5	B
	Right Turn	13	13	99.2%	8.7	7.3	A
	Subtotal	844	844	100.0%	14.8	1.3	B
SB	Left Turn	50	49	98.6%	28.9	6.2	C
	Through	260	249	95.8%	14.9	2.9	B
	Right Turn	119	117	98.0%	4.0	1.0	A
	Subtotal	429	415	96.8%	13.3	1.7	B
EB	Left Turn	206	203	98.6%	21.6	3.6	C
	Through	2	2	80.0%	2.3	5.0	A
	Right Turn	86	91	105.7%	4.3	0.7	A
	Subtotal	294	296	100.6%	16.6	2.5	B
WB	Left Turn	10	9	86.0%	30.7	22.3	C
	Through	8	7	91.3%	25.6	20.7	C
	Right Turn	37	35	95.1%	9.1	2.7	A
	Subtotal	55	51	92.9%	14.6	3.7	B
Total		1,622	1,606	99.0%	14.7	0.8	B

SimTraffic Post-Processor
Average Results from 11 Runs
Volume and Delay by Movement

Willowgrove Property TIS
Existing Plus Project Conditions
PM Peak Hour

Intersection 32 **Mace Blvd/2nd St-County Rd 32A** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	330	321	97.3%	31.8	4.9	C
	Through	709	685	96.6%	23.6	3.6	C
	Right Turn	23	21	91.7%	13.8	9.7	B
	Subtotal	1,062	1,027	96.7%	26.0	3.3	C
SB	Left Turn	115	113	97.9%	101.0	45.9	F
	Through	771	712	92.4%	140.4	66.7	F
	Right Turn	152	145	95.3%	68.3	50.2	E
	Subtotal	1,038	970	93.4%	125.8	62.6	F
EB	Left Turn	175	169	96.7%	53.3	22.3	D
	Through	147	141	95.7%	47.6	32.1	D
	Right Turn	602	599	99.5%	61.1	57.7	E
	Subtotal	924	909	98.3%	57.5	46.2	E
WB	Left Turn	72	71	98.8%	54.7	17.5	D
	Through	27	30	109.6%	42.6	9.8	D
	Right Turn	26	29	111.2%	15.0	11.0	B
	Subtotal	125	130	103.7%	43.0	11.6	D
Total		3,149	3,035	96.4%	67.7	28.4	E

Intersection 33 **Mace Blvd/I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	203	187	91.9%	32.1	6.3	C
	Through	478	430	89.9%	8.4	2.8	A
	Right Turn						
	Subtotal	681	616	90.5%	15.9	3.8	B
SB	Left Turn						
	Through	1,242	1,151	92.6%	135.5	30.7	F
	Right Turn	203	188	92.6%	94.0	25.7	F
	Subtotal	1,445	1,338	92.6%	129.3	29.8	F
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	362	354	97.7%	25.8	7.9	C
	Through	1	2	190.0%	7.1	15.9	A
	Right Turn	584	593	101.5%	3.6	0.5	A
	Subtotal	947	948	100.1%	11.7	3.2	B
Total		3,073	2,903	94.5%	66.9	13.6	E

SimTraffic Post-Processor
Average Results from 11 Runs
Volume and Delay by Movement

Willowgrove Property TIS
Existing Plus Project Conditions
PM Peak Hour

Intersection 34 Mace Blvd/Chiles Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	22	23	105.0%	70.9	26.5	E
	Through	513	509	99.2%	67.5	27.5	E
	Right Turn	133	130	97.5%	46.1	29.5	D
	Subtotal	668	662	99.1%	63.2	27.4	E
SB	Left Turn	267	248	92.7%	113.4	62.8	F
	Through	405	384	94.7%	45.5	22.6	D
	Right Turn	237	229	96.5%	18.3	15.1	B
	Subtotal	909	860	94.6%	57.8	30.7	E
EB	Left Turn	457	308	67.3%	200.5	61.5	F
	Through	317	217	68.4%	52.7	15.6	D
	Right Turn	55	38	69.6%	2.4	0.5	A
	Subtotal	829	563	67.9%	136.0	31.2	F
WB	Left Turn	29	29	98.6%	39.6	8.9	D
	Through	33	33	100.0%	34.2	6.4	C
	Right Turn	211	215	101.9%	32.8	14.8	C
	Subtotal	273	277	101.3%	33.9	11.4	C
Total		2,679	2,361	88.1%	69.6	19.6	E

Intersection 35 I-80 EB Off Ramp/Chiles Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	105	98	92.9%	79.0	158.6	E
	Through						
	Right Turn	38	37	97.1%	3.6	1.7	A
	Subtotal	143	134	94.0%	56.8	112.8	E
EB	Left Turn						
	Through	723	473	65.5%	482.2	195.0	F
	Right Turn						
	Subtotal	723	473	65.5%	482.2	195.0	F
WB	Left Turn	1	0	40.0%	5.3	#DIV/0!	A
	Through	291	286	98.4%	7.1	2.6	A
	Right Turn						
	Subtotal	292	287	98.2%	7.1	2.6	A
Total		1,158	894	77.2%	208.5	71.4	F

SimTraffic Post-Processor
Average Results from 11 Runs
Volume and Delay by Movement

Willowgrove Property TIS
Existing Plus Project Conditions
PM Peak Hour

Intersection 36 Mace Blvd/Cowell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	14	13	94.3%	38.4	14.3	D
	Through	386	389	100.9%	32.2	21.5	C
	Right Turn	20	23	113.0%	34.0	28.7	C
	Subtotal	420	425	101.2%	32.6	21.0	C
SB	Left Turn	108	98	90.6%	35.4	7.9	D
	Through	214	204	95.2%	18.3	4.5	B
	Right Turn	69	65	93.6%	7.7	2.0	A
	Subtotal	391	366	93.7%	20.6	3.5	C
EB	Left Turn	120	117	97.8%	24.7	9.1	C
	Through	65	68	104.0%	21.7	4.3	C
	Right Turn	26	29	109.6%	9.1	4.3	A
	Subtotal	211	213	101.1%	22.1	7.1	C
WB	Left Turn	13	13	99.2%	35.2	17.1	D
	Through	40	36	89.5%	23.0	7.3	C
	Right Turn	63	58	92.7%	15.2	11.2	B
	Subtotal	116	107	92.3%	21.2	8.6	C
Total		1,138	1,112	97.7%	26.1	11.9	C

Intersection 37 Mace Blvd/N El Macero Dr All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	12	11	91.7%	4.9	1.1	A
	Through	339	341	100.6%	7.2	0.3	A
	Right Turn	6	7	108.3%	2.2	1.9	A
	Subtotal	357	359	100.4%	7.1	0.3	A
SB	Left Turn	86	86	99.8%	10.7	3.1	B
	Through	156	147	94.2%	12.5	1.5	B
	Right Turn	11	12	107.3%	3.1	0.9	A
	Subtotal	253	245	96.6%	11.4	1.9	B
EB	Left Turn	7	6	84.3%	4.9	1.9	A
	Through	10	11	109.0%	5.0	1.1	A
	Right Turn	4	5	117.5%	1.5	1.3	A
	Subtotal	21	22	102.4%	4.7	1.0	A
WB	Left Turn	8	8	102.5%	4.9	3.4	A
	Through	24	26	106.7%	6.1	0.8	A
	Right Turn	74	77	104.1%	4.1	0.8	A
	Subtotal	106	111	104.5%	4.6	0.7	A
Total		737	735	99.8%	8.1	0.9	A

HCM 6th TWSC **EXISTING PLUS PROJECT**

38: SR 113 SB On-Ramp/SR 113 SB Off-Ramp & County Rd 29

04/09/2025

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↕	
Traffic Vol, veh/h	0	258	36	20	147	0	0	0	0	158	1	46
Future Vol, veh/h	0	258	36	20	147	0	0	0	0	158	1	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	195	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	297	41	23	169	0	0	0	0	182	1	53

Major/Minor	Major1			Major2			Minor2				
Conflicting Flow All	-	0	0	338	0	0			533	533	169
Stage 1	-	-	-	-	-	-			215	215	-
Stage 2	-	-	-	-	-	-			318	338	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1221	-	0			507	441	875
Stage 1	0	-	-	-	-	0			821	725	-
Stage 2	0	-	-	-	-	0			738	641	-
Platoon blocked, %	-	-	-	-	-	-			-	-	-
Mov Cap-1 Maneuver	-	-	-	1221	-	-			497	0	875
Mov Cap-2 Maneuver	-	-	-	-	-	-			497	0	-
Stage 1	-	-	-	-	-	-			821	0	-
Stage 2	-	-	-	-	-	-			724	0	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	1	16.3
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1221	-	551
HCM Lane V/C Ratio	-	-	0.019	-	0.428
HCM Control Delay (s/veh)	-	-	8	-	16.3
HCM Lane LOS	-	-	A	-	C
HCM 95th %tile Q (veh)	-	-	0.1	-	2.1

HCM 6th TWSC
 39: County Rd 29 & SR 113 NB Ramps

04/09/2025

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	116	300	136	179	30	31
Future Vol, veh/h	116	300	136	179	30	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	133	345	156	206	34	36

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	362	0	-	0	870 259
Stage 1	-	-	-	-	259 -
Stage 2	-	-	-	-	611 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1197	-	-	-	322 780
Stage 1	-	-	-	-	784 -
Stage 2	-	-	-	-	542 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1197	-	-	-	286 780
Mov Cap-2 Maneuver	-	-	-	-	286 -
Stage 1	-	-	-	-	697 -
Stage 2	-	-	-	-	542 -

Approach	EB	WB	SB
HCM Control Delay, s/v	2.3	0	15.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1197	-	-	-	422
HCM Lane V/C Ratio	0.111	-	-	-	0.166
HCM Control Delay (s/veh)	8.4	-	-	-	15.2
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q (veh)	0.4	-	-	-	0.6

HCM 6th TWSC
 40: County Rd 100A & County Rd 29

04/09/2025

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	4	298	28	14	275	3	36	2	18	0	1	4
Future Vol, veh/h	4	298	28	14	275	3	36	2	18	0	1	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	115	-	-	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	343	32	16	316	3	41	2	21	0	1	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	319	0	0	375	0	0	722	720	359	731	735	318
Stage 1	-	-	-	-	-	-	369	369	-	350	350	-
Stage 2	-	-	-	-	-	-	353	351	-	381	385	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1241	-	-	1183	-	-	342	354	685	337	347	723
Stage 1	-	-	-	-	-	-	651	621	-	666	633	-
Stage 2	-	-	-	-	-	-	664	632	-	641	611	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1241	-	-	1183	-	-	334	348	685	321	341	723
Mov Cap-2 Maneuver	-	-	-	-	-	-	334	348	-	321	341	-
Stage 1	-	-	-	-	-	-	648	619	-	663	624	-
Stage 2	-	-	-	-	-	-	650	623	-	617	609	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.1			0.4			15.7			11.2		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	401	1241	-	-	1183	-	-	591
HCM Lane V/C Ratio	0.161	0.004	-	-	0.014	-	-	0.01
HCM Control Delay (s/veh)	15.7	7.9	-	-	8.1	-	-	11.2
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q (veh)	0.6	0	-	-	0	-	-	0

Intersection							
Int Delay, s/veh	4.1						
Movement	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↑				↑	↑	
Traffic Vol, veh/h	176	138	1	40	150	140	31
Future Vol, veh/h	176	138	1	40	150	140	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	210	164	1	48	179	167	37

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	374
Stage 1	-	-	292
Stage 2	-	-	275
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1184
Stage 1	-	-	758
Stage 2	-	-	771
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	~ -42	~ -42
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	758
Stage 2	-	-	771

Approach	EB	WB	NB
HCM Control Delay, s/v	0		16.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	518	-	-	+	-
HCM Lane V/C Ratio	0.393	-	-	-	-
HCM Control Delay (s/veh)	16.4	-	-	-	-
HCM Lane LOS	C	-	-	-	-
HCM 95th %tile Q (veh)	1.9	-	-	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	5.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↗	↙	↑	↗	
Traffic Vol, veh/h	110	100	106	391	347	79
Future Vol, veh/h	110	100	106	391	347	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	215	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	104	110	407	361	82

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1029	402	443	0	-	0
Stage 1	402	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	259	648	1117	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	532	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	234	648	1117	-	-	-
Mov Cap-2 Maneuver	234	-	-	-	-	-
Stage 1	610	-	-	-	-	-
Stage 2	532	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	23.5	1.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1117	-	234	648	-	-
HCM Lane V/C Ratio	0.099	-	0.49	0.161	-	-
HCM Control Delay (s/veh)	8.6	-	34.3	11.6	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q (veh)	0.3	-	2.5	0.6	-	-

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑	↑	↑	↑
Traffic Vol, veh/h	28	87	457	44	48	398
Future Vol, veh/h	28	87	457	44	48	398
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Yield	-	None
Storage Length	0	-	-	280	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	91	476	46	50	415

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	991	-	0	0	476
Stage 1	476	-	-	-	-
Stage 2	515	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218
Pot Cap-1 Maneuver	273	0	-	-	1086
Stage 1	625	0	-	-	-
Stage 2	600	0	-	-	-
Platoon blocked, %		-	-	-	-
Mov Cap-1 Maneuver	260	-	-	-	1086
Mov Cap-2 Maneuver	260	-	-	-	-
Stage 1	625	-	-	-	-
Stage 2	572	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	20.6	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	260	1086
HCM Lane V/C Ratio	-	-	0.112	0.046
HCM Control Delay (s/veh)	-	-	20.6	8.5
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q (veh)	-	-	0.4	0.1

Intersection	
Intersection Delay, s/veh	17.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	9	82	3	13	4	55	474	1	3	367	18
Future Vol, veh/h	35	9	82	3	13	4	55	474	1	3	367	18
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	9	85	3	13	4	57	489	1	3	378	19
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10.6	9.8	21.6	14.5
HCM LOS	B	A	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	28%	15%	1%
Vol Thru, %	89%	7%	65%	95%
Vol Right, %	0%	65%	20%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	530	126	20	388
LT Vol	55	35	3	3
Through Vol	474	9	13	367
RT Vol	1	82	4	18
Lane Flow Rate	546	130	21	400
Geometry Grp	1	1	1	1
Degree of Util (X)	0.755	0.213	0.037	0.564
Departure Headway (Hd)	4.974	5.904	6.461	5.078
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	732	607	552	712
Service Time	2.974	3.951	4.521	3.109
HCM Lane V/C Ratio	0.746	0.214	0.038	0.562
HCM Control Delay, s/veh	21.6	10.6	9.8	14.5
HCM Lane LOS	C	B	A	B
HCM 95th-tile Q	7	0.8	0.1	3.6

Intersection							
Int Delay, s/veh	1.1						
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↙	↗	↙	↗	↘	↗	↗
Traffic Vol, veh/h	10	38	55	455	0	345	28
Future Vol, veh/h	10	38	55	455	0	345	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	250	0	390	-	370	-	370
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	11	40	59	484	0	367	30

Major/Minor	Minor2	Major1	Major2				
Conflicting Flow All	969	367	397	0	-	-	0
Stage 1	367	-	-	-	-	-	-
Stage 2	602	-	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-	-
Pot Cap-1 Maneuver	281	678	1162	-	-	-	-
Stage 1	701	-	-	-	-	-	-
Stage 2	547	-	-	-	-	-	-
Platoon blocked, %				-	-	-	-
Mov Cap-1 Maneuver	267	678	1162	-	-	-	-
Mov Cap-2 Maneuver	267	-	-	-	-	-	-
Stage 1	665	-	-	-	-	-	-
Stage 2	547	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	12.4	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	1162	-	267	678	-	-	-
HCM Lane V/C Ratio	0.05	-	0.04	0.06	-	-	-
HCM Control Delay (s/veh)	8.3	-	19	10.6	0	-	-
HCM Lane LOS	A	-	C	B	A	-	-
HCM 95th %tile Q (veh)	0.2	-	0.1	0.2	-	-	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	0	94	107	22	11	4
Future Vol, veh/h	0	94	107	22	11	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	12	12	12	12	12	12
Mvmt Flow	0	111	126	26	13	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	152	0	-	0	250 139
Stage 1	-	-	-	-	139 -
Stage 2	-	-	-	-	111 -
Critical Hdwy	4.22	-	-	-	6.52 6.32
Critical Hdwy Stg 1	-	-	-	-	5.52 -
Critical Hdwy Stg 2	-	-	-	-	5.52 -
Follow-up Hdwy	2.308	-	-	-	3.608 3.408
Pot Cap-1 Maneuver	1370	-	-	-	717 883
Stage 1	-	-	-	-	864 -
Stage 2	-	-	-	-	889 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1370	-	-	-	717 883
Mov Cap-2 Maneuver	-	-	-	-	717 -
Stage 1	-	-	-	-	864 -
Stage 2	-	-	-	-	889 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1370	-	-	-	755
HCM Lane V/C Ratio	-	-	-	-	0.023
HCM Control Delay (s/veh)	0	-	-	-	9.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗	↘	↘	↗
Traffic Vol, veh/h	1	105	65	0	16	48
Future Vol, veh/h	1	105	65	0	16	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	265	-	-	305	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	9	9	9	9	9	9
Mvmt Flow	1	127	78	0	19	58

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	78	0	-	0	207 78
Stage 1	-	-	-	-	78 -
Stage 2	-	-	-	-	129 -
Critical Hdwy	4.19	-	-	-	6.49 6.29
Critical Hdwy Stg 1	-	-	-	-	5.49 -
Critical Hdwy Stg 2	-	-	-	-	5.49 -
Follow-up Hdwy	2.281	-	-	-	3.581 3.381
Pot Cap-1 Maneuver	1477	-	-	-	766 964
Stage 1	-	-	-	-	928 -
Stage 2	-	-	-	-	880 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1477	-	-	-	765 964
Mov Cap-2 Maneuver	-	-	-	-	765 -
Stage 1	-	-	-	-	927 -
Stage 2	-	-	-	-	880 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.1	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1477	-	-	-	905
HCM Lane V/C Ratio	0.001	-	-	-	0.085
HCM Control Delay (s/veh)	7.4	-	-	-	9.3
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0.3

Intersection						
Int Delay, s/veh	3.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	0	121	1	0	66	0
Future Vol, veh/h	0	121	1	0	66	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	7	7	7	7	7	7
Mvmt Flow	0	142	1	0	78	0

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	142	0	73
Stage 1	-	-	-	-	71
Stage 2	-	-	-	-	2
Critical Hdwy	-	-	4.17	-	6.47
Critical Hdwy Stg 1	-	-	-	-	5.47
Critical Hdwy Stg 2	-	-	-	-	5.47
Follow-up Hdwy	-	-	2.263	-	3.563
Pot Cap-1 Maneuver	-	-	1411	-	919
Stage 1	-	-	-	-	939
Stage 2	-	-	-	-	1008
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1411	-	918
Mov Cap-2 Maneuver	-	-	-	-	918
Stage 1	-	-	-	-	939
Stage 2	-	-	-	-	1007

Approach	EB	WB	NB
HCM Control Delay, s/v	0	7.6	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	918	-	-	1411	-
HCM Lane V/C Ratio	0.085	-	-	0.001	-
HCM Control Delay (s/veh)	9.3	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q (veh)	0.3	-	-	0	-

HCM 6th TWSC
 49: Country Rd 32A & County Rd 105/County Rd 32A

04/09/2025

Intersection												
Int Delay, s/veh	9.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	0	5	194	122	9	0	47	0	59	0	0	0
Future Vol, veh/h	0	5	194	122	9	0	47	0	59	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	81	81	81	81	87	81	87	81	87	87	87
Heavy Vehicles, %	2	3	3	3	3	2	3	2	3	2	2	2
Mvmt Flow	0	6	240	151	11	0	58	0	73	0	0	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	190	1	277	154	-	1	0	0	73	0	0
Stage 1	-	1	-	153	153	-	-	-	-	-	-	-
Stage 2	-	189	-	124	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.53	6.23	7.13	6.53	-	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.027	3.327	3.527	4.027	-	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	703	1081	673	736	0	1615	-	-	1527	-	-
Stage 1	0	893	-	847	769	0	-	-	-	-	-	-
Stage 2	0	742	-	878	893	0	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	-	676	1081	505	708	-	1615	-	-	1527	-	-
Mov Cap-2 Maneuver	-	676	-	505	708	-	-	-	-	-	-	-
Stage 1	-	893	-	815	740	-	-	-	-	-	-	-
Stage 2	-	714	-	679	893	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.4	15.2	3.2	0
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1615	-	-	1065	515	1527	-	-
HCM Lane V/C Ratio	0.036	-	-	0.231	0.314	-	-	-
HCM Control Delay (s/veh)	7.3	0	-	9.4	15.2	0	-	-
HCM Lane LOS	A	A	-	A	C	A	-	-
HCM 95th %tile Q (veh)	0.1	-	-	0.9	1.3	0	-	-

2: I-80 EB Ramps Performance by movement

Movement	EBR	NBL	NBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	2.1	2.1	4.2
Total Del/Veh (s)	3.0	25.1	24.8	24.6

50: I-80 WB Ramps & County Rd 32A Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.1	0.0	0.0	0.2	0.2	0.3
Total Delay (hr)	0.4	0.0	0.0	0.0	0.3	0.1	0.8
Total Del/Veh (s)	3.8	2.3	5.7	4.8	7.4	5.3	4.7

51: Chiles Road & I-80 EB Ramps Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.4	0.3	0.0	0.0	0.0	0.0	0.2
Total Delay (hr)	63.1	2.2	6.4	33.7	0.0	0.0	105.4
Total Del/Veh (s)	392.2	387.4	157.7	161.5	4.4	2.4	275.5

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.3
Total Delay (hr)	110.8
Total Del/Veh (s)	264.8

Intersection: 2: I-80 EB Ramps

Movement	EB	NB	NB
Directions Served	R	L	T
Maximum Queue (ft)	30	86	86
Average Queue (ft)	5	83	83
95th Queue (ft)	23	86	88
Link Distance (ft)	143	68	68
Upstream Blk Time (%)		68	68
Queuing Penalty (veh)		270	270
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 50: I-80 WB Ramps & County Rd 32A

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	21	106
Average Queue (ft)	2	49
95th Queue (ft)	12	84
Link Distance (ft)	2911	446
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 51: Chiles Road & I-80 EB Ramps

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	1797	936	27
Average Queue (ft)	1128	500	6
95th Queue (ft)	2000	1112	21
Link Distance (ft)	5890	2911	68
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 445

Major Street E Covell Boulevard
 Minor Street Willowgrove Road East

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

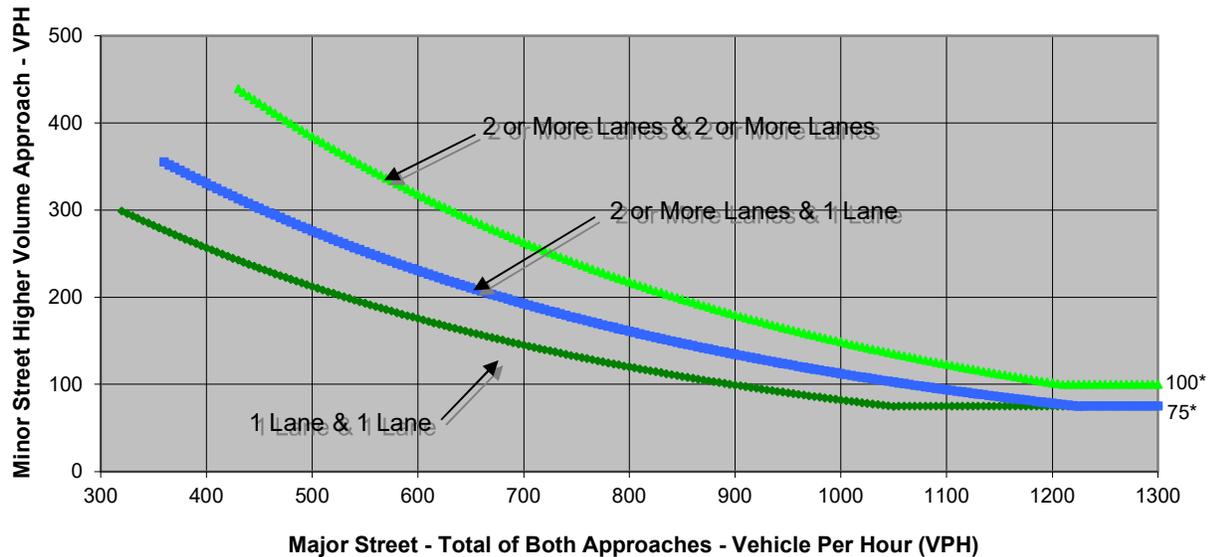
	NB	SB	EB	WB
Left	0	0	0	0
Through	0	0	864	460
Right	0	85	0	45
Total	0	85	864	505

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	E Covell Boulevard	Willowgrove Road East	
Number of Approach Lanes	1	1	<u>YES</u>
Traffic Volume (VPH) *	1,369	85	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street E Covell Boulevard
 Minor Street Willowgrove Road East

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	0	0	864	460
Right	0	85	0	45
Total	0	85	864	505

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	7.2
Approach with Worst Case Delay	SB
Total Vehicles on Approach	85

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.2	85	1,454
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		



Major Street CR 29
 Minor Street SR 113 SB Ramps

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

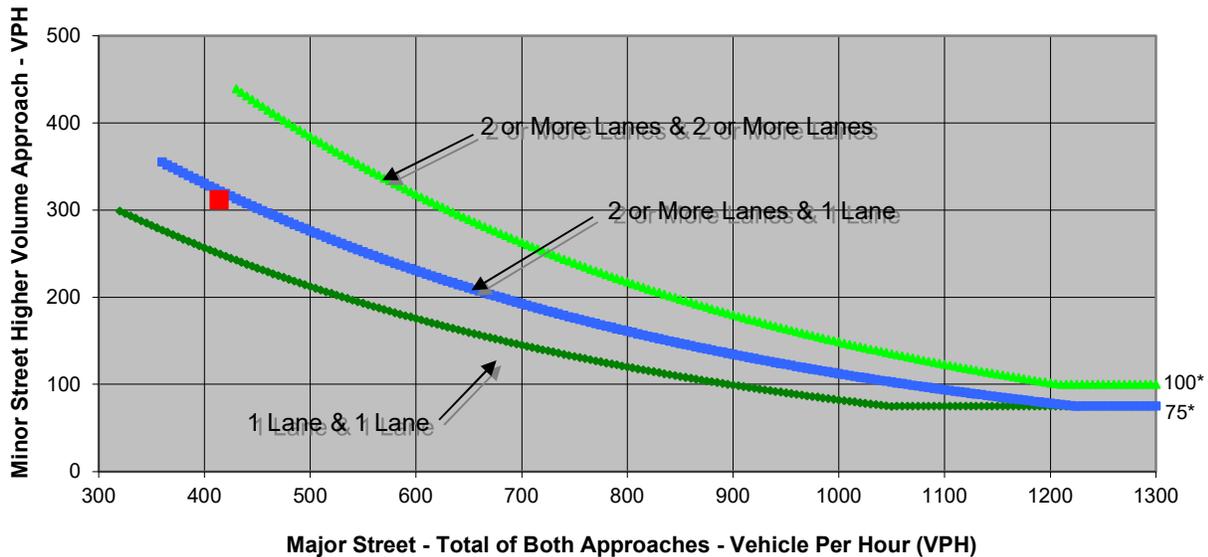
	NB	SB	EB	WB
Left	0	229	0	43
Through	0	0	209	130
Right	0	83	32	0
Total	0	312	241	173

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	SR 113 SB Ramps	
Number of Approach Lanes	1	1	<u>YES</u>
Traffic Volume (VPH) *	414	312	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street	CR 29
Minor Street	SR 113 SB Ramps

Project	Willowgrove Property TIS
Scenario	Existing Plus Project Conditions
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	229	0	43
Through	0	0	209	130
Right	0	83	32	0
Total	0	312	241	173

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	20.9
Approach with Worst Case Delay	SB
Total Vehicles on Approach	312

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	1.8	312	726
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		



Major Street CR 29
 Minor Street SR 113 NB Ramps

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

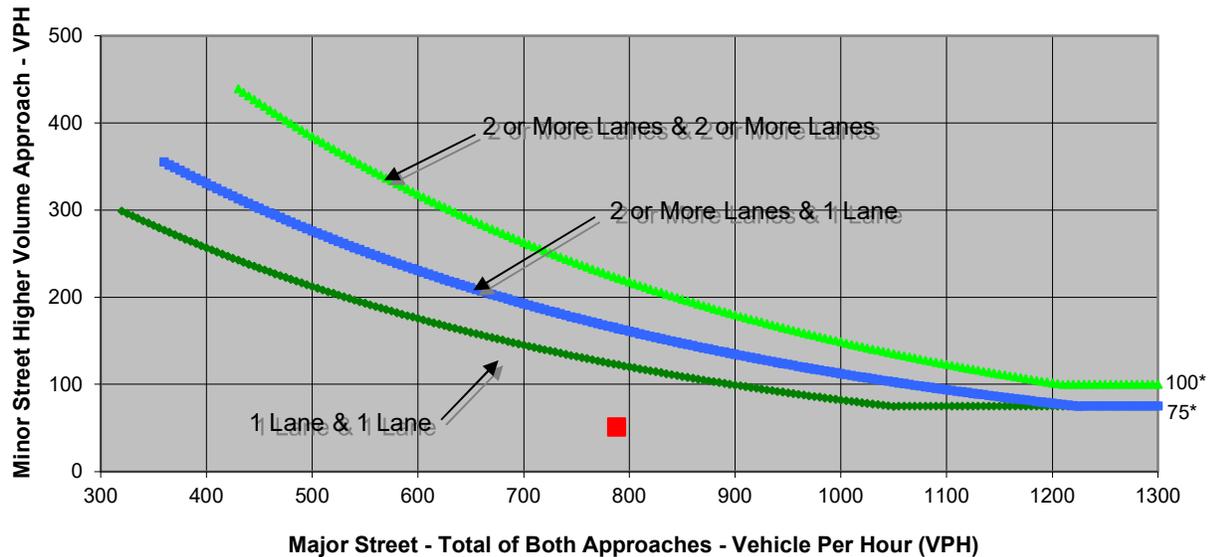
	NB	SB	EB	WB
Left	0	22	42	0
Through	0	0	396	144
Right	0	29	0	206
Total	0	51	438	350

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	SR 113 NB Ramps	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	788	51	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street **CR 29**
 Minor Street **SR 113 NB Ramps**

Project **Willowgrove Property TIS**
 Scenario **Existing Plus Project Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	22	42	0
Through	0	0	396	144
Right	0	29	0	206
Total	0	51	438	350

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.4
Approach with Worst Case Delay	SB
Total Vehicles on Approach	51

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.2	51	839
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		



Major Street	CR 29
Minor Street	CR 100A

Project	Willowgrove Property TIS
Scenario	Existing Plus Project Conditions
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	34	2	4	20
Through	0	0	336	311
Right	12	4	77	1
Total	46	6	417	332

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	18.1
Approach with Worst Case Delay	NB
Total Vehicles on Approach	46

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.2	46	801
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		

Major Street CR 29
 Minor Street CR 101A

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

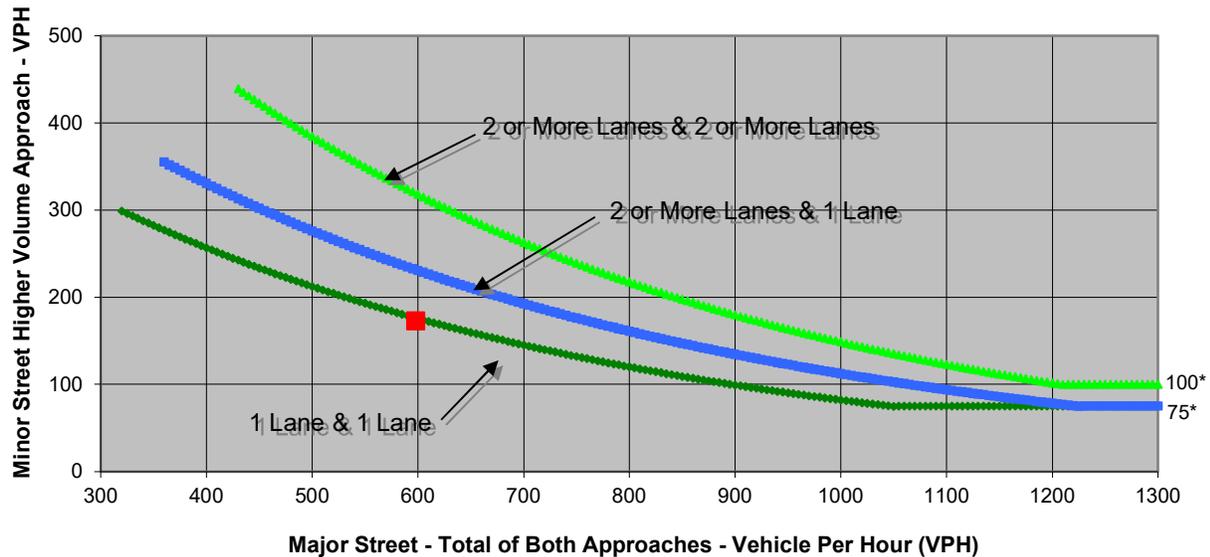
	NB	SB	EB	WB
Left	152	0	0	69
Through	0	0	146	178
Right	21	0	205	0
Total	173	0	351	247

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	CR 101A	
Number of Approach Lanes	1	1	NO
Traffic Volume (VPH) *	598	173	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street	CR 29
Minor Street	CR 101A

Project	Willowgrove Property TIS
Scenario	Existing Plus Project Conditions
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	152	0	0	69
Through	0	0	146	178
Right	21	0	205	0
Total	173	0	351	247

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	20.8
Approach with Worst Case Delay	NB
Total Vehicles on Approach	173

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	1	173	771
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		



Major Street CR 102
 Minor Street CR 29

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

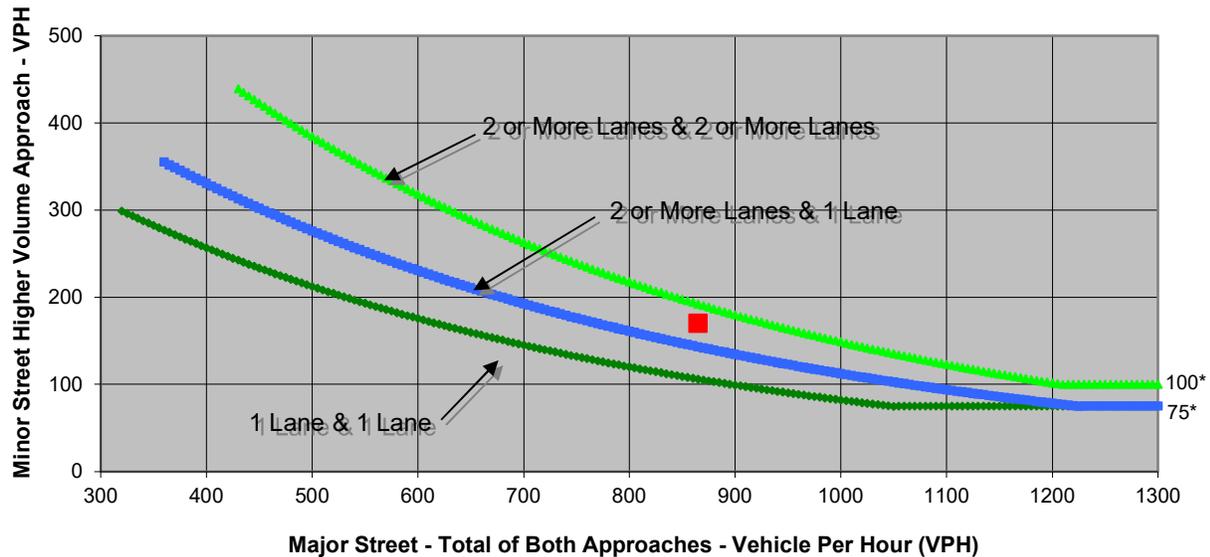
	NB	SB	EB	WB
Left	150	0	52	0
Through	235	380	0	0
Right	0	100	118	0
Total	385	480	170	0

Major Street Direction

x North/South
 East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 29	
Number of Approach Lanes	1	2	<u>YES</u>
Traffic Volume (VPH) *	865	170	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 29

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	150	0	52	0
Through	235	380	0	0
Right	0	100	118	0
Total	385	480	170	0

Major Street Direction

x North/South
 East/West

Intersection Geometry

Number of Approach Lanes for Minor Street 2
 Total Approaches 3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle) 32.2
 Approach with Worst Case Delay EB
 Total Vehicles on Approach 170

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	1.5	170	1,035
Limiting Value	5	150	800
Condition Satisfied?	Not Met	Met	Met
Warrant Met	<u>NO</u>		



Major Street CR 102
 Minor Street CR 28H

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

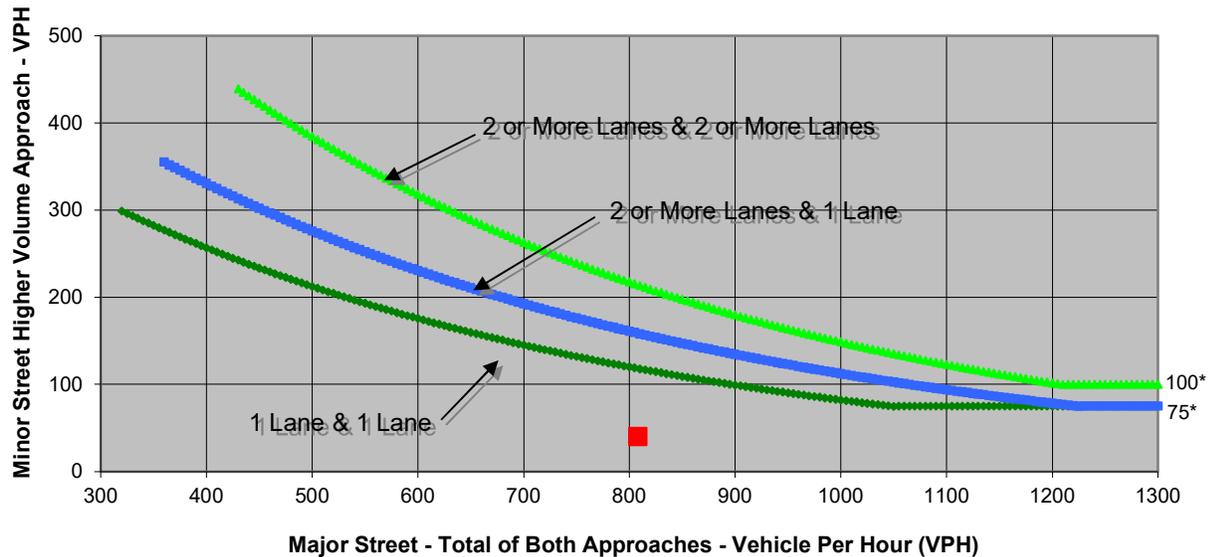
	NB	SB	EB	WB
Left	0	57	0	16
Through	260	464	0	0
Right	27	0	0	24
Total	287	521	0	40

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 28H	
Number of Approach Lanes	1	2	NO
Traffic Volume (VPH) *	808	40	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street	CR 102
Minor Street	CR 28H

Project	Willowgrove Property TIS
Scenario	Existing Plus Project Conditions
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	57	0	16
Through	260	464	0	0
Right	27	0	0	24
Total	287	521	0	40

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	19.5
Approach with Worst Case Delay	WB
Total Vehicles on Approach	40

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.2	40	848
Limiting Value	5	150	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		



Major Street CR 102
 Minor Street CR 27

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

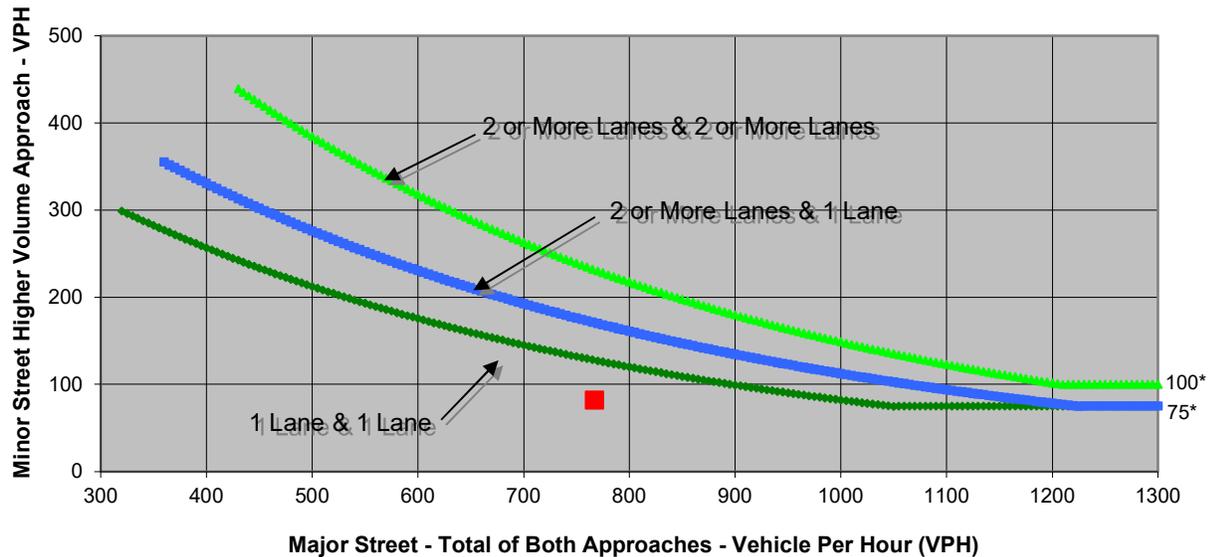
	NB	SB	EB	WB
Left	46	4	15	2
Through	217	455	6	3
Right	2	43	61	0
Total	265	502	82	5

Major Street Direction

x North/South
 East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 27	
Number of Approach Lanes	1	1	NO
Traffic Volume (VPH) *	767	82	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 27

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	46	4	15	2
Through	217	455	6	3
Right	2	43	61	0
Total	265	502	82	5

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.3
Approach with Worst Case Delay	EB
Total Vehicles on Approach	82

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.2	82	854
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		



Major Street	CR 28H
Minor Street	CR 103

Project	Willowgrove Property TIS
Scenario	Existing Plus Project Conditions
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	10	1	0
Through	0	0	90	46
Right	0	2	0	7
Total	0	12	91	53

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.4
Approach with Worst Case Delay	SB
Total Vehicles on Approach	12

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0	12	156
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street CR 28H
 Minor Street Yolo County Landfill Dwy

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

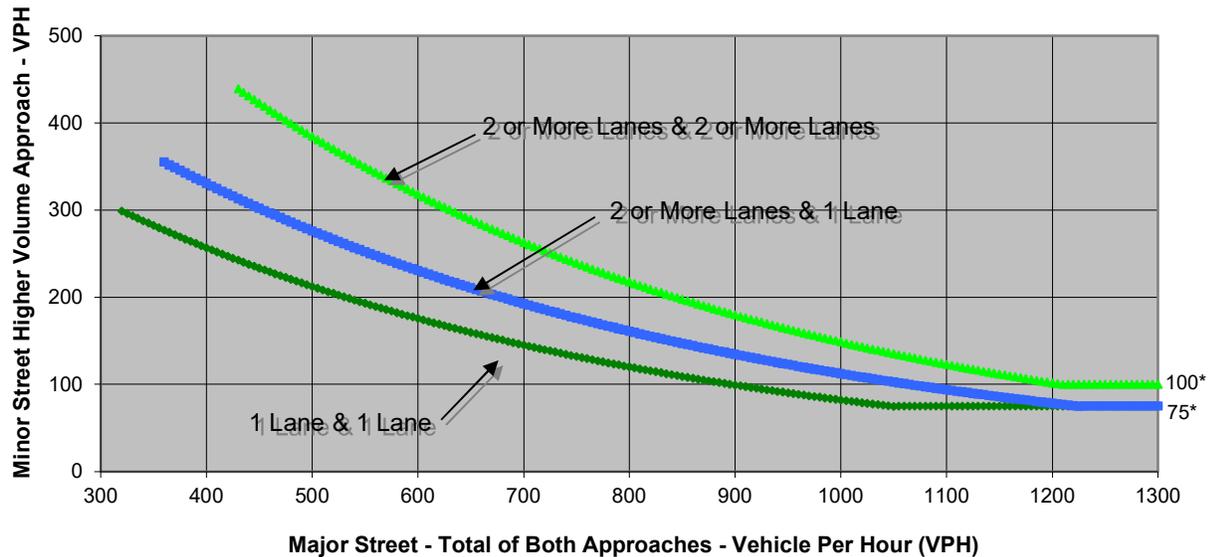
	NB	SB	EB	WB
Left	0	13	21	0
Through	0	0	69	35
Right	0	22	0	14
Total	0	35	90	49

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 28H	Yolo County Landfill Dwy	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	139	35	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 28H
 Minor Street Yolo County Landfill Dwy

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	13	21	0
Through	0	0	69	35
Right	0	22	0	14
Total	0	35	90	49

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.2
Approach with Worst Case Delay	SB
Total Vehicles on Approach	35

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.1	35	174
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		



Major Street **CR 28H**
 Minor Street **CR 105**

Project **Willowgrove Property TIS**
 Scenario **Existing Plus Project Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

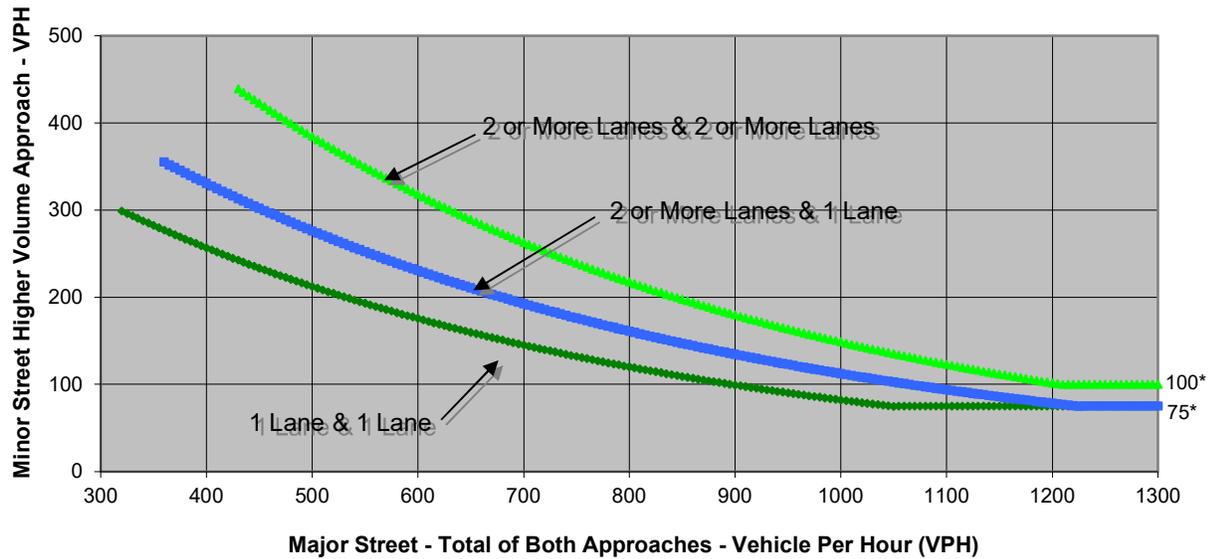
	NB	SB	EB	WB
Left	49	0	0	1
Through	0	0	2	1
Right	2	0	82	0
Total	51	0	84	2

Major Street Direction

North/South
x East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 28H	CR 105	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	86	51	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street	CR 28H
Minor Street	CR 105

Project	Willowgrove Property TIS
Scenario	Existing Plus Project Conditions
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	49	0	0	1
Through	0	0	2	1
Right	2	0	82	0
Total	51	0	84	2

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.2
Approach with Worst Case Delay	NB
Total Vehicles on Approach	51

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.1	51	137
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		



Major Street CR 32A
 Minor Street CR 105

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

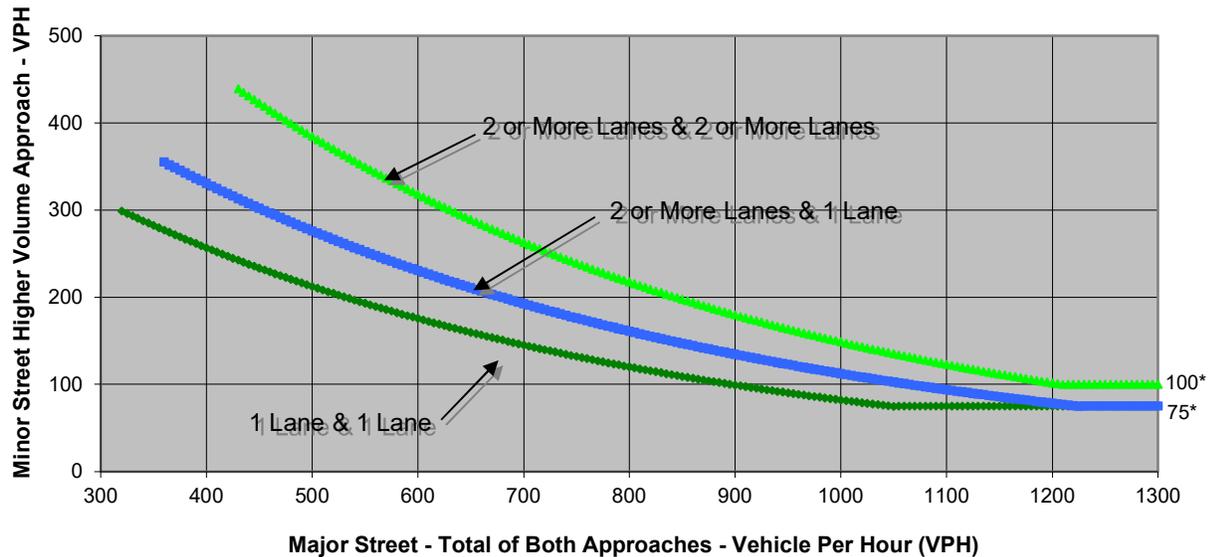
	NB	SB	EB	WB
Left	43	0	0	72
Through	0	0	7	8
Right	52	0	30	0
Total	95	0	37	80

Major Street Direction

x North/South
 East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 32A	CR 105	
Number of Approach Lanes	1	1	NO
Traffic Volume (VPH) *	95	80	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street	CR 32A
Minor Street	CR 105

Project	Willowgrove Property TIS
Scenario	Existing Plus Project Conditions
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	43	0	0	72
Through	0	0	7	8
Right	52	0	30	0
Total	95	0	37	80

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	10.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	80

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.2	80	212
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		



Major Street CR 32A
 Minor Street I-80 WB Ramps

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

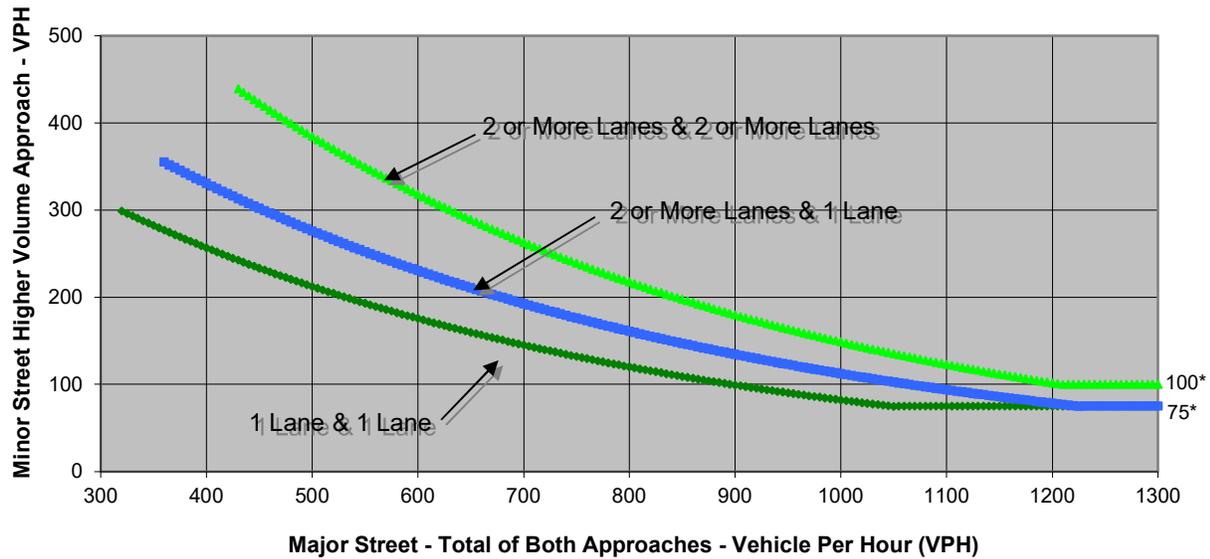
	NB	SB	EB	WB
Left	91	0	0	3
Through	0	0	100	5
Right	68	0	2	0
Total	159	0	102	8

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 32A	I-80 WB Ramps	
Number of Approach Lanes	1	1	NO
Traffic Volume (VPH) *	110	159	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 32A
 Minor Street I-80 WB Ramps

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	91	0	0	3
Through	0	0	100	5
Right	68	0	2	0
Total	159	0	102	8

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.3
Approach with Worst Case Delay	NB
Total Vehicles on Approach	159

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.4	159	269
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		

Major Street Chiles Road
 Minor Street I-80 EB Ramps

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

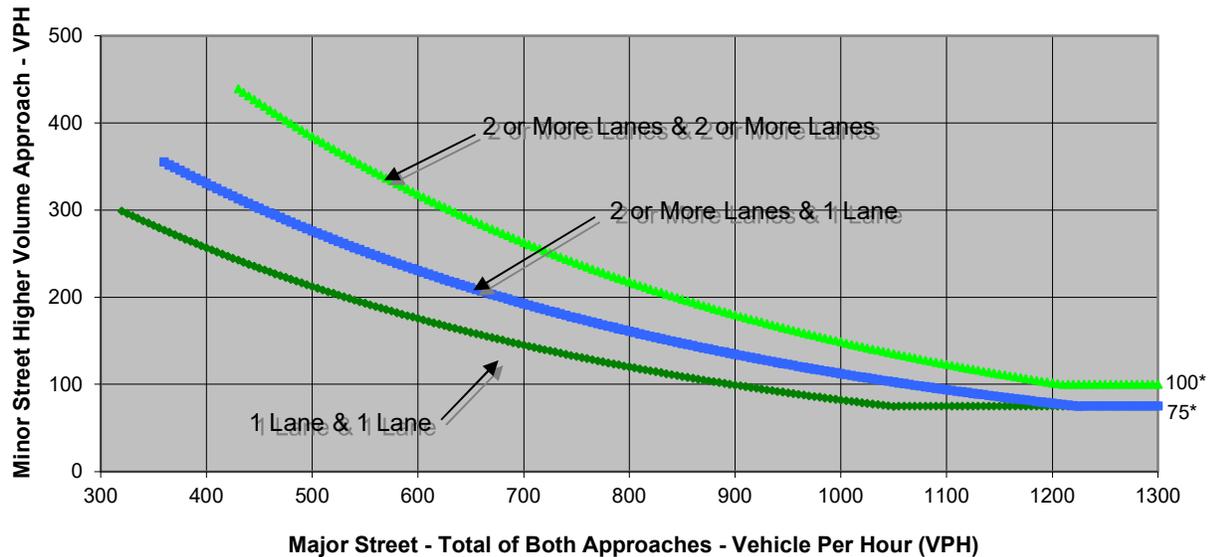
	NB	SB	EB	WB
Left	0	1	72	0
Through	0	0	7	55
Right	0	4	0	113
Total	0	5	79	168

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Chiles Road	I-80 EB Ramps	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	247	5	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street	Chiles Road
Minor Street	I-80 EB Ramps

Project	Willowgrove Property TIS
Scenario	Existing Plus Project Conditions
Peak Hour	AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	1	72	0
Through	0	0	7	55
Right	0	4	0	113
Total	0	5	79	168

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	3.1
Approach with Worst Case Delay	SB
Total Vehicles on Approach	5

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0	5	252
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street E Covell Boulevard
 Minor Street Willowgrove Road East

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

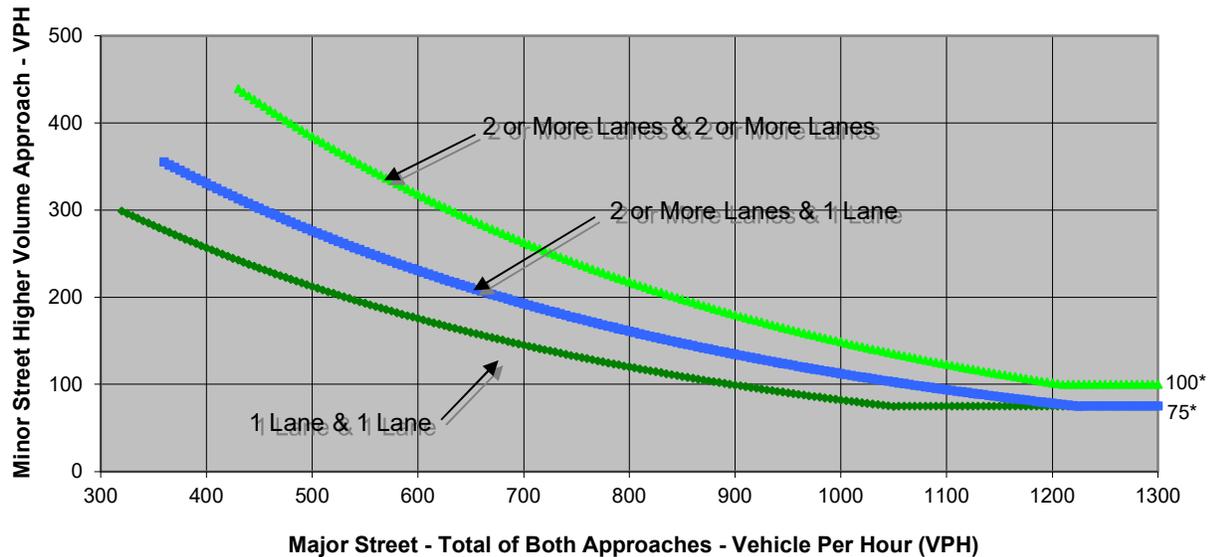
	NB	SB	EB	WB
Left	0	0	0	0
Through	0	0	871	636
Right	0	67	0	121
Total	0	67	871	757

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	E Covell Boulevard	Willowgrove Road East	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	1,628	67	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street E Covell Boulevard
 Minor Street Willowgrove Road East

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	0	0
Through	0	0	871	636
Right	0	67	0	121
Total	0	67	871	757

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	94
Approach with Worst Case Delay	SB
Total Vehicles on Approach	67

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	1.7	67	1,695
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		

Major Street CR 29
 Minor Street SR 113 SB Ramps

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

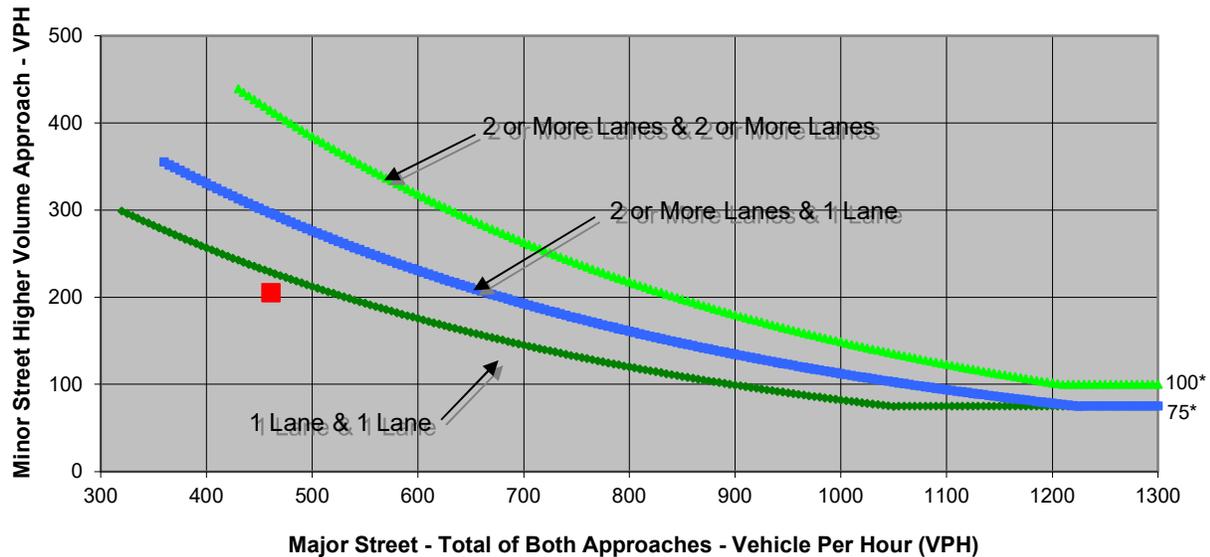
	NB	SB	EB	WB
Left	0	158	0	20
Through	0	1	258	147
Right	0	46	36	0
Total	0	205	294	167

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	SR 113 SB Ramps	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	461	205	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 29
 Minor Street SR 113 SB Ramps

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	158	0	20
Through	0	1	258	147
Right	0	46	36	0
Total	0	205	294	167

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	16.3
Approach with Worst Case Delay	SB
Total Vehicles on Approach	205

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.9	205	666
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 29**
 Minor Street **SR 113 NB Ramps**

Project **Willowgrove Property TIS**
 Scenario **Existing Plus Project Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

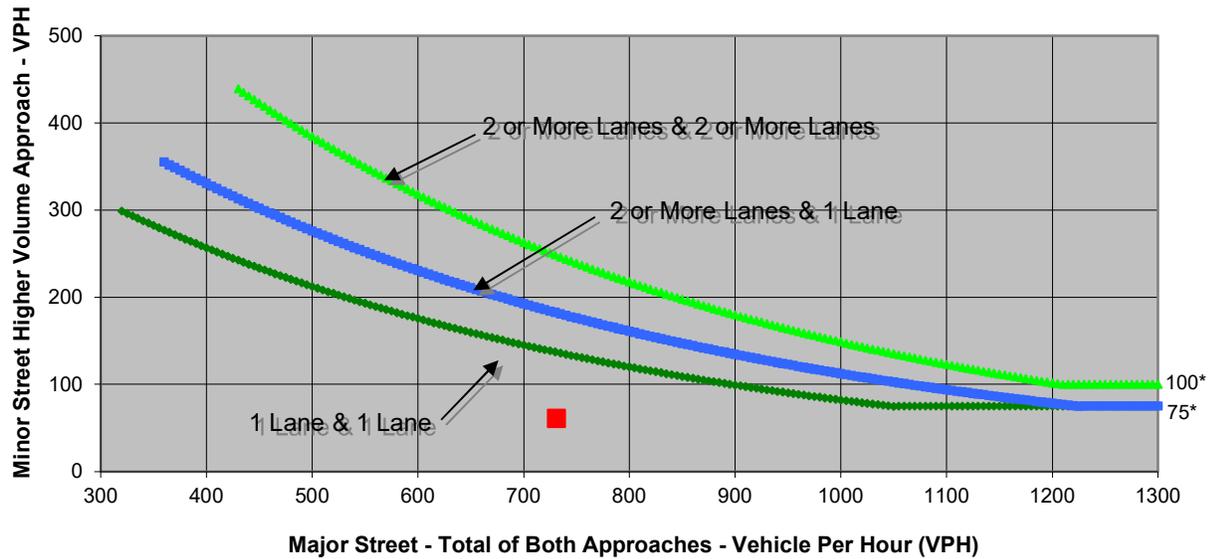
	NB	SB	EB	WB
Left	0	30	116	0
Through	0	0	300	136
Right	0	31	0	179
Total	0	61	416	315

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	SR 113 NB Ramps	
Number of Approach Lanes	1	1	NO
Traffic Volume (VPH) *	731	61	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street	CR 29
Minor Street	SR 113 NB Ramps

Project	Willowgrove Property TIS
Scenario	Existing Plus Project Conditions
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	30	116	0
Through	0	0	300	136
Right	0	31	0	179
Total	0	61	416	315

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	15.2
Approach with Worst Case Delay	SB
Total Vehicles on Approach	61

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.3	61	792
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street CR 29
 Minor Street CR 100A

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

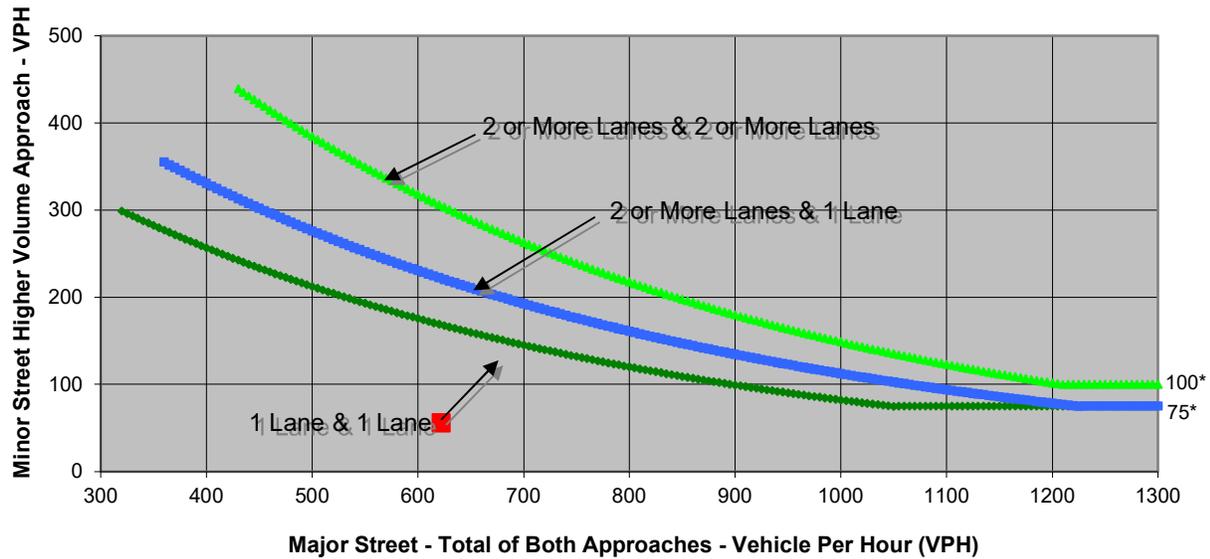
	NB	SB	EB	WB
Left	36	0	4	14
Through	2	1	298	275
Right	18	4	28	3
Total	56	5	330	292

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	CR 100A	
Number of Approach Lanes	1	1	NO
Traffic Volume (VPH) *	622	56	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street	CR 29
Minor Street	CR 100A

Project	Willowgrove Property TIS
Scenario	Existing Plus Project Conditions
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	36	0	4	14
Through	2	1	298	275
Right	18	4	28	3
Total	56	5	330	292

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	15.7
Approach with Worst Case Delay	NB
Total Vehicles on Approach	56

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.2	56	683
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street CR 29
 Minor Street CR 101A

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

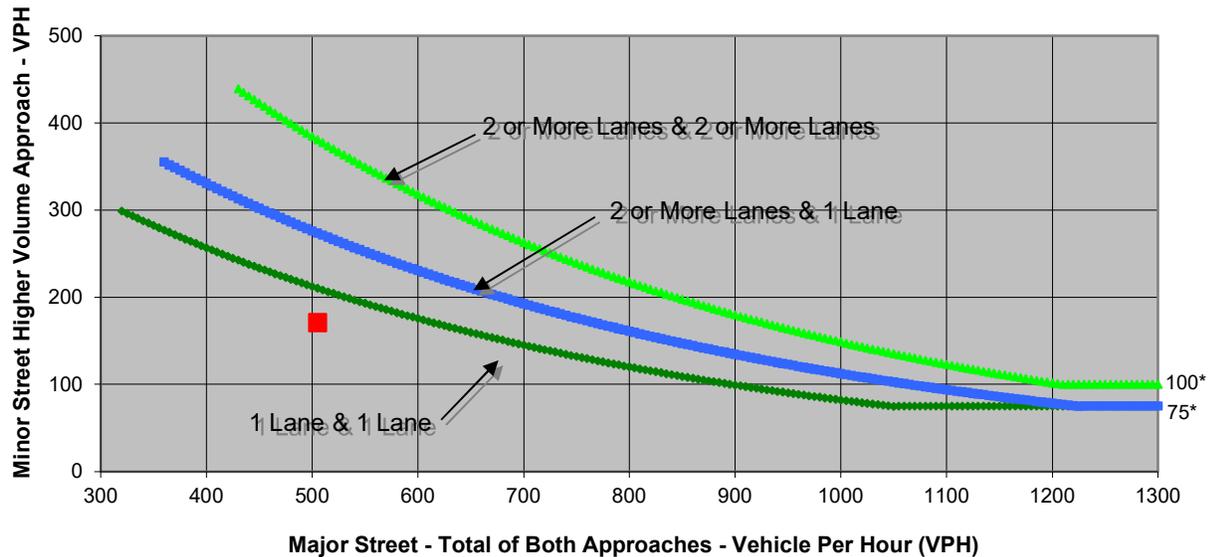
	NB	SB	EB	WB
Left	140	0	0	41
Through	0	0	176	150
Right	31	0	138	0
Total	171	0	314	191

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	CR 101A	
Number of Approach Lanes	1	1	NO
Traffic Volume (VPH) *	505	171	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 29
 Minor Street CR 101A

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	140	0	0	41
Through	0	0	176	150
Right	31	0	138	0
Total	171	0	314	191

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	16.4
Approach with Worst Case Delay	NB
Total Vehicles on Approach	171

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.8	171	676
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		



Major Street CR 102
 Minor Street CR 29

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

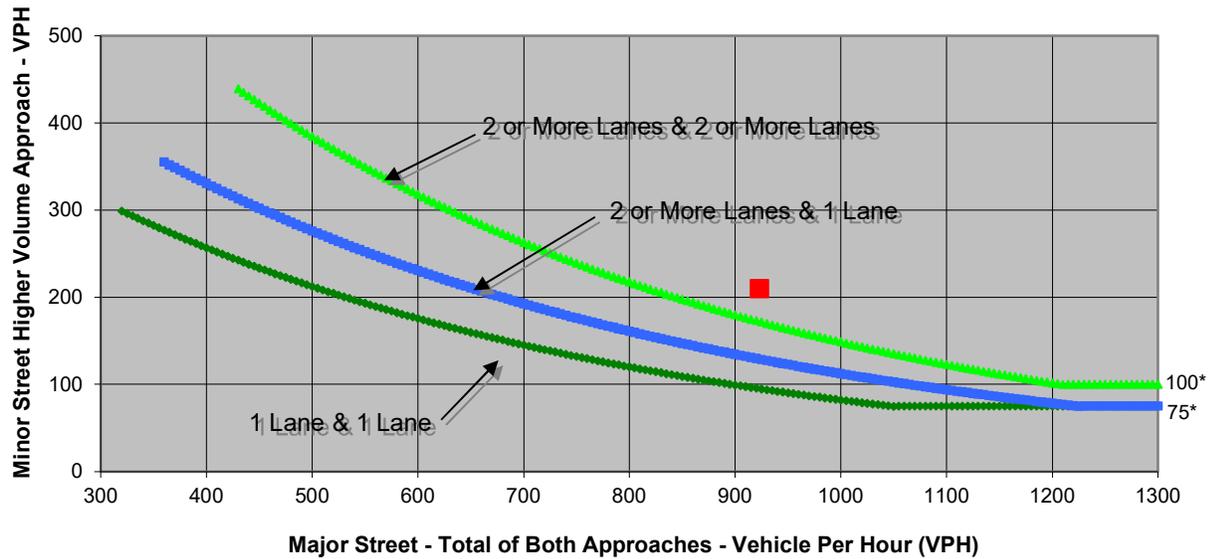
	NB	SB	EB	WB
Left	106	0	110	0
Through	391	347	0	0
Right	0	79	100	0
Total	497	426	210	0

Major Street Direction

x North/South
 East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 29	
Number of Approach Lanes	1	2	YES
Traffic Volume (VPH) *	923	210	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 29

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	106	0	110	0
Through	391	347	0	0
Right	0	79	100	0
Total	497	426	210	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	34.3
Approach with Worst Case Delay	EB
Total Vehicles on Approach	210

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	2	210	1,133
Limiting Value	5	150	800
Condition Satisfied?	Not Met	Met	Met
Warrant Met	<u>NO</u>		



Major Street CR 102
 Minor Street CR 28H

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

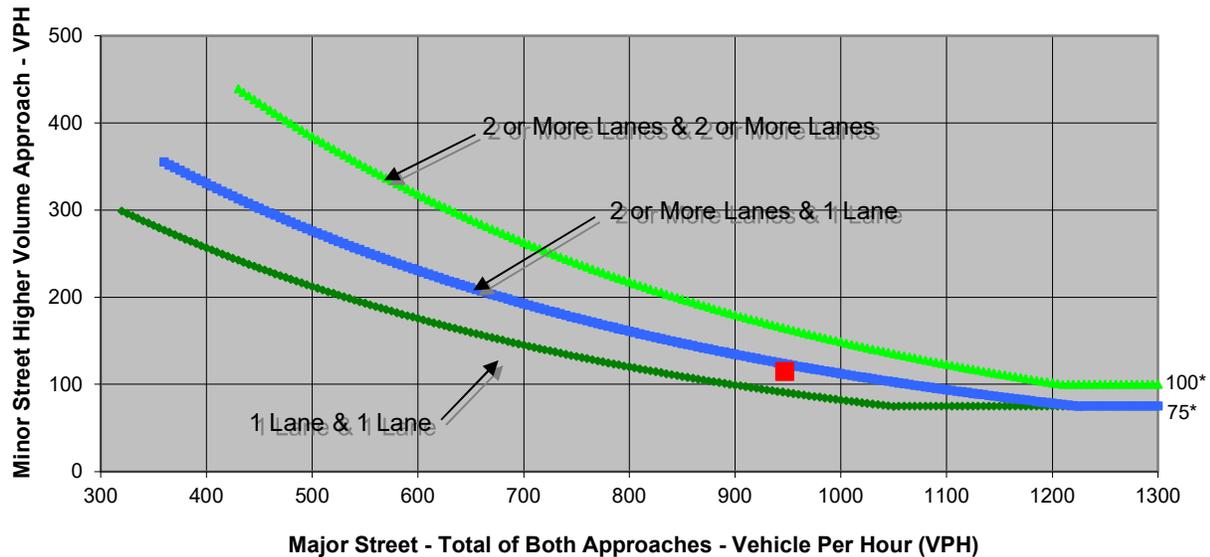
	NB	SB	EB	WB
Left	0	48	0	28
Through	457	398	0	0
Right	44	0	0	87
Total	501	446	0	115

Major Street Direction

x North/South
 East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 28H	
Number of Approach Lanes	1	2	NO
Traffic Volume (VPH) *	947	115	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street	CR 102
Minor Street	CR 28H

Project	Willowgrove Property TIS
Scenario	Existing Plus Project Conditions
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	48	0	28
Through	457	398	0	0
Right	44	0	0	87
Total	501	446	0	115

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	20.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	115

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.7	115	1,062
Limiting Value	5	150	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		



Major Street **CR 102**
 Minor Street **CR 27**

Project **Willowgrove Property TIS**
 Scenario **Existing Plus Project Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

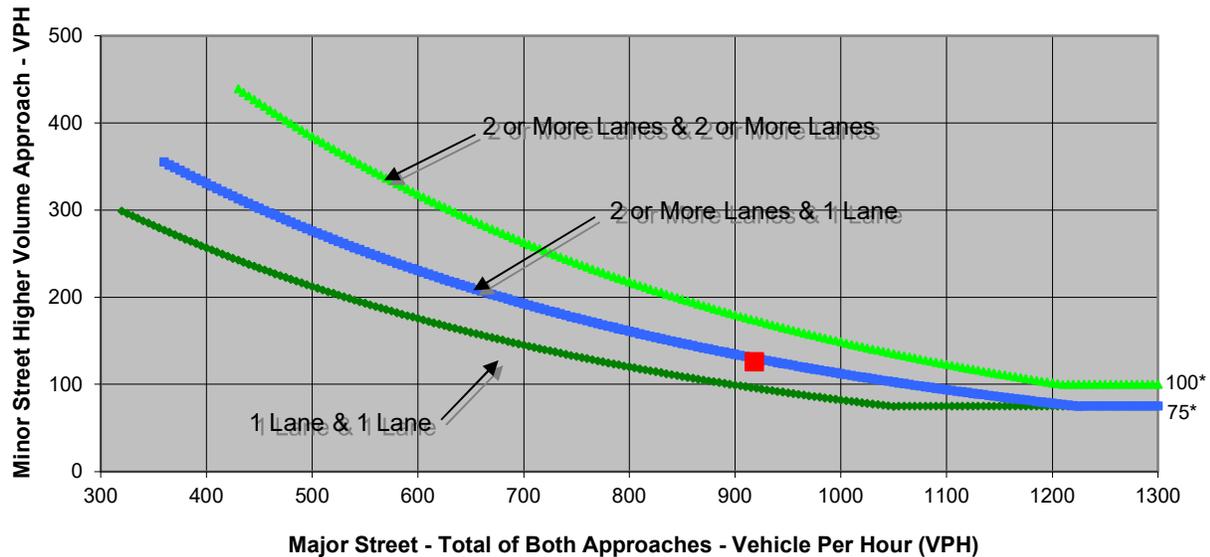
	NB	SB	EB	WB
Left	55	3	35	3
Through	474	367	9	13
Right	1	18	82	4
Total	530	388	126	20

Major Street Direction

x North/South
 East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 27	
Number of Approach Lanes	1	1	<u>YES</u>
Traffic Volume (VPH) *	918	126	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 27

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	55	3	35	3
Through	474	367	9	13
Right	1	18	82	4
Total	530	388	126	20

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	10.6
Approach with Worst Case Delay	EB
Total Vehicles on Approach	126

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.4	126	1,064
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Met
Warrant Met	<u>NO</u>		



Major Street CR 28H
 Minor Street CR 103

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

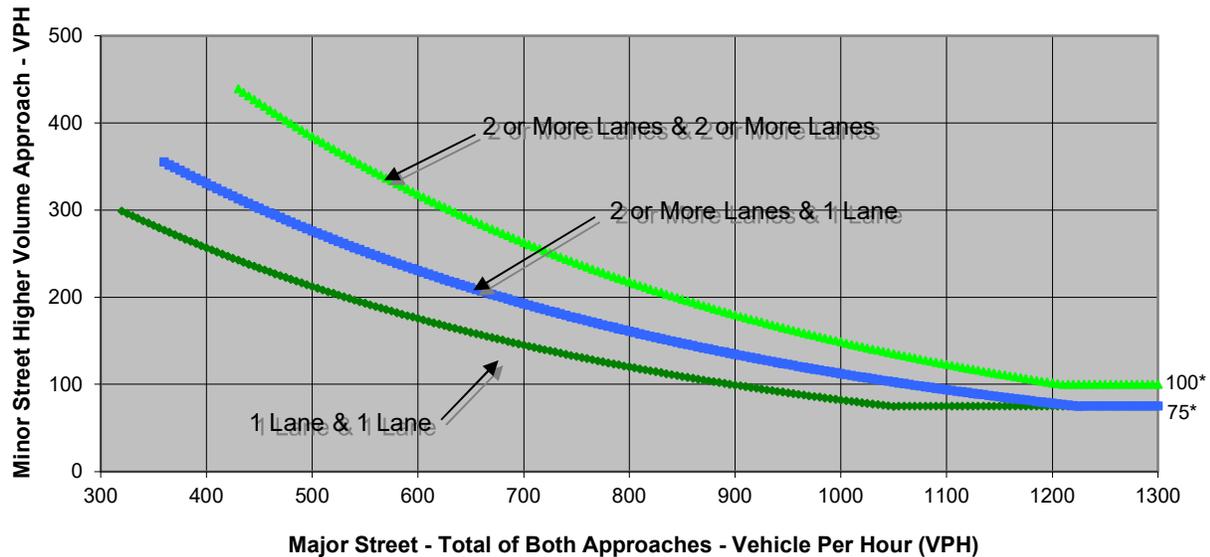
	NB	SB	EB	WB
Left	0	11	0	0
Through	0	0	94	107
Right	0	4	0	22
Total	0	15	94	129

Major Street Direction

 North/South
 x East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 28H	CR 103	
Number of Approach Lanes	1	1	NO
Traffic Volume (VPH) *	223	15	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street	CR 28H
Minor Street	CR 103

Project	Willowgrove Property TIS
Scenario	Existing Plus Project Conditions
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	11	0	0
Through	0	0	94	107
Right	0	4	0	22
Total	0	15	94	129

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.9
Approach with Worst Case Delay	SB
Total Vehicles on Approach	15

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0	15	238
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street CR 28H
 Minor Street Yolo County Landfill Dwy

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

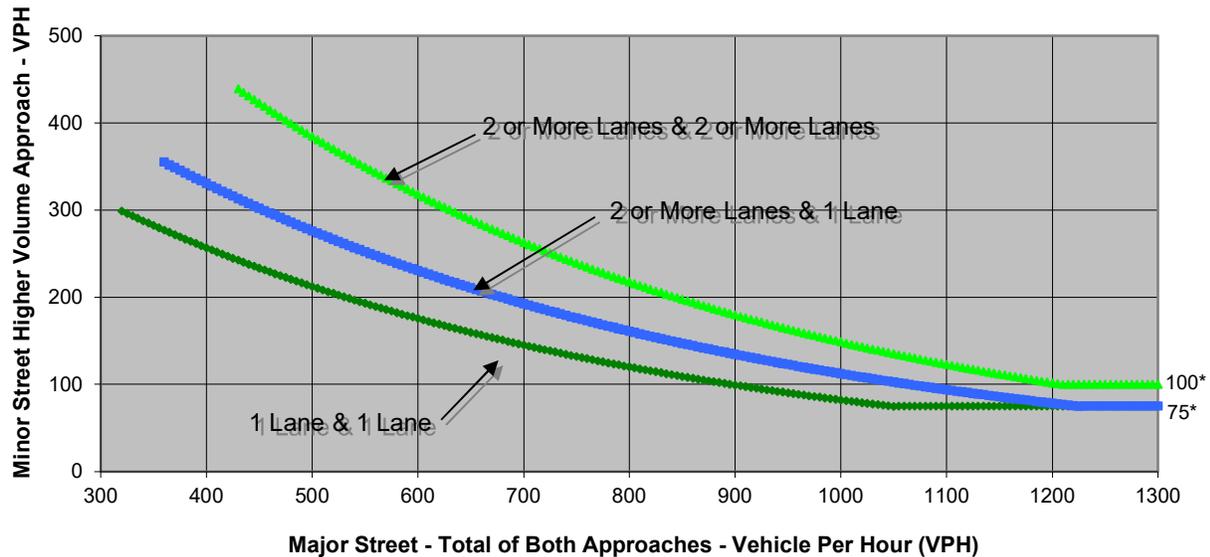
	NB	SB	EB	WB
Left	0	16	1	0
Through	0	0	105	65
Right	0	48	0	0
Total	0	64	106	65

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 28H	Yolo County Landfill Dwy	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	171	64	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 28H
 Minor Street Yolo County Landfill Dwy

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	16	1	0
Through	0	0	105	65
Right	0	48	0	0
Total	0	64	106	65

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.3
Approach with Worst Case Delay	SB
Total Vehicles on Approach	64

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.2	64	235
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		



Major Street **CR 28H**
 Minor Street **CR 105**

Project **Willowgrove Property TIS**
 Scenario **Existing Plus Project Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

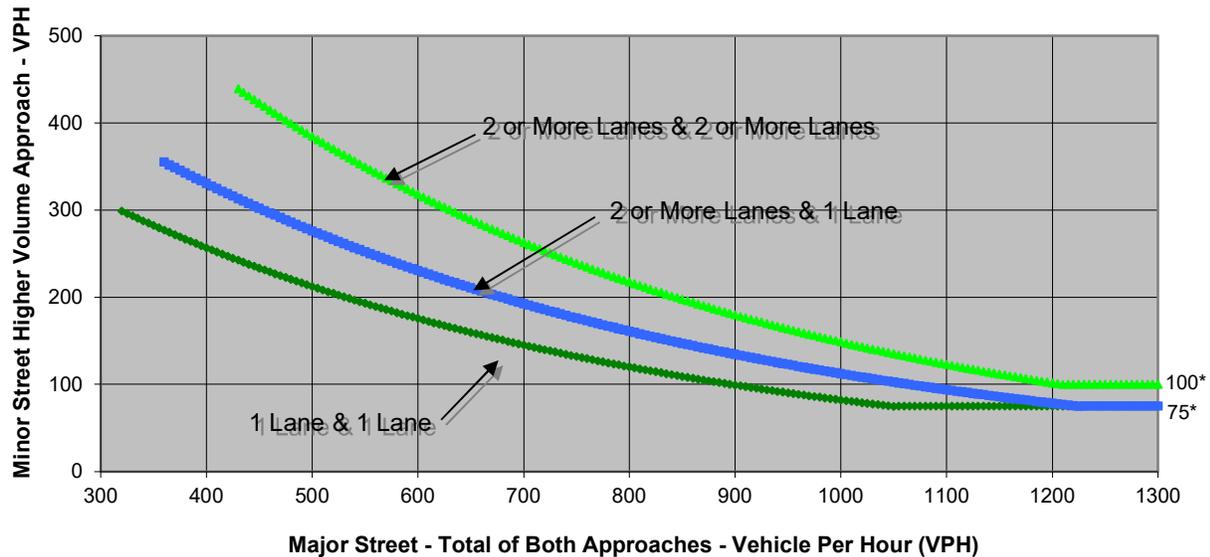
	NB	SB	EB	WB
Left	66	0	0	1
Through	0	0	0	0
Right	0	0	121	0
Total	66	0	121	1

Major Street Direction

North/South
x East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 28H	CR 105	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	122	66	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street	CR 28H
Minor Street	CR 105

Project	Willowgrove Property TIS
Scenario	Existing Plus Project Conditions
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	66	0	0	1
Through	0	0	0	0
Right	0	0	121	0
Total	66	0	121	1

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.3
Approach with Worst Case Delay	NB
Total Vehicles on Approach	66

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.2	66	188
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street CR 32A
 Minor Street CR 105

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

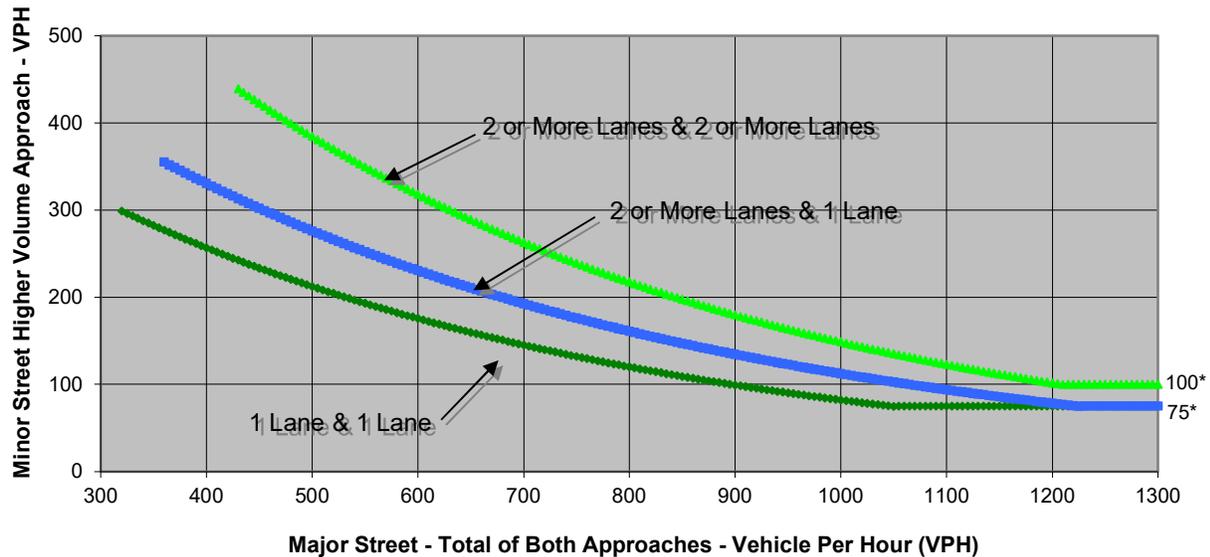
	NB	SB	EB	WB
Left	47	0	0	122
Through	0	0	5	9
Right	59	0	194	0
Total	106	0	199	131

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 32A	CR 105	
Number of Approach Lanes	1	1	NO
Traffic Volume (VPH) *	106	199	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street	CR 32A
Minor Street	CR 105

Project	Willowgrove Property TIS
Scenario	Existing Plus Project Conditions
Peak Hour	PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	47	0	0	122
Through	0	0	5	9
Right	59	0	194	0
Total	106	0	199	131

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	15.2
Approach with Worst Case Delay	WB
Total Vehicles on Approach	131

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.6	199	436
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		

Major Street CR 32A
 Minor Street I-80 WB Ramps

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

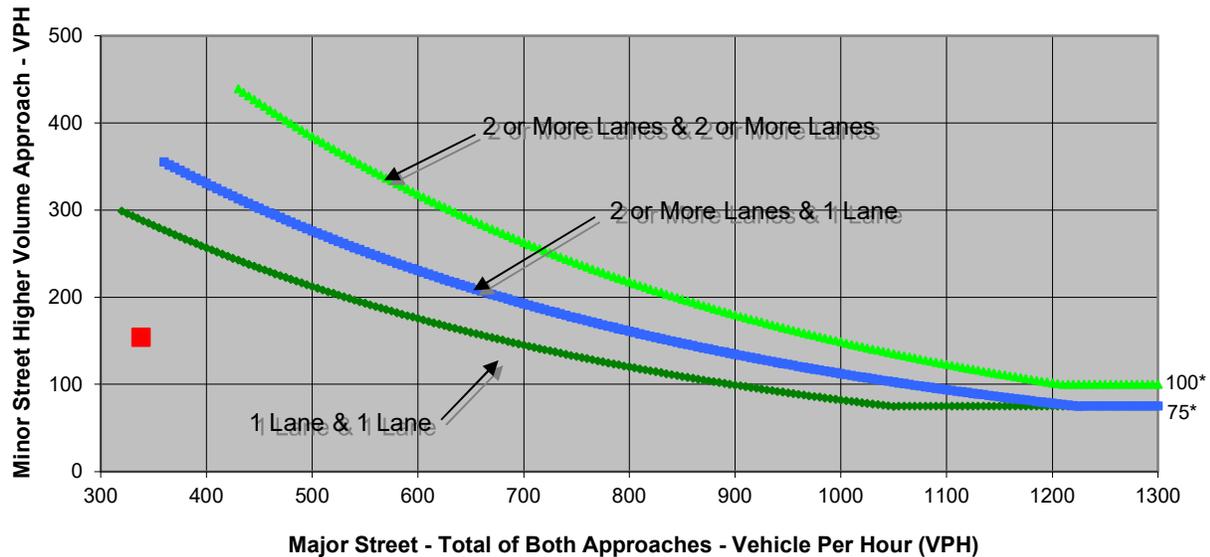
	NB	SB	EB	WB
Left	103	0	0	8
Through	0	0	321	7
Right	51	0	2	0
Total	154	0	323	15

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 32A	I-80 WB Ramps	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	338	154	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 32A
 Minor Street I-80 WB Ramps

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	103	0	0	8
Through	0	0	321	7
Right	51	0	2	0
Total	154	0	323	15

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	7.4
Approach with Worst Case Delay	NB
Total Vehicles on Approach	154

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0.3	154	492
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		



Major Street Chiles Road
 Minor Street I-80 EB Ramps

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

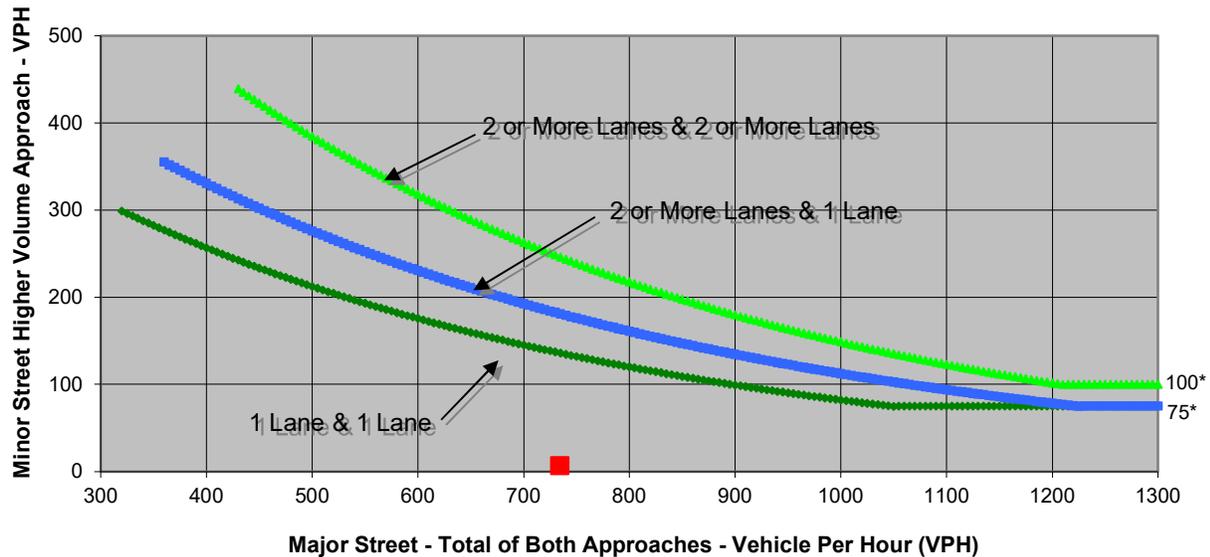
	NB	SB	EB	WB
Left	0	3	349	0
Through	0	0	13	52
Right	0	4	0	320
Total	0	7	362	372

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Chiles Road	I-80 EB Ramps	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	734	7	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street Chiles Road
 Minor Street I-80 EB Ramps

Project Willowgrove Property TIS
 Scenario Existing Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	3	349	0
Through	0	0	13	52
Right	0	4	0	320
Total	0	7	362	372

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	4.2
Approach with Worst Case Delay	SB
Total Vehicles on Approach	7

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Existing Plus Project Conditions	0	7	741
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Appendix D: Cumulative Plus Project Technical Calculations

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

Davis Village Farms
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 1 County Rd 99-Lake Blvd/W Covell Blvd All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	30	30	98.3%	6.3	1.0	A
	Through	50	48	95.8%	8.9	1.6	A
	Right Turn	180	185	102.7%	3.5	1.0	A
	Subtotal	260	262	100.9%	4.8	0.8	A
SB	Left Turn	30	29	95.3%	6.0	1.1	A
	Through	60	60	99.7%	11.5	0.9	B
	Right Turn	10	10	95.0%	4.6	2.3	A
	Subtotal	100	98	97.9%	9.3	0.7	A
EB	Left Turn	20	20	100.0%	6.8	1.1	A
	Through	280	288	102.8%	14.2	1.0	B
	Right Turn	40	41	103.5%	3.5	0.6	A
	Subtotal	340	349	102.7%	12.5	1.1	B
WB	Left Turn	100	96	95.9%	16.4	4.3	C
	Through	210	202	96.3%	20.9	4.7	C
	Right Turn	20	20	101.0%	16.9	5.8	C
	Subtotal	330	318	96.5%	19.4	4.4	C
Total		1,030	1,028	99.8%	12.2	1.5	B

Intersection 2 Denali Dr/W Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	30	26	88.0%	14.9	3.6	B
	Through						
	Right Turn	160	163	101.6%	1.4	0.1	A
	Subtotal	190	189	99.5%	3.3	0.7	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	450	458	101.9%	14.3	2.5	B
	Right Turn	30	30	100.7%	11.6	1.9	B
	Subtotal	480	489	101.8%	14.1	2.4	B
WB	Left Turn	90	92	102.2%	16.5	4.0	B
	Through	360	345	95.8%	7.4	2.6	A
	Right Turn						
	Subtotal	450	437	97.1%	9.2	2.6	A
Total		1,120	1,114	99.5%	10.4	1.4	B

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

Davis Village Farms
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 3 **Risling Ct-Shasta Dr/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	30	30	101.3%	72.0	36.3	E
	Through	5	5	104.0%	61.0	33.6	E
	Right Turn	240	247	102.9%	26.6	13.3	C
	Subtotal	275	283	102.8%	30.9	12.9	C
SB	Left Turn	160	160	99.9%	61.8	11.8	E
	Through	10	11	109.0%	52.4	22.1	D
	Right Turn	35	35	100.0%	19.0	13.0	B
	Subtotal	205	206	100.4%	54.0	10.6	D
EB	Left Turn	40	40	99.8%	65.5	13.3	E
	Through	550	566	102.9%	26.5	6.1	C
	Right Turn	20	21	103.5%	24.3	8.9	C
	Subtotal	610	626	102.7%	28.9	5.6	C
WB	Left Turn	170	159	93.6%	56.2	13.0	E
	Through	400	393	98.1%	19.5	7.4	B
	Right Turn	120	115	95.5%	5.6	1.4	A
	Subtotal	690	666	96.6%	27.3	8.1	C
Total		1,780	1,781	100.1%	31.9	5.1	C

Intersection 4 **John Jones Rd/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	250	253	101.1%	62.9	32.1	E
	Through						
	Right Turn	70	72	102.1%	20.8	38.4	C
	Subtotal	320	324	101.3%	52.9	33.7	D
EB	Left Turn	90	98	109.2%	68.8	17.4	E
	Through	860	877	102.0%	35.9	16.6	D
	Right Turn						
	Subtotal	950	976	102.7%	39.3	15.5	D
WB	Left Turn						
	Through	620	593	95.7%	12.4	5.6	B
	Right Turn	390	376	96.3%	6.7	1.3	A
	Subtotal	1,010	969	95.9%	10.2	3.9	B
Total		2,280	2,269	99.5%	29.4	9.5	C

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

Davis Village Farms
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 5 **SR 113 SB Ramps/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	320	286	89.4%	324.5	60.8	F
	Through	5	5	90.0%	179.1	240.6	F
	Right Turn	180	161	89.7%	165.8	50.2	F
	Subtotal	505	452	89.5%	268.7	59.7	F
EB	Left Turn						
	Through	640	656	102.5%	27.6	4.9	C
	Right Turn	470	476	101.3%	27.0	5.2	C
	Subtotal	1,110	1,132	102.0%	27.4	4.6	C
WB	Left Turn	485	437	90.2%	88.9	9.5	F
	Through	830	808	97.3%	12.1	3.1	B
	Right Turn						
	Subtotal	1,315	1,245	94.7%	39.4	5.4	D
Total		2,930	2,829	96.6%	71.6	7.8	E

Intersection 6 **SR 113 NB Ramps/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	340	338	99.4%	150.3	107.8	F
	Through						
	Right Turn	335	323	96.3%	55.4	53.7	E
	Subtotal	675	661	97.9%	103.6	80.0	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	100	101	100.6%	73.2	17.0	E
	Through	860	836	97.3%	16.7	3.8	B
	Right Turn						
	Subtotal	960	937	97.6%	22.8	3.2	C
WB	Left Turn						
	Through	975	918	94.2%	124.1	16.9	F
	Right Turn	250	222	88.9%	73.8	11.1	E
	Subtotal	1,225	1,140	93.1%	114.5	15.5	F
Total		2,860	2,738	95.7%	79.0	16.6	E

Intersection 7 **Sycamore Ln/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	160	154	96.0%	152.2	83.7	F
	Through	30	30	99.0%	109.2	66.6	F
	Right Turn	40	40	99.5%	96.7	103.5	F
	Subtotal	230	223	97.0%	135.4	81.6	F
SB	Left Turn	120	122	101.6%	62.4	10.3	E
	Through	70	73	104.0%	49.4	11.2	D
	Right Turn	180	184	102.1%	17.0	8.5	B
	Subtotal	370	379	102.3%	37.9	8.6	D
EB	Left Turn	120	119	98.8%	67.3	6.0	E
	Through	785	752	95.8%	20.2	4.3	C
	Right Turn	170	163	95.9%	9.7	3.8	A
	Subtotal	1,075	1,034	96.2%	24.4	4.2	C
WB	Left Turn	40	39	98.0%	188.8	96.8	F
	Through	840	785	93.4%	167.2	112.2	F
	Right Turn	90	87	96.7%	151.4	111.2	F
	Subtotal	970	911	93.9%	166.5	111.2	F
Total		2,645	2,547	96.3%	84.9	41.4	F

Intersection 8 **Anderson Rd/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	200	190	94.9%	116.3	127.4	F
	Through	60	63	104.7%	37.2	11.6	D
	Right Turn	70	70	99.7%	10.1	14.9	B
	Subtotal	330	322	97.7%	79.3	84.7	E
SB	Left Turn	60	57	94.3%	64.0	11.4	E
	Through	170	172	101.2%	49.4	7.1	D
	Right Turn	100	101	101.2%	5.0	5.8	A
	Subtotal	330	330	99.9%	38.7	6.3	D
EB	Left Turn	45	43	95.6%	89.4	37.0	F
	Through	620	609	98.2%	26.1	5.8	C
	Right Turn	280	277	98.9%	13.3	3.3	B
	Subtotal	945	929	98.3%	24.5	5.0	C
WB	Left Turn	175	172	98.0%	82.8	29.9	F
	Through	670	675	100.7%	32.3	17.0	C
	Right Turn	50	49	98.4%	8.7	5.5	A
	Subtotal	895	896	100.1%	40.1	18.3	D
Total		2,500	2,477	99.1%	38.8	16.8	D

Intersection 9 **Dummy Bike/Ped-Oak Ave/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	155	160	103.2%	70.7	17.4	E
	Through						
	Right Turn	180	186	103.3%	8.5	6.9	A
	Subtotal	335	346	103.3%	39.2	13.9	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	575	560	97.3%	18.1	3.0	B
	Right Turn	200	196	97.9%	9.6	1.7	A
	Subtotal	775	756	97.5%	16.1	2.4	B
WB	Left Turn	220	219	99.4%	70.8	13.5	E
	Through	795	801	100.7%	22.9	3.8	C
	Right Turn						
	Subtotal	1,015	1,019	100.4%	33.2	4.0	C
Total		2,125	2,121	99.8%	28.5	3.5	C

Intersection 10 **Catalina Dr-Dummy Bike/Ped/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	170	173	101.8%	53.6	8.2	D
	Through						
	Right Turn	70	73	104.6%	3.8	3.1	A
	Subtotal	240	246	102.6%	39.1	5.5	D
EB	Left Turn	30	33	109.7%	70.6	19.9	E
	Through	725	710	97.9%	12.4	5.1	B
	Right Turn						
	Subtotal	755	743	98.4%	14.9	5.2	B
WB	Left Turn						
	Through	945	937	99.2%	12.1	4.8	B
	Right Turn	80	84	104.9%	6.4	1.6	A
	Subtotal	1,025	1,021	99.6%	11.7	4.6	B
Total		2,020	2,010	99.5%	16.6	3.8	B

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

Davis Village Farms
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 11 **F St/W Covell Blvd-E Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	80	79	98.3%	61.6	17.0	E
	Through	120	125	104.4%	56.2	7.8	E
	Right Turn	205	208	101.4%	14.8	7.4	B
	Subtotal	405	412	101.7%	37.7	8.7	D
SB	Left Turn	180	183	101.9%	73.1	19.6	E
	Through	220	219	99.4%	51.3	22.1	D
	Right Turn	90	94	104.0%	26.3	19.6	C
	Subtotal	490	496	101.2%	55.1	20.3	E
EB	Left Turn	40	36	89.5%	83.5	11.1	F
	Through	710	704	99.2%	30.0	8.5	C
	Right Turn	150	148	98.3%	8.0	2.3	A
	Subtotal	900	888	98.6%	28.1	7.7	C
WB	Left Turn	300	298	99.4%	174.8	69.0	F
	Through	890	894	100.5%	77.1	50.8	E
	Right Turn	130	128	98.1%	61.0	45.6	E
	Subtotal	1,320	1,320	100.0%	97.5	55.0	F
Total		3,115	3,115	100.0%	63.1	24.2	E

Intersection 12 **F St/E 14th St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	110	107	97.6%	35.9	5.4	D
	Through	170	176	103.2%	14.0	3.2	B
	Right Turn						
	Subtotal	280	283	101.0%	22.1	4.0	C
SB	Left Turn						
	Through	290	283	97.7%	33.5	6.5	C
	Right Turn	390	387	99.3%	19.1	3.7	B
	Subtotal	680	671	98.6%	25.2	4.5	C
EB	Left Turn	190	191	100.7%	41.3	17.1	D
	Through						
	Right Turn	90	94	104.9%	12.4	5.2	B
	Subtotal	280	286	102.1%	32.0	13.8	C
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,240	1,239	99.9%	26.1	6.0	C

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

Davis Village Farms
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 13 Market Ave/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	280	279	99.6%	31.5	28.0	D
	Subtotal	280	279	99.6%	31.5	28.0	D
EB	Left Turn						
	Through	1,095	1,092	99.8%	15.2	19.1	C
	Right Turn						
	Subtotal	1,095	1,092	99.8%	15.2	19.1	C
WB	Left Turn						
	Through	1,040	1,051	101.1%	6.2	5.0	A
	Right Turn	75	74	98.3%	5.0	3.6	A
	Subtotal	1,115	1,125	100.9%	6.1	4.9	A
Total		2,490	2,496	100.2%	12.9	8.5	B

Intersection 14 Cannery Ave/Cannery Loop Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	45	49	108.2%	4.0	0.8	A
	Through	80	80	100.4%	4.1	0.6	A
	Right Turn	95	94	99.2%	4.0	0.5	A
	Subtotal	220	223	101.5%	4.0	0.5	A
SB	Left Turn	20	19	95.0%	4.8	4.1	A
	Through	80	84	104.8%	5.5	7.5	A
	Right Turn	20	22	112.0%	5.4	8.0	A
	Subtotal	120	125	104.3%	5.3	6.8	A
EB	Left Turn	5	5	100.0%	8.3	18.4	A
	Through	5	6	118.0%	6.5	11.7	A
	Right Turn	80	81	100.8%	7.0	13.9	A
	Subtotal	90	92	101.7%	7.1	14.0	A
WB	Left Turn	140	138	98.6%	2.7	0.9	A
	Through	130	133	102.1%	3.4	1.6	A
	Right Turn	5	6	126.0%	1.7	1.7	A
	Subtotal	275	277	100.8%	3.0	1.2	A
Total		705	717	101.7%	4.3	3.5	A

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

Davis Village Farms
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 15 Cannery Ave-J St/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	160	155	96.7%	158.7	86.3	F
	Through	60	59	97.7%	141.4	100.9	F
	Right Turn	90	88	97.4%	123.5	109.0	F
	Subtotal	310	301	97.1%	145.8	95.6	F
SB	Left Turn	80	82	102.3%	78.1	26.7	E
	Through	140	136	96.9%	87.1	30.8	F
	Right Turn	80	83	103.5%	68.4	33.1	E
	Subtotal	300	300	100.1%	80.0	29.3	E
EB	Left Turn	135	135	100.2%	113.0	46.5	F
	Through	770	779	101.1%	56.8	32.8	E
	Right Turn	190	197	103.5%	43.9	32.0	D
	Subtotal	1,095	1,111	101.4%	62.1	34.5	E
WB	Left Turn	110	107	96.9%	76.0	7.2	E
	Through	870	882	101.4%	29.4	6.9	C
	Right Turn	30	32	107.0%	24.5	5.8	C
	Subtotal	1,010	1,021	101.1%	34.6	6.1	C
Total		2,715	2,733	100.7%	61.7	22.0	E

Intersection 16 L St/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	110	104	94.3%	61.2	12.2	E
	Through	25	28	110.0%	53.8	15.3	D
	Right Turn	80	82	102.5%	64.5	12.4	E
	Subtotal	215	213	99.2%	61.5	11.5	E
SB	Left Turn	60	59	98.8%	50.5	10.7	D
	Through	90	89	99.1%	51.6	10.8	D
	Right Turn	40	42	106.0%	61.5	18.5	E
	Subtotal	190	191	100.5%	53.2	7.0	D
EB	Left Turn	30	31	103.7%	78.1	12.8	E
	Through	800	809	101.1%	25.4	7.2	C
	Right Turn	110	106	96.0%	54.2	6.9	D
	Subtotal	940	945	100.6%	31.0	6.3	C
WB	Left Turn	90	83	92.7%	81.6	9.7	F
	Through	860	870	101.2%	30.7	5.5	C
	Right Turn	50	50	100.2%	55.9	10.9	E
	Subtotal	1,000	1,003	100.3%	35.9	4.8	D
Total		2,345	2,353	100.3%	38.4	3.7	D

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

Davis Village Farms
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 17 **Pole Line Rd/Village Farms Rd North** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	40	38	95.5%	9.0	3.5	A
	Through	465	459	98.7%	1.4	0.3	A
	Right Turn						
	Subtotal	505	497	98.4%	2.0	0.3	A
SB	Left Turn						
	Through	590	594	100.7%	4.6	8.6	A
	Right Turn	15	17	113.3%	3.0	2.8	A
	Subtotal	605	611	101.0%	4.6	8.5	A
EB	Left Turn	15	17	114.7%	21.3	23.0	C
	Through						
	Right Turn	75	73	96.8%	28.1	51.0	D
	Subtotal	90	90	99.8%	25.8	42.5	D
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,200	1,198	99.8%	5.1	7.4	A

Intersection 18 **Pole Line Rd/Moore Blvd** **Roundabout**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	40	38	96.0%	8.4	5.5	A
	Through	380	380	100.0%	10.8	4.7	B
	Right Turn	80	81	101.0%	9.8	6.8	A
	Subtotal	500	499	99.8%	10.5	5.1	B
SB	Left Turn	100	100	100.2%	54.9	51.7	F
	Through	550	550	100.0%	59.4	55.7	F
	Right Turn	15	18	116.7%	50.4	49.8	F
	Subtotal	665	668	100.4%	58.5	54.8	F
EB	Left Turn	25	23	90.0%	90.3	163.3	F
	Through	30	30	99.0%	65.8	126.1	F
	Right Turn	75	77	103.1%	66.1	121.9	F
	Subtotal	130	130	99.6%	68.3	126.3	F
WB	Left Turn	110	109	99.5%	3.7	0.7	A
	Through	5	5	102.0%	3.5	3.1	A
	Right Turn	100	94	93.7%	4.1	1.1	A
	Subtotal	215	208	96.8%	3.9	0.6	A
Total		1,510	1,504	99.6%	35.5	34.3	E

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

Davis Village Farms
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 19 Pole Line Rd/Donner Ave Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	50	51	102.2%	12.3	15.8	B
	Through	460	464	100.8%	14.2	15.1	B
	Right Turn	20	22	112.0%	15.5	27.0	C
	Subtotal	530	537	101.4%	14.1	15.5	B
SB	Left Turn	10	9	90.0%	128.4	74.2	F
	Through	710	691	97.3%	129.3	55.8	F
	Right Turn	15	17	113.3%	125.5	54.9	F
	Subtotal	735	717	97.6%	129.3	55.8	F
EB	Left Turn	20	18	88.0%	226.9	147.9	F
	Through						
	Right Turn	75	72	95.9%	243.6	168.5	F
	Subtotal	95	90	94.2%	241.4	163.5	F
WB	Left Turn	80	81	100.6%	4.4	1.1	A
	Through						
	Right Turn	20	19	94.5%	6.9	5.9	A
	Subtotal	100	99	99.4%	4.9	1.3	A
Total		1,460	1,443	98.8%	82.7	34.1	F

Intersection 20 Pole Line Rd/Picasso Ave Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	20	17	84.0%	12.1	7.6	B
	Through	480	490	102.1%	14.4	7.5	B
	Right Turn	100	94	93.7%	13.7	8.2	B
	Subtotal	600	601	100.1%	14.2	7.5	B
SB	Left Turn	40	37	93.5%	63.5	16.1	F
	Through	810	786	97.0%	66.1	16.1	F
	Right Turn	15	15	98.0%	68.2	18.8	F
	Subtotal	865	838	96.8%	66.1	16.0	F
EB	Left Turn	20	19	94.5%	5.0	2.1	A
	Through	10	10	98.0%	7.9	10.4	A
	Right Turn	60	66	110.0%	8.6	3.5	A
	Subtotal	90	95	105.2%	8.2	3.3	A
WB	Left Turn	55	51	91.8%	4.2	1.0	A
	Through	5	5	98.0%	4.6	4.2	A
	Right Turn	30	31	102.3%	5.2	2.4	A
	Subtotal	90	86	95.7%	4.6	1.2	A
Total		1,645	1,619	98.4%	40.5	8.7	E

SimTraffic Post-Processor
Average Results from 16 Runs
Volume and Delay by Movement

Willowgrove TIS Property
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 21 Pole Line Rd/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	150	147	98.2%	92.7	18.2	F
	Through	200	198	99.1%	82.7	22.0	F
	Right Turn	70	69	99.1%	49.0	16.1	D
	Subtotal	420	415	98.8%	81.0	19.7	F
SB	Left Turn	320	315	98.4%	216.7	63.5	F
	Through	325	320	98.3%	208.8	61.3	F
	Right Turn	280	270	96.5%	182.3	61.9	F
	Subtotal	925	905	97.8%	203.8	62.8	F
EB	Left Turn	200	193	96.6%	84.4	20.9	F
	Through	575	557	96.9%	35.8	12.4	D
	Right Turn	140	140	99.9%	11.7	6.2	B
	Subtotal	915	890	97.3%	42.2	11.7	D
WB	Left Turn	140	138	98.4%	95.3	17.4	F
	Through	590	569	96.4%	59.1	13.1	E
	Right Turn	238	241	101.2%	19.5	12.3	B
	Subtotal	968	947	97.8%	54.8	12.7	D
Total		3,228	3,157	97.8%	94.6	17.0	F

Intersection 22 Dummy Bike/Ped-Birch Ln/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	80	77	96.6%	63.6	7.6	E
	Through						
	Right Turn	50	51	101.8%	53.1	10.3	D
	Subtotal	130	128	98.6%	59.8	5.3	E
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	885	871	98.4%	12.8	3.5	B
	Right Turn	80	79	98.3%	12.9	2.3	B
	Subtotal	965	950	98.4%	12.8	3.2	B
WB	Left Turn	90	86	95.3%	71.8	9.7	E
	Through	888	878	98.9%	18.8	3.3	B
	Right Turn						
	Subtotal	978	964	98.6%	23.2	3.7	C
Total		2,073	2,042	98.5%	21.3	3.0	C

SimTraffic Post-Processor
Average Results from 16 Runs
Volume and Delay by Movement

Willowgrove TIS Property
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 23 Baywood Ln/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	30	30	101.3%	29.6	9.1	D
	Through						
	Right Turn	35	34	97.4%	7.7	2.8	A
	Subtotal	65	65	99.2%	17.9	6.2	C
SB	Left Turn	5	5	104.0%	16.0	21.8	C
	Through						
	Right Turn	10	10	96.0%	0.8	0.5	A
	Subtotal	15	15	98.7%	6.3	6.2	A
EB	Left Turn	5	5	98.0%	7.6	5.7	A
	Through	920	905	98.4%	3.5	0.7	A
	Right Turn	30	32	108.0%	2.9	0.6	A
	Subtotal	955	942	98.7%	3.5	0.7	A
WB	Left Turn	55	53	95.8%	14.1	3.0	B
	Through	928	916	98.7%	4.9	0.4	A
	Right Turn	5	6	116.0%	4.6	0.8	A
	Subtotal	988	975	98.6%	5.4	0.3	A
Total		2,023	1,996	98.7%	5.0	0.4	A

Intersection 24 Manzanita Ln/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	60	55	92.2%	33.6	10.5	D
	Through						
	Right Turn	30	29	96.0%	14.3	13.4	B
	Subtotal	90	84	93.4%	26.7	9.0	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	910	889	97.7%	5.7	1.0	A
	Right Turn	50	51	101.8%	5.4	1.1	A
	Subtotal	960	940	97.9%	5.6	1.0	A
WB	Left Turn	20	16	81.0%	13.1	7.0	B
	Through	928	917	98.8%	3.5	0.3	A
	Right Turn						
	Subtotal	948	933	98.4%	3.6	0.4	A
Total		1,998	1,957	98.0%	5.8	0.6	A

SimTraffic Post-Processor
Average Results from 16 Runs
Volume and Delay by Movement

Willowgrove TIS Property
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 25 Wright Blvd/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	190	188	99.1%	20.8	2.7	C
	Through						
	Right Turn	120	124	103.6%	1.6	0.3	A
	Subtotal	310	313	100.8%	13.0	2.3	B
EB	Left Turn	50	49	97.2%	39.0	6.8	D
	Through	890	865	97.2%	13.3	2.0	B
	Right Turn						
	Subtotal	940	913	97.2%	14.5	2.1	B
WB	Left Turn						
	Through	828	811	97.9%	14.1	1.4	B
	Right Turn	85	86	101.2%	8.7	1.2	A
	Subtotal	913	897	98.2%	13.6	1.3	B
Total		2,163	2,123	98.1%	13.9	1.1	B

Intersection 26 Monarch Ln/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	30	27	89.7%	32.1	11.8	D
	Through	5	5	94.0%	41.6	51.2	E
	Right Turn	50	55	109.2%	15.5	9.0	C
	Subtotal	85	86	101.4%	23.0	10.6	C
SB	Left Turn	40	39	96.5%	33.7	9.9	D
	Through	5	5	108.0%	52.7	57.9	F
	Right Turn	70	75	106.4%	19.0	9.5	C
	Subtotal	115	119	103.0%	25.0	9.8	D
EB	Left Turn	40	37	93.3%	7.7	2.4	A
	Through	1,000	982	98.2%	3.2	0.5	A
	Right Turn	40	34	84.8%	3.5	1.4	A
	Subtotal	1,080	1,053	97.5%	3.4	0.5	A
WB	Left Turn	20	18	90.0%	11.4	4.5	B
	Through	813	794	97.6%	4.1	0.3	A
	Right Turn	20	20	97.5%	3.7	0.3	A
	Subtotal	853	831	97.4%	4.2	0.3	A
Total		2,133	2,089	97.9%	5.9	1.0	A

SimTraffic Post-Processor
Average Results from 16 Runs
Volume and Delay by Movement

Willowgrove TIS Property
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 27 **Alhambra Dr/E Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	130	138	106.1%	50.4	5.6	D
	Through	26	25	94.2%	39.8	16.5	D
	Right Turn	40	47	116.3%	42.0	8.4	D
	Subtotal	196	209	106.6%	47.7	3.7	D
SB	Left Turn	206	213	103.3%	53.6	15.0	D
	Through	49	50	101.4%	57.6	30.9	E
	Right Turn	198	193	97.2%	53.4	17.1	D
	Subtotal	453	455	100.4%	54.3	16.0	D
EB	Left Turn	120	123	102.4%	51.7	6.9	D
	Through	840	830	98.9%	23.2	3.9	C
	Right Turn	130	132	101.4%	24.6	5.2	C
	Subtotal	1,090	1,085	99.6%	26.6	3.9	C
WB	Left Turn	80	72	90.5%	63.2	14.4	E
	Through	525	503	95.8%	34.9	9.9	C
	Right Turn	45	43	94.4%	36.1	9.9	D
	Subtotal	650	618	95.0%	38.0	9.8	D
Total		2,389	2,367	99.1%	37.4	4.7	D

Intersection 28 **Willowgrove Road East/E Covell Blvd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	85	86	101.2%	7.7	1.4	A
	Subtotal	85	86	101.2%	7.7	1.4	A
EB	Left Turn						
	Through	1,096	1,095	99.9%	16.0	27.0	C
	Right Turn						
	Subtotal	1,096	1,095	99.9%	16.0	27.0	C
WB	Left Turn						
	Through	565	530	93.7%	4.9	0.5	A
	Right Turn	45	45	99.3%	5.3	0.6	A
	Subtotal	610	574	94.1%	4.9	0.5	A
Total		1,791	1,755	98.0%	11.8	16.3	B

SimTraffic Post-Processor
Average Results from 16 Runs
Volume and Delay by Movement

Willowgrove TIS Property
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 29 Harper Hr HS Access/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	120	126	104.8%	24.7	4.7	C
	Through						
	Right Turn	5	6	124.0%	9.4	11.6	A
	Subtotal	125	132	105.6%	24.3	4.6	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	936	938	100.2%	18.7	21.6	B
	Right Turn	160	156	97.4%	4.8	5.9	A
	Subtotal	1,096	1,094	99.8%	16.7	18.9	B
WB	Left Turn	160	146	91.1%	25.1	3.7	C
	Through	490	480	98.0%	7.5	1.2	A
	Right Turn						
	Subtotal	650	626	96.3%	11.7	1.1	B
Total		1,871	1,852	99.0%	15.4	10.7	B

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

Davis Village Farms
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 30		Mace Blvd/Alhambra Dr			Signal		
Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	280	253	90.3%	57.0	6.7	E
	Through	640	584	91.2%	28.6	6.0	C
	Right Turn	160	148	92.6%	25.5	7.2	C
	Subtotal	1,080	985	91.2%	35.4	5.6	D
SB	Left Turn	180	174	96.4%	74.0	11.5	E
	Through	920	886	96.3%	68.0	28.2	E
	Right Turn	5	6	116.0%	30.2	28.3	C
	Subtotal	1,105	1,066	96.4%	68.7	24.6	E
EB	Left Turn	50	19	37.2%	47.8	17.1	D
	Through	810	41	5.1%	57.2	8.5	E
	Right Turn						
	Subtotal	860	60	7.0%	53.3	7.3	D
WB	Left Turn						
	Through	730	23	3.1%	41.1	11.1	D
	Right Turn	85	26	30.7%	8.4	3.7	A
	Subtotal	815	49	6.0%	24.9	7.1	C
Total		3,860	2,159	55.9%	52.7	13.1	D

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

Davis Village Farms
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 31 2nd St/Target Main Dwy-Fermi Place Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	40	40	100.3%	21.1	4.9	C
	Through	255	259	101.6%	6.5	1.5	A
	Right Turn	10	11	109.0%	4.2	6.0	A
	Subtotal	305	310	101.6%	8.3	1.9	A
SB	Left Turn	100	90	89.8%	25.0	4.1	C
	Through	510	472	92.5%	9.9	3.1	A
	Right Turn	150	134	89.3%	2.0	0.6	A
	Subtotal	760	696	91.5%	10.3	2.2	B
EB	Left Turn	60	60	99.3%	19.7	5.2	B
	Through	5	5	104.0%	16.3	15.9	B
	Right Turn	40	40	98.8%	8.5	2.2	A
	Subtotal	105	104	99.3%	15.1	3.4	B
WB	Left Turn	5	6	126.0%	24.8	21.0	C
	Through	5	6	122.0%	30.3	23.0	C
	Right Turn	30	31	103.3%	6.5	2.3	A
	Subtotal	40	43	108.5%	14.1	4.0	B
Total		1,210	1,153	95.3%	10.3	1.8	B

Intersection 32 Mace Blvd/2nd St-County Rd 32A Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	570	513	90.1%	191.3	14.7	F
	Through	960	865	90.1%	94.8	6.1	F
	Right Turn	325	284	87.3%	87.8	5.0	F
	Subtotal	1,855	1,662	89.6%	123.8	9.1	F
SB	Left Turn	30	28	92.7%	129.1	16.0	F
	Through	1,170	1,134	96.9%	124.0	23.2	F
	Right Turn	140	134	95.9%	84.2	19.3	F
	Subtotal	1,340	1,296	96.7%	120.1	22.8	F
EB	Left Turn	80	79	98.4%	65.3	18.3	E
	Through	40	41	102.3%	72.1	14.1	E
	Right Turn	260	263	101.0%	10.6	4.8	B
	Subtotal	380	382	100.6%	28.1	6.9	C
WB	Left Turn	105	107	101.5%	70.3	11.9	E
	Through	80	78	98.0%	61.3	12.9	E
	Right Turn	50	48	96.0%	38.0	15.3	D
	Subtotal	235	233	99.1%	62.2	8.3	E
Total		3,810	3,573	93.8%	107.4	8.0	F

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

Davis Village Farms
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 33 **Mace Blvd/I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	330	315	95.4%	68.9	18.8	E
	Through	945	931	98.5%	54.2	19.6	D
	Right Turn						
	Subtotal	1,275	1,246	97.7%	57.8	18.2	E
SB	Left Turn						
	Through	1,235	1,201	97.3%	67.0	38.6	E
	Right Turn	300	290	96.6%	31.2	23.2	C
	Subtotal	1,535	1,491	97.1%	59.7	35.5	E
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	450	355	78.9%	231.8	38.0	F
	Through	5	6	124.0%	250.1	109.4	F
	Right Turn	910	739	81.2%	236.6	39.3	F
	Subtotal	1,365	1,101	80.6%	234.9	37.5	F
Total		4,175	3,837	91.9%	104.4	17.4	F

Intersection 34 **Mace Blvd/Chiles Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	20	20	100.5%	121.7	24.4	F
	Through	620	629	101.4%	86.8	12.9	F
	Right Turn	30	32	106.0%	56.3	15.8	E
	Subtotal	670	681	101.6%	86.3	13.1	F
SB	Left Turn	260	234	89.8%	147.3	58.5	F
	Through	330	296	89.8%	72.5	19.9	E
	Right Turn	390	351	89.9%	26.3	10.6	C
	Subtotal	980	881	89.9%	74.2	26.7	E
EB	Left Turn	835	783	93.8%	61.9	4.3	E
	Through	210	199	94.6%	40.1	4.5	D
	Right Turn	120	113	94.1%	2.2	0.3	A
	Subtotal	1,165	1,095	94.0%	51.4	3.2	D
WB	Left Turn	20	19	93.0%	84.3	31.2	F
	Through	90	93	103.6%	76.9	26.6	E
	Right Turn	410	415	101.3%	69.2	20.5	E
	Subtotal	520	527	101.4%	71.2	21.0	E
Total		3,335	3,183	95.4%	68.7	9.5	E

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

Davis Village Farms
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 35 **I-80 EB Off Ramp/Chiles Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	630	613	97.2%	18.4	2.9	B
	Through						
	Right Turn	120	122	101.9%	4.6	1.0	A
	Subtotal	750	735	98.0%	16.0	2.3	B
EB	Left Turn						
	Through	535	476	89.0%	386.1	81.9	F
	Right Turn						
	Subtotal	535	476	89.0%	386.1	81.9	F
WB	Left Turn						
	Through	500	466	93.2%	14.1	1.5	B
	Right Turn						
	Subtotal	500	466	93.2%	14.1	1.5	B
Total		1,785	1,677	94.0%	128.7	23.3	F

Intersection 36 **Mace Blvd/Cowell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	15	15	100.0%	37.9	15.9	D
	Through	280	285	101.7%	26.4	5.1	C
	Right Turn	60	56	92.8%	18.0	8.0	B
	Subtotal	355	356	100.1%	25.5	5.4	C
SB	Left Turn	80	72	90.5%	41.8	8.4	D
	Through	200	181	90.4%	19.2	4.3	B
	Right Turn	80	75	93.3%	9.3	1.6	A
	Subtotal	360	328	91.0%	22.1	4.7	C
EB	Left Turn	170	171	100.8%	28.8	5.2	C
	Through	100	102	101.5%	25.3	4.3	C
	Right Turn	15	16	106.7%	15.7	8.2	B
	Subtotal	285	289	101.4%	26.9	4.3	C
WB	Left Turn	40	35	88.5%	33.9	11.1	C
	Through	90	90	100.3%	26.5	5.0	C
	Right Turn	105	108	102.9%	19.5	6.4	B
	Subtotal	235	234	99.4%	24.0	5.0	C
Total		1,235	1,206	97.6%	24.7	4.1	C

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

Davis Village Farms
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 37

Mace Blvd/N El Macero Dr

All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	5	5	94.0%	4.7	2.7	A
	Through	240	235	98.1%	7.4	0.4	A
	Right Turn	5	5	98.0%	2.6	1.9	A
	Subtotal	250	245	98.0%	7.3	0.4	A
SB	Left Turn	80	72	89.5%	11.2	1.9	B
	Through	150	136	90.5%	13.6	2.1	B
	Right Turn	25	23	91.6%	3.5	1.0	A
	Subtotal	255	230	90.3%	11.8	1.6	B
EB	Left Turn	20	21	106.0%	5.3	1.4	A
	Through	10	10	104.0%	5.0	2.0	A
	Right Turn	5	5	96.0%	2.1	1.7	A
	Subtotal	35	36	104.0%	5.2	1.3	A
WB	Left Turn	5	4	76.0%	4.1	2.6	A
	Through	20	19	96.5%	6.9	1.1	A
	Right Turn	95	98	103.2%	4.4	0.5	A
	Subtotal	120	121	100.9%	4.9	0.5	A
Total		660	633	95.9%	8.2	0.7	A

Intersection

Int Delay, s/veh 13.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↘	↑						↕	
Traffic Vol, veh/h	0	220	35	50	150	0	0	0	0	255	0	100
Future Vol, veh/h	0	220	35	50	150	0	0	0	0	255	0	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	195	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	250	40	57	170	0	0	0	0	290	0	114

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	290	0	0		554	574	170
Stage 1	-	-	-	-	-	-		284	284	-
Stage 2	-	-	-	-	-	-		270	290	-
Critical Hdwy	-	-	-	4.13	-	-		6.43	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-		5.43	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.43	5.53	-
Follow-up Hdwy	-	-	-	2.227	-	-		3.527	4.027	3.327
Pot Cap-1 Maneuver	0	-	-	1266	-	0		492	428	871
Stage 1	0	-	-	-	-	0		762	675	-
Stage 2	0	-	-	-	-	0		773	670	-
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1266	-	-		470	0	871
Mov Cap-2 Maneuver	-	-	-	-	-	-		470	0	-
Stage 1	-	-	-	-	-	-		762	0	-
Stage 2	-	-	-	-	-	-		738	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	2	28.8
HCM LOS			D

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1266	-	540
HCM Lane V/C Ratio	-	-	0.045	-	0.747
HCM Control Delay (s)	-	-	8	-	28.8
HCM Lane LOS	-	-	A	-	D
HCM 95th %tile Q(veh)	-	-	0.1	-	6.4

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	430	170	225	25	30
Future Vol, veh/h	45	430	170	225	25	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	51	489	193	256	28	34

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	449	0	-	0	912
Stage 1	-	-	-	-	321
Stage 2	-	-	-	-	591
Critical Hdwy	4.13	-	-	-	6.43
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	2.227	-	-	-	3.527
Pot Cap-1 Maneuver	1106	-	-	-	303
Stage 1	-	-	-	-	733
Stage 2	-	-	-	-	551
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1106	-	-	-	289
Mov Cap-2 Maneuver	-	-	-	-	289
Stage 1	-	-	-	-	699
Stage 2	-	-	-	-	551

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1106	-	-	-	429
HCM Lane V/C Ratio	0.046	-	-	-	0.146
HCM Control Delay (s)	8.4	-	-	-	14.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	5	360	90	25	335	1	55	0	15	5	0	5
Future Vol, veh/h	5	360	90	25	335	1	55	0	15	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	115	-	-	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	6	409	102	28	381	1	63	0	17	6	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	382	0	0	511	0	0	913	910	460	919	961	382
Stage 1	-	-	-	-	-	-	472	472	-	438	438	-
Stage 2	-	-	-	-	-	-	441	438	-	481	523	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1171	-	-	1049	-	-	253	273	599	251	255	663
Stage 1	-	-	-	-	-	-	571	557	-	595	577	-
Stage 2	-	-	-	-	-	-	593	577	-	564	529	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1171	-	-	1049	-	-	245	264	599	238	247	663
Mov Cap-2 Maneuver	-	-	-	-	-	-	245	264	-	238	247	-
Stage 1	-	-	-	-	-	-	568	554	-	592	561	-
Stage 2	-	-	-	-	-	-	572	561	-	545	526	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.6			22.8			15.6		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	281	1171	-	-	1049	-	-	350
HCM Lane V/C Ratio	0.283	0.005	-	-	0.027	-	-	0.032
HCM Control Delay (s)	22.8	8.1	-	-	8.5	-	-	15.6
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.1	0	-	-	0.1	-	-	0.1

Intersection						
Int Delay, s/veh	6.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	160	220	90	200	160	25
Future Vol, veh/h	160	220	90	200	160	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	184	253	103	230	184	29

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	437	0	747
Stage 1	-	-	-	-	311
Stage 2	-	-	-	-	436
Critical Hdwy	-	-	4.13	-	6.43
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	-	-	2.227	-	3.527
Pot Cap-1 Maneuver	-	-	1117	-	379
Stage 1	-	-	-	-	741
Stage 2	-	-	-	-	650
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1117	-	339
Mov Cap-2 Maneuver	-	-	-	-	339
Stage 1	-	-	-	-	741
Stage 2	-	-	-	-	581

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	27.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	365	-	-	1117	-
HCM Lane V/C Ratio	0.583	-	-	0.093	-
HCM Control Delay (s)	27.7	-	-	8.6	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	3.5	-	-	0.3	-

Intersection						
Int Delay, s/veh	7.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↗	↙	↑	↗	
Traffic Vol, veh/h	70	125	160	320	510	130
Future Vol, veh/h	70	125	160	320	510	130
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	215	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	80	144	184	368	586	149

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1397	661	735	0	-	0
Stage 1	661	-	-	-	-	-
Stage 2	736	-	-	-	-	-
Critical Hdwy	6.44	6.24	4.14	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	2.236	-	-	-
Pot Cap-1 Maneuver	154	459	861	-	-	-
Stage 1	510	-	-	-	-	-
Stage 2	470	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	121	459	861	-	-	-
Mov Cap-2 Maneuver	121	-	-	-	-	-
Stage 1	401	-	-	-	-	-
Stage 2	470	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	39.3	3.4	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	861	-	121	459	-	-
HCM Lane V/C Ratio	0.214	-	0.665	0.313	-	-
HCM Control Delay (s)	10.3	-	80.1	16.4	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	0.8	-	3.5	1.3	-	-

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑	↑	↑	↑
Traffic Vol, veh/h	20	75	350	40	100	620
Future Vol, veh/h	20	75	350	40	100	620
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Yield	-	None
Storage Length	0	-	-	280	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	23	86	402	46	115	713

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1345	-	0	0	402
Stage 1	402	-	-	-	-
Stage 2	943	-	-	-	-
Critical Hdwy	6.44	-	-	-	4.14
Critical Hdwy Stg 1	5.44	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-
Follow-up Hdwy	3.536	-	-	-	2.236
Pot Cap-1 Maneuver	165	0	-	-	1146
Stage 1	671	0	-	-	-
Stage 2	376	0	-	-	-
Platoon blocked, %		-	-	-	-
Mov Cap-1 Maneuver	149	-	-	-	1146
Mov Cap-2 Maneuver	149	-	-	-	-
Stage 1	671	-	-	-	-
Stage 2	338	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	33.5	0	1.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	149	1146
HCM Lane V/C Ratio	-	-	0.154	0.1
HCM Control Delay (s)	-	-	33.5	8.5
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	0.5	0.3

Intersection	
Intersection Delay, s/veh	47.5
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	10	70	5	5	5	50	360	5	5	645	50
Future Vol, veh/h	40	10	70	5	5	5	50	360	5	5	645	50
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	43	11	75	5	5	5	54	387	5	5	694	54
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.6	10.5	18.5	71.6
HCM LOS	B	B	C	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	33%	33%	1%
Vol Thru, %	87%	8%	33%	92%
Vol Right, %	1%	58%	33%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	415	120	15	700
LT Vol	50	40	5	5
Through Vol	360	10	5	645
RT Vol	5	70	5	50
Lane Flow Rate	446	129	16	753
Geometry Grp	1	1	1	1
Degree of Util (X)	0.659	0.228	0.031	1.057
Departure Headway (Hd)	5.496	6.631	7.228	5.057
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	660	545	498	723
Service Time	3.496	4.631	5.228	3.057
HCM Lane V/C Ratio	0.676	0.237	0.032	1.041
HCM Control Delay	18.5	11.6	10.5	71.6
HCM Lane LOS	C	B	B	F
HCM 95th-tile Q	4.9	0.9	0.1	19.5

HCM 6th Signalized Intersection Summary

45: County Rd 25A & County Rd 102

09/25/2024



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	80	230	120	290	490	50
Future Volume (veh/h)	80	230	120	290	490	50
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	90	258	135	326	551	56
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	382	340	173	1064	688	571
Arrive On Green	0.22	0.22	0.10	0.57	0.37	0.37
Sat Flow, veh/h	1767	1572	1767	1856	1856	1539
Grp Volume(v), veh/h	90	258	135	326	551	56
Grp Sat Flow(s),veh/h/ln	1767	1572	1767	1856	1856	1539
Q Serve(g_s), s	1.8	6.6	3.2	3.9	11.4	1.0
Cycle Q Clear(g_c), s	1.8	6.6	3.2	3.9	11.4	1.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	382	340	173	1064	688	571
V/C Ratio(X)	0.24	0.76	0.78	0.31	0.80	0.10
Avail Cap(c_a), veh/h	743	661	268	1431	954	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	15.7	18.9	4.7	12.1	8.8
Incr Delay (d2), s/veh	0.3	3.5	7.6	0.2	3.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	5.8	1.5	0.9	4.3	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.2	19.2	26.5	4.9	15.5	8.9
LnGrp LOS	B	B	C	A	B	A
Approach Vol, veh/h	348			461	607	
Approach Delay, s/veh	17.9			11.2	14.9	
Approach LOS	B			B	B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		29.0		13.7	8.7	20.4
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		33.0		18.0	6.5	22.0
Max Q Clear Time (g_c+I1), s		5.9		8.6	5.2	13.4
Green Ext Time (p_c), s		2.0		0.8	0.0	2.5
Intersection Summary						
HCM 6th Ctrl Delay			14.4			
HCM 6th LOS			B			

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	1	140	90	10	10	5
Future Vol, veh/h	1	140	90	10	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	20	20	20	20	20	20
Mvmt Flow	1	147	95	11	11	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	106	0	-	0	250 101
Stage 1	-	-	-	-	101 -
Stage 2	-	-	-	-	149 -
Critical Hdwy	4.3	-	-	-	6.6 6.4
Critical Hdwy Stg 1	-	-	-	-	5.6 -
Critical Hdwy Stg 2	-	-	-	-	5.6 -
Follow-up Hdwy	2.38	-	-	-	3.68 3.48
Pot Cap-1 Maneuver	1380	-	-	-	701 907
Stage 1	-	-	-	-	880 -
Stage 2	-	-	-	-	836 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1380	-	-	-	700 907
Mov Cap-2 Maneuver	-	-	-	-	700 -
Stage 1	-	-	-	-	879 -
Stage 2	-	-	-	-	836 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1380	-	-	-	758
HCM Lane V/C Ratio	0.001	-	-	-	0.021
HCM Control Delay (s)	7.6	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗	↘	↘	↗
Traffic Vol, veh/h	25	120	75	15	15	25
Future Vol, veh/h	25	120	75	15	15	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	265	-	-	305	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	25	25	25	25	25	25
Mvmt Flow	26	126	79	16	16	26

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	95	0	-	0	257 79
Stage 1	-	-	-	-	79 -
Stage 2	-	-	-	-	178 -
Critical Hdwy	4.35	-	-	-	6.65 6.45
Critical Hdwy Stg 1	-	-	-	-	5.65 -
Critical Hdwy Stg 2	-	-	-	-	5.65 -
Follow-up Hdwy	2.425	-	-	-	3.725 3.525
Pot Cap-1 Maneuver	1366	-	-	-	685 921
Stage 1	-	-	-	-	889 -
Stage 2	-	-	-	-	800 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1366	-	-	-	672 921
Mov Cap-2 Maneuver	-	-	-	-	672 -
Stage 1	-	-	-	-	872 -
Stage 2	-	-	-	-	800 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1366	-	-	-	809
HCM Lane V/C Ratio	0.019	-	-	-	0.052
HCM Control Delay (s)	7.7	-	-	-	9.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection						
Int Delay, s/veh	4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2	130	1	1	90	2
Future Vol, veh/h	2	130	1	1	90	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	20	20	20	20	20	20
Mvmt Flow	2	151	1	1	105	2

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	153	0	81
Stage 1	-	-	-	-	78
Stage 2	-	-	-	-	3
Critical Hdwy	-	-	4.3	-	6.6
Critical Hdwy Stg 1	-	-	-	-	5.6
Critical Hdwy Stg 2	-	-	-	-	5.6
Follow-up Hdwy	-	-	2.38	-	3.68
Pot Cap-1 Maneuver	-	-	1325	-	879
Stage 1	-	-	-	-	901
Stage 2	-	-	-	-	975
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1325	-	878
Mov Cap-2 Maneuver	-	-	-	-	878
Stage 1	-	-	-	-	901
Stage 2	-	-	-	-	974

Approach	EB	WB	NB
HCM Control Delay, s	0	3.9	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	879	-	-	1325	-
HCM Lane V/C Ratio	0.122	-	-	0.001	-
HCM Control Delay (s)	9.7	-	-	7.7	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection												
Int Delay, s/veh	11.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻			↻			↻	
Traffic Vol, veh/h	0	10	100	120	10	0	190	0	95	0	0	0
Future Vol, veh/h	0	10	100	120	10	0	190	0	95	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	83	83	83	83	84	83	84	83	84	84	84
Heavy Vehicles, %	10	9	9	9	9	10	9	10	9	10	10	10
Mvmt Flow	0	12	120	145	12	0	229	0	114	0	0	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	573	1	582	516	-	1	0	0	114	0	0
Stage 1	-	1	-	515	515	-	-	-	-	-	-	-
Stage 2	-	572	-	67	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.59	6.29	7.19	6.59	-	4.19	-	-	4.2	-	-
Critical Hdwy Stg 1	-	5.59	-	6.19	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.59	-	6.19	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.081	3.381	3.581	4.081	-	2.281	-	-	2.29	-	-
Pot Cap-1 Maneuver	0	420	1063	414	453	0	1577	-	-	1427	-	-
Stage 1	0	881	-	530	523	0	-	-	-	-	-	-
Stage 2	0	493	-	926	881	0	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	354	1063	315	382	-	1577	-	-	1427	-	-
Mov Cap-2 Maneuver	-	354	-	315	382	-	-	-	-	-	-	-
Stage 1	-	881	-	447	441	-	-	-	-	-	-	-
Stage 2	-	416	-	810	881	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	26.7	5.1	0
HCM LOS	A	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1577	-	-	899	319	1427	-	-
HCM Lane V/C Ratio	0.145	-	-	0.147	0.491	-	-	-
HCM Control Delay (s)	7.7	0	-	9.7	26.7	0	-	-
HCM Lane LOS	A	A	-	A	D	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0.5	2.6	0	-	-

2: I-80 EB Ramps Performance by movement

Movement	EBR	NBL	NBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	0.4	0.4	0.8
Total Del/Veh (s)	5.0	8.0	7.1	7.5
Stop Delay (hr)	0.0	0.3	0.4	0.7
Stop Del/Veh (s)	2.4	6.4	6.3	6.3
Total Stops	4	181	184	369
Stop/Veh	0.80	0.95	0.87	0.90
Travel Dist (mi)	0.1	4.5	4.2	8.8
Travel Time (hr)	0.0	0.7	0.7	1.4
Avg Speed (mph)	12	7	6	6
Fuel Used (gal)	0.0	0.2	0.3	0.5
Fuel Eff. (mpg)	32.5	18.5	16.1	17.4
HC Emissions (g)	0	8	8	16
CO Emissions (g)	4	129	145	278
NOx Emissions (g)	0	19	20	39
Vehicles Entered	5	189	212	406
Vehicles Exited	5	190	212	407
Hourly Exit Rate	5	190	212	407
Input Volume	5	190	230	425
% of Volume	95	100	92	96
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0
Density (ft/veh)				278
Occupancy (veh)	0	1	1	1

50: I-80 WB Ramps & County Rd 32A Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.3	0.0	0.0	0.3	0.3	0.3
Total Delay (hr)	0.3	0.0	0.0	0.0	0.7	0.2	1.3
Total Del/Veh (s)	4.8	4.2	8.4	3.2	9.3	11.8	7.8
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.4	0.1	0.5
Stop Del/Veh (s)	0.0	0.0	0.2	0.0	4.9	4.5	2.8
Total Stops	0	0	0	0	268	73	341
Stop/Veh	0.00	0.00	0.00	0.00	0.99	0.99	0.58
Travel Dist (mi)	388.9	10.8	1.5	5.2	82.1	22.2	510.6
Travel Time (hr)	7.5	0.2	0.0	0.1	3.0	0.8	11.6
Avg Speed (mph)	52	52	43	49	27	28	44
Fuel Used (gal)	10.7	0.3	0.0	0.2	1.9	0.5	13.6
Fuel Eff. (mpg)	36.5	31.3	33.6	28.4	43.5	43.2	37.5
HC Emissions (g)	749	47	3	17	85	24	927
CO Emissions (g)	15514	913	84	409	1689	484	19092
NOx Emissions (g)	2207	127	9	47	241	69	2700
Vehicles Entered	213	6	3	11	269	73	575
Vehicles Exited	216	6	3	11	268	73	577
Hourly Exit Rate	216	6	3	11	268	73	577
Input Volume	215	5	5	10	275	75	585
% of Volume	101	114	57	113	97	98	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0
Density (ft/veh)							1221
Occupancy (veh)	7	0	0	0	3	1	12

51: Chiles Road & I-80 EB Ramps Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.0	0.0			0.0	0.1
Total Delay (hr)	0.5	0.0	0.2	0.3	0.0	0.0	0.0	1.0
Total Del/Veh (s)	9.2	10.9	10.0	4.2			2.9	7.2
Stop Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.2
Stop Del/Veh (s)	1.8	0.7	0.8	1.1			2.9	1.3
Total Stops	49	1	4	27	0	0	5	86
Stop/Veh	0.25	0.10	0.05	0.13			1.00	0.17
Travel Dist (mi)	367.3	18.4	43.3	118.2	0.0	0.0	0.1	547.3
Travel Time (hr)	9.0	0.4	1.0	2.7	0.0	0.0	0.0	13.2
Avg Speed (mph)	41	42	42	43	9	9	9	42
Fuel Used (gal)	8.7	0.5	1.6	2.9	0.0	0.0	0.0	13.6
Fuel Eff. (mpg)	42.4	40.1	26.8	41.2	33.6	7.4	22.4	40.2
HC Emissions (g)	469	34	106	188	0	0	0	797
CO Emissions (g)	8379	604	2870	3913	0	3	2	15771
NOx Emissions (g)	1493	105	286	546	0	0	0	2432
Vehicles Entered	186	9	79	211	0	0	5	490
Vehicles Exited	189	9	78	212	0	0	5	493
Hourly Exit Rate	189	9	78	212	0	0	5	493
Input Volume	190	10	61	230	1	1	4	496
% of Volume	99	92	128	92	0	0	118	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0
Density (ft/veh)								1024
Occupancy (veh)	9	0	1	3	0	0	0	13

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.3
Total Delay (hr)	4.0
Total Del/Veh (s)	17.6
Stop Delay (hr)	1.5
Stop Del/Veh (s)	6.4
Total Stops	797
Stop/Veh	0.98
Travel Dist (mi)	1761.9
Travel Time (hr)	41.3
Avg Speed (mph)	43
Fuel Used (gal)	48.7
Fuel Eff. (mpg)	36.1
HC Emissions (g)	3036
CO Emissions (g)	63644
NOx Emissions (g)	9020
Vehicles Entered	767
Vehicles Exited	775
Hourly Exit Rate	775
Input Volume	2286
% of Volume	34
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	678
Occupancy (veh)	41

Intersection: 2: I-80 EB Ramps

Movement	EB	NB	NB
Directions Served	R	L	T
Maximum Queue (ft)	39	83	90
Average Queue (ft)	4	65	67
95th Queue (ft)	21	91	94
Link Distance (ft)	143	68	68
Upstream Blk Time (%)		6	7
Queuing Penalty (veh)		13	14
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 50: I-80 WB Ramps & County Rd 32A

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	16	165
Average Queue (ft)	1	81
95th Queue (ft)	8	135
Link Distance (ft)	2909	1612
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 51: Chiles Road & I-80 EB Ramps

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	136	138	31
Average Queue (ft)	41	27	4
95th Queue (ft)	105	91	21
Link Distance (ft)	10402	2909	68
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 28

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

Davis Village Farms
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 1 **County Rd 99-Lake Blvd/W Covell Blvd** **All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	40	40	99.3%	6.7	1.5	A
	Through	70	66	93.9%	8.8	2.2	A
	Right Turn	180	179	99.2%	2.3	0.7	A
	Subtotal	290	284	97.9%	4.4	1.1	A
SB	Left Turn	10	10	96.0%	5.5	4.2	A
	Through	50	51	102.0%	11.8	1.2	B
	Right Turn	20	22	109.0%	3.4	1.8	A
	Subtotal	80	82	103.0%	9.2	1.1	A
EB	Left Turn	40	41	103.5%	7.2	1.6	A
	Through	250	257	102.8%	14.6	3.7	B
	Right Turn	40	41	103.0%	3.2	1.0	A
	Subtotal	330	340	102.9%	12.4	3.4	B
WB	Left Turn	220	207	93.9%	11.6	2.4	B
	Through	260	244	94.0%	14.5	3.0	B
	Right Turn	30	28	93.7%	8.8	3.3	A
	Subtotal	510	479	93.9%	12.9	2.5	B
Total		1,210	1,185	97.9%	10.5	2.1	B

Intersection 2 **Denali Dr/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	10	10	97.0%	17.5	8.5	B
	Through						
	Right Turn	85	85	100.2%	1.1	0.1	A
	Subtotal	95	95	99.9%	2.5	0.8	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	520	525	100.9%	11.3	2.3	B
	Right Turn	20	22	108.5%	9.8	1.7	A
	Subtotal	540	546	101.2%	11.2	2.3	B
WB	Left Turn	70	63	89.7%	13.7	3.2	B
	Through	510	478	93.6%	5.9	1.2	A
	Right Turn						
	Subtotal	580	540	93.2%	6.9	1.4	A
Total		1,215	1,182	97.3%	8.6	1.4	A

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

Davis Village Farms
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 3 Risling Ct-Shasta Dr/W Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	30	30	98.7%	66.2	11.0	E
	Through	10	11	105.0%	73.6	22.6	E
	Right Turn	220	220	100.1%	22.9	7.1	C
	Subtotal	260	260	100.2%	29.5	7.4	C
SB	Left Turn	190	186	97.6%	57.8	3.4	E
	Through	20	21	104.0%	52.2	19.4	D
	Right Turn	90	91	100.8%	20.6	8.1	C
	Subtotal	300	297	99.0%	46.2	6.7	D
EB	Left Turn	30	30	99.0%	79.7	23.4	E
	Through	560	560	99.9%	23.2	6.9	C
	Right Turn	15	18	121.3%	21.7	12.7	C
	Subtotal	605	608	100.4%	25.9	6.0	C
WB	Left Turn	200	181	90.3%	47.0	11.5	D
	Through	530	487	91.9%	10.5	2.9	B
	Right Turn	180	162	89.9%	4.8	0.9	A
	Subtotal	910	829	91.1%	17.2	2.5	B
Total		2,075	1,994	96.1%	26.0	3.2	C

Intersection 4 John Jones Rd/W Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	370	370	100.1%	163.8	162.3	F
	Through						
	Right Turn	90	85	94.4%	132.0	174.8	F
	Subtotal	460	455	99.0%	157.9	163.7	F
EB	Left Turn	60	56	93.7%	91.1	23.5	F
	Through	910	915	100.6%	35.8	25.3	D
	Right Turn						
	Subtotal	970	971	100.1%	39.2	24.5	D
WB	Left Turn						
	Through	820	745	90.8%	27.1	5.5	C
	Right Turn	300	286	95.2%	12.1	3.3	B
	Subtotal	1,120	1,030	92.0%	23.1	5.1	C
Total		2,550	2,457	96.4%	46.8	20.5	D

Intersection 5 **SR 113 SB Ramps/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	280	258	92.0%	222.9	87.2	F
	Through						
	Right Turn	120	118	98.0%	86.4	52.1	F
	Subtotal	400	375	93.8%	179.7	71.7	F
EB	Left Turn						
	Through	950	959	101.0%	37.8	14.4	D
	Right Turn	330	330	99.9%	32.7	9.1	C
	Subtotal	1,280	1,289	100.7%	36.7	13.2	D
WB	Left Turn	400	343	85.9%	64.4	22.4	E
	Through	1,000	913	91.3%	13.6	3.6	B
	Right Turn						
	Subtotal	1,400	1,257	89.8%	27.5	6.4	C
Total		3,080	2,921	94.8%	53.2	14.4	D

Intersection 6 **SR 113 NB Ramps/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	400	384	96.0%	77.3	29.2	E
	Through						
	Right Turn	720	687	95.4%	108.6	29.2	F
	Subtotal	1,120	1,071	95.6%	98.0	26.8	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	160	153	95.6%	111.9	23.2	F
	Through	1,085	1,071	98.7%	38.0	8.8	D
	Right Turn						
	Subtotal	1,245	1,224	98.3%	47.5	9.7	D
WB	Left Turn						
	Through	1,000	876	87.6%	108.0	38.4	F
	Right Turn	300	260	86.7%	66.5	31.3	E
	Subtotal	1,300	1,136	87.4%	99.0	37.7	F
Total		3,665	3,431	93.6%	79.3	15.5	E

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

Davis Village Farms
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 7 **Sycamore Ln/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	220	208	94.6%	178.4	99.2	F
	Through	100	100	99.5%	146.0	88.9	F
	Right Turn	50	51	101.2%	114.9	81.3	F
	Subtotal	370	358	96.8%	159.3	94.1	F
SB	Left Turn	190	178	93.8%	205.3	56.2	F
	Through	80	70	86.9%	186.3	67.1	F
	Right Turn	200	187	93.4%	167.3	70.6	F
	Subtotal	470	435	92.4%	186.3	63.4	F
EB	Left Turn	190	177	93.2%	88.8	16.3	F
	Through	1,155	1,126	97.5%	31.8	17.3	C
	Right Turn	130	126	96.9%	21.3	16.5	C
	Subtotal	1,475	1,429	96.9%	38.0	16.6	D
WB	Left Turn	50	42	84.8%	92.0	48.3	F
	Through	730	664	91.0%	66.6	40.1	E
	Right Turn	130	123	94.8%	53.0	44.0	D
	Subtotal	910	830	91.2%	66.1	40.9	E
Total		3,225	3,052	94.6%	79.8	23.0	E

Intersection 8 **Anderson Rd/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	200	193	96.6%	75.6	31.6	E
	Through	130	127	97.9%	88.3	55.9	F
	Right Turn	170	174	102.4%	50.0	45.8	D
	Subtotal	500	495	98.9%	70.6	27.9	E
SB	Left Turn	80	80	100.1%	136.6	119.0	F
	Through	90	93	103.4%	62.4	24.0	E
	Right Turn	50	54	107.4%	9.5	16.8	A
	Subtotal	220	227	103.1%	76.2	56.1	E
EB	Left Turn	70	65	92.9%	116.2	54.3	F
	Through	1,120	1,075	95.9%	60.4	69.8	E
	Right Turn	200	194	97.0%	46.6	67.6	D
	Subtotal	1,390	1,334	95.9%	61.0	68.7	E
WB	Left Turn	120	107	89.4%	85.5	20.9	F
	Through	620	551	88.9%	17.8	6.2	B
	Right Turn	60	53	89.0%	5.0	0.8	A
	Subtotal	800	712	89.0%	26.1	4.5	C
Total		2,910	2,767	95.1%	54.7	41.0	D

Intersection 9 **Dummy Bike/Ped-Oak Ave/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	120	109	91.2%	84.5	27.5	F
	Through						
	Right Turn	120	118	98.0%	9.3	6.9	A
	Subtotal	240	227	94.6%	46.0	16.3	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,290	1,196	92.7%	132.3	93.1	F
	Right Turn	130	118	91.0%	126.9	95.8	F
	Subtotal	1,420	1,315	92.6%	131.7	93.4	F
WB	Left Turn	90	78	86.8%	72.4	20.6	E
	Through	800	702	87.7%	11.1	6.7	B
	Right Turn						
	Subtotal	890	780	87.6%	17.4	7.7	B
Total		2,550	2,322	91.0%	85.5	51.3	F

Intersection 10 **Catalina Dr-Dummy Bike/Ped/W Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	150	111	74.0%	366.1	228.3	F
	Through						
	Right Turn	60	52	87.0%	211.9	212.1	F
	Subtotal	210	163	77.7%	314.0	235.7	F
EB	Left Turn	80	75	93.5%	104.6	19.9	F
	Through	1,330	1,211	91.0%	48.1	15.2	D
	Right Turn						
	Subtotal	1,410	1,286	91.2%	51.4	14.4	D
WB	Left Turn						
	Through	830	725	87.3%	15.0	3.9	B
	Right Turn	150	137	91.3%	8.0	1.8	A
	Subtotal	980	862	87.9%	13.9	3.6	B
Total		2,600	2,310	88.9%	46.6	14.8	D

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

Davis Village Farms
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 11 **F St/W Covell Blvd-E Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	150	153	101.9%	135.2	49.8	F
	Through	190	186	97.7%	140.8	46.9	F
	Right Turn	280	275	98.1%	103.9	50.7	F
	Subtotal	620	613	98.9%	122.5	49.3	F
SB	Left Turn	150	121	80.5%	351.9	93.0	F
	Through	170	130	76.7%	292.3	96.2	F
	Right Turn	70	56	80.4%	249.2	75.8	F
	Subtotal	390	307	78.8%	306.4	85.0	F
EB	Left Turn	70	59	84.7%	271.3	25.4	F
	Through	1,280	1,111	86.8%	232.5	24.8	F
	Right Turn	190	162	85.3%	194.4	21.1	F
	Subtotal	1,540	1,332	86.5%	229.5	24.1	F
WB	Left Turn	170	147	86.5%	85.4	10.3	F
	Through	820	700	85.3%	27.2	2.9	C
	Right Turn	200	168	83.8%	20.1	3.5	C
	Subtotal	1,190	1,014	85.2%	34.7	3.6	C
Total		3,740	3,267	87.3%	154.3	12.7	F

Intersection 12 **F St/E 14th St** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	60	62	102.8%	35.5	16.4	D
	Through	400	404	101.1%	24.9	23.1	C
	Right Turn						
	Subtotal	460	466	101.3%	26.1	22.1	C
SB	Left Turn						
	Through	360	302	84.0%	29.8	13.7	C
	Right Turn	140	115	81.9%	16.8	13.9	B
	Subtotal	500	417	83.4%	26.2	13.7	C
EB	Left Turn	200	199	99.3%	70.4	89.2	E
	Through						
	Right Turn	70	68	97.7%	38.5	63.9	D
	Subtotal	270	267	98.9%	62.3	81.1	E
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,230	1,150	93.5%	35.4	31.7	D

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

Davis Village Farms
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 13 **Market Ave/E Covell Blvd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	200	205	102.4%	9.4	2.9	A
	Subtotal	200	205	102.4%	9.4	2.9	A
EB	Left Turn						
	Through	1,710	1,481	86.6%	142.5	19.6	F
	Right Turn						
	Subtotal	1,710	1,481	86.6%	142.5	19.6	F
WB	Left Turn						
	Through	990	813	82.1%	3.4	0.5	A
	Right Turn	180	151	83.6%	3.5	0.5	A
	Subtotal	1,170	963	82.3%	3.4	0.5	A
Total		3,080	2,649	86.0%	82.5	7.6	F

Intersection 14 **Cannery Ave/Cannery Loop** **Roundabout**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	160	138	86.5%	4.5	2.1	A
	Through	80	69	86.1%	4.8	1.4	A
	Right Turn	240	207	86.3%	4.2	1.5	A
	Subtotal	480	414	86.3%	4.4	1.6	A
SB	Left Turn	20	19	96.0%	6.5	11.0	A
	Through	90	86	95.8%	7.6	13.3	A
	Right Turn	20	21	102.5%	6.3	11.2	A
	Subtotal	130	126	96.8%	7.2	12.2	A
EB	Left Turn	5	4	82.0%	1.5	1.5	A
	Through	10	11	108.0%	22.0	61.9	C
	Right Turn	135	126	93.3%	16.0	43.4	C
	Subtotal	150	141	93.9%	16.3	44.3	C
WB	Left Turn	85	86	101.6%	3.2	2.6	A
	Through	90	88	98.1%	3.7	3.1	A
	Right Turn	50	49	98.2%	3.5	3.6	A
	Subtotal	225	224	99.5%	3.5	3.0	A
Total		985	905	91.9%	6.8	11.3	A

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

Davis Village Farms
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 15 Cannery Ave-J St/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	100	76	75.5%	372.0	19.2	F
	Through	180	159	88.5%	345.0	26.5	F
	Right Turn	120	100	83.3%	348.0	23.9	F
	Subtotal	400	335	83.7%	352.6	20.6	F
SB	Left Turn	120	117	97.2%	135.0	63.4	F
	Through	110	103	93.5%	101.5	53.1	F
	Right Turn	80	81	101.6%	73.9	53.9	E
	Subtotal	310	301	97.0%	107.1	55.7	F
EB	Left Turn	260	225	86.4%	240.5	24.2	F
	Through	1,340	1,161	86.6%	153.0	15.1	F
	Right Turn	110	98	88.9%	137.8	14.0	F
	Subtotal	1,710	1,484	86.8%	165.5	16.5	F
WB	Left Turn	90	74	82.7%	98.1	11.1	F
	Through	970	790	81.5%	19.6	4.1	B
	Right Turn	60	48	80.7%	17.7	7.7	B
	Subtotal	1,120	913	81.5%	25.9	3.3	C
Total		3,540	3,032	85.6%	136.1	8.5	F

Intersection 16 L St/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	190	134	70.3%	149.0	13.3	F
	Through	110	79	71.4%	150.3	18.4	F
	Right Turn	220	160	72.7%	128.5	11.2	F
	Subtotal	520	372	71.5%	140.2	11.7	F
SB	Left Turn	60	57	94.8%	48.7	9.4	D
	Through	20	21	105.0%	41.0	21.8	D
	Right Turn	50	47	93.6%	67.5	17.4	E
	Subtotal	130	125	95.9%	55.0	7.2	D
EB	Left Turn	140	123	87.9%	117.5	40.6	F
	Through	1,270	1,092	86.0%	61.8	35.5	E
	Right Turn	170	151	88.8%	94.3	32.7	F
	Subtotal	1,580	1,366	86.5%	70.3	34.9	E
WB	Left Turn	110	98	89.3%	79.8	15.9	E
	Through	880	729	82.8%	30.3	3.7	C
	Right Turn	125	108	86.2%	79.2	7.7	E
	Subtotal	1,115	935	83.8%	42.2	5.1	D
Total		3,345	2,798	83.6%	69.0	14.7	E

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

Davis Village Farms
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 17 **Pole Line Rd/Village Farms Rd North** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	75	64	85.5%	5.0	1.9	A
	Through	650	555	85.4%	1.7	0.3	A
	Right Turn						
	Subtotal	725	619	85.4%	2.1	0.4	A
SB	Left Turn						
	Through	635	638	100.5%	6.0	13.0	A
	Right Turn	30	29	98.0%	2.7	6.5	A
	Subtotal	665	667	100.4%	5.8	12.8	A
EB	Left Turn	20	24	118.0%	25.6	18.9	D
	Through						
	Right Turn	40	40	99.0%	21.9	49.8	C
	Subtotal	60	63	105.3%	22.4	34.5	C
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,450	1,350	93.1%	4.8	7.6	A

Intersection 18 **Pole Line Rd/Moore Blvd** **Roundabout**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	80	63	78.3%	7.8	2.8	A
	Through	585	483	82.5%	10.3	3.0	B
	Right Turn	160	129	80.6%	7.9	2.8	A
	Subtotal	825	674	81.7%	9.6	2.8	A
SB	Left Turn	90	86	95.7%	74.2	50.7	F
	Through	570	566	99.2%	79.4	54.4	F
	Right Turn	15	14	96.0%	87.0	70.6	F
	Subtotal	675	666	98.7%	79.0	54.3	F
EB	Left Turn	20	17	85.5%	262.5	216.2	F
	Through	5	4	84.0%	177.0	231.4	F
	Right Turn	90	77	85.4%	235.4	165.1	F
	Subtotal	115	98	85.4%	240.0	171.8	F
WB	Left Turn	130	131	100.9%	6.6	3.0	A
	Through	40	41	102.3%	6.4	2.1	A
	Right Turn	120	119	99.2%	6.7	1.9	A
	Subtotal	290	291	100.4%	6.6	2.1	A
Total		1,905	1,730	90.8%	45.2	25.6	E

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

Davis Village Farms
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 19 Pole Line Rd/Donner Ave Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	70	56	80.0%	19.7	22.0	C
	Through	810	663	81.9%	22.7	25.7	C
	Right Turn	60	52	86.5%	20.6	25.0	C
	Subtotal	940	771	82.0%	22.4	25.4	C
SB	Left Turn	25	21	84.8%	176.1	32.6	F
	Through	750	711	94.8%	168.6	21.7	F
	Right Turn	15	14	90.0%	167.8	46.9	F
	Subtotal	790	746	94.4%	169.3	21.8	F
EB	Left Turn	5	2	38.0%	385.8	314.3	F
	Through	5	2	42.0%	377.6	315.1	F
	Right Turn	110	50	45.8%	543.4	87.1	F
	Subtotal	120	54	45.3%	543.9	89.8	F
WB	Left Turn	50	50	100.4%	4.0	1.1	A
	Through						
	Right Turn	10	10	104.0%	4.1	2.0	A
	Subtotal	60	61	101.0%	4.1	1.1	A
Total		1,910	1,632	85.4%	107.2	19.1	F

Intersection 20 Pole Line Rd/Picasso Ave Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	60	50	84.0%	32.4	15.2	D
	Through	890	719	80.8%	38.2	14.6	E
	Right Turn	110	95	86.0%	35.9	15.3	E
	Subtotal	1,060	864	81.5%	37.5	14.5	E
SB	Left Turn	20	17	82.5%	78.7	14.6	F
	Through	875	780	89.1%	83.1	4.0	F
	Right Turn	15	14	92.0%	83.5	9.8	F
	Subtotal	910	810	89.0%	83.0	4.1	F
EB	Left Turn	20	20	102.0%	6.6	6.2	A
	Through	5	6	120.0%	3.2	2.1	A
	Right Turn	100	97	96.6%	6.3	3.9	A
	Subtotal	125	123	98.4%	6.4	3.8	A
WB	Left Turn	70	72	103.3%	15.1	19.4	C
	Through	5	7	142.0%	10.2	17.4	B
	Right Turn	30	30	101.3%	12.4	14.0	B
	Subtotal	105	110	104.6%	14.2	16.5	B
Total		2,200	1,907	86.7%	53.0	6.7	F

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

Willowgrove Property TIS
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 21 Pole Line Rd/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	160	117	73.4%	154.1	10.5	F
	Through	460	322	70.0%	114.1	9.9	F
	Right Turn	150	112	74.9%	104.2	13.8	F
	Subtotal	770	552	71.6%	120.7	8.4	F
SB	Left Turn	340	313	91.9%	312.1	35.8	F
	Through	425	386	90.8%	272.2	36.2	F
	Right Turn	285	258	90.5%	251.9	34.7	F
	Subtotal	1,050	957	91.1%	280.0	34.7	F
EB	Left Turn	350	291	83.2%	120.8	47.7	F
	Through	960	827	86.2%	58.9	33.4	E
	Right Turn	230	191	83.1%	28.3	24.3	C
	Subtotal	1,540	1,310	85.1%	68.3	35.1	E
WB	Left Turn	160	134	83.4%	94.7	20.1	F
	Through	630	532	84.4%	71.1	15.3	E
	Right Turn	270	222	82.2%	17.3	10.1	B
	Subtotal	1,060	887	83.7%	61.7	13.6	E
Total		4,420	3,705	83.8%	129.8	10.4	F

Intersection 22 Dummy Bike/Ped-Birch Ln/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	50	48	95.2%	56.7	22.5	E
	Through						
	Right Turn	40	44	110.5%	57.4	17.3	E
	Subtotal	90	92	102.0%	57.0	16.5	E
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,423	1,227	86.2%	11.9	4.7	B
	Right Turn	30	27	89.3%	8.4	4.5	A
	Subtotal	1,453	1,254	86.3%	11.9	4.7	B
WB	Left Turn	55	45	80.9%	66.7	14.6	E
	Through	1,010	846	83.8%	17.1	3.0	B
	Right Turn						
	Subtotal	1,065	891	83.6%	19.3	2.7	B
Total		2,608	2,236	85.7%	16.8	3.2	B

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

Willowgrove Property TIS
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 23 Baywood Ln/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	20	20	101.0%	33.2	13.6	D
	Through	5	5	94.0%	13.6	15.9	B
	Right Turn	35	38	108.9%	11.4	6.0	B
	Subtotal	60	63	105.0%	19.5	6.2	C
SB	Left Turn	5	4	70.0%	7.1	9.0	A
	Through	5	5	102.0%	50.1	49.6	F
	Right Turn	20	18	89.0%	6.3	16.5	A
	Subtotal	30	26	88.0%	17.6	20.5	C
EB	Left Turn	35	28	80.3%	9.6	3.9	A
	Through	1,413	1,227	86.9%	4.8	1.0	A
	Right Turn	30	31	102.3%	4.3	1.1	A
	Subtotal	1,478	1,286	87.0%	4.9	1.1	A
WB	Left Turn	20	18	87.5%	19.2	9.2	C
	Through	1,035	859	82.9%	4.2	0.5	A
	Right Turn	15	14	92.0%	4.7	0.9	A
	Subtotal	1,070	890	83.2%	4.6	0.4	A
Total		2,638	2,265	85.9%	5.3	0.9	A

Intersection 24 Manzanita Ln/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	60	59	98.2%	42.2	14.9	E
	Through						
	Right Turn	10	10	104.0%	21.1	17.5	C
	Subtotal	70	69	99.0%	37.8	15.6	E
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,403	1,224	87.2%	7.1	1.1	A
	Right Turn	50	46	92.4%	6.7	1.3	A
	Subtotal	1,453	1,270	87.4%	7.0	1.1	A
WB	Left Turn	40	30	75.3%	16.3	6.4	C
	Through	1,010	829	82.0%	2.8	0.4	A
	Right Turn						
	Subtotal	1,050	859	81.8%	3.4	0.5	A
Total		2,573	2,198	85.4%	6.6	0.9	A

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

Willowgrove Property TIS
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 25 Wright Blvd/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	150	151	100.9%	21.3	3.5	C
	Through						
	Right Turn	70	71	101.9%	1.3	0.4	A
	Subtotal	220	223	101.2%	14.8	2.5	B
EB	Left Turn	90	76	84.7%	39.3	8.2	D
	Through	1,323	1,157	87.5%	15.1	2.2	B
	Right Turn						
	Subtotal	1,413	1,233	87.3%	16.6	2.4	B
WB	Left Turn						
	Through	980	789	80.6%	14.3	1.7	B
	Right Turn	230	187	81.1%	10.0	1.3	A
	Subtotal	1,210	976	80.7%	13.5	1.6	B
Total		2,843	2,432	85.5%	15.3	1.4	B

Intersection 26 Monarch Ln/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	40	42	103.8%	56.9	26.9	F
	Through	5	5	100.0%	44.2	56.4	E
	Right Turn	40	37	93.3%	52.7	55.6	F
	Subtotal	85	84	98.6%	55.7	37.8	F
SB	Left Turn	35	32	91.1%	49.2	31.5	E
	Through	5	5	96.0%	66.0	87.3	F
	Right Turn	70	69	98.1%	29.9	31.2	D
	Subtotal	110	105	95.8%	35.8	30.9	E
EB	Left Turn	90	83	92.6%	9.8	4.5	A
	Through	1,343	1,188	88.5%	5.1	3.1	A
	Right Turn	40	35	87.3%	3.0	1.5	A
	Subtotal	1,473	1,306	88.7%	5.3	3.1	A
WB	Left Turn	30	23	76.7%	15.0	6.6	C
	Through	1,100	865	78.6%	4.3	0.3	A
	Right Turn	50	38	75.0%	3.8	0.3	A
	Subtotal	1,180	925	78.4%	4.5	0.4	A
Total		2,848	2,421	85.0%	8.0	3.3	A

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

Willowgrove Property TIS
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 27 **Alhambra Dr/E Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	220	164	74.3%	440.2	78.3	F
	Through	67	53	78.5%	406.5	89.2	F
	Right Turn	5	5	104.0%	489.1	217.7	F
	Subtotal	292	221	75.8%	431.3	77.3	F
SB	Left Turn	156	155	99.3%	48.4	5.4	D
	Through	37	35	93.8%	65.8	15.3	E
	Right Turn	160	159	99.6%	56.5	13.7	E
	Subtotal	353	349	98.8%	54.2	7.5	D
EB	Left Turn	328	273	83.2%	231.7	86.9	F
	Through	910	802	88.1%	38.4	26.9	D
	Right Turn	180	157	87.3%	35.9	26.6	D
	Subtotal	1,418	1,232	86.9%	80.1	38.6	F
WB	Left Turn	40	34	84.3%	211.3	30.9	F
	Through	800	605	75.6%	191.2	12.3	F
	Right Turn	121	94	77.5%	187.3	16.1	F
	Subtotal	961	733	76.2%	191.7	11.4	F
Total		3,024	2,535	83.8%	138.5	18.8	F

Intersection 28 **Willowgrove Road East/E Covell Blvd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	67	60	89.3%	313.9	152.3	F
	Subtotal	67	60	89.3%	313.9	152.3	F
EB	Left Turn						
	Through	1,081	971	89.8%	5.9	0.8	A
	Right Turn						
	Subtotal	1,081	971	89.8%	5.9	0.8	A
WB	Left Turn						
	Through	894	694	77.7%	314.5	19.9	F
	Right Turn	121	91	75.0%	307.6	19.6	F
	Subtotal	1,015	785	77.3%	313.8	19.8	F
Total		2,163	1,815	83.9%	142.4	7.1	F

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

Willowgrove Property TIS
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 29 Harper Hr HS Access/E Covell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	10	7	71.0%	19.7	20.9	B
	Through						
	Right Turn	5	5	104.0%	10.3	23.8	B
	Subtotal	15	12	82.0%	18.3	20.1	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,051	941	89.6%	2.5	0.7	A
	Right Turn	30	28	92.0%	0.3	0.4	A
	Subtotal	1,081	969	89.6%	2.4	0.7	A
WB	Left Turn	5	4	88.0%	284.7	22.2	F
	Through	1,005	789	78.5%	348.2	22.0	F
	Right Turn						
	Subtotal	1,010	793	78.5%	348.0	21.8	F
Total		2,106	1,775	84.3%	148.1	5.6	F

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

Davis Village Farms
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 30		Mace Blvd/Alhambra Dr			Signal		
Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	430	371	86.3%	56.4	11.6	E
	Through	795	680	85.6%	30.8	5.9	C
	Right Turn	60	55	91.0%	24.2	8.4	C
	Subtotal	1,285	1,106	86.1%	39.0	8.2	D
SB	Left Turn	75	73	97.2%	59.2	11.8	E
	Through	990	877	88.6%	69.3	51.4	E
	Right Turn	40	38	94.0%	43.9	48.0	D
	Subtotal	1,105	987	89.3%	67.6	48.5	E
EB	Left Turn	90	9	10.2%	49.2	30.2	D
	Through	1,215	25	2.1%	50.8	11.6	D
	Right Turn						
	Subtotal	1,305	35	2.6%	54.3	9.9	D
WB	Left Turn						
	Through	890	68	7.6%	69.6	67.1	E
	Right Turn	220	189	85.7%	48.1	51.8	D
	Subtotal	1,110	256	23.1%	53.1	54.9	D
Total		4,805	2,384	49.6%	50.9	24.7	D

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

Davis Village Farms
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 31 **2nd St/Target Main Dwy-Fermi Place** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	170	124	72.9%	137.2	40.0	F
	Through	750	540	72.0%	173.4	65.7	F
	Right Turn	20	15	72.5%	156.1	87.4	F
	Subtotal	940	678	72.1%	165.5	55.7	F
SB	Left Turn	85	74	87.3%	84.2	67.4	F
	Through	300	260	86.6%	33.4	27.2	C
	Right Turn	200	183	91.6%	5.5	1.0	A
	Subtotal	585	517	88.4%	29.6	19.3	C
EB	Left Turn	310	222	71.7%	171.2	90.5	F
	Through	5	3	56.0%	31.4	40.7	C
	Right Turn	110	78	70.9%	10.5	7.6	B
	Subtotal	425	303	71.3%	131.4	71.0	F
WB	Left Turn	20	20	101.5%	43.7	21.1	D
	Through	10	9	93.0%	71.2	66.0	E
	Right Turn	90	89	98.6%	59.4	45.9	E
	Subtotal	120	118	98.6%	58.8	41.7	E
Total		2,070	1,617	78.1%	97.3	30.3	F

Intersection 32 **Mace Blvd/2nd St-County Rd 32A** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	430	372	86.4%	79.3	24.6	E
	Through	935	822	87.9%	56.8	21.8	E
	Right Turn	145	125	86.5%	44.7	17.8	D
	Subtotal	1,510	1,318	87.3%	62.5	19.3	E
SB	Left Turn	150	138	92.0%	98.1	39.9	F
	Through	1,035	944	91.2%	88.3	55.4	F
	Right Turn	250	223	89.2%	46.2	42.9	D
	Subtotal	1,435	1,305	90.9%	82.3	51.7	F
EB	Left Turn	245	176	71.6%	440.6	106.5	F
	Through	160	116	72.3%	339.6	133.3	F
	Right Turn	770	584	75.8%	177.6	52.6	F
	Subtotal	1,175	875	74.5%	254.0	75.5	F
WB	Left Turn	235	230	98.0%	139.0	73.4	F
	Through	50	51	101.0%	109.9	62.5	F
	Right Turn	120	119	99.3%	88.3	58.5	F
	Subtotal	405	400	98.7%	119.4	65.3	F
Total		4,525	3,898	86.1%	111.4	25.8	F

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

Davis Village Farms
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 33 **Mace Blvd/I-80 WB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	300	221	73.6%	46.3	6.3	D
	Through	710	517	72.8%	12.7	2.2	B
	Right Turn						
	Subtotal	1,010	738	73.1%	22.8	3.1	C
SB	Left Turn						
	Through	1,490	1,272	85.3%	73.6	41.9	E
	Right Turn	550	472	85.7%	40.6	26.9	D
	Subtotal	2,040	1,743	85.5%	64.7	37.5	E
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	520	522	100.4%	34.3	4.3	C
	Through	5	5	104.0%	35.3	26.0	D
	Right Turn	800	785	98.1%	4.9	0.6	A
	Subtotal	1,325	1,312	99.0%	16.9	1.8	B
Total		4,375	3,794	86.7%	40.7	18.7	D

Intersection 34 **Mace Blvd/Chiles Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	20	17	86.0%	157.5	23.4	F
	Through	660	557	84.5%	138.5	16.7	F
	Right Turn	150	126	84.0%	119.8	18.4	F
	Subtotal	830	701	84.4%	135.6	16.9	F
SB	Left Turn	330	304	92.1%	106.8	40.0	F
	Through	560	503	89.9%	63.7	18.6	E
	Right Turn	360	332	92.2%	26.7	11.6	C
	Subtotal	1,250	1,139	91.1%	65.0	23.9	E
EB	Left Turn	560	217	38.8%	235.2	53.6	F
	Through	360	167	46.4%	57.7	7.8	E
	Right Turn	70	35	49.3%	2.4	0.7	A
	Subtotal	990	419	42.3%	143.3	26.7	F
WB	Left Turn	60	49	81.7%	241.0	38.5	F
	Through	20	16	81.5%	259.3	61.0	F
	Right Turn	440	374	85.0%	252.2	20.5	F
	Subtotal	520	440	84.5%	250.9	20.4	F
Total		3,590	2,698	75.2%	125.1	16.7	F

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

Davis Village Farms
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 35 I-80 EB Off Ramp/Chiles Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	230	194	84.2%	417.1	157.0	F
	Through						
	Right Turn	90	88	97.4%	4.3	1.0	A
	Subtotal	320	281	87.9%	250.6	72.9	F
EB	Left Turn						
	Through	760	228	30.0%	675.5	51.3	F
	Right Turn						
	Subtotal	760	228	30.0%	675.5	51.3	F
WB	Left Turn						
	Through	400	366	91.6%	10.8	1.4	B
	Right Turn						
	Subtotal	400	366	91.6%	10.8	1.4	B
Total		1,480	875	59.1%	268.1	37.9	F

Intersection 36 Mace Blvd/Cowell Blvd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	15	15	102.7%	112.6	100.9	F
	Through	410	388	94.7%	177.4	92.1	F
	Right Turn	20	21	103.5%	291.7	165.0	F
	Subtotal	445	425	95.4%	180.9	94.8	F
SB	Left Turn	115	98	85.6%	45.4	6.8	D
	Through	240	197	82.0%	21.7	6.1	C
	Right Turn	235	199	84.5%	12.9	5.9	B
	Subtotal	590	494	83.7%	22.3	5.7	C
EB	Left Turn	270	209	77.2%	351.3	79.1	F
	Through	90	75	83.4%	334.3	69.4	F
	Right Turn	30	24	78.3%	342.3	75.2	F
	Subtotal	390	307	78.7%	348.9	74.3	F
WB	Left Turn	20	17	83.0%	54.6	34.2	D
	Through	60	60	99.7%	56.7	35.5	E
	Right Turn	70	69	98.1%	56.4	25.0	E
	Subtotal	150	145	96.7%	56.4	28.4	E
Total		1,575	1,370	87.0%	145.3	31.8	F

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

Davis Village Farms
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 37

Mace Blvd/N El Macero Dr

All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	30	28	93.0%	16.0	25.8	C
	Through	345	340	98.6%	46.4	73.1	E
	Right Turn	5	5	100.0%	31.8	51.5	D
	Subtotal	380	373	98.2%	44.3	68.9	E
SB	Left Turn	90	69	77.1%	12.0	2.9	B
	Through	180	150	83.1%	13.7	2.0	B
	Right Turn	20	18	87.5%	4.2	0.7	A
	Subtotal	290	237	81.6%	12.4	2.3	B
EB	Left Turn	20	20	101.5%	10.8	11.6	B
	Through	40	38	95.0%	8.1	5.4	A
	Right Turn	30	28	94.3%	5.8	6.5	A
	Subtotal	90	87	96.2%	8.1	7.3	A
WB	Left Turn	10	11	109.0%	27.4	51.4	D
	Through	50	50	100.6%	39.7	47.1	E
	Right Turn	80	79	99.0%	50.0	63.0	F
	Subtotal	140	140	100.3%	46.5	57.2	E
Total		900	837	93.0%	29.0	32.4	D

Intersection												
Int Delay, s/veh	7.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↘	↑						↕	
Traffic Vol, veh/h	0	270	40	35	150	0	0	0	0	205	1	55
Future Vol, veh/h	0	270	40	35	150	0	0	0	0	205	1	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	195	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	310	46	40	172	0	0	0	0	236	1	63

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	356	0	0		585	608	172
Stage 1	-	-	-	-	-	-		252	252	-
Stage 2	-	-	-	-	-	-		333	356	-
Critical Hdwy	-	-	-	4.12	-	-		6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-		5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-		3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1203	-	0		473	410	872
Stage 1	0	-	-	-	-	0		790	698	-
Stage 2	0	-	-	-	-	0		726	629	-
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1203	-	-		457	0	872
Mov Cap-2 Maneuver	-	-	-	-	-	-		457	0	-
Stage 1	-	-	-	-	-	-		790	0	-
Stage 2	-	-	-	-	-	-		702	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.5	21.8
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1203	-	508
HCM Lane V/C Ratio	-	-	0.033	-	0.591
HCM Control Delay (s)	-	-	8.1	-	21.8
HCM Lane LOS	-	-	A	-	C
HCM 95th %tile Q(veh)	-	-	0.1	-	3.8

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	125	350	150	220	35	35
Future Vol, veh/h	125	350	150	220	35	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	144	402	172	253	40	40

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	425	0	-	0	989
Stage 1	-	-	-	-	299
Stage 2	-	-	-	-	690
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1134	-	-	-	741
Stage 1	-	-	-	-	752
Stage 2	-	-	-	-	498
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1134	-	-	-	741
Mov Cap-2 Maneuver	-	-	-	-	239
Stage 1	-	-	-	-	656
Stage 2	-	-	-	-	498

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	17.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1134	-	-	-	361
HCM Lane V/C Ratio	0.127	-	-	-	0.223
HCM Control Delay (s)	8.6	-	-	-	17.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8

HCM 6th TWSC
40: County Rd 100A & County Rd 29

09/25/2024

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	5	330	50	45	320	5	45	5	25	0	1	5
Future Vol, veh/h	5	330	50	45	320	5	45	5	25	0	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	115	-	-	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	379	57	52	368	6	52	6	29	0	1	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	374	0	0	436	0	0	899	898	408	912	923	371
Stage 1	-	-	-	-	-	-	420	420	-	475	475	-
Stage 2	-	-	-	-	-	-	479	478	-	437	448	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1184	-	-	1124	-	-	260	279	643	255	270	675
Stage 1	-	-	-	-	-	-	611	589	-	570	557	-
Stage 2	-	-	-	-	-	-	568	556	-	598	573	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1184	-	-	1124	-	-	247	265	643	230	256	675
Mov Cap-2 Maneuver	-	-	-	-	-	-	247	265	-	230	256	-
Stage 1	-	-	-	-	-	-	608	586	-	567	531	-
Stage 2	-	-	-	-	-	-	536	530	-	563	570	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1	20.8	11.9
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	313	1184	-	-	1124	-	-	530
HCM Lane V/C Ratio	0.275	0.005	-	-	0.046	-	-	0.013
HCM Control Delay (s)	20.8	8.1	-	-	8.4	-	-	11.9
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	1.1	0	-	-	0.1	-	-	0

Intersection						
Int Delay, s/veh	7.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	200	155	60	210	160	60
Future Vol, veh/h	200	155	60	210	160	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	238	185	71	250	190	71

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	423	0	723 331
Stage 1	-	-	-	-	331 -
Stage 2	-	-	-	-	392 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1136	-	393 711
Stage 1	-	-	-	-	728 -
Stage 2	-	-	-	-	683 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1136	-	364 711
Mov Cap-2 Maneuver	-	-	-	-	364 -
Stage 1	-	-	-	-	728 -
Stage 2	-	-	-	-	633 -

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	26.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	420	-	-	1136	-
HCM Lane V/C Ratio	0.624	-	-	0.063	-
HCM Control Delay (s)	26.7	-	-	8.4	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	4.1	-	-	0.2	-

Intersection						
Int Delay, s/veh	14.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	140	120	140	510	420	130
Future Vol, veh/h	140	120	140	510	420	130
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	215	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	146	125	146	531	438	135

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1329	506	573	0	-	0
Stage 1	506	-	-	-	-	-
Stage 2	823	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	171	566	1000	-	-	-
Stage 1	606	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	146	566	1000	-	-	-
Mov Cap-2 Maneuver	146	-	-	-	-	-
Stage 1	518	-	-	-	-	-
Stage 2	431	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	78.6	2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1000	-	146	566	-	-
HCM Lane V/C Ratio	0.146	-	0.999	0.221	-	-
HCM Control Delay (s)	9.2	-	134.7	13.2	-	-
HCM Lane LOS	A	-	F	B	-	-
HCM 95th %tile Q(veh)	0.5	-	7.4	0.8	-	-

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑	↑	↑	↑
Traffic Vol, veh/h	50	140	570	80	100	500
Future Vol, veh/h	50	140	570	80	100	500
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Yield	-	None
Storage Length	0	-	-	280	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	146	594	83	104	521

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1323	-	0	0	594
Stage 1	594	-	-	-	-
Stage 2	729	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218
Pot Cap-1 Maneuver	172	0	-	-	982
Stage 1	552	0	-	-	-
Stage 2	477	0	-	-	-
Platoon blocked, %		-	-	-	-
Mov Cap-1 Maneuver	154	-	-	-	982
Mov Cap-2 Maneuver	154	-	-	-	-
Stage 1	552	-	-	-	-
Stage 2	426	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	39.9	0	1.5
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	154	982
HCM Lane V/C Ratio	-	-	0.338	0.106
HCM Control Delay (s)	-	-	39.9	9.1
HCM Lane LOS	-	-	E	A
HCM 95th %tile Q(veh)	-	-	1.4	0.4

Intersection	
Intersection Delay, s/veh	74.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	45	10	100	5	15	5	65	645	5	5	600	25
Future Vol, veh/h	45	10	100	5	15	5	65	645	5	5	600	25
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	10	103	5	15	5	67	665	5	5	619	26
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.2	11.6	106	55.7
HCM LOS	B	B	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	29%	20%	1%
Vol Thru, %	90%	6%	60%	95%
Vol Right, %	1%	65%	20%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	715	155	25	630
LT Vol	65	45	5	5
Through Vol	645	10	15	600
RT Vol	5	100	5	25
Lane Flow Rate	737	160	26	649
Geometry Grp	1	1	1	1
Degree of Util (X)	1.15	0.299	0.055	0.984
Departure Headway (Hd)	5.616	7.153	8.105	5.748
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	649	505	445	636
Service Time	3.618	5.153	6.105	3.748
HCM Lane V/C Ratio	1.136	0.317	0.058	1.02
HCM Control Delay	106	13.2	11.6	55.7
HCM Lane LOS	F	B	B	F
HCM 95th-tile Q	23.7	1.2	0.2	14.6

HCM 6th Signalized Intersection Summary

45: County Rd 25A & County Rd 102

09/25/2024



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	150	180	175	520	445	160
Future Volume (veh/h)	150	180	175	520	445	160
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	191	186	553	473	170
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	323	288	240	1100	634	537
Arrive On Green	0.18	0.18	0.13	0.59	0.34	0.34
Sat Flow, veh/h	1781	1585	1781	1870	1870	1585
Grp Volume(v), veh/h	160	191	186	553	473	170
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1585
Q Serve(g_s), s	3.2	4.4	3.9	6.8	8.8	3.1
Cycle Q Clear(g_c), s	3.2	4.4	3.9	6.8	8.8	3.1
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	323	288	240	1100	634	537
V/C Ratio(X)	0.49	0.66	0.78	0.50	0.75	0.32
Avail Cap(c_a), veh/h	820	729	387	1578	956	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.4	14.9	16.4	4.7	11.4	9.6
Incr Delay (d2), s/veh	1.2	2.6	5.3	0.4	1.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.2	1.7	1.4	3.0	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.6	17.5	21.7	5.1	13.2	9.9
LnGrp LOS	B	B	C	A	B	A
Approach Vol, veh/h	351			739	643	
Approach Delay, s/veh	16.6			9.2	12.4	
Approach LOS	B			A	B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		27.5		11.6	9.8	17.7
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		33.0		18.0	8.5	20.0
Max Q Clear Time (g_c+I1), s		8.8		6.4	5.9	10.8
Green Ext Time (p_c), s		3.8		0.9	0.1	2.5
Intersection Summary						
HCM 6th Ctrl Delay			11.9			
HCM 6th LOS			B			

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	180	185	25	15	5
Future Vol, veh/h	0	180	185	25	15	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	12	12	12	12	12	12
Mvmt Flow	0	212	218	29	18	6

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	247	0	-	0	445 233
Stage 1	-	-	-	-	233 -
Stage 2	-	-	-	-	212 -
Critical Hdwy	4.22	-	-	-	6.52 6.32
Critical Hdwy Stg 1	-	-	-	-	5.52 -
Critical Hdwy Stg 2	-	-	-	-	5.52 -
Follow-up Hdwy	2.308	-	-	-	3.608 3.408
Pot Cap-1 Maneuver	1263	-	-	-	552 782
Stage 1	-	-	-	-	783 -
Stage 2	-	-	-	-	800 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1263	-	-	-	552 782
Mov Cap-2 Maneuver	-	-	-	-	552 -
Stage 1	-	-	-	-	783 -
Stage 2	-	-	-	-	800 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1263	-	-	-	596
HCM Lane V/C Ratio	-	-	-	-	0.039
HCM Control Delay (s)	0	-	-	-	11.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗	↘	↘	↘
Traffic Vol, veh/h	1	195	160	0	20	50
Future Vol, veh/h	1	195	160	0	20	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	265	-	-	305	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	9	9	9	9	9	9
Mvmt Flow	1	235	193	0	24	60

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	193	0	-	0	430 193
Stage 1	-	-	-	-	193 -
Stage 2	-	-	-	-	237 -
Critical Hdwy	4.19	-	-	-	6.49 6.29
Critical Hdwy Stg 1	-	-	-	-	5.49 -
Critical Hdwy Stg 2	-	-	-	-	5.49 -
Follow-up Hdwy	2.281	-	-	-	3.581 3.381
Pot Cap-1 Maneuver	1339	-	-	-	569 831
Stage 1	-	-	-	-	823 -
Stage 2	-	-	-	-	786 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1339	-	-	-	568 831
Mov Cap-2 Maneuver	-	-	-	-	568 -
Stage 1	-	-	-	-	822 -
Stage 2	-	-	-	-	786 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1339	-	-	-	734
HCM Lane V/C Ratio	0.001	-	-	-	0.115
HCM Control Delay (s)	7.7	-	-	-	10.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection						
Int Delay, s/veh	4.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	0	215	1	0	160	0
Future Vol, veh/h	0	215	1	0	160	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	7	7	7	7	7	7
Mvmt Flow	0	253	1	0	188	0

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	253	0	129
Stage 1	-	-	-	-	127
Stage 2	-	-	-	-	2
Critical Hdwy	-	-	4.17	-	6.47
Critical Hdwy Stg 1	-	-	-	-	5.47
Critical Hdwy Stg 2	-	-	-	-	5.47
Follow-up Hdwy	-	-	2.263	-	3.563
Pot Cap-1 Maneuver	-	-	1284	-	854
Stage 1	-	-	-	-	887
Stage 2	-	-	-	-	1008
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1284	-	853
Mov Cap-2 Maneuver	-	-	-	-	853
Stage 1	-	-	-	-	887
Stage 2	-	-	-	-	1007

Approach	EB	WB	NB
HCM Control Delay, s	0	7.8	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	853	-	-	1284	-
HCM Lane V/C Ratio	0.221	-	-	0.001	-
HCM Control Delay (s)	10.4	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0	-

Intersection												
Int Delay, s/veh	68.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻			↻			↻	
Traffic Vol, veh/h	0	5	430	205	10	0	110	0	155	0	0	0
Future Vol, veh/h	0	5	430	205	10	0	110	0	155	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	81	81	81	81	87	81	87	81	87	87	87
Heavy Vehicles, %	2	3	3	3	3	2	3	2	3	2	2	2
Mvmt Flow	0	6	531	253	12	0	136	0	191	0	0	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	464	1	638	369	-	1	0	0	191	0	0
Stage 1	-	1	-	368	368	-	-	-	-	-	-	-
Stage 2	-	463	-	270	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.53	6.23	7.13	6.53	-	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.027	3.327	3.527	4.027	-	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	494	1081	388	559	0	1615	-	-	1383	-	-
Stage 1	0	893	-	650	620	0	-	-	-	-	-	-
Stage 2	0	562	-	734	893	0	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	-	446	1081	~ 181	505	-	1615	-	-	1383	-	-
Mov Cap-2 Maneuver	-	446	-	~ 181	505	-	-	-	-	-	-	-
Stage 1	-	893	-	587	560	-	-	-	-	-	-	-
Stage 2	-	507	-	371	893	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.8		264.2		3.1		0	
HCM LOS	B		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1615	-	-	1064	187	1383	-	-
HCM Lane V/C Ratio	0.084	-	-	0.505	1.419	-	-	-
HCM Control Delay (s)	7.4	0	-	11.8	264.2	0	-	-
HCM Lane LOS	A	A	-	B	F	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	2.9	16	0	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

2: I-80 EB Ramps Performance by movement

Movement	EBR	NBL	NBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	2.1	2.1	4.3
Total Del/Veh (s)	3.0	25.2	25.0	24.8
Stop Delay (hr)	0.0	2.1	2.1	4.2
Stop Del/Veh (s)	3.0	24.4	24.9	24.4
Total Stops	7	304	172	483
Stop/Veh	0.88	0.99	0.56	0.78
Travel Dist (mi)	0.2	7.2	6.0	13.4
Travel Time (hr)	0.0	2.6	2.5	5.1
Avg Speed (mph)	11	3	2	3
Fuel Used (gal)	0.0	0.8	0.8	1.6
Fuel Eff. (mpg)	42.0	8.7	7.6	8.3
HC Emissions (g)	0	6	6	12
CO Emissions (g)	1	150	133	284
NOx Emissions (g)	0	21	17	39
Vehicles Entered	8	304	303	615
Vehicles Exited	8	303	302	613
Hourly Exit Rate	8	303	302	613
Input Volume	10	450	625	1085
% of Volume	80	67	48	57
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0
Density (ft/veh)				74
Occupancy (veh)	0	3	3	5

50: I-80 WB Ramps & County Rd 32A Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.5	0.4	0.0	0.0	0.3	0.3	0.4
Total Delay (hr)	129.7	0.9	0.0	0.0	0.9	0.2	131.7
Total Del/Veh (s)	713.9	664.6	4.7	5.5	11.7	10.7	473.6
Stop Delay (hr)	130.6	0.9	0.0	0.0	0.5	0.1	132.2
Stop Del/Veh (s)	719.0	672.9	0.4	0.1	6.8	6.8	475.4
Total Stops	529	4	1	0	263	57	854
Stop/Veh	0.81	0.80	0.17	0.00	0.98	0.98	0.85
Travel Dist (mi)	957.3	7.1	3.1	4.8	190.2	40.8	1203.3
Travel Time (hr)	147.4	1.1	0.1	0.1	5.9	1.3	155.8
Avg Speed (mph)	7	7	43	45	32	32	8
Fuel Used (gal)	48.9	0.3	0.1	0.2	4.2	0.9	54.7
Fuel Eff. (mpg)	19.6	20.2	26.3	25.0	45.1	44.5	22.0
HC Emissions (g)	560	1	1	5	81	27	676
CO Emissions (g)	13744	47	96	214	1561	502	16165
NOx Emissions (g)	1919	7	6	18	289	89	2328
Vehicles Entered	631	5	6	9	263	56	970
Vehicles Exited	358	2	6	9	263	57	695
Hourly Exit Rate	358	2	6	9	263	57	695
Input Volume	630	5	10	11	255	55	967
% of Volume	57	38	60	82	103	104	72
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0
Density (ft/veh)							105
Occupancy (veh)	147	1	0	0	6	1	156

51: Chiles Road & I-80 EB Ramps Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.4	0.4	0.0	0.0	0.0		0.0	0.2
Total Delay (hr)	94.7	3.4	16.7	88.9	0.0	0.0	0.0	203.7
Total Del/Veh (s)	704.3	713.1	858.8	800.3	3.9		2.5	748.2
Stop Delay (hr)	96.1	3.4	17.2	91.5	0.0	0.0	0.0	208.2
Stop Del/Veh (s)	714.8	720.2	882.9	823.6	3.7		3.0	764.8
Total Stops	454	15	22	360	4	0	5	860
Stop/Veh	0.94	0.88	0.31	0.90	1.00		1.00	0.88
Travel Dist (mi)	809.7	27.6	31.8	177.3	0.1	0.0	0.1	1046.6
Travel Time (hr)	113.2	4.0	17.3	92.8	0.0	0.0	0.0	227.3
Avg Speed (mph)	7	7	2	2	7	11	8	5
Fuel Used (gal)	37.3	1.3	4.2	22.6	0.0	0.0	0.0	65.4
Fuel Eff. (mpg)	21.7	21.0	7.6	7.9	18.3	14.4	17.5	16.0
HC Emissions (g)	352	19	42	114	0	0	0	527
CO Emissions (g)	7928	369	870	3075	1	0	1	12244
NOx Emissions (g)	1276	55	60	213	0	0	0	1604
Vehicles Entered	444	15	66	349	4	0	5	883
Vehicles Exited	304	10	51	303	4	0	5	677
Hourly Exit Rate	304	10	51	303	4	0	5	677
Input Volume	450	15	60	625	5	0	5	1161
% of Volume	68	66	85	48	76	0	95	58
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0
Density (ft/veh)								59
Occupancy (veh)	113	4	17	93	0	0	0	227

Total Network Performance

Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.4
Total Delay (hr)	340.5
Total Del/Veh (s)	781.3
Stop Delay (hr)	344.7
Stop Del/Veh (s)	790.8
Total Stops	2197
Stop/Veh	1.40
Travel Dist (mi)	2900.3
Travel Time (hr)	402.4
Avg Speed (mph)	7
Fuel Used (gal)	140.9
Fuel Eff. (mpg)	20.6
HC Emissions (g)	1669
CO Emissions (g)	42530
NOx Emissions (g)	5675
Vehicles Entered	1423
Vehicles Exited	942
Hourly Exit Rate	942
Input Volume	4633
% of Volume	20
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	75
Occupancy (veh)	402

Intersection: 2: I-80 EB Ramps

Movement	EB	NB	NB
Directions Served	R	L	T
Maximum Queue (ft)	31	86	87
Average Queue (ft)	6	83	83
95th Queue (ft)	25	86	86
Link Distance (ft)	143	68	68
Upstream Blk Time (%)		69	71
Queuing Penalty (veh)		370	380
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 50: I-80 WB Ramps & County Rd 32A

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	7146	21	188
Average Queue (ft)	3310	1	79
95th Queue (ft)	7499	8	141
Link Distance (ft)	9564	2911	3817
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 51: Chiles Road & I-80 EB Ramps

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	4267	2962	30
Average Queue (ft)	2513	2765	7
95th Queue (ft)	4548	3410	26
Link Distance (ft)	10402	2911	68
Upstream Blk Time (%)		36	0
Queuing Penalty (veh)		252	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 1002

Major Street CR 29
 Minor Street SR 113 SB Ramps

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

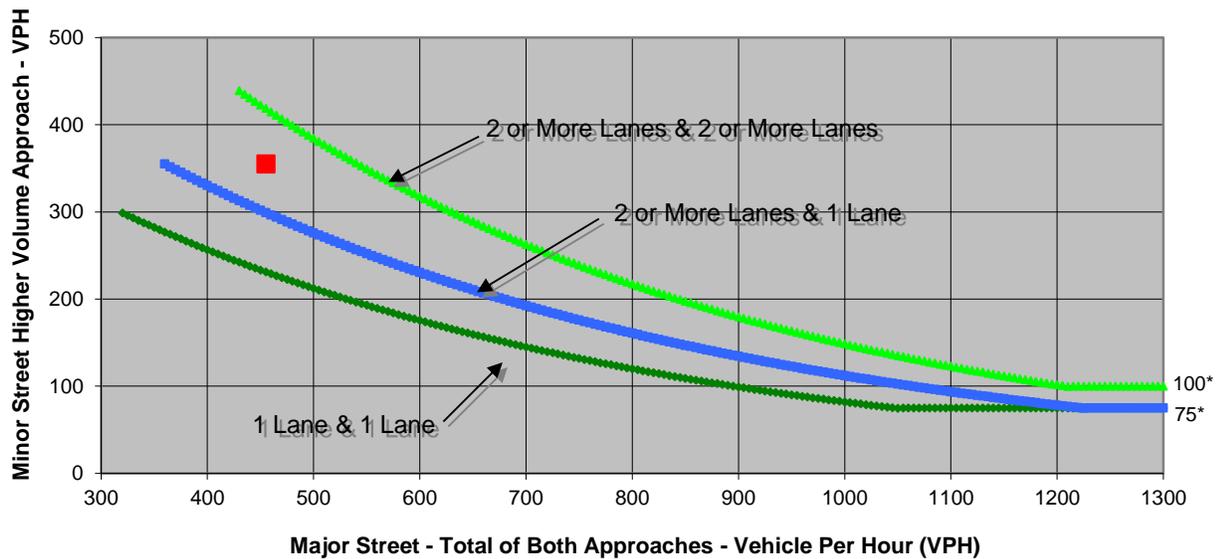
	NB	SB	EB	WB
Left	0	255	0	50
Through	0	0	220	150
Right	0	100	35	0
Total	0	355	255	200

Major Street Direction

 North/South
 x East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	SR 113 SB Ramps	
Number of Approach Lanes	1	1	YES
Traffic Volume (VPH) *	455	355	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 29
 Minor Street SR 113 SB Ramps

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	255	0	50
Through	0	0	220	150
Right	0	100	35	0
Total	0	355	255	200

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	28.8
Approach with Worst Case Delay	SB
Total Vehicles on Approach	355

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative Plus Project Conditions	2.8	355	810
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Met
Warrant Met	<u>NO</u>		

Major Street **CR 29**
 Minor Street **SR 113 NB Ramps**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

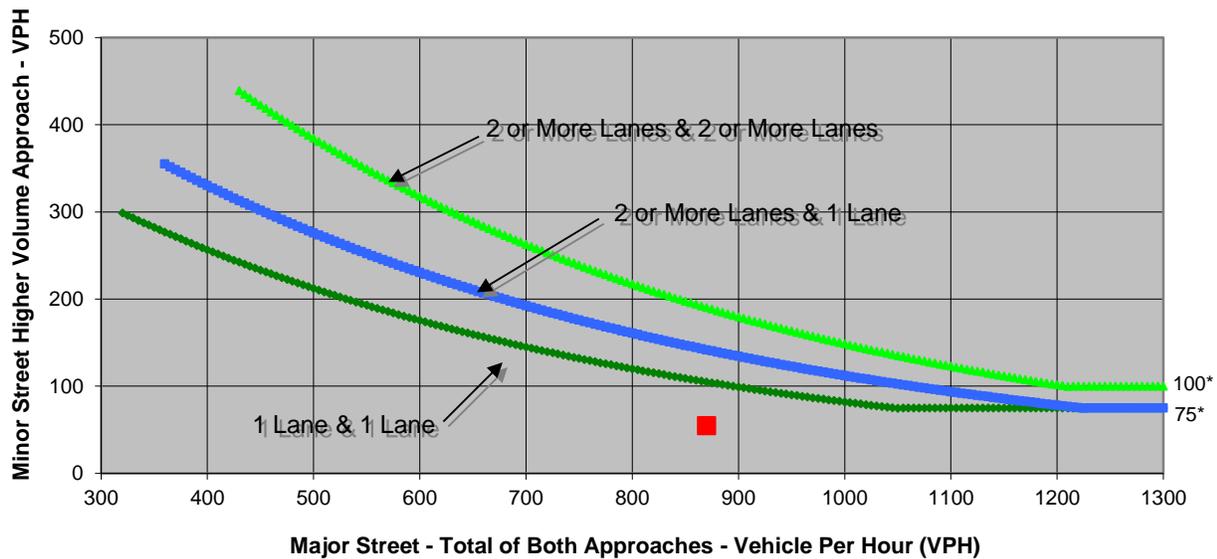
	NB	SB	EB	WB
Left	0	0	45	0
Through	0	25	430	170
Right	0	30	0	225
Total	0	55	475	395

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	SR 113 NB Ramps	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	870	55	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 29
 Minor Street SR 113 NB Ramps

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	45	0
Through	0	25	430	170
Right	0	30	0	225
Total	0	55	475	395

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	14.8
Approach with Worst Case Delay	SB
Total Vehicles on Approach	55

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative Plus Project Conditions	0.2	55	925
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		



Major Street CR 29
 Minor Street CR 100A

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	55	5	5	25
Through	0	0	360	335
Right	15	5	90	1
Total	70	10	455	361

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	22.8
Approach with Worst Case Delay	NB
Total Vehicles on Approach	70

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative Plus Project Conditions	0.4	70	896
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		

Major Street **CR 29**
 Minor Street **CR 101A**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

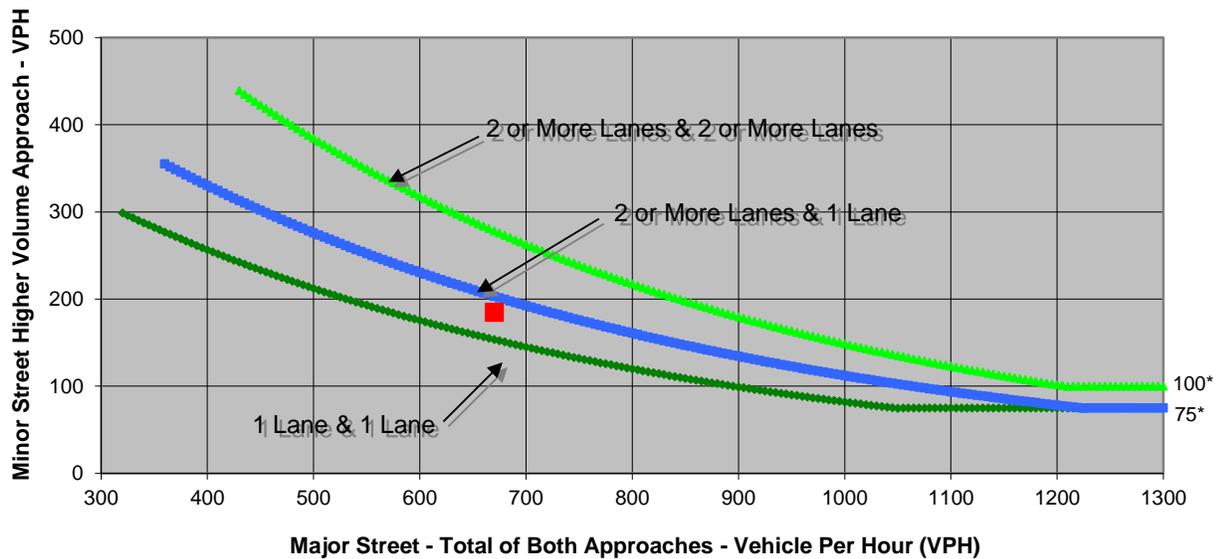
	NB	SB	EB	WB
Left	160	0	0	90
Through	0	0	160	200
Right	25	0	220	0
Total	185	0	380	290

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	CR 101A	
Number of Approach Lanes	1	1	<u>YES</u>
Traffic Volume (VPH) *	670	185	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 29
 Minor Street CR 101A

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	160	0	0	90
Through	0	0	160	200
Right	25	0	220	0
Total	185	0	380	290

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	27.7
Approach with Worst Case Delay	NB
Total Vehicles on Approach	185

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Cumulative Plus Project Conditions	1.4	185	855
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Met
Warrant Met	<u>NO</u>		

Major Street **CR 102**
 Minor Street **CR 29**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

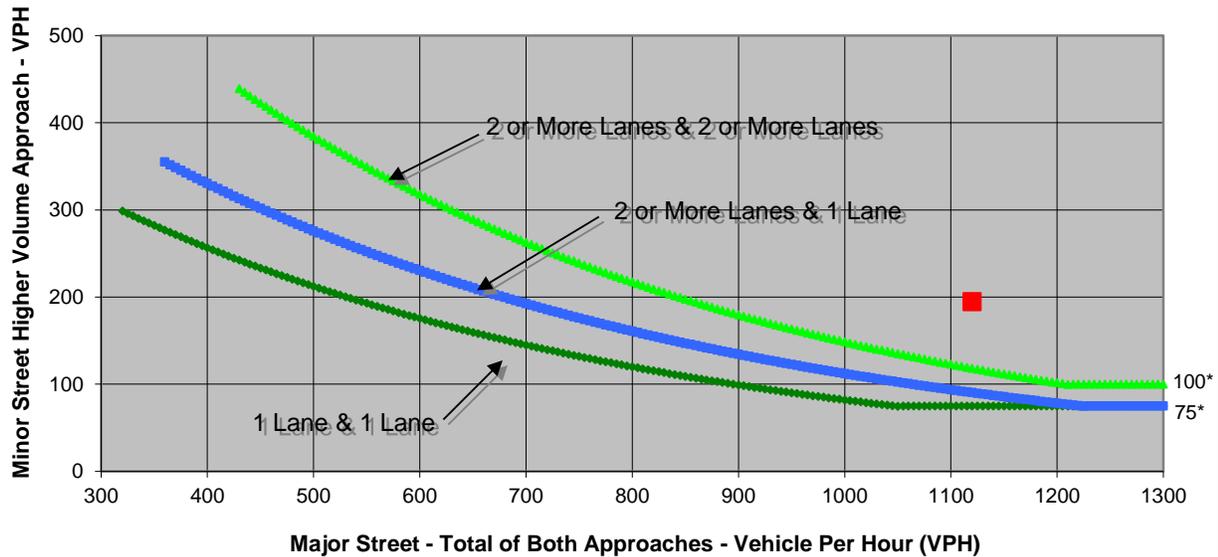
	NB	SB	EB	WB
Left	160	0	70	0
Through	320	510	0	0
Right	0	130	125	0
Total	480	640	195	0

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 29	
Number of Approach Lanes	1	2	YES
Traffic Volume (VPH) *	1,120	195	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 29

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	160	0	70	0
Through	320	510	0	0
Right	0	130	125	0
Total	480	640	195	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	80.1
Approach with Worst Case Delay	EB
Total Vehicles on Approach	195

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Cumulative Plus Project Conditions	4.3	195	1,315
Limiting Value	5	150	800
Condition Satisfied?	Not Met	Met	Met
Warrant Met	<u>NO</u>		

Major Street CR 102
 Minor Street CR 28H

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

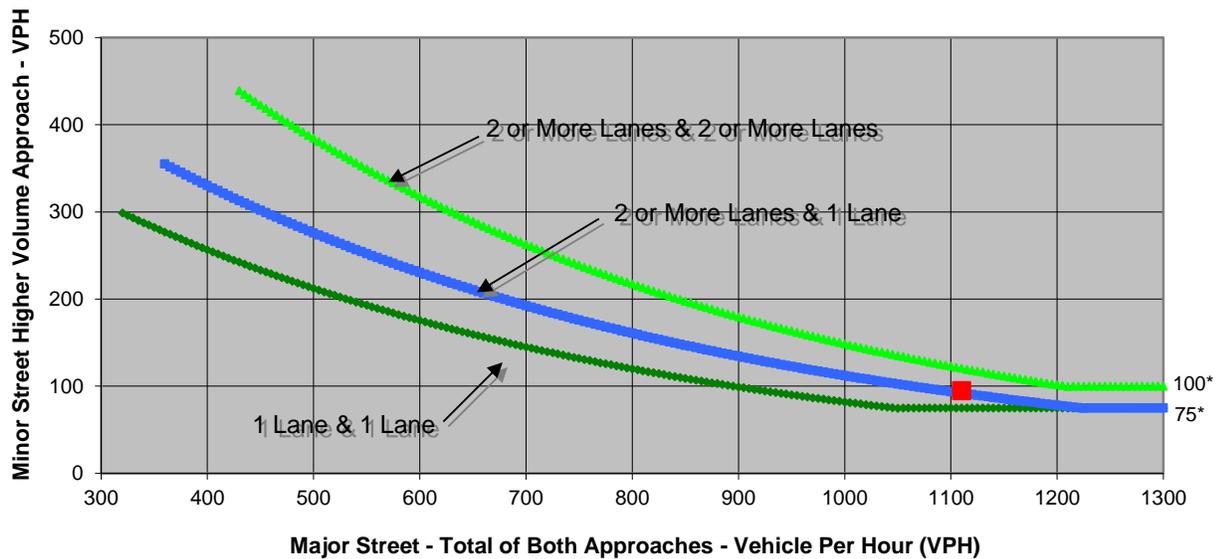
	NB	SB	EB	WB
Left	0	100	0	20
Through	350	620	0	0
Right	40	0	0	75
Total	390	720	0	95

Major Street Direction

x North/South
 East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 28H	
Number of Approach Lanes	1	2	YES
Traffic Volume (VPH) *	1,110	95	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 28H

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	100	0	20
Through	350	620	0	0
Right	40	0	0	75
Total	390	720	0	95

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	33.5
Approach with Worst Case Delay	WB
Total Vehicles on Approach	95

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Cumulative Plus Project Conditions	0.9	95	1,205
Limiting Value	5	150	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		

Major Street **CR 102**
 Minor Street **CR 27**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

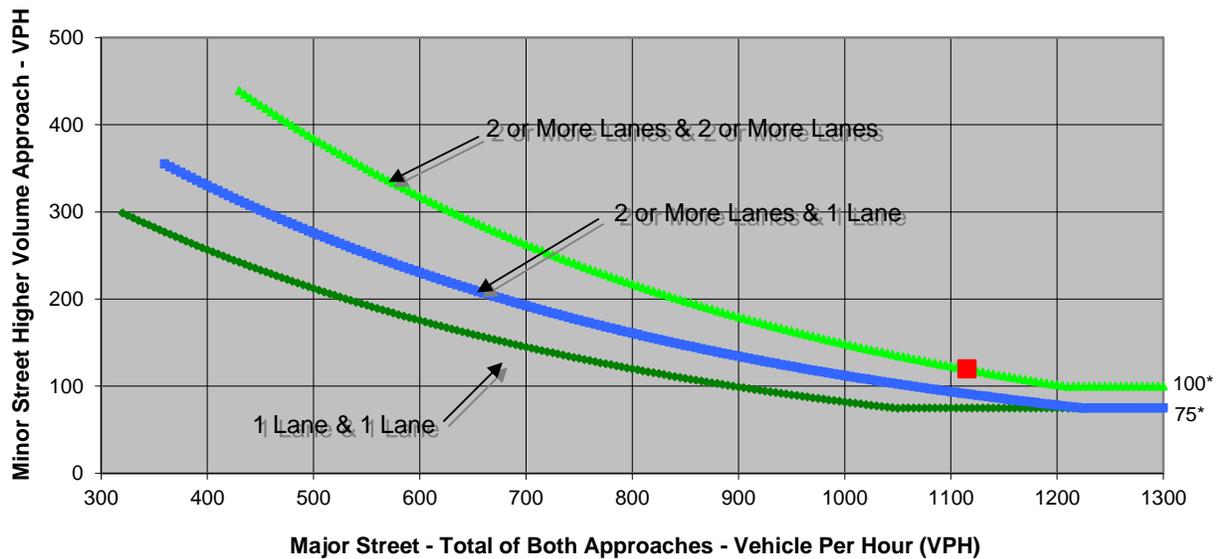
	NB	SB	EB	WB
Left	50	5	40	5
Through	360	645	10	5
Right	5	50	70	5
Total	415	700	120	15

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 27	
Number of Approach Lanes	1	1	YES
Traffic Volume (VPH) *	1,115	120	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 27

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	50	5	40	5
Through	360	645	10	5
Right	5	50	70	5
Total	415	700	120	15

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	71.6
Approach with Worst Case Delay	SB
Total Vehicles on Approach	700

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Cumulative Plus Project Conditions	13.9	120	1,250
Limiting Value	4	100	800
Condition Satisfied?	Met	Met	Met
Warrant Met	<u>YES</u>		

Major Street CR 102
 Minor Street CR 25A

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

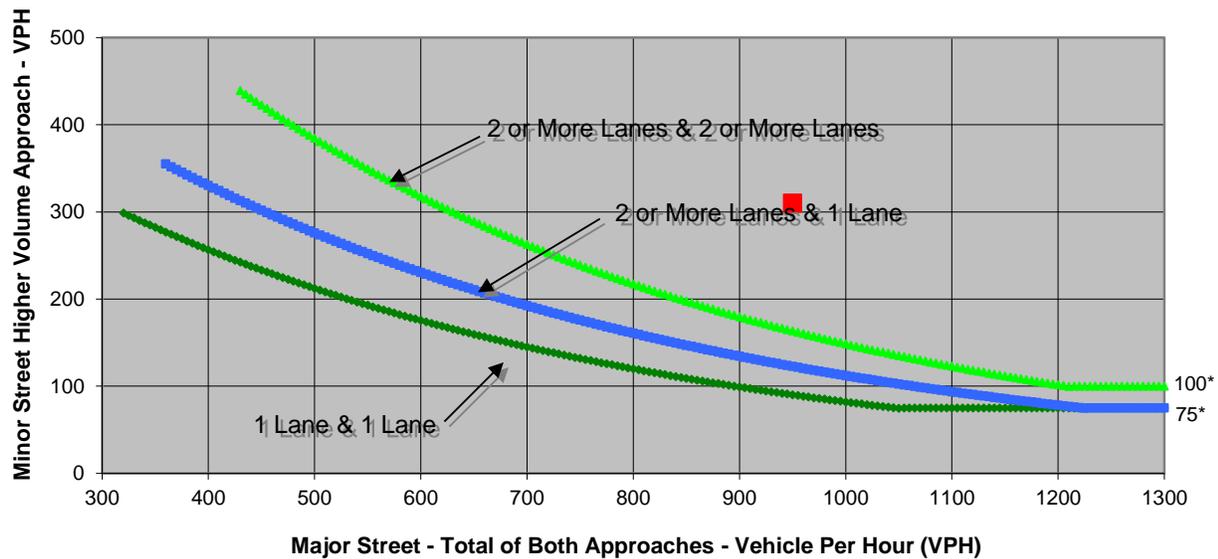
	NB	SB	EB	WB
Left	120	0	80	0
Through	290	490	0	0
Right	0	50	230	0
Total	410	540	310	0

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 25A	
Number of Approach Lanes	1	1	YES
Traffic Volume (VPH) *	950	310	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 25A

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	120	0	80	0
Through	290	490	0	0
Right	0	50	230	0
Total	410	540	310	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	17.9
Approach with Worst Case Delay	EB
Total Vehicles on Approach	310

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative Plus Project Conditions	1.5	310	1,260
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Met
Warrant Met	<u>NO</u>		

Major Street **CR 28H**
 Minor Street **CR 103**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

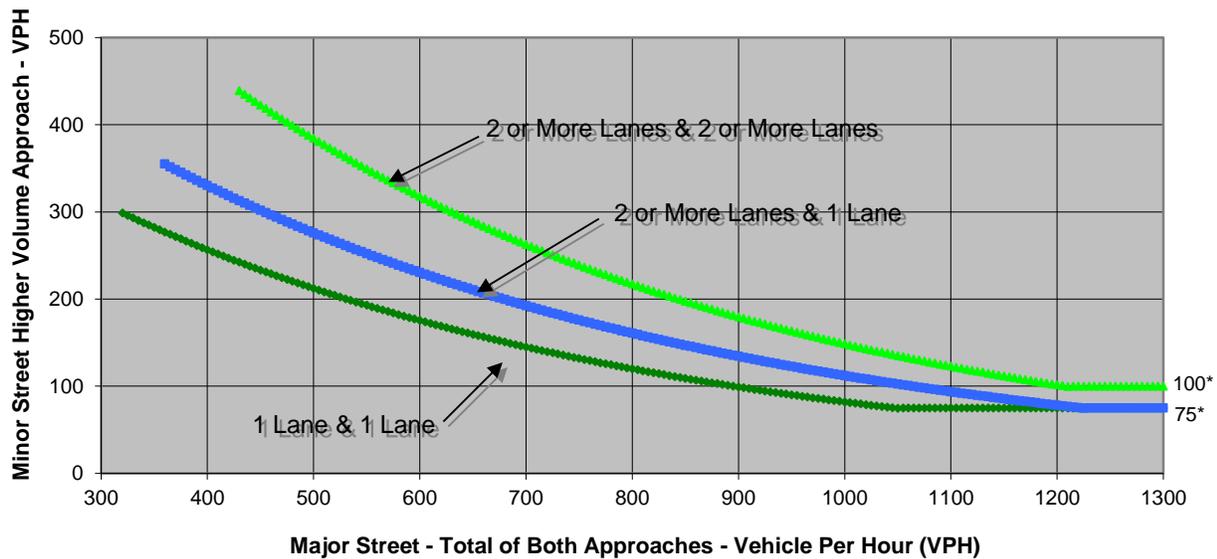
	NB	SB	EB	WB
Left	0	10	1	0
Through	0	0	140	90
Right	0	5	0	10
Total	0	15	141	100

Major Street Direction

North/South
x East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 28H	CR 103	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	241	15	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 28H
 Minor Street CR 103

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	10	1	0
Through	0	0	140	90
Right	0	5	0	10
Total	0	15	141	100

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.9
Approach with Worst Case Delay	SB
Total Vehicles on Approach	15

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative Plus Project Conditions	0	15	256
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street CR 28H
 Minor Street Yolo County Landfill Dwy

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

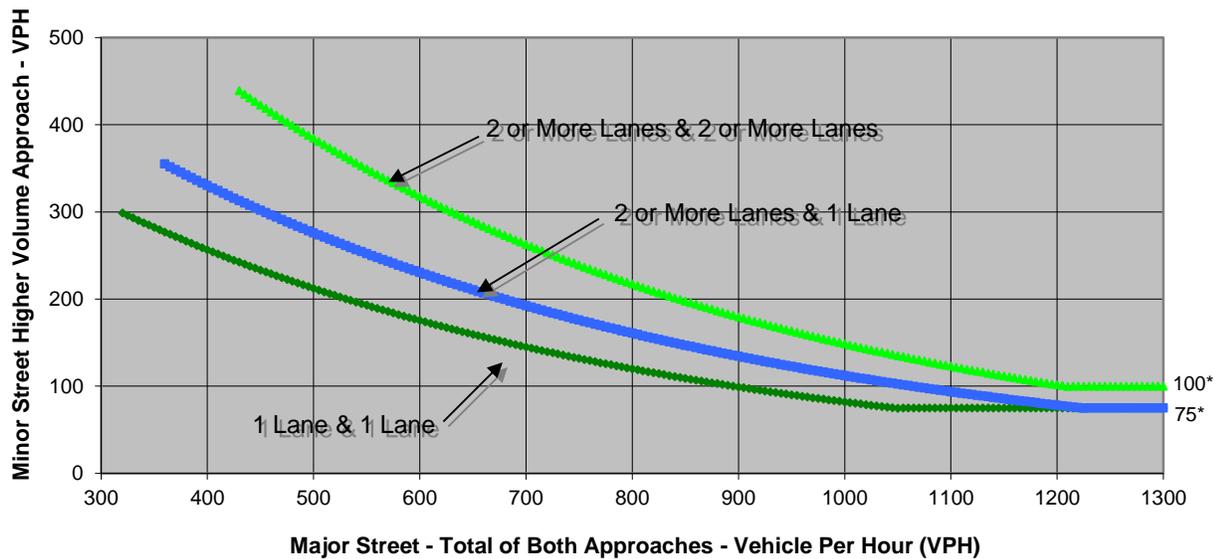
	NB	SB	EB	WB
Left	0	15	25	0
Through	0	0	120	75
Right	0	25	0	15
Total	0	40	145	90

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 28H	Yolo County Landfill Dwy	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	235	40	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 28H
 Minor Street Yolo County Landfill Dwy

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	15	25	0
Through	0	0	120	75
Right	0	25	0	15
Total	0	40	145	90

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.7
Approach with Worst Case Delay	SB
Total Vehicles on Approach	40

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative Plus Project Conditions	0.1	40	275
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 28H**
 Minor Street **CR 105**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

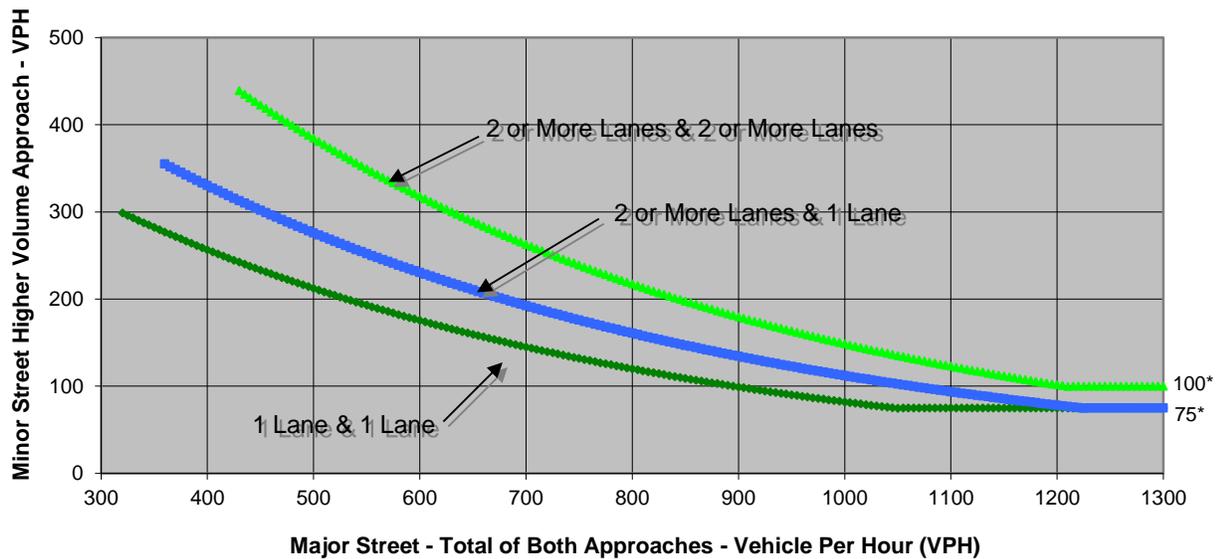
	NB	SB	EB	WB
Left	90	0	0	1
Through	0	0	2	1
Right	2	0	130	0
Total	92	0	132	2

Major Street Direction

North/South
x East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 28H	CR 105	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	134	92	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 28H
 Minor Street CR 105

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	90	0	0	1
Through	0	0	2	1
Right	2	0	130	0
Total	92	0	132	2

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.7
Approach with Worst Case Delay	NB
Total Vehicles on Approach	92

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Cumulative Plus Project Conditions	0.2	92	226
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 32A**
 Minor Street **CR 105**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

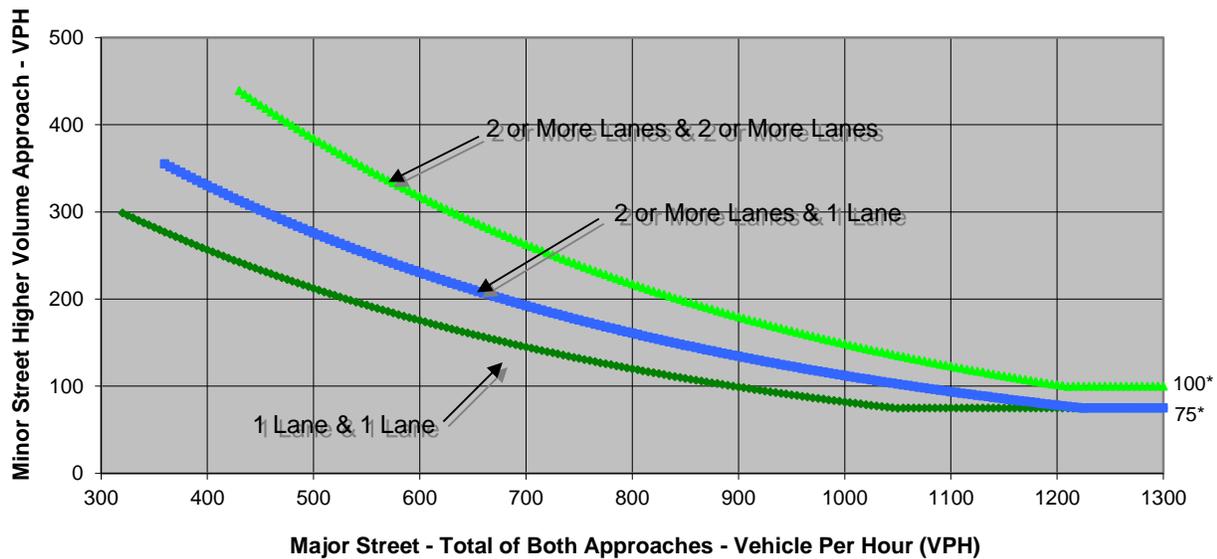
	NB	SB	EB	WB
Left	190	0	0	120
Through	0	0	10	10
Right	95	0	100	0
Total	285	0	110	130

Major Street Direction

x North/South
 East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 32A	CR 105	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	285	130	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 32A
 Minor Street CR 105

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	190	0	0	120
Through	0	0	10	10
Right	95	0	100	0
Total	285	0	110	130

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	26.7
Approach with Worst Case Delay	WB
Total Vehicles on Approach	130

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative Plus Project Conditions	1	130	525
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 32A**
 Minor Street **I-80 WB Ramps**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

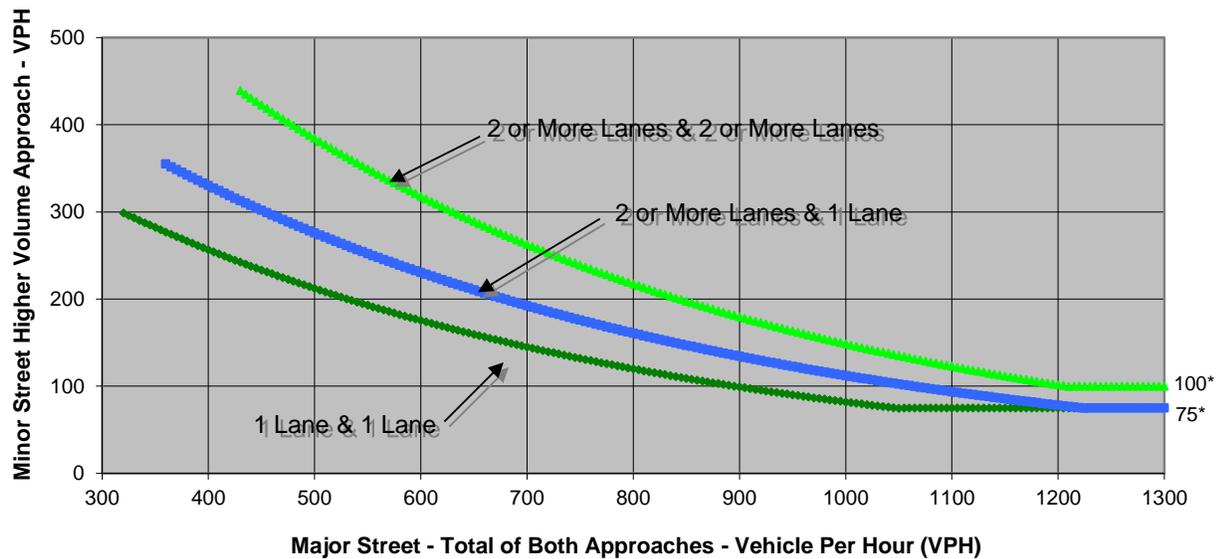
	NB	SB	EB	WB
Left	275	0	0	5
Through	0	0	215	10
Right	75	0	5	0
Total	350	0	220	15

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 32A	I-80 WB Ramps	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	235	350	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 32A
 Minor Street I-80 WB Ramps

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	275	0	0	5
Through	0	0	215	10
Right	75	0	5	0
Total	350	0	220	15

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	4.9
Approach with Worst Case Delay	NB
Total Vehicles on Approach	350

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative Plus Project Conditions	0.5	350	585
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **Chiles Road**
 Minor Street **I-80 EB Ramps**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **AM Peak Hour**

Turn Movement Volumes

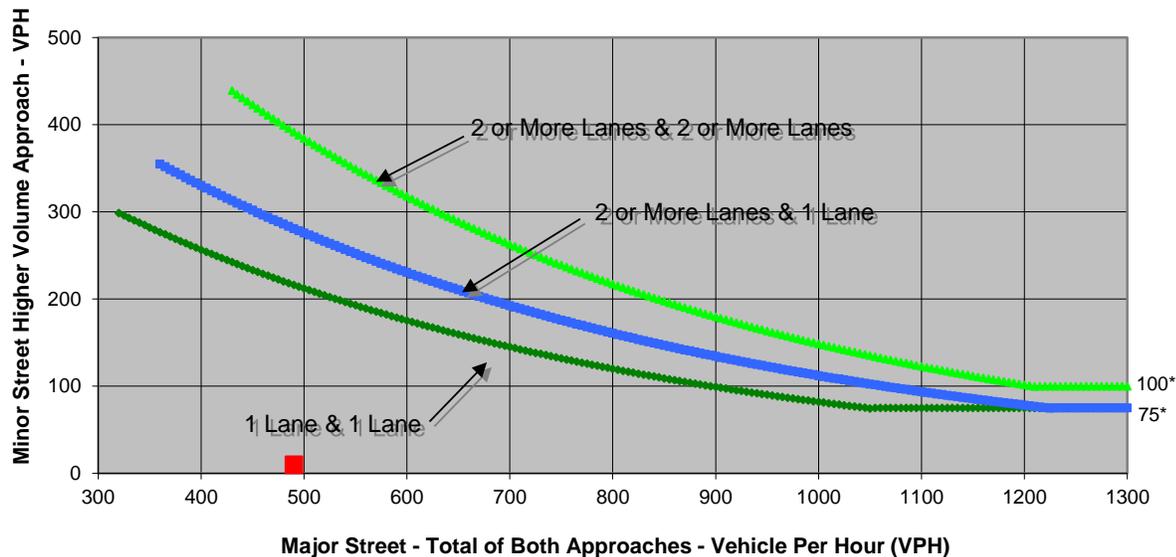
	NB	SB	EB	WB
Left	0	5	190	0
Through	0	0	10	60
Right	0	5	0	230
Total	0	10	200	290

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Chiles Road	I-80 EB Ramps	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	490	10	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street Chiles Road
 Minor Street I-80 EB Ramps

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour AM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	5	190	0
Through	0	0	10	60
Right	0	5	0	230
Total	0	10	200	290

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	2.9
Approach with Worst Case Delay	SB
Total Vehicles on Approach	10

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Cumulative Plus Project Conditions	0	10	500
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street CR 29
 Minor Street SR 113 SB Ramps

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

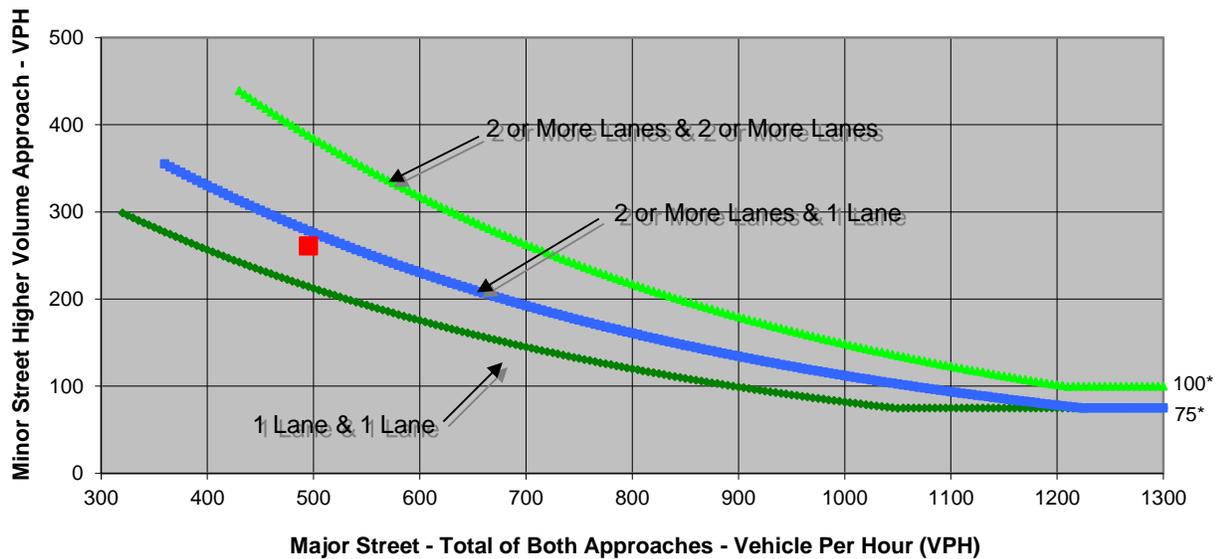
	NB	SB	EB	WB
Left	0	205	0	35
Through	0	1	270	150
Right	0	55	40	0
Total	0	261	310	185

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	SR 113 SB Ramps	
Number of Approach Lanes	1	1	YES
Traffic Volume (VPH) *	495	261	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 29
 Minor Street SR 113 SB Ramps

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	205	0	35
Through	0	1	270	150
Right	0	55	40	0
Total	0	261	310	185

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	21.8
Approach with Worst Case Delay	SB
Total Vehicles on Approach	261

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Cumulative Plus Project Conditions	1.6	261	756
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 29**
 Minor Street **SR 113 NB Ramps**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

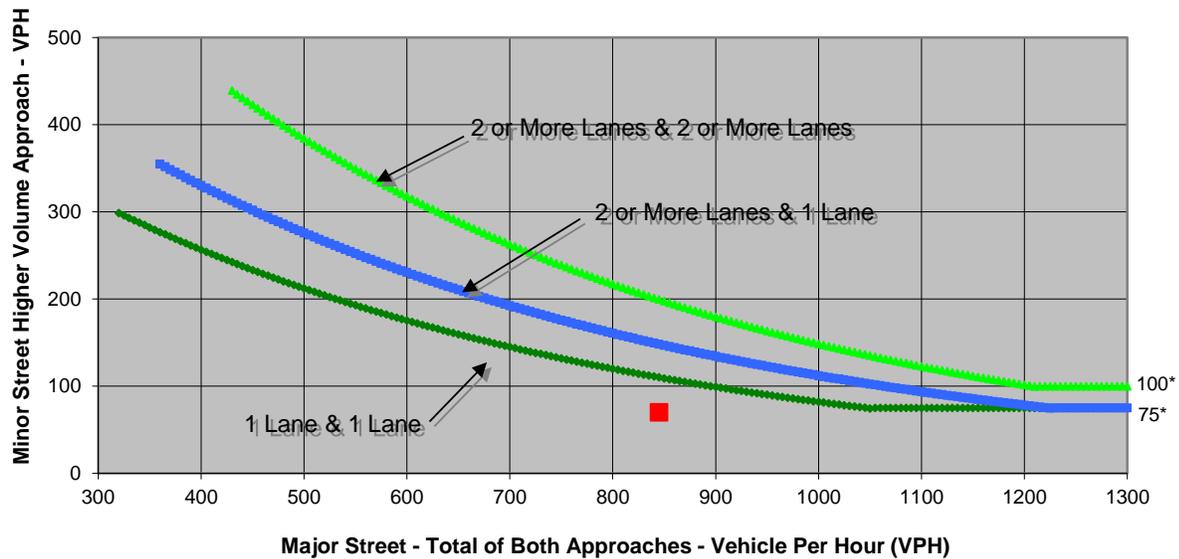
	NB	SB	EB	WB
Left	0	35	125	0
Through	0	0	350	150
Right	0	35	0	220
Total	0	70	475	370

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	SR 113 NB Ramps	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	845	70	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 29
 Minor Street SR 113 NB Ramps

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	35	125	0
Through	0	0	350	150
Right	0	35	0	220
Total	0	70	475	370

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	17.8
Approach with Worst Case Delay	SB
Total Vehicles on Approach	70

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Cumulative Plus Project Conditions	0.3	70	915
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		

Major Street **CR 29**
 Minor Street **CR 100A**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

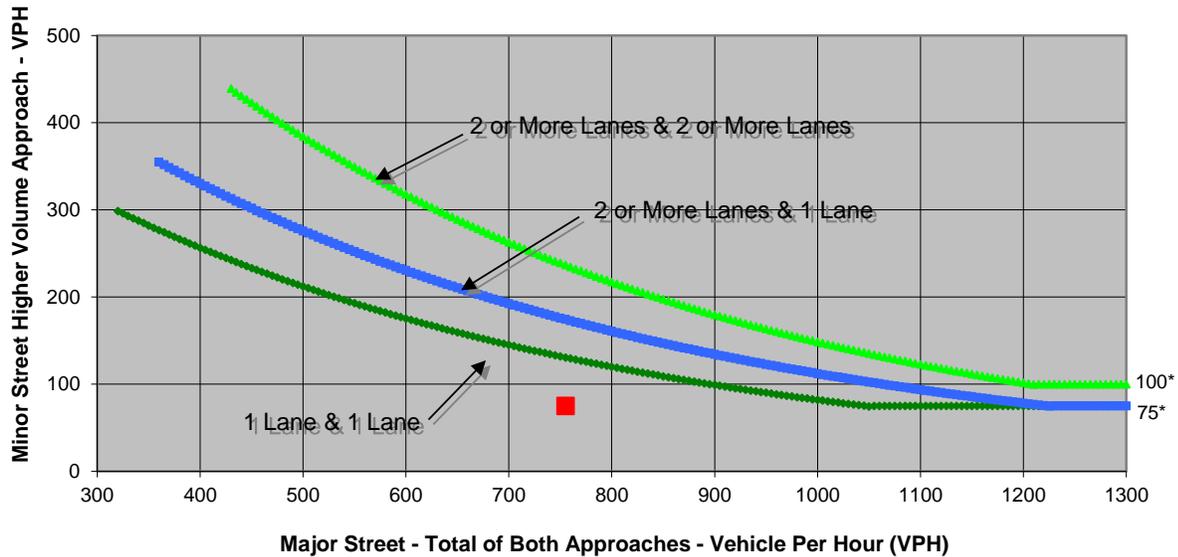
	NB	SB	EB	WB
Left	45	0	5	45
Through	5	1	330	320
Right	25	5	50	5
Total	75	6	385	370

Major Street Direction

North/South
x East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	CR 100A	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	755	75	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 29
 Minor Street CR 100A

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	45	0	5	45
Through	5	1	330	320
Right	25	5	50	5
Total	75	6	385	370

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	20.8
Approach with Worst Case Delay	NB
Total Vehicles on Approach	75

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Cumulative Plus Project Conditions	0.4	75	836
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		

Major Street **CR 29**
 Minor Street **CR 101A**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

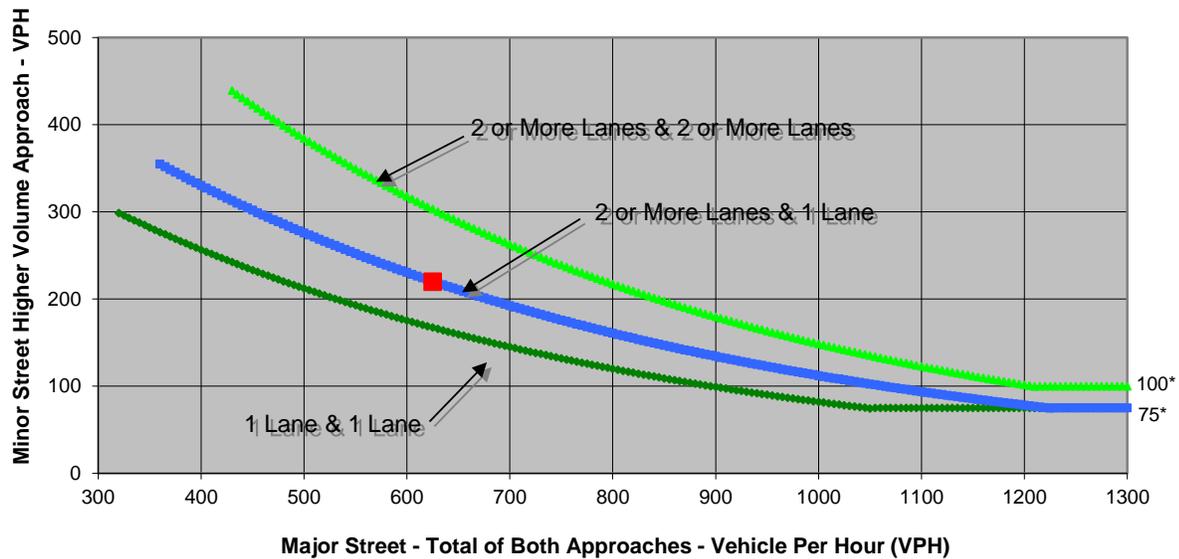
	NB	SB	EB	WB
Left	160	0	0	60
Through	0	0	200	210
Right	60	0	155	0
Total	220	0	355	270

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 29	CR 101A	
Number of Approach Lanes	1	1	YES
Traffic Volume (VPH) *	625	220	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 29
 Minor Street CR 101A

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	160	0	0	60
Through	0	0	200	210
Right	60	0	155	0
Total	220	0	355	270

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	26.7
Approach with Worst Case Delay	NB
Total Vehicles on Approach	220

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Cumulative Plus Project Conditions	1.6	220	845
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Met
Warrant Met	<u>NO</u>		



Major Street **CR 102**
 Minor Street **CR 29**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

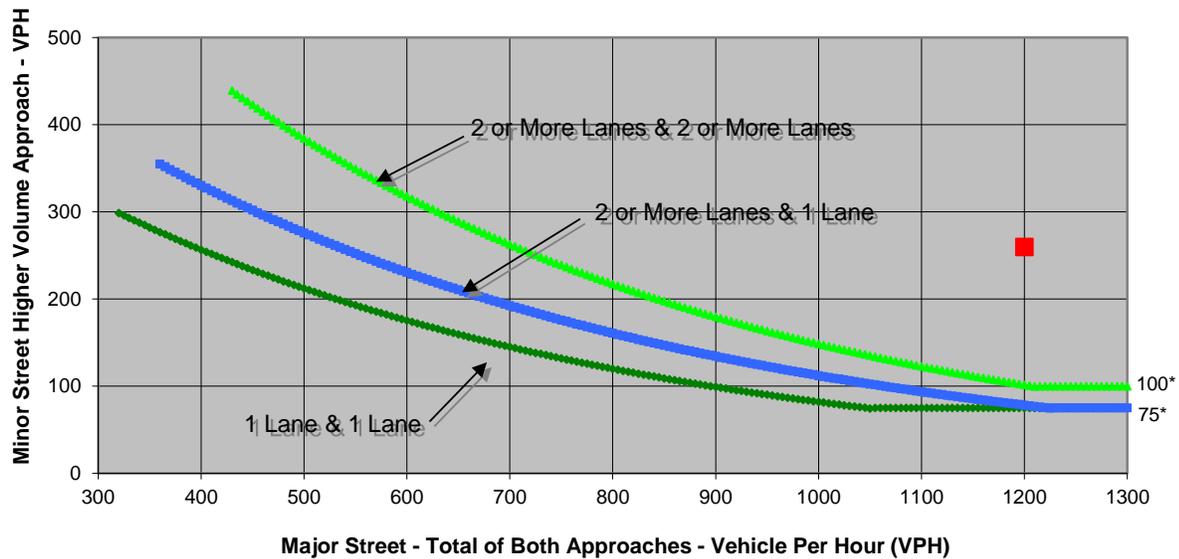
	NB	SB	EB	WB
Left	140	0	140	0
Through	510	420	0	0
Right	0	130	120	0
Total	650	550	260	0

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 29	
Number of Approach Lanes	1	2	<u>YES</u>
Traffic Volume (VPH) *	1,200	260	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 29

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	140	0	140	0
Through	510	420	0	0
Right	0	130	120	0
Total	650	550	260	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	134.7
Approach with Worst Case Delay	EB
Total Vehicles on Approach	260

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Cumulative Plus Project Conditions	9.7	260	1,460
Limiting Value	5	150	800
Condition Satisfied?	Met	Met	Met
Warrant Met	<u>YES</u>		



Major Street **CR 102**
 Minor Street **CR 28H**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

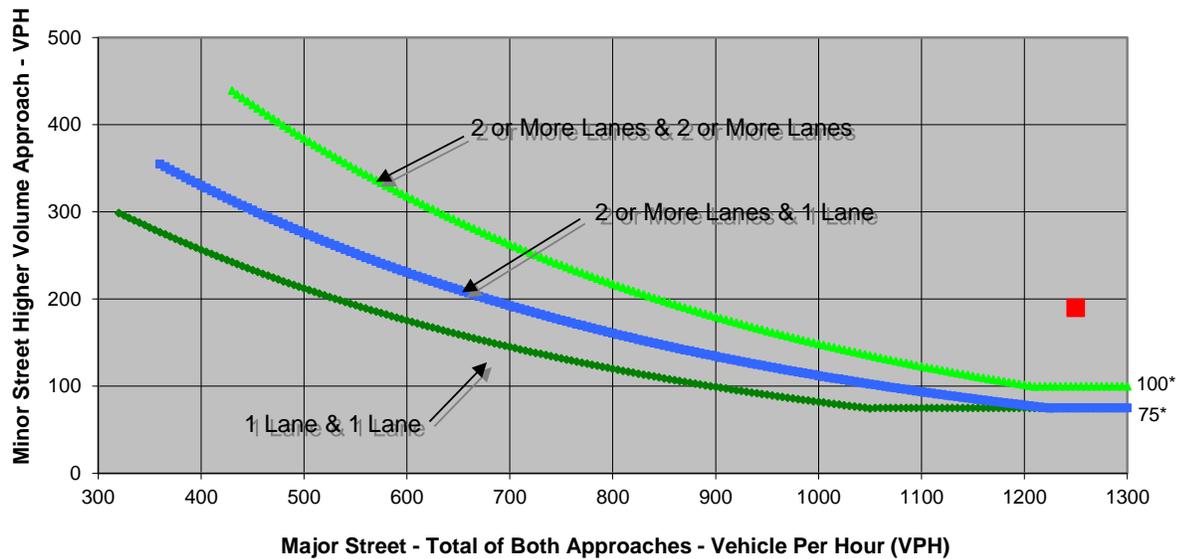
	NB	SB	EB	WB
Left	0	100	0	50
Through	570	500	0	0
Right	80	0	0	140
Total	650	600	0	190

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 28H	
Number of Approach Lanes	1	2	<u>YES</u>
Traffic Volume (VPH) *	1,250	190	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 28H

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	100	0	50
Through	570	500	0	0
Right	80	0	0	140
Total	650	600	0	190

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	39.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	190

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Cumulative Plus Project Conditions	2.1	190	1,440
Limiting Value	5	150	800
Condition Satisfied?	Not Met	Met	Met
Warrant Met	<u>NO</u>		



Major Street CR 102
 Minor Street CR 27

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

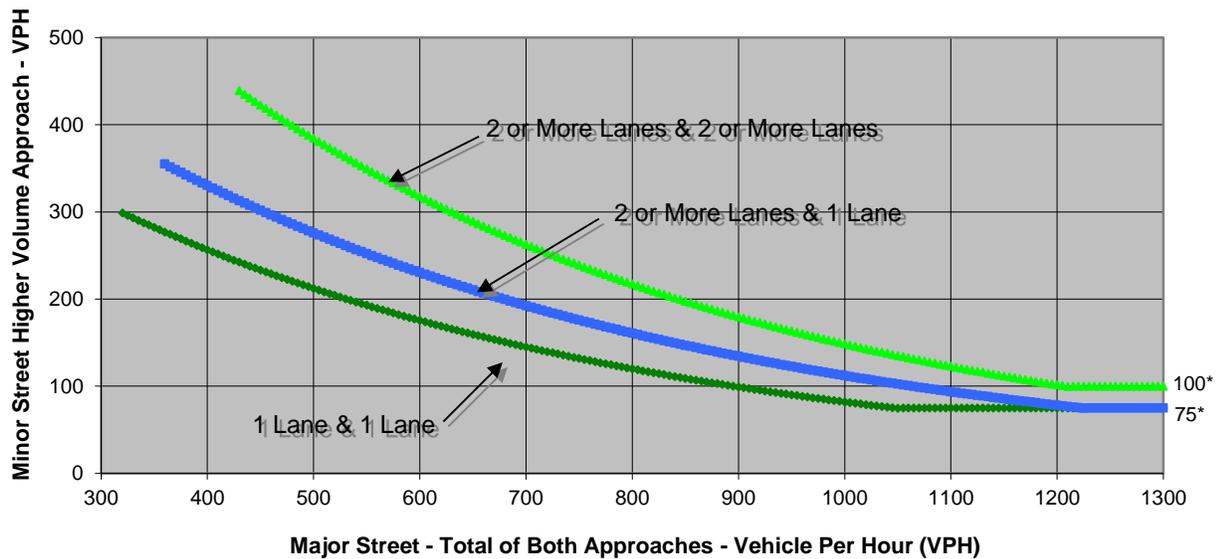
	NB	SB	EB	WB
Left	65	5	45	5
Through	645	600	10	15
Right	5	25	100	5
Total	715	630	155	25

Major Street Direction

x North/South
 East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 27	
Number of Approach Lanes	1	1	YES
Traffic Volume (VPH) *	1,345	155	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 27

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	65	5	45	5
Through	645	600	10	15
Right	5	25	100	5
Total	715	630	155	25

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	106
Approach with Worst Case Delay	NB
Total Vehicles on Approach	715

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative Plus Project Conditions	21.1	155	1,525
Limiting Value	4	100	800
Condition Satisfied?	Met	Met	Met
Warrant Met	<u>YES</u>		

Major Street **CR 102**
 Minor Street **CR 25A**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

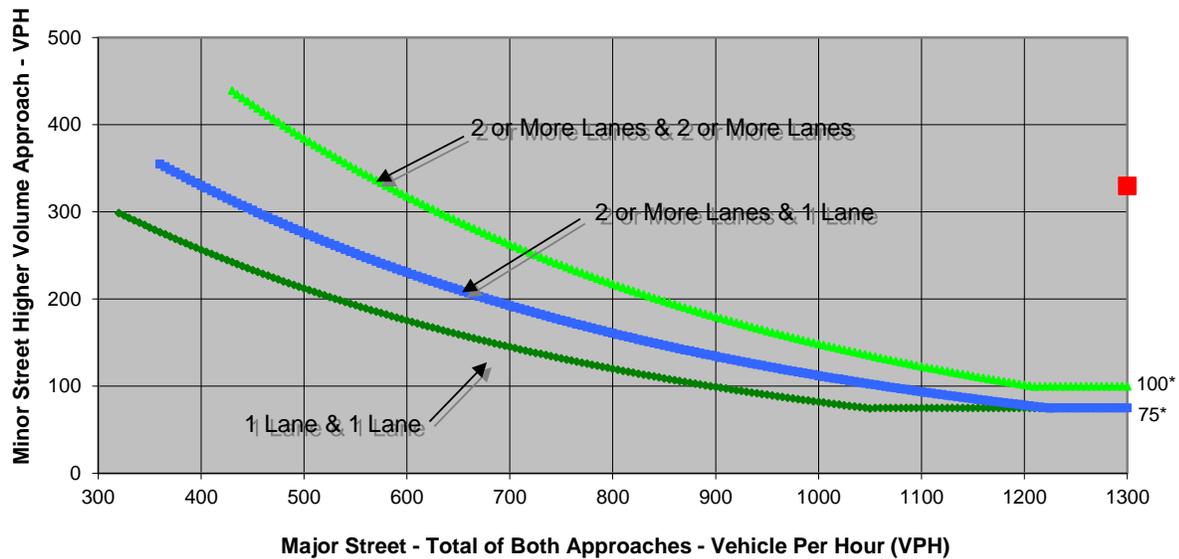
	NB	SB	EB	WB
Left	175	0	150	0
Through	520	445	0	0
Right	0	160	180	0
Total	695	605	330	0

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 102	CR 25A	
Number of Approach Lanes	1	1	<u>YES</u>
Traffic Volume (VPH) *	1,300	330	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 102
 Minor Street CR 25A

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	175	0	150	0
Through	520	445	0	0
Right	0	160	180	0
Total	695	605	330	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	17.5
Approach with Worst Case Delay	EB
Total Vehicles on Approach	330

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Cumulative Plus Project Conditions	1.6	330	1,630
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Met
Warrant Met	<u>NO</u>		



Major Street CR 28H
 Minor Street CR 103

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	15	0	0
Through	0	0	180	185
Right	0	5	0	25
Total	0	20	180	210

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.3
Approach with Worst Case Delay	SB
Total Vehicles on Approach	20

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Cumulative Plus Project Conditions	0.1	20	410
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street CR 28H
 Minor Street Yolo County Landfill Dwy

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

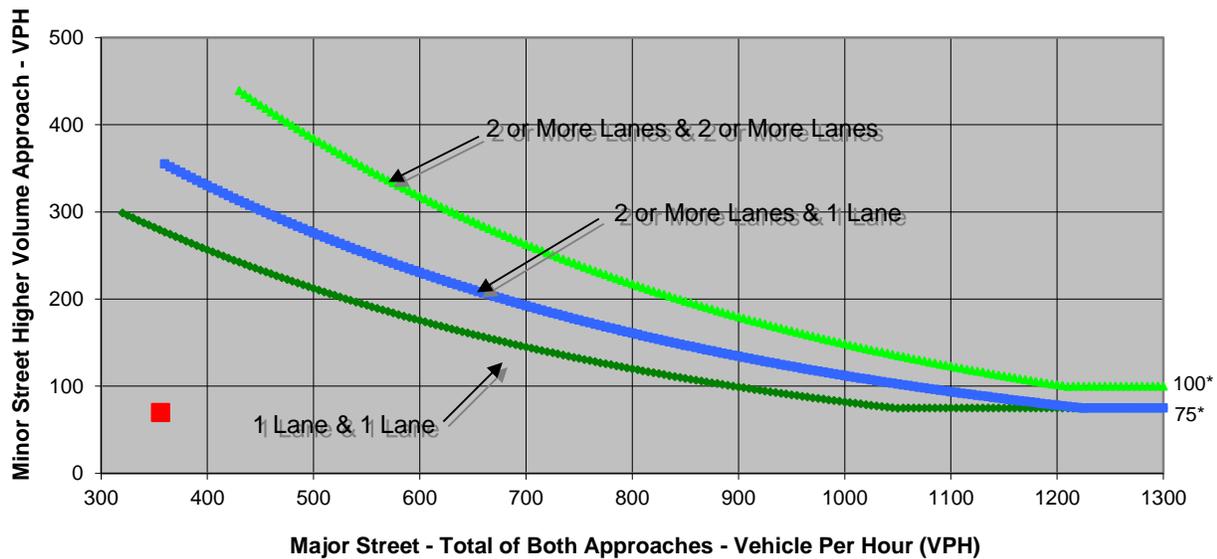
	NB	SB	EB	WB
Left	0	20	1	0
Through	0	0	195	160
Right	0	50	0	0
Total	0	70	196	160

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 28H	Yolo County Landfill Dwy	
Number of Approach Lanes	1	1	NO
Traffic Volume (VPH) *	356	70	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 28H
 Minor Street Yolo County Landfill Dwy

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	20	1	0
Through	0	0	195	160
Right	0	50	0	0
Total	0	70	196	160

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	10.5
Approach with Worst Case Delay	SB
Total Vehicles on Approach	70

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Cumulative Plus Project Conditions	0.2	70	426
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Not Met
Warrant Met	<u>NO</u>		

Major Street **CR 28H**
 Minor Street **CR 105**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

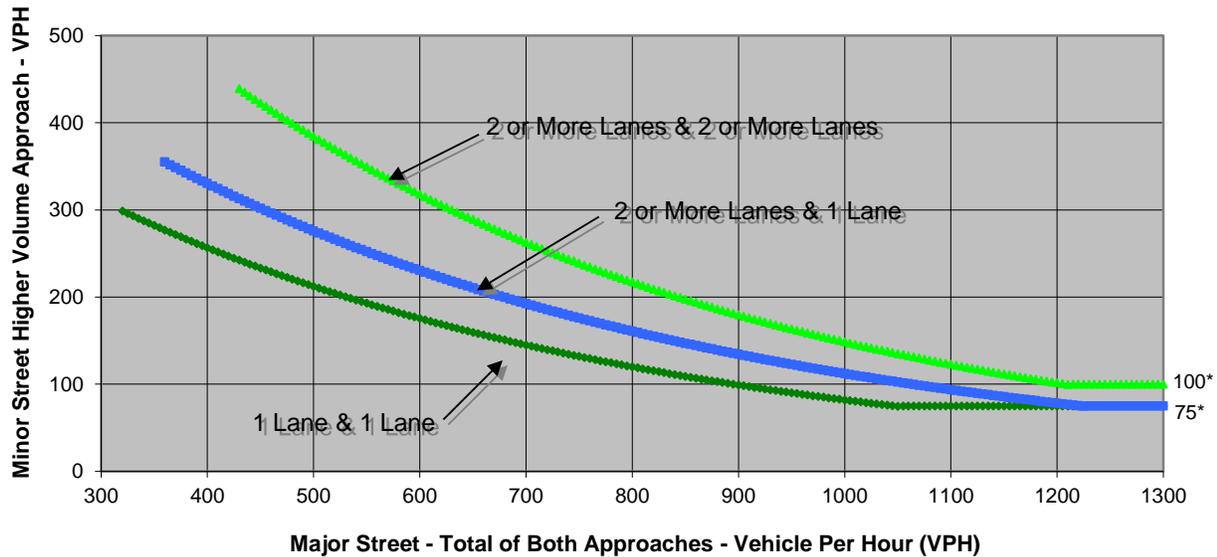
	NB	SB	EB	WB
Left	160	0	0	1
Through	0	0	0	0
Right	0	0	215	0
Total	160	0	215	1

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 28H	CR 105	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	216	160	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 28H
 Minor Street CR 105

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	160	0	0	1
Through	0	0	0	0
Right	0	0	215	0
Total	160	0	215	1

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	10.4
Approach with Worst Case Delay	NB
Total Vehicles on Approach	160

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative Plus Project Conditions	0.5	160	376
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Not Met
Warrant Met	<u>NO</u>		



Major Street **CR 32A**
 Minor Street **CR 105**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

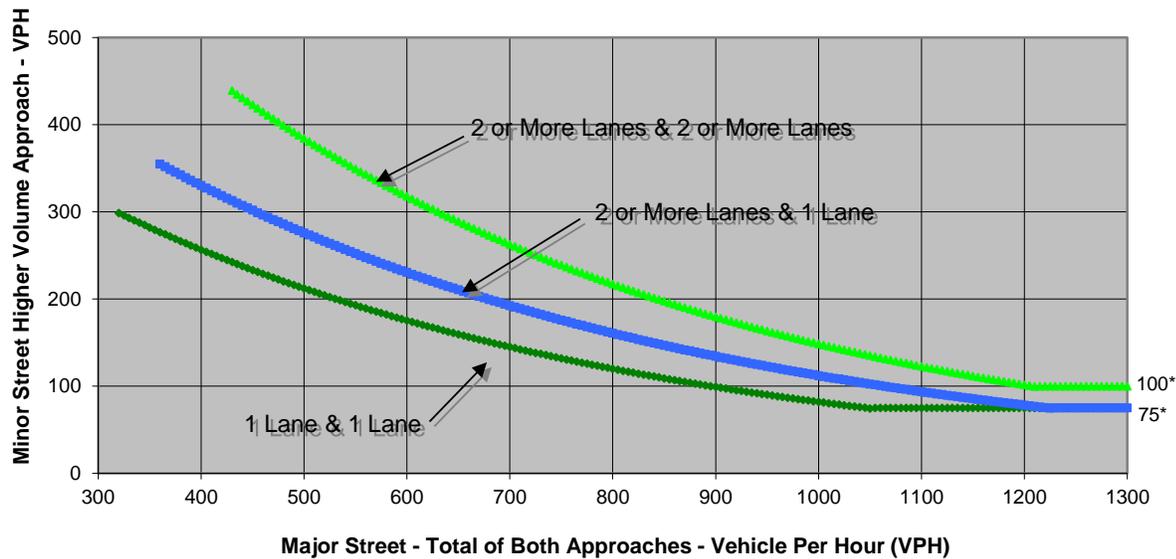
	NB	SB	EB	WB
Left	110	0	0	205
Through	0	0	5	10
Right	155	0	430	0
Total	265	0	435	215

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 32A	CR 105	
Number of Approach Lanes	1	1	<u>YES</u>
Traffic Volume (VPH) *	265	435	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 32A
 Minor Street CR 105

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	110	0	0	205
Through	0	0	5	10
Right	155	0	430	0
Total	265	0	435	215

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	264.2
Approach with Worst Case Delay	WB
Total Vehicles on Approach	215

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Cumulative Plus Project Conditions	15.8	435	915
Limiting Value	4	100	800
Condition Satisfied?	Met	Met	Met
Warrant Met	<u>YES</u>		

Major Street **CR 32A**
 Minor Street **I-80 WB Ramps**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

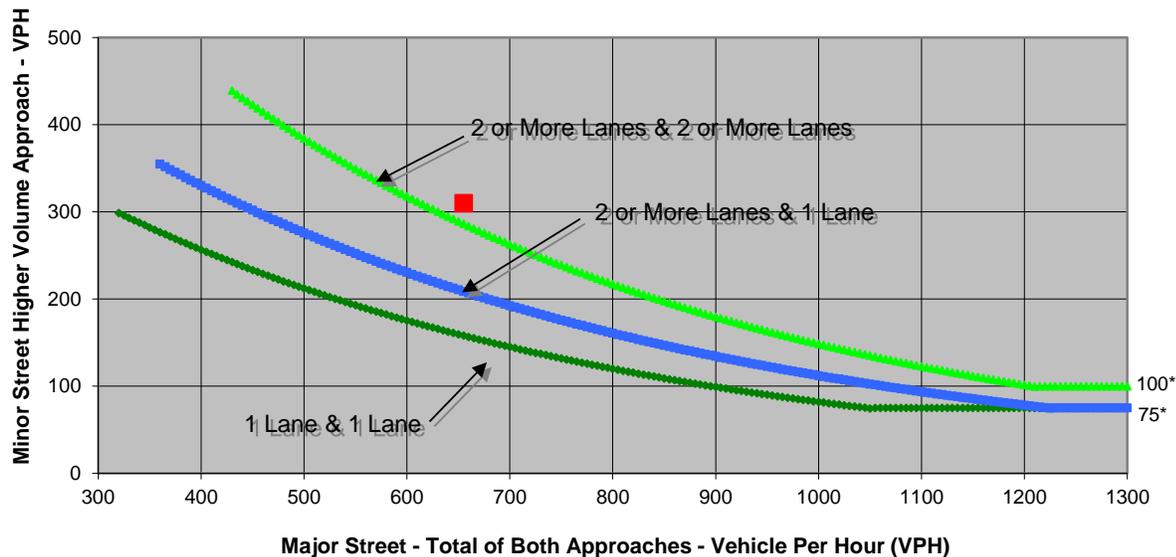
	NB	SB	EB	WB
Left	255	0	0	10
Through	0	0	630	10
Right	55	0	5	0
Total	310	0	635	20

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	CR 32A	I-80 WB Ramps	
Number of Approach Lanes	1	1	<u>YES</u>
Traffic Volume (VPH) *	655	310	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street CR 32A
 Minor Street I-80 WB Ramps

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	255	0	0	10
Through	0	0	630	10
Right	55	0	5	0
Total	310	0	635	20

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	719
Approach with Worst Case Delay	EB
Total Vehicles on Approach	635

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Cumulative Plus Project Conditions	126.8	310	965
Limiting Value	4	100	800
Condition Satisfied?	Met	Met	Met
Warrant Met	<u>YES</u>		



Major Street **Chiles Road**
 Minor Street **I-80 EB Ramps**

Project **Willowgrove Property LTA**
 Scenario **Cumulative Plus Project Conditions**
 Peak Hour **PM Peak Hour**

Turn Movement Volumes

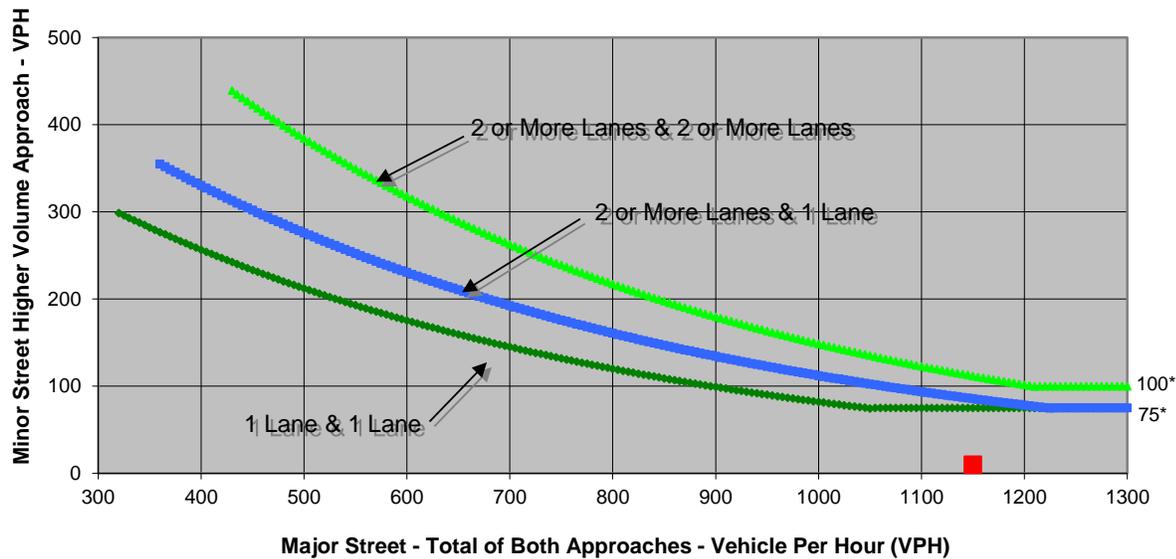
	NB	SB	EB	WB
Left	0	5	450	0
Through	0	0	15	60
Right	0	5	0	625
Total	0	10	465	685

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3B, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Chiles Road	I-80 EB Ramps	
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	1,150	10	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street Chiles Road
 Minor Street I-80 EB Ramps

Project Willowgrove Property LTA
 Scenario Cumulative Plus Project Conditions
 Peak Hour PM Peak Hour

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	5	450	0
Through	0	0	15	60
Right	0	5	0	625
Total	0	10	465	685

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	882.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	685

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
Cumulative Plus Project Conditions	168	10	1,160
Limiting Value	4	100	800
Condition Satisfied?	Met	Not Met	Met
Warrant Met	<u>NO</u>		

Appendix E: Recommended Improvements Technical Calculations

Intersection 27

Alhambra Dr/E Covell Blvd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	125	120	96.2%	47.3	6.3	D
	Through	26	26	99.2%	33.0	7.1	C
	Right Turn	39	39	99.3%	33.0	5.0	C
	Subtotal	190	185	97.3%	42.9	4.4	D
SB	Left Turn	206	210	101.7%	41.1	7.7	D
	Through	49	48	97.2%	47.5	16.4	D
	Right Turn	198	196	99.2%	44.5	12.8	D
	Subtotal	453	454	100.1%	43.1	10.2	D
EB	Left Turn	120	110	91.7%	50.2	9.5	D
	Through	609	591	97.0%	25.2	3.4	C
	Right Turn	100	95	94.5%	26.2	7.1	C
	Subtotal	829	795	95.9%	28.8	3.3	C
WB	Left Turn	58	56	96.6%	72.5	26.1	E
	Through	442	440	99.6%	52.6	20.7	D
	Right Turn	45	45	100.3%	42.7	16.6	D
	Subtotal	545	542	99.4%	53.7	20.3	D
Total		2,017	1,975	97.9%	40.4	7.7	D

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

Willowgrove Property TIS
Existing Plus Project Improvement Conditions
AM Peak Hour

Intersection 28 Willowgrove Road East/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	85	86	101.3%	7.5	1.3	A
	Subtotal	85	86	101.3%	7.5	1.3	A
EB	Left Turn						
	Through	864	844	97.7%	6.5	1.0	A
	Right Turn						
	Subtotal	864	844	97.7%	6.5	1.0	A
WB	Left Turn						
	Through	460	458	99.7%	1.4	0.2	A
	Right Turn	45	48	106.2%	1.0	0.4	A
	Subtotal	505	506	100.3%	1.4	0.2	A
Total		1,454	1,436	98.8%	4.7	0.7	A

Intersection 27

Alhambra Dr/E Covell Blvd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	97	98	100.8%	52.9	12.7	D
	Through	67	74	109.7%	47.0	10.1	D
	Right Turn	4	5	112.5%	18.1	21.6	B
	Subtotal	168	176	104.6%	50.4	10.5	D
SB	Left Turn	156	160	102.8%	50.4	9.1	D
	Through	37	40	108.4%	55.0	15.5	D
	Right Turn	150	154	102.9%	53.3	13.5	D
	Subtotal	343	355	103.4%	52.1	9.2	D
EB	Left Turn	328	322	98.3%	50.7	5.6	D
	Through	701	706	100.7%	15.6	2.3	B
	Right Turn	155	164	105.5%	13.9	2.4	B
	Subtotal	1,184	1,191	100.6%	25.1	2.8	C
WB	Left Turn	40	39	96.8%	57.9	9.7	E
	Through	542	544	100.4%	39.4	6.8	D
	Right Turn	121	118	97.4%	32.5	4.3	C
	Subtotal	703	701	99.7%	39.1	5.6	D
Total		2,398	2,423	101.0%	35.1	3.6	D

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

Willowgrove Property TIS
Existing Plus Project with Improvement Conditions
PM Peak Hour

Intersection 28 Willowgrove Road East/E Covell Blvd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	67	69	102.5%	5.9	1.0	A
	Subtotal	67	69	102.5%	5.9	1.0	A
EB	Left Turn						
	Through	871	876	100.5%	5.5	1.2	A
	Right Turn						
	Subtotal	871	876	100.5%	5.5	1.2	A
WB	Left Turn						
	Through	636	633	99.6%	1.2	0.2	A
	Right Turn	121	120	99.2%	0.6	0.1	A
	Subtotal	757	753	99.5%	1.1	0.2	A
Total		1,695	1,697	100.1%	3.6	0.8	A

Intersection 27 **Alhambra Dr/E Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	130	126	96.5%	43.5	5.7	D
	Through	26	29	111.2%	41.6	15.0	D
	Right Turn	40	43	106.5%	34.6	9.4	C
	Subtotal	196	197	100.5%	40.8	5.0	D
SB	Left Turn	206	210	101.7%	44.6	5.1	D
	Through	49	49	99.2%	41.2	16.3	D
	Right Turn	198	195	98.5%	45.5	17.8	D
	Subtotal	453	453	100.0%	44.8	11.1	D
EB	Left Turn	120	121	101.1%	45.9	6.6	D
	Through	840	854	101.7%	27.4	2.3	C
	Right Turn	130	132	101.5%	23.9	4.2	C
	Subtotal	1,090	1,108	101.6%	29.0	2.0	C
WB	Left Turn	80	74	92.0%	49.5	11.3	D
	Through	525	485	92.3%	24.3	2.5	C
	Right Turn	45	43	94.4%	27.1	9.8	C
	Subtotal	650	601	92.4%	27.6	2.7	C
Total		2,389	2,359	98.7%	33.0	2.4	C

Intersection 28 **Willowgrove Road East/E Covell Blvd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	85	87	102.0%	5.1	1.3	A
	Subtotal	85	87	102.0%	5.1	1.3	A
EB	Left Turn						
	Through	1,096	1,117	101.9%	8.7	1.2	A
	Right Turn						
	Subtotal	1,096	1,117	101.9%	8.7	1.2	A
WB	Left Turn						
	Through	565	514	91.0%	4.5	0.2	A
	Right Turn	45	44	96.9%	4.2	0.3	A
	Subtotal	610	558	91.4%	4.5	0.2	A
Total		1,791	1,761	98.3%	7.2	0.8	A

Intersection 27 **Alhambra Dr/E Covell Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	220	216	98.0%	44.1	4.3	D
	Through	67	73	108.2%	39.8	7.3	D
	Right Turn	5	6	116.0%	34.0	36.5	C
	Subtotal	292	294	100.6%	43.1	3.9	D
SB	Left Turn	156	160	102.8%	42.9	6.4	D
	Through	37	38	103.2%	53.2	17.6	D
	Right Turn	160	170	106.0%	47.2	8.0	D
	Subtotal	353	368	104.3%	46.0	7.3	D
EB	Left Turn	328	280	85.4%	51.3	6.0	D
	Through	910	815	89.6%	22.9	2.7	C
	Right Turn	180	151	83.8%	22.2	4.4	C
	Subtotal	1,418	1,246	87.9%	29.6	3.2	C
WB	Left Turn	40	33	83.5%	48.3	12.0	D
	Through	800	713	89.1%	36.8	2.9	D
	Right Turn	121	108	89.3%	33.1	6.8	C
	Subtotal	961	854	88.9%	36.8	3.2	D
Total		3,024	2,762	91.3%	35.3	2.9	D

Intersection 28 **Willowgrove Road East/E Covell Blvd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn	67	68	100.7%	4.9	0.9	A
	Subtotal	67	68	100.7%	4.9	0.9	A
EB	Left Turn						
	Through	1,081	994	91.9%	7.9	1.4	A
	Right Turn						
	Subtotal	1,081	994	91.9%	7.9	1.4	A
WB	Left Turn						
	Through	894	790	88.4%	3.3	0.3	A
	Right Turn	121	110	90.8%	3.0	0.3	A
	Subtotal	1,015	900	88.7%	3.3	0.3	A
Total		2,163	1,962	90.7%	5.7	0.8	A