APPENDIX E

TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

APPENDIX E-I

EXISTING TRAFFIC CONDITIONS

Signal Warrants Report For Intersection 2: State Street at Community College Drive

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	1080	430	85	14
2	1048	417	82	14
3	1026	409	81	13
4	961	383	76	12
5	853	340	67	11
6	842	335	66	11
7	832	331	65	11
8	756	301	59	10
9	745	297	59	10
10	734	292	58	10
11	637	254	50	8
12	594	237	47	8
13	583	232	46	8
14	432	172	34	6
15	432	172	34	6
16	302	120	24	4
17	173	69	14	2
18	173	69	14	2
19	97	39	8	1
20	54	22	4	1
21	32	13	3	0
22	11	4	1	0
23	11	4	1	0
24	11	4	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	1510	1	85	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	3	1465	1	82	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
3	3	1435	1	81	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
4	3	1344	1	76	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
5	3	1193	1	67	No	No	No	No	No	Yes	Yes	Yes	Yes	No
6	3	1177	1	66	No	No	No	No	No	Yes	Yes	Yes	Yes	No
7	3	1163	1	65	No	No	No	No	No	Yes	Yes	Yes	Yes	No
8	3	1057	1	59	No	No	No	No	No	No	Yes	Yes	No	No
9	3	1042	1	59	No	No	No	No	No	No	Yes	Yes	No	No
10	3	1026	1	58	No	No	No	No	No	No	Yes	Yes	No	No
11	3	891	1	50	No	No	No	No	No	No	No	Yes	No	No
12	3	831	1	47	No	No	No	No	No	No	No	Yes	No	No
13	3	815	1	46	No	No	No	No	No	No	No	Yes	No	No
14	3	604	1	34	No	No	No	No	No	No	No	No	No	No
15	3	604	1	34	No	No	No	No	No	No	No	No	No	No
16	3	422	1	24	No	No	No	No	No	No	No	No	No	No
17	3	242	1	14	No	No	No	No	No	No	No	No	No	No
18	3	242	1	14	No	No	No	No	No	No	No	No	No	No
19	3	136	1	8	No	No	No	No	No	No	No	No	No	No
20	3	76	1	4	No	No	No	No	No	No	No	No	No	No
21	3	45	1	3	No	No	No	No	No	No	No	No	No	No
22	3	15	1	1	No	No	No	No	No	No	No	No	No	No
23	3	15	1	1	No	No	No	No	No	No	No	No	No	No
24	3	15	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	1	4	7	10	13	7	4

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	39	16.9
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:55	0:03
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	85	14
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1609	1609
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 2: State Street at Community College Drive

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	615	738	42	23
2	597	716	41	22
3	584	701	40	22
4	547	657	37	20
5	486	583	33	18
6	480	576	33	18
7	474	568	32	18
8	431	517	29	16
9	424	509	29	16
10	418	502	29	16
11	363	435	25	14
12	338	406	23	13
13	332	399	23	12
14	246	295	17	9
15	246	295	17	9
16	172	207	12	6
17	98	118	7	4
18	98	118	7	4
19	55	66	4	2
20	31	37	2	1
21	18	22	1	1
22	6	7	0	0
23	6	7	0	0
24	6	7	0	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	1353	1	42	No	No	No	No	No	No	No	Yes	No	No
2	3	1313	1	41	No	No	No	No	No	No	No	No	No	No
3	3	1285	1	40	No	No	No	No	No	No	No	No	No	No
4	3	1204	1	37	No	No	No	No	No	No	No	No	No	No
5	3	1069	1	33	No	No	No	No	No	No	No	No	No	No
6	3	1056	1	33	No	No	No	No	No	No	No	No	No	No
7	3	1042	1	32	No	No	No	No	No	No	No	No	No	No
8	3	948	1	29	No	No	No	No	No	No	No	No	No	No
9	3	933	1	29	No	No	No	No	No	No	No	No	No	No
10	3	920	1	29	No	No	No	No	No	No	No	No	No	No
11	3	798	1	25	No	No	No	No	No	No	No	No	No	No
12	3	744	1	23	No	No	No	No	No	No	No	No	No	No
13	3	731	1	23	No	No	No	No	No	No	No	No	No	No
14	3	541	1	17	No	No	No	No	No	No	No	No	No	No
15	3	541	1	17	No	No	No	No	No	No	No	No	No	No
16	3	379	1	12	No	No	No	No	No	No	No	No	No	No
17	3	216	1	7	No	No	No	No	No	No	No	No	No	No
18	3	216	1	7	No	No	No	No	No	No	No	No	No	No
19	3	121	1	4	No	No	No	No	No	No	No	No	No	No
20	3	68	1	2	No	No	No	No	No	No	No	No	No	No
21	3	40	1	1	No	No	No	No	No	No	No	No	No	No
22	3	13	1	0	No	No	No	No	No	No	No	No	No	No
23	3	13	1	0	No	No	No	No	No	No	No	No	No	No
24	3	13	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	1	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	31.6	16.1
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:22	0:06
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	42	23
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1418	1418
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

APPENDIX E-II

YEAR 2026 CUMULATIVE TRAFFIC CONDITIONS

Signal Warrants Report For Intersection 2: State Street at Community College Drive

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	1180	477	91	18
2	1145	463	88	17
3	1121	453	86	17
4	1050	425	81	16
5	932	377	72	14
6	920	372	71	14
7	909	367	70	14
8	826	334	64	13
9	814	329	63	12
10	802	324	62	12
11	696	281	54	11
12	649	262	50	10
13	637	258	49	10
14	472	191	36	7
15	472	191	36	7
16	330	134	25	5
17	189	76	15	3
18	189	76	15	3
19	106	43	8	2
20	59	24	5	1
21	35	14	3	1
22	12	5	1	0
23	12	5	1	0
24	12	5	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	1657	1	91	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	3	1608	1	88	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	3	1574	1	86	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	3	1475	1	81	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
5	3	1309	1	72	No	No	No	No	No	Yes	Yes	Yes	Yes	No
6	3	1292	1	71	No	No	No	No	No	Yes	Yes	Yes	Yes	No
7	3	1276	1	70	No	No	No	No	No	Yes	Yes	Yes	Yes	No
8	3	1160	1	64	No	No	No	No	No	Yes	Yes	Yes	Yes	No
9	3	1143	1	63	No	No	No	No	No	Yes	Yes	Yes	Yes	No
10	3	1126	1	62	No	No	No	No	No	Yes	Yes	Yes	Yes	No
11	3	977	1	54	No	No	No	No	No	No	Yes	Yes	No	No
12	3	911	1	50	No	No	No	No	No	No	No	Yes	No	No
13	3	895	1	49	No	No	No	No	No	No	No	Yes	No	No
14	3	663	1	36	No	No	No	No	No	No	No	No	No	No
15	3	663	1	36	No	No	No	No	No	No	No	No	No	No
16	3	464	1	25	No	No	No	No	No	No	No	No	No	No
17	3	265	1	15	No	No	No	No	No	No	No	No	No	No
18	3	265	1	15	No	No	No	No	No	No	No	No	No	No
19	3	149	1	8	No	No	No	No	No	No	No	No	No	No
20	3	83	1	5	No	No	No	No	No	No	No	No	No	No
21	3	49	1	3	No	No	No	No	No	No	No	No	No	No
22	3	17	1	1	No	No	No	No	No	No	No	No	No	No
23	3	17	1	1	No	No	No	No	No	No	No	No	No	No
24	3	17	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	3	4	10	11	13	10	4

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	43.7	16.1
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:06	0:04
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	91	18
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1766	1766
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 2: State Street at Community College Drive

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	680	809	45	29
2	660	785	44	28
3	646	769	43	28
4	605	720	40	26
5	537	639	36	23
6	530	631	35	23
7	524	623	35	22
8	476	566	31	20
9	469	558	31	20
10	462	550	31	20
11	401	477	27	17
12	374	445	25	16
13	367	437	24	16
14	272	324	18	12
15	272	324	18	12
16	190	227	13	8
17	109	129	7	5
18	109	129	7	5
19	61	73	4	3
20	34	40	2	1
21	20	24	1	1
22	7	8	0	0
23	7	8	0	0
24	7	8	0	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	1489	1	45	No	No	No	No	No	No	No	Yes	No	No
2	3	1445	1	44	No	No	No	No	No	No	No	Yes	No	No
3	3	1415	1	43	No	No	No	No	No	No	No	Yes	No	No
4	3	1325	1	40	No	No	No	No	No	No	No	No	No	No
5	3	1176	1	36	No	No	No	No	No	No	No	No	No	No
6	3	1161	1	35	No	No	No	No	No	No	No	No	No	No
7	3	1147	1	35	No	No	No	No	No	No	No	No	No	No
8	3	1042	1	31	No	No	No	No	No	No	No	No	No	No
9	3	1027	1	31	No	No	No	No	No	No	No	No	No	No
10	3	1012	1	31	No	No	No	No	No	No	No	No	No	No
11	3	878	1	27	No	No	No	No	No	No	No	No	No	No
12	3	819	1	25	No	No	No	No	No	No	No	No	No	No
13	3	804	1	24	No	No	No	No	No	No	No	No	No	No
14	3	596	1	18	No	No	No	No	No	No	No	No	No	No
15	3	596	1	18	No	No	No	No	No	No	No	No	No	No
16	3	417	1	13	No	No	No	No	No	No	No	No	No	No
17	3	238	1	7	No	No	No	No	No	No	No	No	No	No
18	3	238	1	7	No	No	No	No	No	No	No	No	No	No
19	3	134	1	4	No	No	No	No	No	No	No	No	No	No
20	3	74	1	2	No	No	No	No	No	No	No	No	No	No
21	3	44	1	1	No	No	No	No	No	No	No	No	No	No
22	3	15	1	0	No	No	No	No	No	No	No	No	No	No
23	3	15	1	0	No	No	No	No	No	No	No	No	No	No
24	3	15	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	3	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	30.9	15.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:23	0:07
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	45	29
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1563	1563
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

APPENDIX E-III

YEAR 2026 CUMULATIVE PLUS PROJECT TRAFFIC CONDITIONS

Signal Warrants Report For Intersection 2: State Street at Community College Drive

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	1220	519	91	32
2	1183	503	88	31
3	1159	493	86	30
4	1086	462	81	28
5	964	410	72	25
6	952	405	71	25
7	939	400	70	25
8	854	363	64	22
9	842	358	63	22
10	830	353	62	22
11	720	306	54	19
12	671	285	50	18
13	659	280	49	17
14	488	208	36	13
15	488	208	36	13
16	342	145	25	9
17	195	83	15	5
18	195	83	15	5
19	110	47	8	3
20	61	26	5	2
21	37	16	3	1
22	12	5	1	0
23	12	5	1	0
24	12	5	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	1739	1	91	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	3	1686	1	88	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	3	1652	1	86	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	3	1548	1	81	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
5	3	1374	1	72	No	No	No	No	No	Yes	Yes	Yes	Yes	No
6	3	1357	1	71	No	No	No	No	No	Yes	Yes	Yes	Yes	No
7	3	1339	1	70	No	No	No	No	No	Yes	Yes	Yes	Yes	No
8	3	1217	1	64	No	No	No	No	No	Yes	Yes	Yes	Yes	No
9	3	1200	1	63	No	No	No	No	No	Yes	Yes	Yes	Yes	No
10	3	1183	1	62	No	No	No	No	No	Yes	Yes	Yes	Yes	No
11	3	1026	1	54	No	No	No	No	No	No	Yes	Yes	No	No
12	3	956	1	50	No	No	No	No	No	No	No	Yes	No	No
13	3	939	1	49	No	No	No	No	No	No	No	Yes	No	No
14	3	696	1	36	No	No	No	No	No	No	No	No	No	No
15	3	696	1	36	No	No	No	No	No	No	No	No	No	No
16	3	487	1	25	No	No	No	No	No	No	No	No	No	No
17	3	278	1	15	No	No	No	No	No	No	No	No	No	No
18	3	278	1	15	No	No	No	No	No	No	No	No	No	No
19	3	157	1	8	No	No	No	No	No	No	No	No	No	No
20	3	87	1	5	No	No	No	No	No	No	No	No	No	No
21	3	53	1	3	No	No	No	No	No	No	No	No	No	No
22	3	17	1	1	No	No	No	No	No	No	No	No	No	No
23	3	17	1	1	No	No	No	No	No	No	No	No	No	No
24	3	17	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	3	4	10	11	13	10	4

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	54.7	14.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:22	0:07
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	91	32
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1862	1862
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 2: State Street at Community College Drive

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	756	862	45	47
2	733	836	44	46
3	718	819	43	45
4	673	767	40	42
5	597	681	36	37
6	590	672	35	37
7	582	664	35	36
8	529	603	31	33
9	522	595	31	32
10	514	586	31	32
11	446	509	27	28
12	416	474	25	26
13	408	465	24	25
14	302	345	18	19
15	302	345	18	19
16	212	241	13	13
17	121	138	7	8
18	121	138	7	8
19	68	78	4	4
20	38	43	2	2
21	23	26	1	1
22	8	9	0	0
23	8	9	0	0
24	8	9	0	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	1618	1	47	No	No	No	No	No	No	No	Yes	No	No
2	3	1569	1	46	No	No	No	No	No	No	No	Yes	No	No
3	3	1537	1	45	No	No	No	No	No	No	No	Yes	No	No
4	3	1440	1	42	No	No	No	No	No	No	No	Yes	No	No
5	3	1278	1	37	No	No	No	No	No	No	No	No	No	No
6	3	1262	1	37	No	No	No	No	No	No	No	No	No	No
7	3	1246	1	36	No	No	No	No	No	No	No	No	No	No
8	3	1132	1	33	No	No	No	No	No	No	No	No	No	No
9	3	1117	1	32	No	No	No	No	No	No	No	No	No	No
10	3	1100	1	32	No	No	No	No	No	No	No	No	No	No
11	3	955	1	28	No	No	No	No	No	No	No	No	No	No
12	3	890	1	26	No	No	No	No	No	No	No	No	No	No
13	3	873	1	25	No	No	No	No	No	No	No	No	No	No
14	3	647	1	19	No	No	No	No	No	No	No	No	No	No
15	3	647	1	19	No	No	No	No	No	No	No	No	No	No
16	3	453	1	13	No	No	No	No	No	No	No	No	No	No
17	3	259	1	8	No	No	No	No	No	No	No	No	No	No
18	3	259	1	8	No	No	No	No	No	No	No	No	No	No
19	3	146	1	4	No	No	No	No	No	No	No	No	No	No
20	3	81	1	2	No	No	No	No	No	No	No	No	No	No
21	3	49	1	1	No	No	No	No	No	No	No	No	No	No
22	3	17	1	0	No	No	No	No	No	No	No	No	No	No
23	3	17	1	0	No	No	No	No	No	No	No	No	No	No
24	3	17	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	42.7	15.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:32	0:12
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	45	47
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1710	1710
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	