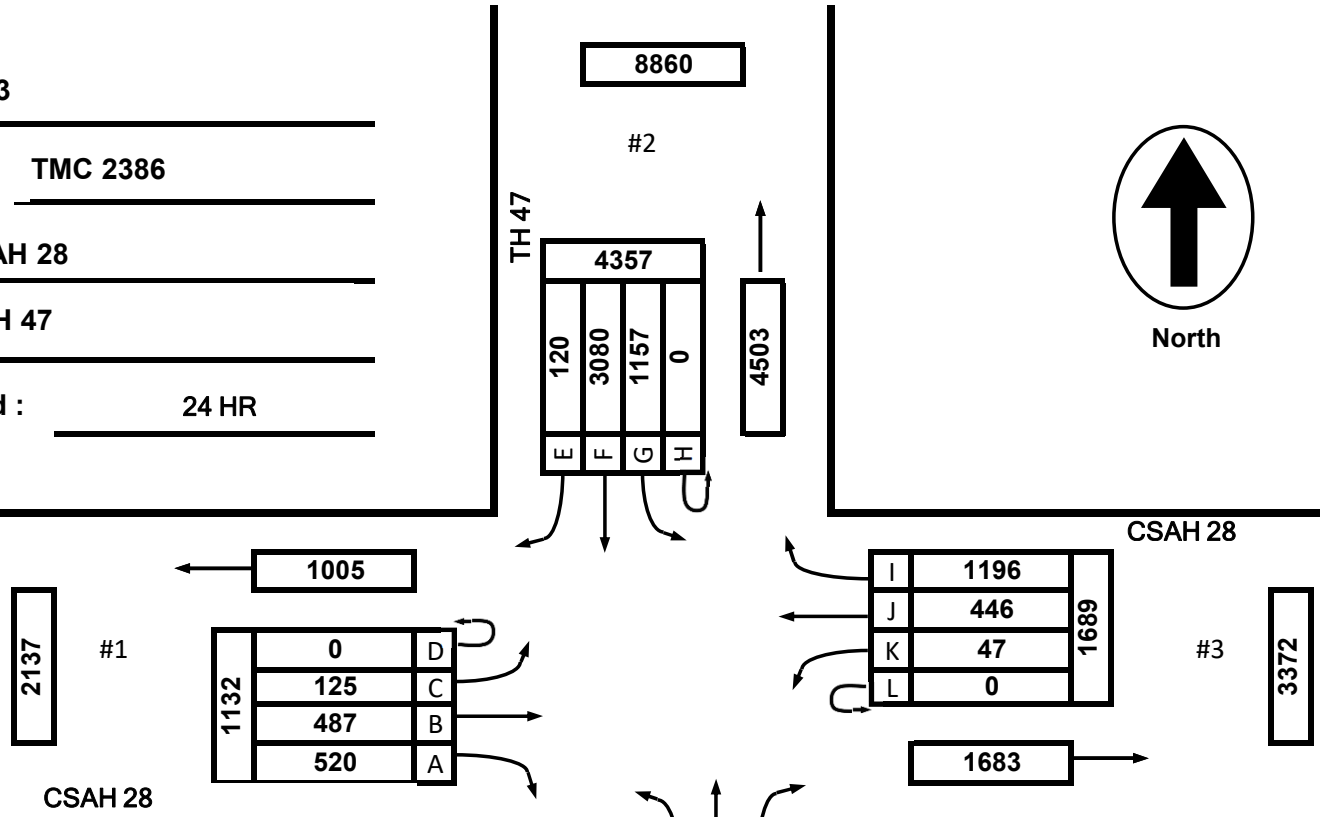
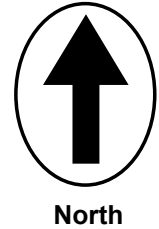


Date : 11/08/23

Count Number : TMC 2386

Location : CSAH 28
@ TH 47

Collection Period : 24 HR



EXISTING LANES OF APPROACH				
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	TOTAL
#1	1	0	1	2
#2	1	1	1	3
#3	1	0	1	2
#4	1	1	1	3

Anoka County Highway Department
 Traffic Volume and Turning Movement Study

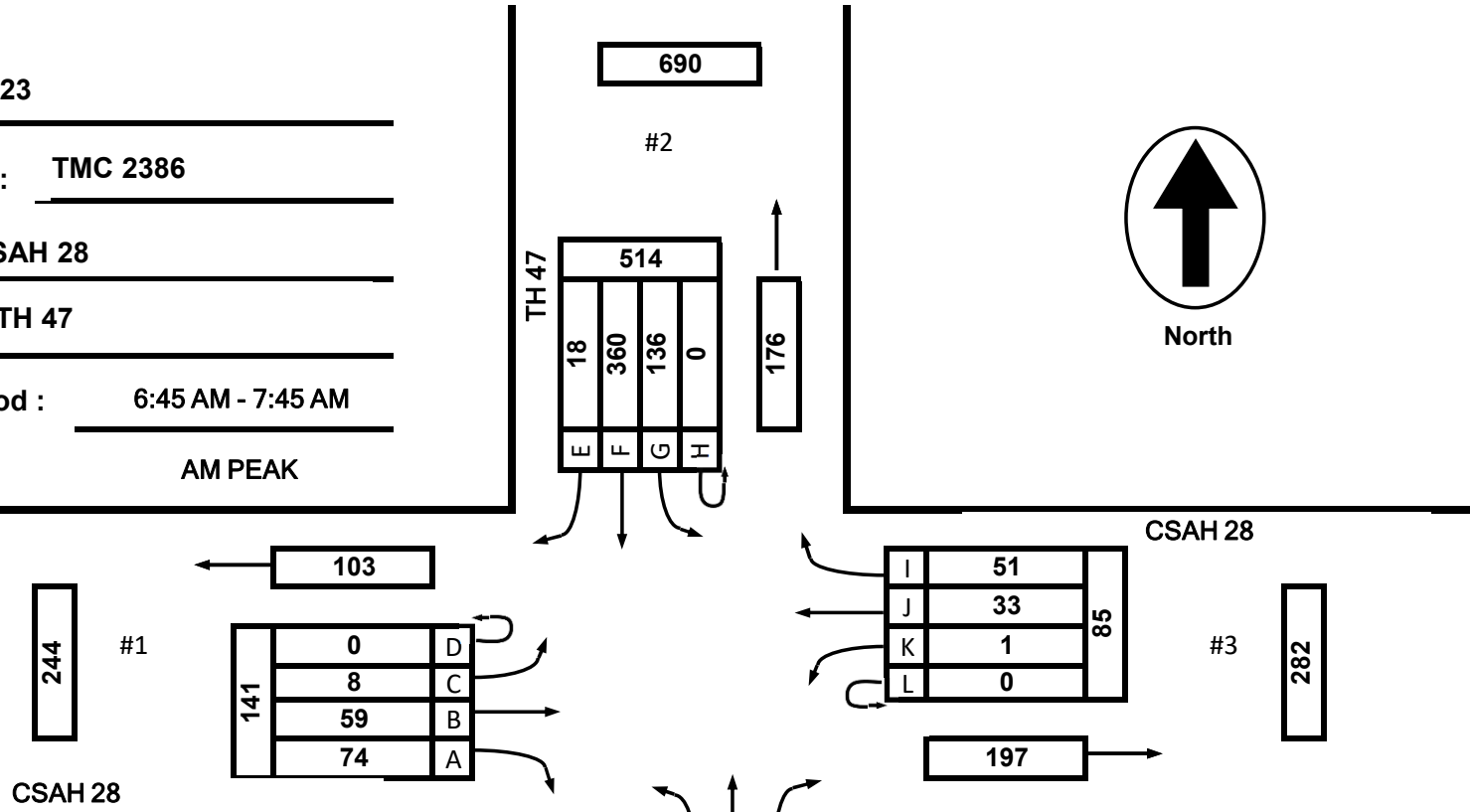
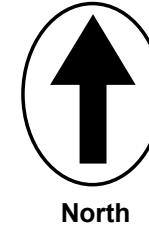
Date : 11/08/23

Count Number : TMC 2386

Location : CSAH 28
@ TH 47

Collection Period : 6:45 AM - 7:45 AM

AM PEAK



EXISTING LANES OF APPROACH				
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	TOTAL
#1	1	0	1	2
#2	1	1	1	3
#3	1	0	1	2
#4	1	1	1	3

Anoka County Highway Department

Traffic Volume and Turning Movement Study

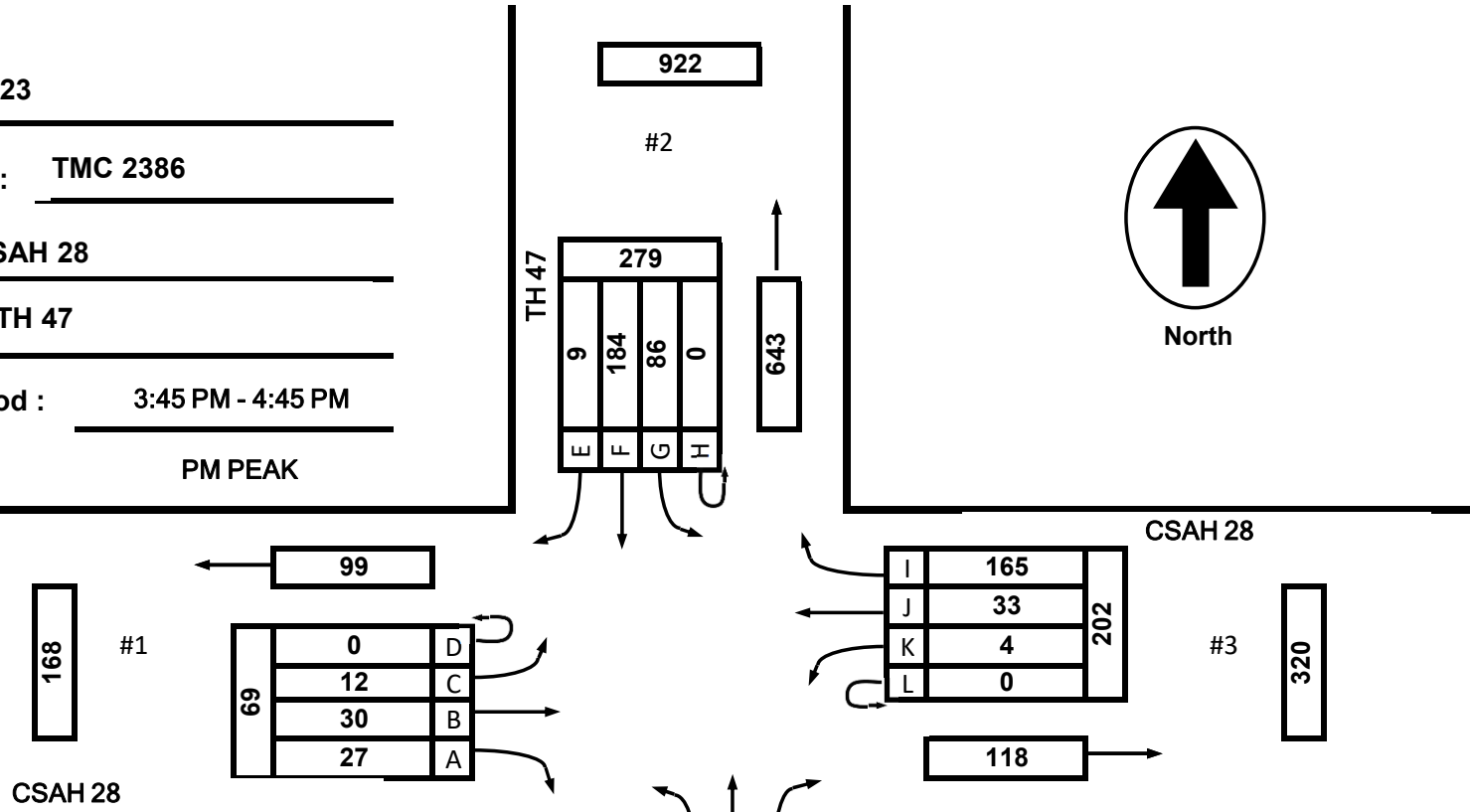
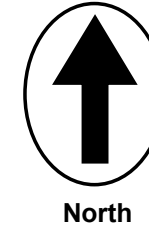
Date : 11/08/23

Count Number : TMC 2386

Location : CSAH 28
@ TH 47

Collection Period : 3:45 PM - 4:45 PM

PM PEAK



CSAH 28

CSAH 28

TH 47

EXISTING LANES OF APPROACH				
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	TOTAL
#1	1	0	1	2
#2	1	1	1	3
#3	1	0	1	2
#4	1	1	1	3

Anoka County Highway Department
 Traffic Volume and Turning Movement Study

TMC 2386 - CSAH 28 @ TH 47
St. Francis MN
Wednesday, November 8, 2023

Time	Southbound TH 47						Westbound CSAH 28						Northbound TH 47						Eastbound CSAH 28						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
12:00 AM	0	0	1	0	0	1	0	0	1	0	0	1	0	0	2	0	0	0	2	0	0	1	1	0	2
12:15 AM	0	2	2	0	0	4	0	0	0	2	0	2	0	0	6	0	0	0	6	0	0	0	0	0	12
12:30 AM	0	2	1	0	0	3	0	0	0	1	0	1	0	0	1	0	0	0	1	0	0	0	0	0	5
12:45 AM	0	1	1	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	4
Hourly Total	0	5	5	0	0	10	0	0	1	3	0	4	0	0	11	0	0	0	11	0	0	1	1	0	27
1:00 AM	0	1	1	0	0	2	0	0	0	1	0	1	0	0	3	0	0	0	3	0	0	0	0	0	6
1:15 AM	0	0	2	0	0	2	0	0	0	1	0	1	0	0	1	0	0	0	1	0	0	0	0	0	4
1:30 AM	0	0	1	1	0	2	0	0	0	0	0	0	0	1	2	0	0	0	3	0	0	1	0	0	6
1:45 AM	0	2	2	0	0	4	0	0	0	1	0	1	0	0	2	0	0	0	2	0	0	0	0	0	7
Hourly Total	0	3	6	1	0	10	0	0	0	3	0	3	0	1	8	0	0	0	9	0	0	1	0	0	23
2:00 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	5
2:15 AM	0	0	5	0	0	5	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	1	0	8
2:30 AM	0	1	4	0	0	5	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	9
2:45 AM	0	0	2	0	0	2	0	0	0	1	0	1	0	0	4	0	0	0	4	0	0	0	1	0	8
Hourly Total	0	1	13	0	0	14	0	0	0	1	0	1	0	0	12	0	0	0	12	0	0	1	2	0	30
3:00 AM	0	1	9	0	0	10	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	1	2	0	15
3:15 AM	0	1	8	0	0	9	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	11
3:30 AM	0	1	9	0	0	10	0	0	1	1	0	2	0	0	3	0	0	0	3	0	0	4	0	4	19
3:45 AM	0	0	14	0	0	14	0	1	0	1	0	2	0	0	1	0	0	0	1	0	0	1	2	0	20
Hourly Total	0	3	40	0	0	43	0	1	1	3	0	5	0	0	6	0	0	0	6	0	0	2	9	0	65
4:00 AM	0	3	31	0	0	34	0	0	0	1	0	1	0	0	2	0	0	0	2	0	0	2	2	0	41
4:15 AM	0	5	24	1	0	30	0	0	0	0	0	0	0	1	2	0	0	0	3	0	0	1	3	0	37
4:30 AM	0	4	31	0	0	35	0	0	0	2	0	2	0	0	8	0	0	0	8	0	0	4	6	0	55
4:45 AM	0	12	44	0	0	56	0	0	1	1	0	2	0	0	5	0	0	0	5	0	0	2	6	0	71
Hourly Total	0	24	130	1	0	155	0	0	1	4	0	5	0	1	17	0	0	0	18	0	0	9	17	0	204
5:00 AM	0	16	50	0	0	66	0	0	0	1	0	1	0	2	7	0	0	0	9	0	0	5	7	0	88
5:15 AM	0	22	77	0	0	99	0	0	2	6	0	8	0	1	13	0	0	0	14	0	1	5	5	0	132
5:30 AM	0	28	78	0	0	106	0	0	5	8	0	13	0	2	13	0	0	0	15	0	2	8	11	0	155
5:45 AM	0	22	79	0	0	101	0	1	2	4	0	7	0	0	14	0	0	0	14	0	2	9	7	0	140
Hourly Total	0	88	284	0	0	372	0	1	9	19	0	29	0	5	47	0	0	0	52	0	5	27	30	0	515
6:00 AM	0	31	84	0	0	115	0	0	1	11	0	12	0	3	8	1	0	0	12	0	2	6	2	0	149
6:15 AM	0	33	93	1	0	127	0	0	2	10	0	12	0	1	13	0	0	0	14	0	1	8	10	0	172
6:30 AM	0	23	88	1	0	112	0	0	2	8	0	10	0	3	20	0	0	0	23	0	1	12	11	0	169
6:45 AM	0	38	91	4	0	133	0	0	7	13	0	20	0	4	18	1	0	0	23	0	2	16	14	0	208
Hourly Total	0	125	356	6	0	487	0	0	12	42	0	54	0	11	59	2	0	0	72	0	6	42	37	0	698
7:00 AM	0	29	95	3	0	127	0	1	6	8	0	15	0	14	19	0	0	0	33	0	1	14	17	0	207
7:15 AM	0	31	89	3	0	123	0	0	9	16	0	25	0	26	43	0	0	0	69	0	2	11	27	0	257
7:30 AM	0	38	85	8	0	131	0	0	11	14	0	25	0	8	37	1	0	0	46	0	3	18	16	2	239
7:45 AM	0	28	68	3	0	99	0	0	10	18	0	28	0	10	40	1	0	0	51	0	3	9	12	0	202
Hourly Total	0	126	337	17	0	480	0	1	36	56	0	93	0	58	139	2	0	0	199	0	9	52	72	2	905

**TMC 2386 - CSAH 28 @ TH 47
St. Francis MN
Wednesday, November 8, 2023**

Time	Southbound TH 47						Westbound CSAH 28						Northbound TH 47						Eastbound CSAH 28						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
8:00 AM	0	32	45	1	0	78	0	1	5	10	0	16	0	4	36	0	0	40	0	2	4	6	0	12	146
8:15 AM	0	20	55	1	0	76	0	0	6	6	0	12	0	6	22	0	0	28	0	2	6	5	0	13	129
8:30 AM	0	18	47	3	0	68	0	3	4	8	0	15	0	2	25	1	0	28	0	2	11	11	0	24	135
8:45 AM	0	23	60	1	0	84	0	1	9	7	0	17	0	5	28	1	0	34	0	4	7	10	0	21	156
Hourly Total	0	93	207	6	0	306	0	5	24	31	0	60	0	17	111	2	0	130	0	10	28	32	0	70	566
9:00 AM	0	19	36	0	0	55	0	0	5	15	0	20	0	7	25	1	0	33	0	0	6	9	0	15	123
9:15 AM	0	25	30	2	0	57	0	0	10	17	0	27	0	5	30	3	0	38	0	2	12	6	0	20	142
9:30 AM	0	13	38	1	0	52	0	0	4	9	0	13	0	3	20	0	0	23	0	2	3	6	0	11	99
9:45 AM	0	9	24	1	0	34	0	1	9	10	0	20	0	4	25	0	0	29	0	3	8	5	0	16	99
Hourly Total	0	66	128	4	0	198	0	1	28	51	0	80	0	19	100	4	0	123	0	7	29	26	0	62	463
10:00 AM	0	12	42	1	0	55	0	2	6	18	0	26	0	9	25	0	0	34	0	2	6	4	0	12	127
10:15 AM	0	9	45	0	0	54	0	0	5	17	0	22	0	4	31	0	0	35	0	2	6	6	0	14	125
10:30 AM	0	16	38	1	0	55	0	1	9	14	0	24	0	3	23	0	0	26	0	1	5	4	0	10	115
10:45 AM	0	12	42	2	0	56	0	0	7	17	0	24	0	2	31	2	0	35	0	3	8	7	0	18	133
Hourly Total	0	49	167	4	0	220	0	3	27	66	0	96	0	18	110	2	0	130	0	8	25	21	0	54	500
11:00 AM	0	21	34	7	0	62	0	0	4	12	0	16	0	1	28	0	0	29	0	2	7	7	0	16	123
11:15 AM	0	9	22	2	0	33	0	0	5	11	0	16	0	2	36	1	0	39	0	2	6	5	0	13	101
11:30 AM	0	12	37	1	0	50	0	0	6	20	0	26	0	2	23	1	0	26	0	1	7	2	0	10	112
11:45 AM	0	18	30	2	0	50	0	1	5	22	0	28	0	7	39	0	0	46	0	3	9	8	0	20	144
Hourly Total	0	60	123	12	0	195	0	1	20	65	0	86	0	12	126	2	0	140	0	8	29	22	0	59	480
12:00 PM	0	16	40	2	0	58	0	2	6	14	0	22	0	8	37	1	0	46	0	2	6	7	0	15	141
12:15 PM	0	12	37	0	0	49	0	1	4	14	0	19	0	6	41	2	0	49	0	1	3	5	0	9	126
12:30 PM	0	13	26	2	0	41	0	3	5	14	0	22	0	3	44	1	0	48	0	4	11	5	0	20	131
12:45 PM	0	16	34	3	0	53	0	3	7	14	0	24	0	5	40	1	0	46	0	0	11	11	0	22	145
Hourly Total	0	57	137	7	0	201	0	9	22	56	0	87	0	22	162	5	0	189	0	7	31	28	0	66	543
1:00 PM	0	10	34	3	0	47	0	1	5	15	0	21	0	5	41	1	0	47	0	0	6	10	0	16	131
1:15 PM	0	19	34	5	0	58	0	2	5	21	0	28	0	6	46	1	0	53	0	4	7	8	0	19	158
1:30 PM	0	11	34	2	0	47	0	0	11	23	0	34	0	7	50	0	0	57	0	3	9	7	0	19	157
1:45 PM	0	14	46	4	0	64	0	0	14	19	0	33	0	4	53	0	0	57	0	2	12	8	0	22	176
Hourly Total	0	54	148	14	0	216	0	3	35	78	0	116	0	22	190	2	0	214	0	9	34	33	0	76	622
2:00 PM	0	11	30	2	0	43	0	3	10	24	0	37	0	9	64	0	0	73	0	3	12	19	0	34	187
2:15 PM	0	17	46	1	0	64	0	0	3	25	0	28	0	12	88	1	0	101	0	1	12	9	0	22	215
2:30 PM	0	10	34	1	0	45	0	1	17	30	0	48	0	8	73	0	0	81	0	5	10	7	0	22	196
2:45 PM	0	9	36	4	0	49	0	0	11	30	0	41	0	13	72	0	0	85	0	0	7	7	0	14	189
Hourly Total	0	47	146	8	0	201	0	4	41	109	0	154	0	42	297	1	0	340	0	9	41	42	0	92	787
3:00 PM	0	15	38	2	0	55	0	2	9	24	0	35	0	10	90	0	0	100	0	4	11	14	0	29	219
3:15 PM	0	14	33	1	0	48	0	1	12	31	0	44	0	8	98	1	0	107	0	3	10	8	1	21	220
3:30 PM	0	23	32	1	0	56	0	1	8	30	0	39	0	19	86	1	0	106	0	3	2	14	0	19	220
3:45 PM	0	20	49	5	0	74	0	0	5	45	0	50	0	19	132	1	0	152	0	2	9	6	0	17	293
Hourly Total	0	72	152	9	0	233	0	4	34	130	0	168	0	56	406	3	0	465	0	12	32	42	1	86	952

**TMC 2386 - CSAH 28 @ TH 47
St. Francis MN
Wednesday, November 8, 2023**

Time	Southbound TH 47						Westbound CSAH 28						Northbound TH 47						Eastbound CSAH 28						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
4:00 PM	0	21	39	2	0	62	0	3	10	37	0	50	0	17	109	0	0	126	0	5	9	8	0	22	260
4:15 PM	0	26	43	0	0	69	0	1	11	36	0	48	0	9	110	1	0	120	0	3	5	5	0	13	250
4:30 PM	0	19	53	2	0	74	0	0	7	47	0	54	0	12	115	0	0	127	0	2	7	8	0	17	272
4:45 PM	0	26	49	5	0	80	0	0	10	31	0	41	0	17	125	2	0	144	0	2	13	13	1	28	293
Hourly Total	0	92	184	9	0	285	0	4	38	151	0	193	0	55	459	3	0	517	0	12	34	34	1	80	1075
5:00 PM	0	21	43	3	0	67	0	1	11	32	0	44	0	7	122	2	0	131	0	2	9	2	0	13	255
5:15 PM	0	12	54	1	0	67	0	1	6	30	0	37	0	10	87	1	0	98	0	1	4	2	0	7	209
5:30 PM	0	12	58	2	0	72	0	0	8	29	0	37	0	4	79	0	0	83	0	0	5	8	0	13	205
5:45 PM	0	21	48	2	0	71	0	0	5	33	0	38	0	7	73	1	0	81	0	1	5	7	0	13	203
Hourly Total	0	66	203	8	0	277	0	2	30	124	0	156	0	28	361	4	0	393	0	4	23	19	0	46	872
6:00 PM	0	20	45	1	0	66	0	2	5	22	0	29	0	6	69	2	0	77	0	2	5	13	0	20	192
6:15 PM	0	11	30	3	0	44	0	0	4	17	0	21	0	3	53	2	0	58	0	1	9	7	0	17	140
6:30 PM	0	18	38	1	0	57	0	0	9	16	0	25	0	3	43	1	0	47	0	5	4	4	0	13	142
6:45 PM	0	9	20	1	0	30	0	1	3	9	0	13	0	4	44	0	0	48	0	1	6	6	0	13	104
Hourly Total	0	58	133	6	0	197	0	3	21	64	0	88	0	16	209	5	0	230	0	9	24	30	0	63	578
7:00 PM	0	5	24	0	0	29	0	1	6	16	0	23	0	3	24	0	0	27	0	2	2	4	0	8	87
7:15 PM	0	7	21	0	0	28	0	1	4	6	0	11	0	8	30	0	0	38	0	2	2	1	0	5	82
7:30 PM	0	7	16	0	0	23	0	0	1	9	0	10	0	3	34	0	0	37	0	0	1	2	0	3	73
7:45 PM	0	5	24	0	0	29	0	0	4	11	0	15	0	6	23	1	0	30	0	0	1	2	0	3	77
Hourly Total	0	24	85	0	0	109	0	2	15	42	0	59	0	20	111	1	0	132	0	4	6	9	0	19	319
8:00 PM	0	4	12	1	0	17	0	0	10	12	0	22	0	4	27	0	0	31	0	0	3	1	0	4	74
8:15 PM	0	6	13	1	0	20	0	0	7	12	0	19	0	5	25	0	0	30	0	0	1	0	0	1	70
8:30 PM	0	5	6	0	0	11	0	0	5	13	0	18	0	7	35	0	0	42	0	0	2	1	0	3	74
8:45 PM	0	2	13	0	0	15	0	1	7	11	0	19	0	2	29	0	0	31	0	0	0	1	0	1	66
Hourly Total	0	17	44	2	0	63	0	1	29	48	0	78	0	18	116	0	0	134	0	0	6	3	0	9	284
9:00 PM	0	9	10	0	0	19	0	1	1	5	0	7	0	3	21	1	0	25	0	0	1	3	0	4	55
9:15 PM	0	6	10	1	0	17	0	1	3	7	0	11	0	2	17	0	0	19	0	0	0	2	0	2	49
9:30 PM	0	2	5	1	0	8	0	0	2	6	0	8	0	4	15	0	0	19	0	1	3	3	0	7	42
9:45 PM	0	2	7	1	0	10	0	0	2	5	0	7	0	0	9	0	0	9	0	1	1	1	0	3	29
Hourly Total	0	19	32	3	0	54	0	2	8	23	0	33	0	9	62	1	0	72	0	2	5	9	0	16	175
10:00 PM	0	3	6	0	0	9	0	0	1	7	0	8	0	0	17	0	0	17	0	1	2	1	0	4	38
10:15 PM	0	0	2	2	0	4	0	0	3	4	0	7	0	3	10	0	0	13	0	2	2	1	0	5	29
10:30 PM	0	0	7	0	0	7	0	0	1	1	0	2	0	1	3	0	0	4	0	0	0	0	0	0	13
10:45 PM	0	2	1	1	0	4	0	0	2	2	0	4	0	0	5	0	0	5	0	1	0	0	0	1	14
Hourly Total	0	5	16	3	0	24	0	0	7	14	0	21	0	4	35	0	0	39	0	4	4	2	0	10	94
11:00 PM	0	1	0	0	0	1	0	0	2	3	0	5	0	1	11	0	0	12	0	0	0	0	0	0	18
11:15 PM	0	0	0	0	0	0	0	0	2	4	0	6	0	2	3	0	0	5	0	0	0	0	0	0	11
11:30 PM	0	1	2	0	0	3	0	0	2	5	0	7	0	1	8	0	0	9	0	0	0	0	0	0	19
11:45 PM	0	1	2	0	0	3	0	0	1	1	0	2	0	1	6	0	0	7	0	0	1	0	0	1	13
Hourly Total	0	3	4	0	0	7	0	0	7	13	0	20	0	5	28	0	0	33	0	0	1	0	0	1	61
DAILY TOTAL	0	1157	3080	120	0	4357	0	47	446	1196	0	1689	0	439	3182	39	0	3660	0	125	487	520	4	1132	10838
Cars	0	1117	3018	106	0	4241	0	46	430	1153	0	1629	0	407	3099	36	0	3542	0	113	465	485	4	1063	10475
Heavy Vehicles	0	40	62	14	0	116	0	1	16	43	0	60	0	32	83	3	0	118	0	12	22	35	0	69	363
Heavy Vehicle %	0.00%	3.46%	2.01%	11.67%	0.00%	2.66%	0.00%	2.13%	3.59%	3.60%	0.00%	3.55%	0.00%	7.29%	2.61%	7.69%	0.00%	3.22%	0.00%	9.60%	4.52%	6.73%	0.00%	6.10%	3.35%

**TMC 2386 - CSAH 28 @ TH 47
St. Francis MN
Wednesday, November 8, 2023**

AM Peak Hour																									
Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
6:45 AM	0	38	91	4	0	133	0	0	7	13	0	20	0	4	18	1	0	23	0	2	16	14	0	32	208
7:00 AM	0	29	95	3	0	127	0	1	6	8	0	15	0	14	19	0	0	33	0	1	14	17	0	32	207
7:15 AM	0	31	89	3	0	123	0	0	9	16	0	25	0	26	43	0	0	69	0	2	11	27	0	40	257
7:30 AM	0	38	85	8	0	131	0	0	11	14	0	25	0	8	37	1	0	46	0	3	18	16	2	37	239
Peak Hour Total	0	136	360	18	0	514	0	1	33	51	0	85	0	52	117	2	0	171	0	8	59	74	2	141	911
PHF	0.000	0.895	0.947	0.563	0.000	0.966	0.000	0.250	0.750	0.797	0.000	0.850	0.000	0.500	0.680	0.500	0.000	0.620	0.000	0.667	0.819	0.685	0.250	0.881	0.886

PM Peak Hour																									
Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
3:45 PM	0	20	49	5	0	74	0	0	5	45	0	50	0	19	132	1	0	152	0	2	9	6	0	17	293
4:00 PM	0	21	39	2	0	62	0	3	10	37	0	50	0	17	109	0	0	126	0	5	9	8	0	22	260
4:15 PM	0	26	43	0	0	69	0	1	11	36	0	48	0	9	110	1	0	120	0	3	5	5	0	13	250
4:30 PM	0	19	53	2	0	74	0	0	7	47	0	54	0	12	115	0	0	127	0	2	7	8	0	17	272
Peak Hour Total	0	86	184	9	0	279	0	4	33	165	0	202	0	57	466	2	0	525	0	12	30	27	0	69	1075
PHF	0.000	0.827	0.868	0.450	0.000	0.943	0.000	0.333	0.750	0.878	0.000	0.935	0.000	0.750	0.883	0.500	0.000	0.863	0.000	0.600	0.833	0.844	0.000	0.784	0.917

Total Vehicles On Leg		8860	
Vehicles Entering Intersection	4357	Vehicles Exiting Intersection	4503
Southbound			
Cars	106	3018	1117
Heavy	14	62	40
Total	120	3080	1157



Total Vehicles on Leg 2137	Vehicles Entering Intersection 1132	Eastbound	Cars	Heavy	Total	
			4	0	4	
	0		0	0		
	113		12	125		
	465		22	487		
Vehicles Exiting Intersection 1005			485	35	520	

Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 1689	Total Vehicles on Leg 3372
1153	43	1196			
430	16	446			
46	1	47			
0	0	0			
0	0	0	Vehicles Exiting Intersection 1683		

Cars	0	0	407	3099	36
Heavy	0	0	32	83	3
Total	0	0	439	3182	39
Northbound					
Vehicles Entering Intersection	3660	Vehicles Exiting Intersection	3647		
Total Vehicles On Leg	7307				

Heavy Vehicles

Date	Time	Southbound						Westbound						Northbound						Eastbound						
		U Turns	Left Turns	Straight Through	Right Turns	EB Bicycles in Crosswalk	WB Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	NB Bicycles in Crosswalk	SB Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	EB Bicycles in Crosswalk	WB Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	NB Bicycles in Crosswalk	SB Bicycles in Crosswalk	
11/8/2023	0:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
	3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:30	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
	4:30	0	0	1	0	0	0	0	0	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	
	4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
	5:15	0	1	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	
	5:30	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:00	0	2	3	0	0	0	0	0	1	2	0	0	0	0	3	1	0	0	0	0	1	0	0	0	
	6:15	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
	6:30	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	
	6:45	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	
	7:00	0	0	1	0	0	0	0	0	1	2	0	0	0	0	2	0	0	0	0	0	0	1	0	0	
	7:15	0	1	1	1	0	0	0	0	0	1	0	0	0	13	2	0	0	0	0	0	0	3	10	0	0
	7:30	0	1	0	0	0	0	0	0	1	0	0	0	0	3	1	0	0	0	0	0	1	1	3	0	0
	7:45	0	1	2	1	0	0	0	0	0	1	0	0	0	2	3	0	0	0	0	0	1	0	1	0	0
	8:00	0	3	1	1	0	0	0	0	0	2	0	0	0	0	3	0	0	0	0	0	0	0	1	0	0
	8:15	0	0	2	0	0	0	0	0	0	2	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0
	8:30	0	0	3	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	
	8:45	0	1	2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	9:00	0	1	1	0	0	0	0	0	1	1	0	0	0	2	0	0	0	0	0	0	2	1	0	0	
	9:15	0	2	3	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
	9:45	0	2	2	0	0	0	0	0	1	2	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
	10:00	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0
	10:15	0	1	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	10:30	0	0	0	0	0	0	0	0	1	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	1	0	0	0	0
	11:00	0	3	1	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
	11:15	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
	11:30	0	1	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	11:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2386

Study Date : 11/15/2023

Signal Warrants - Summary

Major Street Approaches

Northbound: TH 47

Number of Lanes : 1

Total Approach Volume: 3,660

Southbound: TH 47

Number of Lanes : 1

Total Approach Volume: 4,357

Minor Street Approaches

Eastbound: CSAH 28

Number of Lanes : 1

Total Approach Volume: 1,132

Westbound: CSAH 28

Number of Lanes : 1

Total Approach Volume: 1,689

Warrant Summary (Rural Values Apply)

Warrant 1 - Eight Hour Vehicular Volumes.....Satisfied

Warrant 1A - Minimum Vehicular Volume.....Satisfied

Required volumes reached for 8 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic.....Not Satisfied

Required volumes reached for 6 hours, 8 are needed

Warrant 1C - Combination of Warrants.....Satisfied

Required 1A volumes reached for 11 hours, 8 are needed

Required 1B volumes reached for 10 hours, 8 are needed

Warrant 2 - Four Hour Volumes.....Satisfied

Number of hours (7) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

Warrant 3A - Peak Hour Delay.....Satisfied

Number of one hour periods (17) volumes exceed minimum >= required (1). Delay data not evaluated.

Warrant 3B - Peak Hour Volumes.....Satisfied

Volumes exceed minimums for at least one hour period.

Warrant 4 - Pedestrian Volumes.....Not Evaluated

Warrant 5 - School Crossing.....Not Evaluated

Warrant 6 - Coordinated Signal System.....Not Evaluated

Warrant 7 - Crash Experience.....Not Evaluated

Warrant 8 - Roadway Network.....Not Evaluated

Warrant 9 - Intersection Near a Grade Crossing.....Not Evaluated

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2386

Study Date : 11/15/2023

Warrant 1A - Minimum Volumes

Description

Intended for sites where the volume of intersecting traffic is the principal reason for consideration of a signal installation.

Summary

8 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
 Number of Major Lanes = **1**
 Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
 Veh/Hr Major = **350**
 Veh/Hr Minor = **105**

Time	Major Road TH 47				Total	Minor Road CSAH 28		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
15:45 - 16:45	525	+	279	=	804	69	202	Yes
16:45 - 17:45	456	+	286	=	742	61	159	Yes
07:15 - 08:15	206	+	431	=	637	113	94	Yes
14:45 - 15:45	398	+	208	=	606	83	159	Yes
06:15 - 07:15	93	+	499	=	592	107	57	Yes
13:45 - 14:45	312	+	216	=	528	100	146	Yes
17:45 - 18:45	263	+	238	=	501	63	113	Yes
12:45 - 13:45	203	+	205	=	408	76	107	Yes
06:00 - 07:00	72	+	487	=	559	85	54	No
05:45 - 06:45	63	+	455	=	518	71	41	No
05:30 - 06:30	55	+	449	=	504	68	44	No
05:15 - 06:15	55	+	421	=	476	60	40	No
05:00 - 06:00	52	+	372	=	424	62	29	No
08:15 - 09:15	123	+	283	=	406	73	64	No
08:30 - 09:30	133	+	264	=	397	80	79	No
12:30 - 13:30	194	+	199	=	393	77	95	No
12:00 - 13:00	189	+	201	=	390	66	87	No
11:45 - 12:45	189	+	198	=	387	64	91	No
12:15 - 13:15	190	+	190	=	380	67	86	No
08:45 - 09:45	128	+	248	=	376	67	77	No
11:30 - 12:30	167	+	207	=	374	54	95	No
04:45 - 05:45	43	+	327	=	370	52	24	No
10:15 - 11:15	125	+	227	=	352	58	86	No
10:00 - 11:00	130	+	220	=	350	54	96	No
11:15 - 12:15	157		191		348	58	92	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2386

Study Date : 11/15/2023

Warrant 1B - Interruption of Continuous Traffic

Description

Intended for sites where the volume of the major street is so heavy that traffic on the minor street suffers excessive delay or hazard.

Summary

Only 6 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **True**
 Number of Major Lanes = **1**
 Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
 Veh/Hr Major = **525**
 Veh/Hr Minor = **52**

Time	Major Road					Minor Road			Met?
	Major NB	+	Major SB	=	Total	Minor EB	Minor WB		
	TH 47					CSAH 28			
15:45 - 16:45	525	+	279	=	804	69	202	Yes	
16:45 - 17:45	456	+	286	=	742	61	159	Yes	
07:00 - 08:00	199	+	480	=	679	133	93	Yes	
14:45 - 15:45	398	+	208	=	606	83	159	Yes	
06:00 - 07:00	72	+	487	=	559	85	54	Yes	
13:45 - 14:45	312	+	216	=	528	100	146	Yes	
05:45 - 06:45	63	+	455	=	518	71	41	No	
13:30 - 14:30	288	+	218	=	506	97	132	No	
05:30 - 06:30	55	+	449	=	504	68	44	No	
17:45 - 18:45	263	+	238	=	501	63	113	No	
05:15 - 06:15	55	+	421	=	476	60	40	No	
13:15 - 14:15	240	+	212	=	452	94	132	No	
08:00 - 09:00	130	+	306	=	436	70	60	No	
13:00 - 14:00	214	+	216	=	430	76	116	No	
18:00 - 19:00	230	+	197	=	427	63	88	No	
05:00 - 06:00	52	+	372	=	424	62	29	No	
12:45 - 13:45	203	+	205	=	408	76	107	No	
08:15 - 09:15	123	+	283	=	406	73	64	No	
08:30 - 09:30	133	+	264	=	397	80	79	No	
12:30 - 13:30	194	+	199	=	393	77	95	No	
12:00 - 13:00	189	+	201	=	390	66	87	No	
11:45 - 12:45	189	+	198	=	387	64	91	No	
12:15 - 13:15	190	+	190	=	380	67	86	No	
08:45 - 09:45	128	+	248	=	376	67	77	No	
11:30 - 12:30	167		207		374	54	95	No	

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2386

Study Date : 11/15/2023

Warrant 1C Combination of Warrants

Description

Intended for sites where the traffic volumes don't meet individual warrants but where Warrants 1A and 1B are both met to 80% of their stated values.

Summary

11 hours meet 1A minimums.
10 hours meet 1B minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **1**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70% applied
Warrant 1A 1B
Veh/Hr Major = **280 420**

Veh/Hr Minor = **84 42**

Major Road

TH 47

Minor Road

CSAH 28

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
16:15 - 17:15	522	+	290	=	812	71	187	Yes
15:15 - 16:15	491	+	240	=	731	79	183	Yes
07:00 - 08:00	199	+	480	=	679	133	93	Yes
17:15 - 18:15	339	+	276	=	615	53	141	Yes
14:15 - 15:15	367	+	213	=	580	87	152	Yes
06:00 - 07:00	72	+	487	=	559	85	54	Yes
13:15 - 14:15	240	+	212	=	452	94	132	Yes
12:15 - 13:15	190	+	190	=	380	67	86	Yes
10:15 - 11:15	125	+	227	=	352	58	86	Yes
11:15 - 12:15	157	+	191	=	348	58	92	Yes
09:15 - 10:15	124	+	198	=	322	59	86	Yes
05:45 - 06:45	63	+	455	=	518	71	41	No

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
16:00 - 17:00	517	+	285	=	802	80	193	Yes
15:00 - 16:00	465	+	233	=	698	86	168	Yes
07:00 - 08:00	199	+	480	=	679	133	93	Yes
17:00 - 18:00	393	+	277	=	670	46	156	Yes
06:00 - 07:00	72	+	487	=	559	85	54	Yes
14:00 - 15:00	340	+	201	=	541	92	154	Yes
08:00 - 09:00	130	+	306	=	436	70	60	Yes
13:00 - 14:00	214	+	216	=	430	76	116	Yes
18:00 - 19:00	230	+	197	=	427	63	88	Yes
05:00 - 06:00	52	+	372	=	424	62	29	Yes
12:45 - 13:45	203	+	205	=	408	76	107	No
12:30 - 13:30	194	+	199	=	393	77	95	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2386

Study Date : 11/15/2023

Warrant 2 - Four Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during any four hours of the day is the principal reason for consideration of a signal installation.

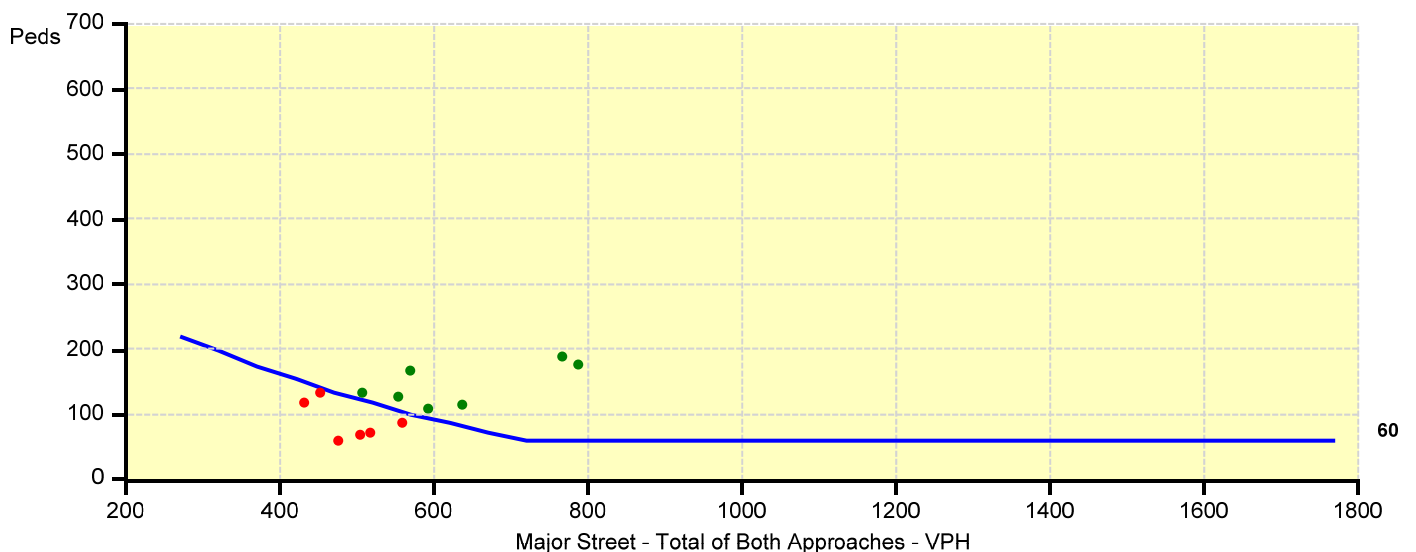
Summary

7 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
 Number of Major Lanes = **1**
 Number of Minor Lanes = **1**

Time	Major Road TH 47				Total	Minor Road CSAH 28		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:30 - 17:30	500	+	288	=	788	65	176	Yes
15:30 - 16:30	504	+	261	=	765	71	187	Yes
07:15 - 08:15	206	+	431	=	637	113	94	Yes
06:15 - 07:15	93	+	499	=	592	107	57	Yes
14:30 - 15:30	373	+	197	=	570	86	168	Yes
17:30 - 18:30	299	+	253	=	552	63	125	Yes
13:30 - 14:30	288	+	218	=	506	97	132	Yes
06:00 - 07:00	72	+	487	=	559	85	54	No
05:45 - 06:45	63	+	455	=	518	71	41	No
05:30 - 06:30	55	+	449	=	504	68	44	No
05:15 - 06:15	55	+	421	=	476	60	40	No
13:15 - 14:15	240		212		452	94	132	No



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2386

Study Date : 11/15/2023

Warrant 3B - Peak Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during one hour of the day is the principal reason for consideration of a signal installation.

Summary

9 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
 Number of Major Lanes = **1**
 Number of Minor Lanes = **1**

Time	Major Road TH 47				Total	Minor Road CSAH 28		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:15 - 17:15	522	+	290	=	812	71	187	Yes
15:45 - 16:45	525	+	279	=	804	69	202	Yes
16:00 - 17:00	517	+	285	=	802	80	193	Yes
16:30 - 17:30	500	+	288	=	788	65	176	Yes
15:30 - 16:30	504	+	261	=	765	71	187	Yes
16:45 - 17:45	456	+	286	=	742	61	159	Yes
15:15 - 16:15	491	+	240	=	731	79	183	Yes
15:00 - 16:00	465	+	233	=	698	86	168	Yes
17:00 - 18:00	393	+	277	=	670	46	156	Yes
06:45 - 07:45	171	+	514	=	685	141	85	No
07:00 - 08:00	199	+	480	=	679	133	93	No
06:30 - 07:30	148	+	495	=	643	128	70	No

