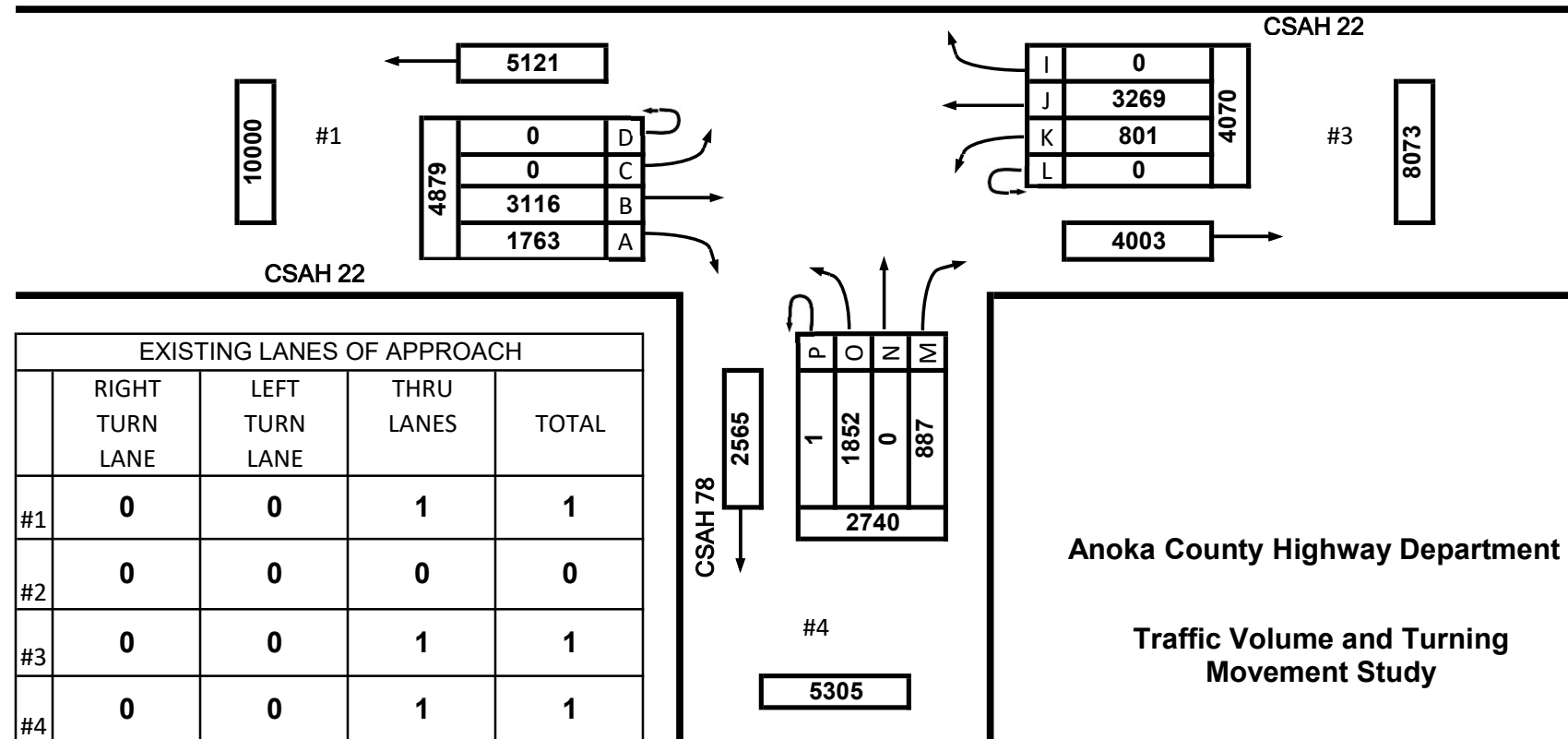
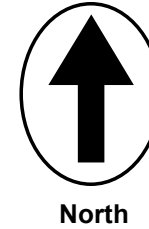


Date : 05/16/23

Count Number : TMC 2345

Location : CSAH 22
@ CSAH 78

Collection Period : 24 HR



Anoka County Highway Department

Traffic Volume and Turning Movement Study

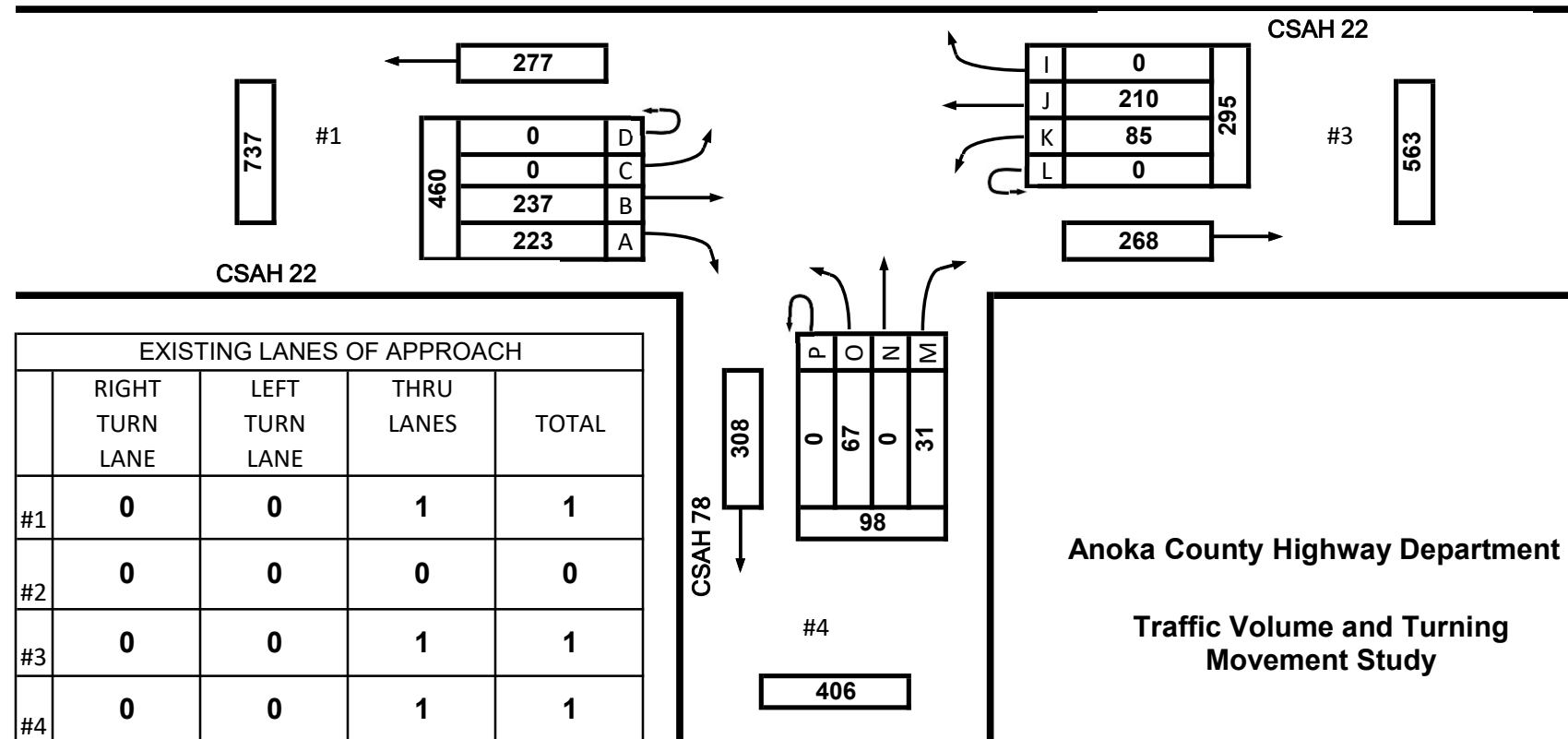
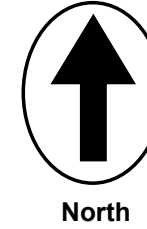
Date : 05/16/23

Count Number : TMC 2345

Location : CSAH 22
@ CSAH 78

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

AM PEAK

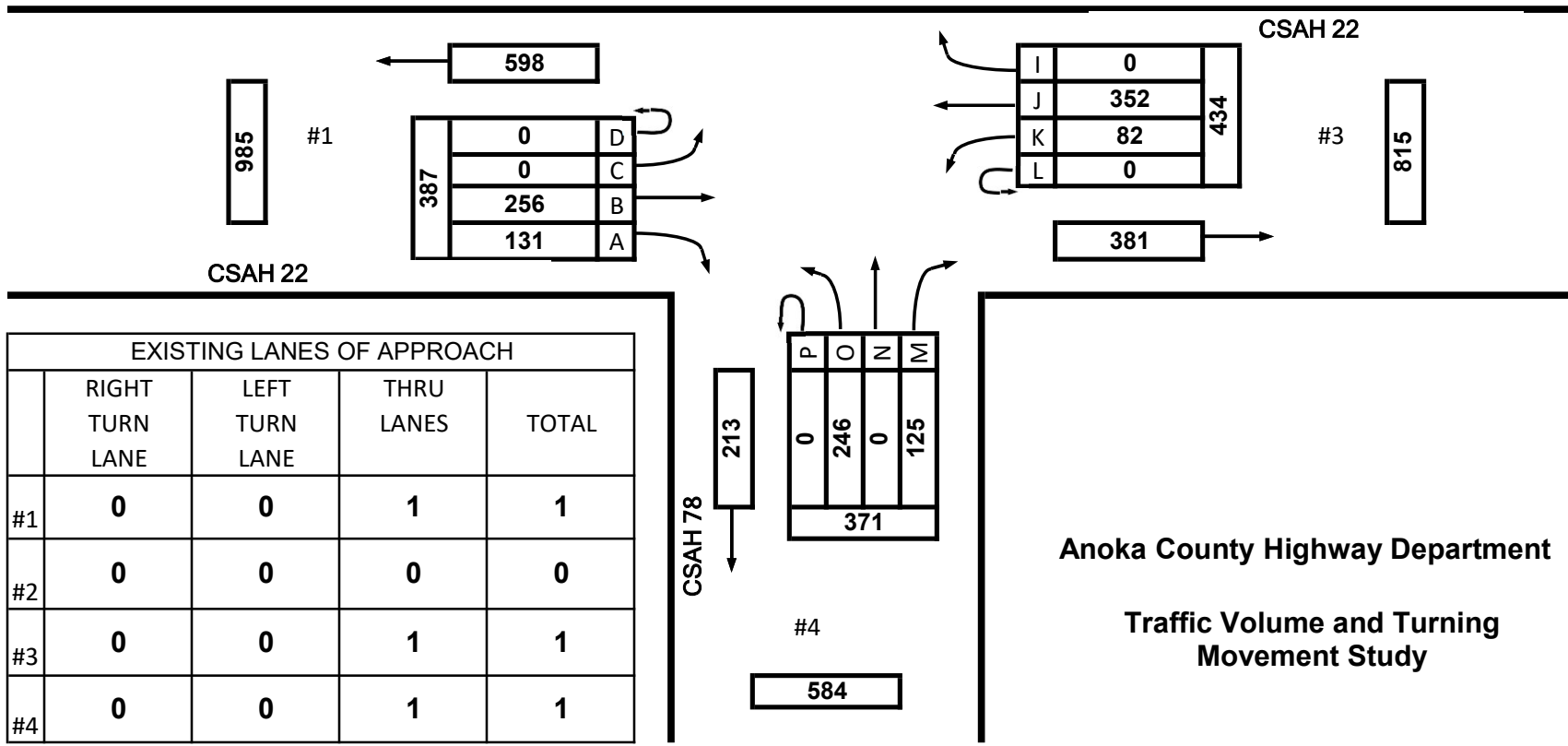
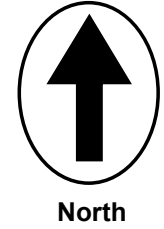


Date : 05/16/23

Count Number : TMC 2345

Location : CSAH 22
@ CSAH 78

Collection Period : 4 PM - 5 PM
 PM PEAK



Anoka County Highway Department
 Traffic Volume and Turning Movement Study

TMC 2345 - CSAH 22 @ CSAH 78
0 0

Tuesday, May 16, 2023

Time	Southbound 0						Westbound 0						Northbound 0						Eastbound 0						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	0	0	0	0	0	2	4	0	0	6	0	1	0	1	0	2	0	0	4	0	0	4	12
12:15 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	3
12:30 AM	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
12:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	2	0	0	0	0	0	0	3
Hourly Total	0	0	0	0	0	0	0	3	8	0	0	11	0	3	0	1	0	4	0	0	5	0	0	5	20
1:00 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	1	0	0	1	7
1:15 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	2	0	0	0	2	0	0	3	0	0	3	8
1:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1	0	0	0	2	0	2	4
1:45 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	0	2	0	0	2	0	0	2	6
Hourly Total	0	0	0	0	0	0	0	0	12	0	0	12	0	5	0	0	0	5	0	0	6	2	0	8	25
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
2:15 AM	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
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	1	2
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	0	0	2	3
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	5	0	0	5	7
3:00 AM	0	0	0	0	0	0	0	1	2	0	0	3	0	1	0	0	0	1	0	0	1	0	0	1	5
3:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1	0	0	1	3	0	4	6
3:30 AM	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	2	3	0	5	7
3:45 AM	0	0	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	2	3	0	5	8
Hourly Total	0	0	0	0	0	0	0	3	6	0	0	9	0	2	0	0	0	2	0	0	6	9	0	15	26
4:00 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2	4	0	6	8
4:15 AM	0	0	0	0	0	0	0	4	7	0	0	11	0	3	0	0	0	3	0	0	7	5	0	12	26
4:30 AM	0	0	0	0	0	0	0	3	11	0	0	14	0	1	0	0	0	1	0	0	10	8	0	18	33
4:45 AM	0	0	0	0	0	0	0	5	10	0	0	15	0	2	0	0	0	2	0	0	9	12	0	21	38
Hourly Total	0	0	0	0	0	0	0	12	30	0	0	42	0	6	0	0	0	6	0	0	28	29	0	57	105
5:00 AM	0	0	0	0	0	0	0	4	15	0	0	19	0	4	0	0	0	4	0	0	14	17	0	31	54
5:15 AM	0	0	0	0	0	0	0	12	30	0	0	42	0	3	0	6	0	9	0	0	26	24	0	50	101
5:30 AM	0	0	0	0	0	0	0	10	35	0	0	45	0	1	0	1	0	2	0	0	36	36	0	72	119
5:45 AM	0	0	0	0	0	0	0	8	39	0	0	47	0	2	0	9	0	11	0	0	45	20	0	65	123
Hourly Total	0	0	0	0	0	0	0	34	119	0	0	153	0	10	0	16	0	26	0	0	121	97	0	218	397
6:00 AM	0	0	0	0	0	0	0	12	26	0	0	38	0	6	0	3	0	9	0	0	42	36	0	78	125
6:15 AM	0	0	0	0	0	0	0	14	46	0	0	60	0	6	0	3	0	9	0	0	38	36	0	74	143
6:30 AM	0	0	0	0	0	0	0	20	30	0	0	50	0	5	0	3	0	8	0	0	47	44	0	91	149
6:45 AM	0	0	0	0	0	0	0	18	48	0	0	66	0	15	0	13	0	28	0	0	63	55	0	118	212
Hourly Total	0	0	0	0	0	0	0	64	150	0	0	214	0	32	0	22	0	54	0	0	190	171	0	361	629
7:00 AM	0	0	0	0	0	0	0	15	53	0	0	68	0	14	0	4	0	18	0	0	65	51	0	116	202
7:15 AM	0	0	0	0	0	0	0	26	53	0	0	79	0	23	0	6	0	29	0	0	45	66	0	111	219
7:30 AM	0	0	0	0	0	0	0	26	56	0	0	82	0	15	0	8	0	23	0	0	64	51	0	115	220
7:45 AM	0	0	0	0	0	0	0	15	41	0	0	56	0	16	0	10	0	26	0	0	68	46	0	114	196
Hourly Total	0	0	0	0	0	0	0	82	203	0	0	285	0	68	0	28	0	96	0	0	242	214	0	456	837

TMC 2345 - CSAH 22 @ CSAH 78
0 0

Tuesday, May 16, 2023

Time	Southbound 0						Westbound 0						Northbound 0						Eastbound 0						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	0	0	0	0	0	0	11	37	0	0	48	0	22	0	7	0	29	0	0	47	38	0	85	162
8:15 AM	0	0	0	0	0	0	0	10	31	0	0	41	0	14	0	10	0	24	0	0	36	31	0	67	132
8:30 AM	0	0	0	0	0	0	0	9	31	0	0	40	0	18	0	17	0	35	0	0	60	39	0	99	174
8:45 AM	0	0	0	0	0	0	0	11	36	0	0	47	0	18	0	9	0	27	0	0	51	14	0	65	139
Hourly Total	0	0	0	0	0	0	0	41	135	0	0	176	0	72	0	43	0	115	0	0	194	122	0	316	607
9:00 AM	0	0	0	0	0	0	0	22	52	0	0	74	0	26	0	12	0	38	0	0	40	29	0	69	181
9:15 AM	0	0	0	0	0	0	0	12	39	0	0	51	0	20	0	11	0	31	0	0	46	31	0	77	159
9:30 AM	0	0	0	0	0	0	0	12	33	0	0	45	0	19	0	8	0	27	0	0	35	24	0	59	131
9:45 AM	0	0	0	0	0	0	0	11	28	0	0	39	0	24	0	4	0	28	0	0	37	28	0	65	132
Hourly Total	0	0	0	0	0	0	0	57	152	0	0	209	0	89	0	35	0	124	0	0	158	112	0	270	603
10:00 AM	0	0	0	0	0	0	0	15	24	0	0	39	0	23	0	8	0	31	0	0	33	15	0	48	118
10:15 AM	0	0	0	0	0	0	0	7	37	0	0	44	0	14	0	8	0	22	0	0	19	18	0	37	103
10:30 AM	0	0	0	0	0	0	0	9	24	0	0	33	0	12	0	7	0	19	0	0	37	24	0	61	113
10:45 AM	0	0	0	0	0	0	0	6	35	0	0	41	0	19	0	6	0	25	0	0	33	16	0	49	115
Hourly Total	0	0	0	0	0	0	0	37	120	0	0	157	0	68	0	29	0	97	0	0	122	73	0	195	449
11:00 AM	0	0	0	0	0	0	0	3	33	0	0	36	0	29	0	7	0	36	0	0	37	17	0	54	126
11:15 AM	0	0	0	0	0	0	0	9	32	0	0	41	0	18	0	11	0	29	0	0	45	14	0	59	129
11:30 AM	0	0	0	0	0	0	0	8	42	0	0	50	0	21	0	3	0	24	0	0	18	24	0	42	116
11:45 AM	0	0	0	0	0	0	0	9	38	0	0	47	0	19	0	10	0	29	0	0	30	22	0	52	128
Hourly Total	0	0	0	0	0	0	0	29	145	0	0	174	0	87	0	31	0	118	0	0	130	77	0	207	499
12:00 PM	0	0	0	0	0	0	0	9	48	0	0	57	0	19	0	13	0	32	0	0	47	24	0	71	160
12:15 PM	0	0	0	0	0	0	0	7	38	0	0	45	0	25	0	11	0	36	0	0	43	17	0	60	141
12:30 PM	0	0	0	0	0	0	0	12	60	0	0	72	0	18	0	12	0	30	0	0	43	14	0	57	159
12:45 PM	0	0	0	0	0	0	0	5	35	0	0	40	1	23	0	17	0	41	0	0	37	11	0	48	129
Hourly Total	0	0	0	0	0	0	0	33	181	0	0	214	1	85	0	53	0	139	0	0	170	66	0	236	589
1:00 PM	0	0	0	0	0	0	0	11	50	0	0	61	0	26	0	9	0	35	0	0	43	22	0	65	161
1:15 PM	0	0	0	0	0	0	0	9	37	0	0	46	0	25	0	8	0	33	0	0	37	22	0	59	138
1:30 PM	0	0	0	0	0	0	0	8	33	0	0	41	0	24	0	11	0	35	0	0	30	19	0	49	125
1:45 PM	0	0	0	0	0	0	0	7	45	0	0	52	0	30	0	9	0	39	0	0	49	21	0	70	161
Hourly Total	0	0	0	0	0	0	0	35	165	0	0	200	0	105	0	37	0	142	0	0	159	84	0	243	585
2:00 PM	0	0	0	0	0	0	0	11	56	0	0	67	0	19	0	15	0	34	0	0	47	24	0	71	172
2:15 PM	0	0	0	0	0	0	0	14	52	0	0	66	0	33	0	15	0	48	0	0	51	20	0	71	185
2:30 PM	0	0	0	0	0	0	0	16	46	0	0	62	0	32	0	20	0	52	0	0	58	31	0	89	203
2:45 PM	0	0	0	0	0	0	0	12	66	0	0	78	0	38	0	24	0	62	0	0	70	36	0	106	246
Hourly Total	0	0	0	0	0	0	0	53	220	0	0	273	0	122	0	74	0	196	0	0	226	111	0	337	806
3:00 PM	0	0	0	0	0	0	0	15	68	0	0	83	0	39	0	15	0	54	0	0	55	21	0	76	213
3:15 PM	0	0	0	0	0	0	0	10	83	0	0	93	0	59	0	25	0	84	0	0	66	25	0	91	268
3:30 PM	0	0	0	0	0	0	0	18	94	0	0	112	0	47	0	26	0	73	0	0	74	29	0	103	288
3:45 PM	0	0	0	0	0	0	0	27	83	0	0	110	0	54	0	23	0	77	0	0	75	31	0	106	293
Hourly Total	0	0	0	0	0	0	0	70	328	0	0	398	0	199	0	89	0	288	0	0	270	106	0	376	1062

TMC 2345 - CSAH 22 @ CSAH 78

0 0

Tuesday, May 16, 2023

Time	Southbound 0						Westbound 0						Northbound 0						Eastbound 0						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	0	0	0	0	0	0	25	88	0	0	113	0	63	0	35	0	98	0	0	69	32	0	101	312
4:15 PM	0	0	0	0	0	0	0	20	92	0	0	112	0	52	0	38	0	90	0	0	56	29	0	85	287
4:30 PM	0	0	0	0	0	0	0	14	87	0	0	101	0	65	0	25	0	90	0	0	61	30	0	91	282
4:45 PM	0	0	0	0	0	0	0	23	85	0	0	108	0	66	0	27	0	93	0	0	70	40	0	110	311
Hourly Total	0	0	0	0	0	0	0	82	352	0	0	434	0	246	0	125	0	371	0	0	256	131	0	387	1192
5:00 PM	0	0	0	0	0	0	0	27	96	0	0	123	0	57	0	24	0	81	0	0	75	31	0	106	310
5:15 PM	0	0	0	0	0	0	0	6	70	0	0	76	0	51	0	24	0	75	0	0	74	28	0	102	253
5:30 PM	0	0	0	0	0	0	0	12	72	0	0	84	0	44	0	25	0	69	0	0	68	35	0	103	256
5:45 PM	0	0	0	0	0	0	0	18	72	0	0	90	0	47	0	12	0	59	0	0	51	31	0	82	231
Hourly Total	0	0	0	0	0	0	0	63	310	0	0	373	0	199	0	85	0	284	0	0	268	125	0	393	1050
6:00 PM	0	0	0	0	0	0	0	7	67	0	0	74	0	48	0	24	0	72	0	0	62	20	0	82	228
6:15 PM	0	0	0	0	0	0	0	8	81	0	0	89	0	39	0	24	0	63	0	0	42	15	0	57	209
6:30 PM	0	0	0	0	0	0	0	9	40	0	0	49	0	35	0	19	0	54	0	0	58	12	0	70	173
6:45 PM	0	0	0	0	0	0	0	5	45	0	0	50	0	29	0	24	0	53	0	0	33	12	0	45	148
Hourly Total	0	0	0	0	0	0	0	29	233	0	0	262	0	151	0	91	0	242	0	0	195	59	0	254	758
7:00 PM	0	0	0	0	0	0	0	8	68	0	0	76	0	37	0	19	0	56	0	0	36	10	0	46	178
7:15 PM	0	0	0	0	0	0	0	10	23	0	0	33	0	26	0	13	0	39	0	0	32	17	0	49	121
7:30 PM	0	0	0	0	0	0	0	4	50	0	0	54	0	29	0	13	0	42	0	0	29	17	0	46	142
7:45 PM	0	0	0	0	0	0	0	13	44	0	0	57	0	21	0	15	0	36	0	0	34	14	0	48	141
Hourly Total	0	0	0	0	0	0	0	35	185	0	0	220	0	113	0	60	0	173	0	0	131	58	0	189	582
8:00 PM	0	0	0	0	0	0	0	3	30	0	0	33	0	28	0	10	0	38	0	0	30	9	0	39	110
8:15 PM	0	0	0	0	0	0	0	9	28	0	0	37	0	30	0	9	0	39	0	0	35	18	0	53	129
8:30 PM	0	0	0	0	0	0	0	4	33	0	0	37	0	20	0	1	0	21	0	0	34	15	0	49	107
8:45 PM	0	0	0	0	0	0	0	3	26	0	0	29	0	18	0	9	0	27	0	0	31	10	0	41	97
Hourly Total	0	0	0	0	0	0	0	19	117	0	0	136	0	96	0	29	0	125	0	0	130	52	0	182	443
9:00 PM	0	0	0	0	0	0	0	8	25	0	0	33	0	28	0	6	0	34	0	0	18	16	0	34	101
9:15 PM	0	0	0	0	0	0	0	0	19	0	0	19	0	12	0	6	0	18	0	0	15	13	0	28	65
9:30 PM	0	0	0	0	0	0	0	2	8	0	0	10	0	13	0	2	0	15	0	0	16	11	0	27	52
9:45 PM	0	0	0	0	0	0	0	1	8	0	0	9	0	7	0	5	0	12	0	0	9	6	0	15	36
Hourly Total	0	0	0	0	0	0	0	11	60	0	0	71	0	60	0	19	0	79	0	0	58	46	0	104	254
10:00 PM	0	0	0	0	0	0	0	1	4	0	0	5	0	5	0	5	0	10	0	0	12	7	0	19	34
10:15 PM	0	0	0	0	0	0	0	3	10	0	0	13	0	9	0	4	0	13	0	0	5	3	0	8	34
10:30 PM	0	0	0	0	0	0	0	0	7	0	0	7	0	5	0	1	0	6	0	0	7	4	0	11	24
10:45 PM	0	0	0	0	0	0	0	1	6	0	0	7	0	5	0	3	0	8	0	0	7	2	0	9	24
Hourly Total	0	0	0	0	0	0	0	5	27	0	0	32	0	24	0	13	0	37	0	0	31	16	0	47	116
11:00 PM	0	0	0	0	0	0	0	2	3	0	0	5	0	3	0	4	0	7	0	0	6	3	0	9	21
11:15 PM	0	0	0	0	0	0	0	2	2	0	0	4	0	1	0	0	0	1	0	0	7	0	0	7	12
11:30 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	3	0	1	0	4	0	0	1	0	0	1	8
11:45 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	3	0	0	0	3	0	0	1	0	0	1	7
Hourly Total	0	0	0	0	0	0	0	4	11	0	0	15	0	10	0	5	0	15	0	0	15	3	0	18	48
DAILY TOTAL	0	0	0	0	0	0	0	801	3269	0	0	4070	1	1852	0	887	0	2740	0	0	3116	1763	0	4879	11689
Cars	0	0	0	0	0	0	0	778	3085	0	0	3863	0	1755	0	862	0	2617	0	0	2931	1667	0	4598	11078
Heavy Vehicles	0	0	0	0	0	0	0	23	184	0	0	207	1	97	0	25	0	123	0	0	185	96	0	281	611
Heavy Vehicle %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.87%	5.63%	0.00%	0.00%	5.09%	100.00%	5.24%	0.00%	2.82%	0.00%	4.49%	0.00%	0.00%	5.94%	5.45%	0.00%	5.76%	5.23%

TMC 2345 - CSAH 22 @ CSAH 78

0 0

Tuesday, May 16, 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	0	0	0	0	0	0	18	48	0	0	66	0	15	0	13	0	28	0	0	63	55	0	118	0	0	63	55	0	118	212
7:00 AM	0	0	0	0	0	0	0	15	53	0	0	68	0	14	0	4	0	18	0	0	65	51	0	116	0	0	65	51	0	116	202
7:15 AM	0	0	0	0	0	0	0	26	53	0	0	79	0	23	0	6	0	29	0	0	45	66	0	111	0	0	45	66	0	111	219
7:30 AM	0	0	0	0	0	0	0	26	56	0	0	82	0	15	0	8	0	23	0	0	64	51	0	115	0	0	64	51	0	115	220
Peak Hour Total	0	0	0	0	0	0	0	85	210	0	0	295	0	67	0	31	0	98	0	0	237	223	0	460	0	0	237	223	0	460	853
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.817	0.938	0.000	0.000	0.899	0.000	0.728	0.000	0.596	0.000	0.845	0.000	0.000	0.912	0.845	0.000	0.975	0.000	0.000	0.912	0.845	0.000	0.975	0.969

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							
4:00 PM	0	0	0	0	0	0	0	25	88	0	0	113	0	63	0	35	0	98	0	0	69	32	0	101	0	0	69	32	0	101	312
4:15 PM	0	0	0	0	0	0	0	20	92	0	0	112	0	52	0	38	0	90	0	0	56	29	0	85	0	0	56	29	0	85	287
4:30 PM	0	0	0	0	0	0	0	14	87	0	0	101	0	65	0	25	0	90	0	0	61	30	0	91	0	0	61	30	0	91	282
4:45 PM	0	0	0	0	0	0	0	23	85	0	0	108	0	66	0	27	0	93	0	0	70	40	0	110	0	0	70	40	0	110	311
Peak Hour Total	0	0	0	0	0	0	0	82	352	0	0	434	0	246	0	125	0	371	0	0	256	131	0	387	0	0	256	131	0	387	1192
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.820	0.957	0.000	0.000	0.960	0.000	0.932	0.000	0.822	0.000	0.946	0.000	0.000	0.914	0.819	0.000	0.880	0.000	0.000	0.914	0.819	0.000	0.880	0.955

Total Vehicles On Leg						0	
Vehicles Entering Intersection			0	Vehicles Exiting Intersection			0
Southbound							
Cars	0	0	0	0	0	0	
Heavy	0	0	0	0	0	0	
Total	0	0	0	0	0	0	

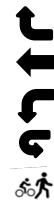


Total Vehicles on Leg 10000	Vehicles Entering Intersection 4879	Eastbound	Cars	0	0	
			Heavy	0	0	
			Total	0	0	
	Vehicles Exiting Intersection 5121		Cars	2931	185	3116
			Heavy	1667	96	1763



Daily Volumes

Cars	0	0	0	Westbound	Vehicles Entering Intersection 4070	Total Vehicles on Leg 8073
Heavy	0	0	0			
Total	3085	184	3269			
Cars	778	23	801			
Heavy	0	0	0			
Total	0	0	0	Vehicles Exiting Intersection 4003		



Cars	0	0	1755	0	862		
Heavy	0	1	97	0	25		
Total	0	1	1852	0	887		
Northbound							
Vehicles Entering Intersection			2740	Vehicles Exiting Intersection			2565
Total Vehicles On Leg				5305			

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
05/16/2023	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	1	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	0	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	1	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	0	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	0	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	1	0	0	0	0	0	0	0	0	0	0
	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
	5:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	5:45	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
	6:00	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2	2	0	0
	6:15	0	0	0	0	0	0	0	0	2	6	0	0	0	0	0	0	0	0	0	0	4	0	0	0
	6:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	3	1	0	0
	6:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	4	2	0	0
	7:00	0	0	0	0	0	0	0	0	6	0	0	0	0	0	2	0	0	0	0	0	4	2	0	0
	7:15	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	5	1	0	0
	7:30	0	0	0	0	0	0	0	0	3	0	0	0	0	0	2	0	0	0	0	0	3	2	0	0
	7:45	0	0	0	0	0	0	0	1	6	0	0	0	0	0	4	0	0	0	0	0	3	1	0	0
	8:00	0	0	0	0	0	0	0	2	3	0	0	0	0	0	4	0	0	0	0	0	3	0	0	0
	8:15	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	6	2	0	0
	8:30	0	0	0	0	0	0	0	1	2	0	0	0	0	0	1	0	2	0	0	0	3	2	0	0
	8:45	0	0	0	0	0	0	0	0	7	0	0	0	0	0	1	0	1	0	0	0	2	2	0	0
	9:00	0	0	0	0	0	0	0	0	9	0	0	0	0	0	2	0	0	0	0	0	2	3	0	0
	9:15	0	0	0	0	0	0	0	1	3	0	0	0	0	0	3	0	0	0	0	0	1	1	0	0
	9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	2	3	0	0
	9:45	0	0	0	0	0	0	0	1	6	0	0	0	0	0	4	0	1	0	0	0	2	2	0	0
	10:00	0	0	0	0	0	0	0	2	1	0	0	0	0	0	2	0	0	0	0	0	4	2	0	0
	10:15	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
	10:30	0	0	0	0	0	0	0	0	3	0	0	0	0	0	2	0	0	0	0	0	1	5	0	0
	10:45	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	0	1	0	0	0	2	0	0	0
	11:00	0	0	0	0	0	0	0	0	5	0	0	0	0	0	3	0	0	0	0	0	5	0	0	0
	11:15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	1	0	0	0	7	2	0	0
	11:30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	4	2	0	0
	11:45	0	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2345

Study Date : 05/25/2023

Signal Warrants - Summary

Major Street Approaches

Eastbound: CSAH 22

Number of Lanes : 1

Total Approach Volume: 4,879

Westbound: CSAH 22

Number of Lanes : 1

Total Approach Volume: 4,070

Minor Street Approaches

Northbound: CSAH 78

Number of Lanes : 1

Total Approach Volume: 2,740

Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 13 hours, 8 are needed

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

Required volumes reached for 7 hours, 8 are needed

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

Required 1A volumes reached for 14 hours, 8 are needed

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

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

Number of hours (10) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

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

Number of one hour periods (23) 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 2345

Study Date : 05/25/2023

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

13 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				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
15:30 - 16:30	395	+	447	=	842	338	0	Yes
16:30 - 17:30	409	+	408	=	817	339	0	Yes
07:15 - 08:15	425	+	265	=	690	107	0	Yes
14:30 - 15:30	362	+	316	=	678	252	0	Yes
17:30 - 18:30	324	+	337	=	661	263	0	Yes
08:15 - 09:15	300	+	202	=	502	124	0	Yes
13:30 - 14:30	261	+	226	=	487	156	0	Yes
12:30 - 13:30	229	+	219	=	448	139	0	Yes
11:30 - 12:30	225	+	199	=	424	121	0	Yes
09:15 - 10:15	249	+	174	=	423	117	0	Yes
18:30 - 19:30	210	+	208	=	418	202	0	Yes
10:30 - 11:30	223	+	151	=	374	109	0	Yes
19:30 - 20:30	186	+	181	=	367	155	0	Yes
06:45 - 07:45	460	+	295	=	755	98	0	No
07:00 - 08:00	456	+	285	=	741	96	0	No
06:30 - 07:30	436	+	263	=	699	83	0	No
06:15 - 07:15	399	+	244	=	643	63	0	No
06:00 - 07:00	361	+	214	=	575	54	0	No
05:45 - 06:45	308	+	195	=	503	37	0	No
05:30 - 06:30	289	+	190	=	479	31	0	No
05:15 - 06:15	265	+	172	=	437	31	0	No
05:00 - 06:00	218	+	153	=	371	26	0	No
10:15 - 11:15	201	+	154	=	355	102	0	No
04:45 - 05:45	174	+	121	=	295	17	0	No
20:30 - 21:30	152		118		270	100	0	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2345

Study Date : 05/25/2023

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 7 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				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
15:45 - 16:45	383	+	436	=	819	355	0	Yes
16:45 - 17:45	421	+	391	=	812	318	0	Yes
14:45 - 15:45	376	+	366	=	742	273	0	Yes
07:00 - 08:00	456	+	285	=	741	96	0	Yes
17:45 - 18:45	291	+	302	=	593	248	0	Yes
06:00 - 07:00	361	+	214	=	575	54	0	Yes
13:45 - 14:45	301	+	247	=	548	173	0	Yes
08:30 - 09:30	310	+	212	=	522	131	0	No
05:45 - 06:45	308	+	195	=	503	37	0	No
08:15 - 09:15	300	+	202	=	502	124	0	No
08:00 - 09:00	316	+	176	=	492	115	0	No
08:45 - 09:45	270	+	217	=	487	123	0	No
13:30 - 14:30	261	+	226	=	487	156	0	No
05:30 - 06:30	289	+	190	=	479	31	0	No
09:00 - 10:00	270	+	209	=	479	124	0	No
11:45 - 12:45	240	+	221	=	461	127	0	No
13:15 - 14:15	249	+	206	=	455	141	0	No
12:00 - 13:00	236	+	214	=	450	139	0	No
12:15 - 13:15	230	+	218	=	448	142	0	No
12:30 - 13:30	229	+	219	=	448	139	0	No
13:00 - 14:00	243	+	200	=	443	142	0	No
05:15 - 06:15	265	+	172	=	437	31	0	No
11:30 - 12:30	225	+	199	=	424	121	0	No
09:15 - 10:15	249	+	174	=	423	117	0	No
11:15 - 12:15	224		195		419	114	0	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2345

Study Date : 05/25/2023

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

14 hours meet 1A minimums.
11 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 CSAH 22

Minor Road CSAH 78

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1A?
15:45 - 16:45	383	+	436	=	819	355	0	Yes
16:45 - 17:45	421	+	391	=	812	318	0	Yes
06:45 - 07:45	460	+	295	=	755	98	0	Yes
14:45 - 15:45	376	+	366	=	742	273	0	Yes
17:45 - 18:45	291	+	302	=	593	248	0	Yes
07:45 - 08:45	365	+	185	=	550	114	0	Yes
13:45 - 14:45	301	+	247	=	548	173	0	Yes
08:45 - 09:45	270	+	217	=	487	123	0	Yes
11:45 - 12:45	240	+	221	=	461	127	0	Yes
12:45 - 13:45	221	+	188	=	409	144	0	Yes
18:45 - 19:45	186	+	213	=	399	190	0	Yes
10:45 - 11:45	204	+	168	=	372	114	0	Yes

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?
15:30 - 16:30	395	+	447	=	842	338	0	Yes
16:30 - 17:30	409	+	408	=	817	339	0	Yes
07:00 - 08:00	456	+	285	=	741	96	0	Yes
14:30 - 15:30	362	+	316	=	678	252	0	Yes
17:30 - 18:30	324	+	337	=	661	263	0	Yes
06:00 - 07:00	361	+	214	=	575	54	0	Yes
08:00 - 09:00	316	+	176	=	492	115	0	Yes
13:30 - 14:30	261	+	226	=	487	156	0	Yes
09:00 - 10:00	270	+	209	=	479	124	0	Yes
12:30 - 13:30	229	+	219	=	448	139	0	Yes
11:30 - 12:30	225	+	199	=	424	121	0	Yes
05:45 - 06:45	308	+	195	=	503	37	0	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2345

Study Date : 05/25/2023

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.

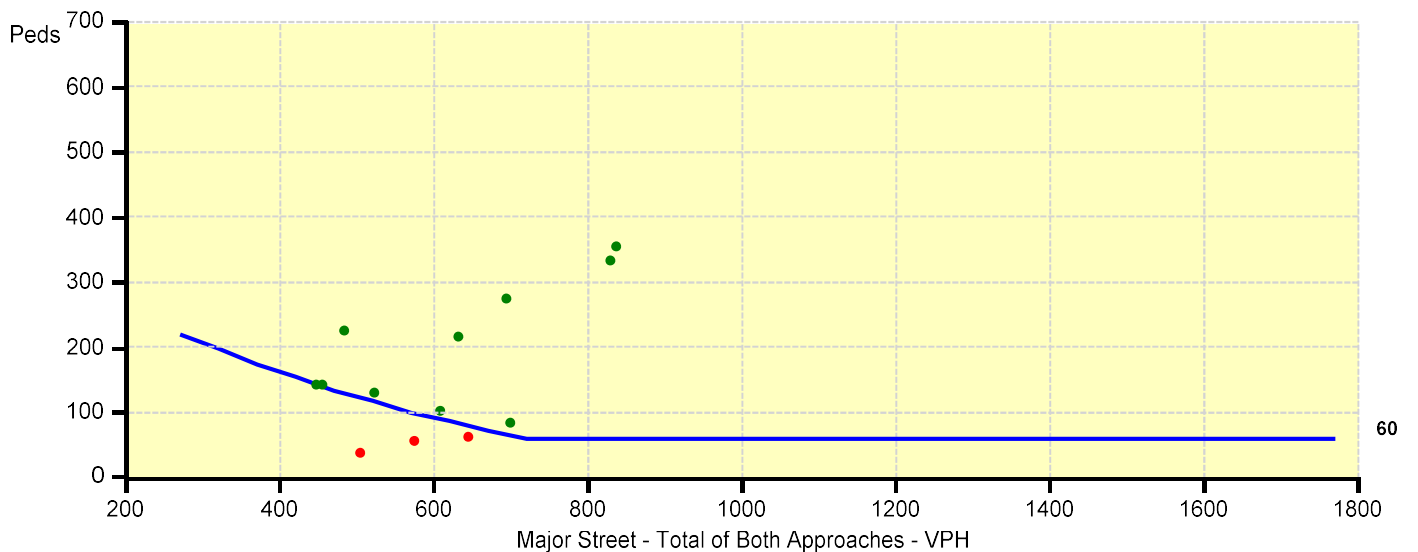
Summary

10 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 CSAH 22				Total	Minor Road CSAH 78		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:15 - 17:15	392	+	444	=	836	354	0	Yes
15:15 - 16:15	401	+	428	=	829	332	0	Yes
06:30 - 07:30	436	+	263	=	699	83	0	Yes
17:15 - 18:15	369	+	324	=	693	275	0	Yes
14:15 - 15:15	342	+	289	=	631	216	0	Yes
07:30 - 08:30	381	+	227	=	608	102	0	Yes
08:30 - 09:30	310	+	212	=	522	131	0	Yes
18:15 - 19:15	218	+	264	=	482	226	0	Yes
13:15 - 14:15	249	+	206	=	455	141	0	Yes
12:15 - 13:15	230	+	218	=	448	142	0	Yes
06:15 - 07:15	399	+	244	=	643	63	0	No
06:00 - 07:00	361	+	214	=	575	54	0	No



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2345

Study Date : 05/25/2023

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

17 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 CSAH 22				Total	Minor Road CSAH 78		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
15:30 - 16:30	395	+	447	=	842	338	0	Yes
16:15 - 17:15	392	+	444	=	836	354	0	Yes
15:15 - 16:15	401	+	428	=	829	332	0	Yes
16:00 - 17:00	387	+	434	=	821	371	0	Yes
15:45 - 16:45	383	+	436	=	819	355	0	Yes
16:30 - 17:30	409	+	408	=	817	339	0	Yes
16:45 - 17:45	421	+	391	=	812	318	0	Yes
15:00 - 16:00	376	+	398	=	774	288	0	Yes
17:00 - 18:00	393	+	373	=	766	284	0	Yes
14:45 - 15:45	376	+	366	=	742	273	0	Yes
17:15 - 18:15	369	+	324	=	693	275	0	Yes
14:30 - 15:30	362		316		678	252	0	Yes

