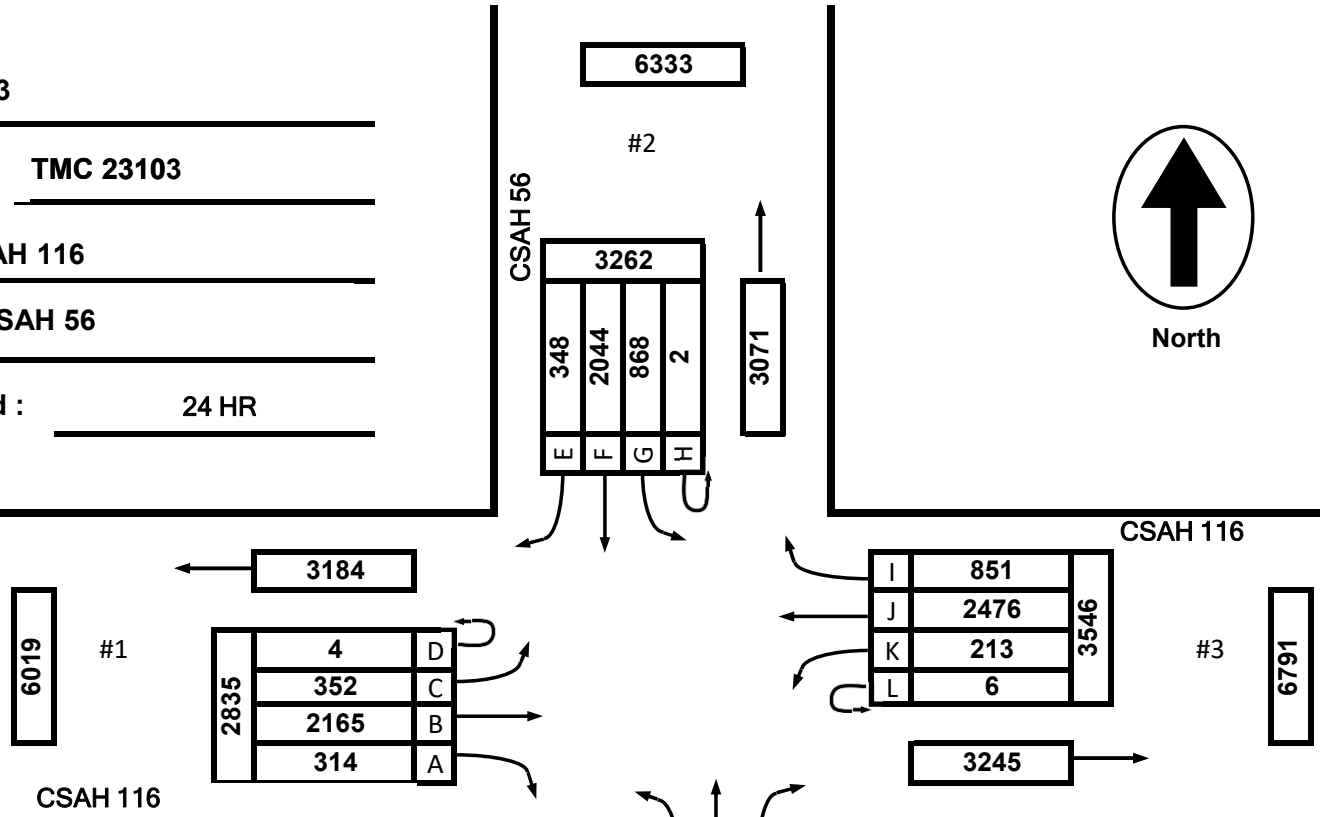
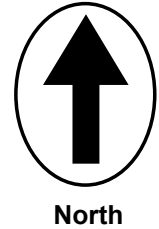


Date : 12/07/23

Count Number : TMC 23103

Location : CSAH 116
@ CSAH 56

Collection Period : 24 HR



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

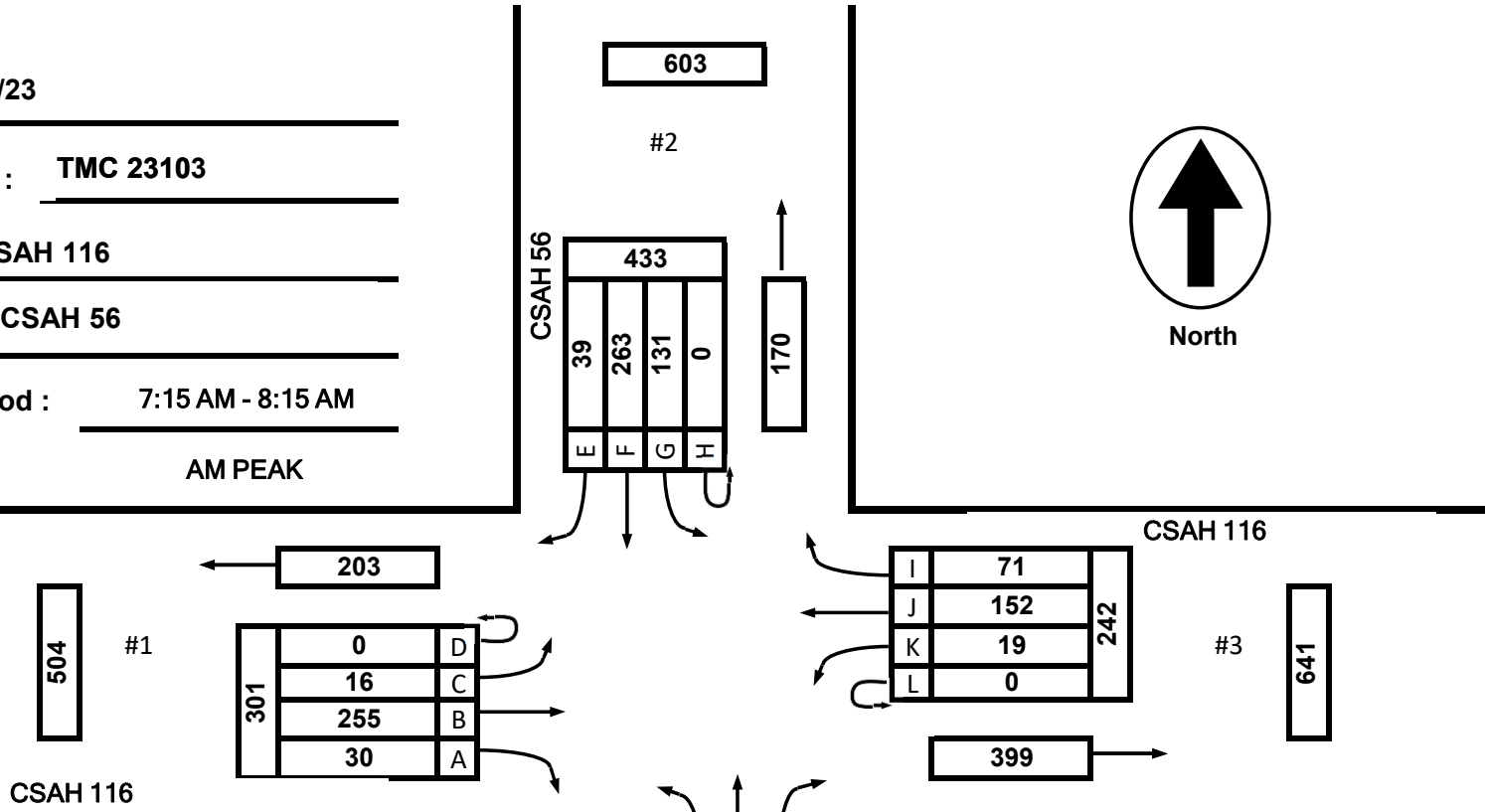
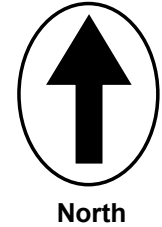
Anoka County Highway Department
 Traffic Volume and Turning Movement Study

Date : 12/07/23

Count Number : TMC 23103

Location : CSAH 116
@ CSAH 56

Collection Period : 7:15 AM - 8:15 AM
AM PEAK



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

Anoka County Highway Department
Traffic Volume and Turning Movement Study

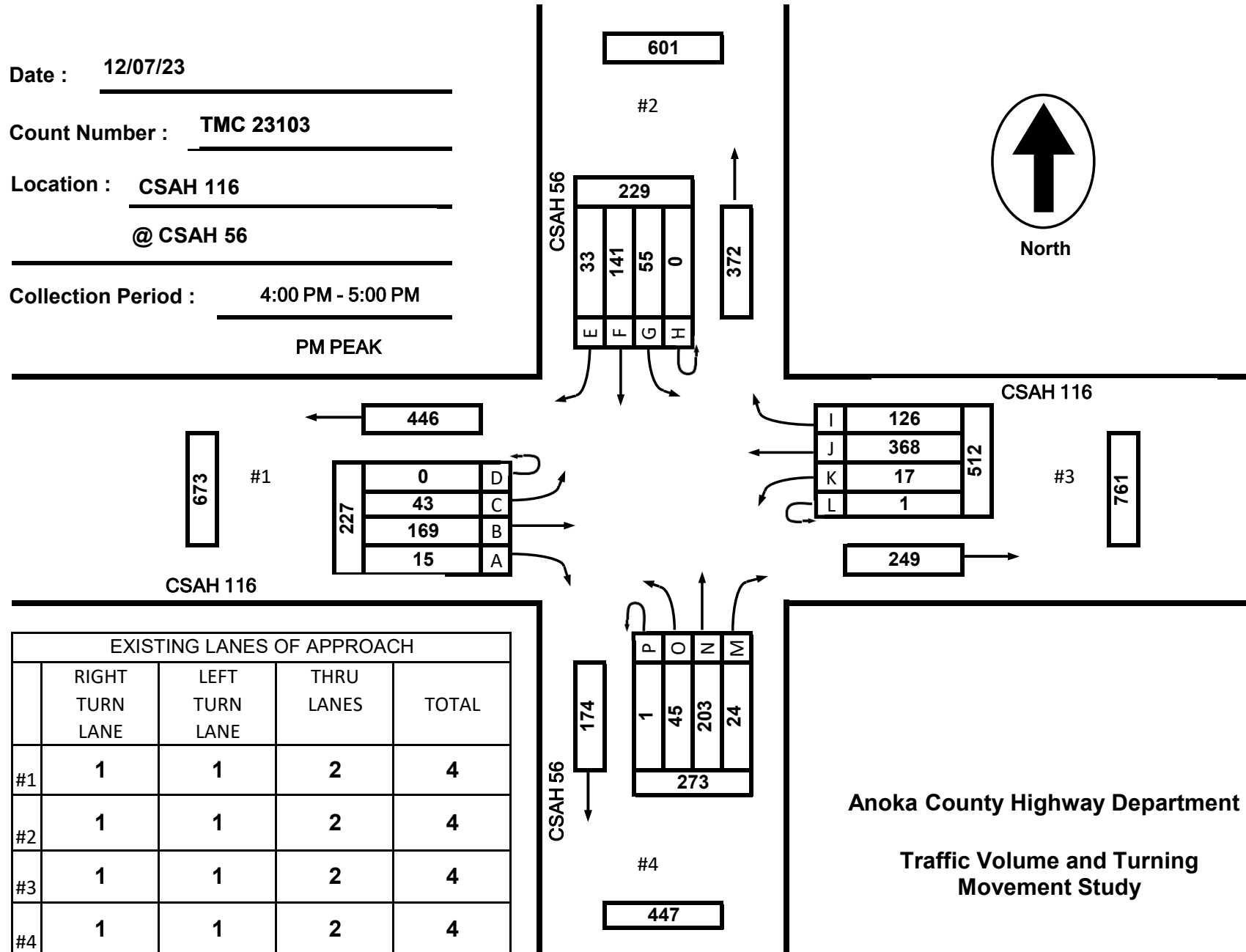
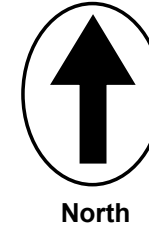
Date : 12/07/23

Count Number : TMC 23103

Location : CSAH 116
@ CSAH 56

Collection Period : 4:00 PM - 5:00 PM

PM PEAK



EXISTING LANES OF APPROACH

	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	TOTAL
#1	1	1	2	4
#2	1	1	2	4
#3	1	1	2	4
#4	1	1	2	4

Anoka County Highway Department

Traffic Volume and Turning Movement Study

TMC 23103 - CSAH 116 @ CSAH 56
Ramsey MN
Thursday, December 7, 2023

Time	Southbound CSAH 56						Westbound CSAH 116						Northbound CSAH 56						Eastbound CSAH 116						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	0	4	0	0	4	0	0	3	1	0	4	0	1	1	0	0	2	10
12:15 AM	0	0	4	0	0	4	0	1	3	0	0	4	0	3	7	0	0	10	0	0	0	1	0	1	19
12:30 AM	0	0	1	0	0	1	0	0	3	0	0	3	0	0	4	0	0	4	0	0	0	0	0	0	8
12:45 AM	0	1	0	0	0	1	0	0	0	2	0	2	0	1	2	0	0	3	0	0	0	0	0	0	6
Hourly Total	0	1	5	0	0	6	0	1	10	2	0	13	0	4	16	1	0	21	0	1	1	1	0	3	43
1:00 AM	0	1	0	0	0	1	0	0	2	0	0	2	0	0	2	0	0	2	0	1	0	0	0	1	6
1:15 AM	0	0	0	1	0	1	0	0	1	0	0	1	0	2	1	1	0	4	0	0	0	0	0	0	6
1:30 AM	0	0	2	0	0	2	0	0	1	0	0	1	0	1	3	1	0	5	0	0	0	2	0	2	10
1:45 AM	0	0	3	0	0	3	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4
Hourly Total	0	1	5	1	0	7	0	0	4	1	0	5	0	3	6	2	0	11	0	1	0	2	0	3	26
2:00 AM	0	0	0	0	0	0	0	0	4	1	0	5	0	0	2	0	0	2	0	1	0	0	0	1	8
2:15 AM	0	0	3	0	0	3	0	0	1	1	0	2	0	1	0	0	0	1	0	0	0	1	0	1	7
2:30 AM	0	1	4	1	0	6	0	0	1	0	0	1	0	1	3	0	0	4	0	0	0	0	0	0	11
2:45 AM	0	0	1	0	0	1	0	0	1	1	0	2	0	1	0	0	0	1	0	0	1	0	0	1	5
Hourly Total	0	1	8	1	0	10	0	0	7	3	0	10	0	3	5	0	0	8	0	1	1	1	0	3	31
3:00 AM	0	1	2	1	0	4	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	1	0	1	7
3:15 AM	0	1	6	0	0	7	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	1	0	2	10
3:30 AM	0	2	2	0	0	4	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	0	0	2	7
3:45 AM	0	1	5	0	0	6	0	0	2	0	0	2	0	2	2	0	0	4	0	0	3	0	0	3	15
Hourly Total	0	5	15	1	0	21	0	0	3	0	0	3	0	3	4	0	0	7	0	0	6	2	0	8	39
4:00 AM	0	1	9	0	0	10	0	0	1	0	0	1	0	0	3	0	0	3	0	0	2	2	0	4	18
4:15 AM	0	1	15	0	0	16	0	1	3	0	0	4	0	0	1	0	0	1	0	0	4	3	0	7	28
4:30 AM	0	3	11	1	0	15	0	0	2	0	0	2	0	0	1	0	0	1	0	0	8	0	0	8	26
4:45 AM	0	6	8	1	0	15	0	2	1	0	0	3	0	2	2	0	0	4	0	0	9	1	0	10	32
Hourly Total	0	11	43	2	0	56	0	3	7	0	0	10	0	2	7	0	0	9	0	0	23	6	0	29	104
5:00 AM	0	6	11	0	0	17	0	1	3	0	0	4	0	0	0	1	0	1	0	2	12	4	0	18	40
5:15 AM	0	8	21	1	0	30	0	0	3	0	0	3	0	0	2	0	0	2	0	1	23	2	0	26	61
5:30 AM	0	13	35	7	0	55	0	1	8	3	0	12	0	1	4	1	0	6	0	2	35	1	0	38	111
5:45 AM	0	18	28	0	0	46	0	0	11	1	0	12	0	0	1	0	0	1	0	1	33	9	0	43	102
Hourly Total	0	45	95	8	0	148	0	2	25	4	0	31	0	1	7	2	0	10	0	6	103	16	0	125	314
6:00 AM	0	9	35	4	0	48	0	0	12	0	0	12	0	2	4	0	0	6	0	0	17	10	0	27	93
6:15 AM	0	20	41	4	0	65	0	1	15	1	0	17	0	2	8	4	0	14	1	2	36	1	0	40	136
6:30 AM	0	24	45	1	0	70	0	1	20	2	0	23	0	3	11	2	0	16	0	3	59	6	0	68	177
6:45 AM	0	35	47	5	0	87	0	1	24	4	0	29	0	4	9	4	0	17	0	6	90	7	0	103	236
Hourly Total	0	88	168	14	0	270	0	3	71	7	0	81	0	11	32	10	0	53	1	11	202	24	0	238	642
7:00 AM	0	36	54	7	0	97	0	1	27	3	0	31	0	1	19	2	0	22	0	2	78	7	0	87	237
7:15 AM	0	43	44	12	0	99	0	2	24	13	0	39	0	3	13	3	0	19	0	3	84	10	0	97	254
7:30 AM	0	39	72	10	0	121	0	10	38	25	0	73	0	2	20	1	0	23	0	6	59	6	0	71	288
7:45 AM	0	31	86	9	0	126	0	3	45	25	0	73	0	2	21	0	0	23	0	4	69	8	0	81	303
Hourly Total	0	149	256	38	0	443	0	16	134	66	0	216	0	8	73	6	0	87	0	15	290	31	0	336	1082

**TMC 23103 - CSAH 116 @ CSAH 56
Ramsey MN**

Thursday, December 7, 2023

Time	Southbound CSAH 56						Westbound CSAH 116						Northbound CSAH 56						Eastbound CSAH 116						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	18	61	8	0	87	0	4	45	8	0	57	1	5	29	9	0	44	0	3	43	6	0	52	240
8:15 AM	1	16	38	4	0	59	0	2	19	4	0	25	0	4	18	0	0	22	0	1	36	10	0	47	153
8:30 AM	0	16	30	4	0	50	0	3	22	6	0	31	0	3	16	3	0	22	0	4	45	6	0	55	158
8:45 AM	0	10	40	4	0	54	0	1	26	6	0	33	0	1	16	3	0	20	0	1	47	5	0	53	160
Hourly Total	1	60	169	20	0	250	0	10	112	24	0	146	1	13	79	15	0	108	0	9	171	27	0	207	711
9:00 AM	0	8	29	3	0	40	0	2	14	2	0	18	0	3	13	4	0	20	0	8	37	10	0	55	133
9:15 AM	0	9	30	6	0	45	0	2	29	8	0	39	0	2	16	2	0	20	0	5	20	4	0	29	133
9:30 AM	0	12	41	1	0	54	0	2	22	3	0	27	0	5	20	0	0	25	0	2	16	3	0	21	127
9:45 AM	0	9	25	3	0	37	0	2	32	5	0	39	0	1	21	2	0	24	0	2	13	6	0	21	121
Hourly Total	0	38	125	13	0	176	0	8	97	18	0	123	0	11	70	8	0	89	0	17	86	23	0	126	514
10:00 AM	0	11	27	4	0	42	0	1	25	4	0	30	0	3	13	2	0	18	0	3	20	3	0	26	116
10:15 AM	0	9	28	7	0	44	0	6	14	8	0	28	0	2	21	7	0	30	1	2	20	3	0	26	128
10:30 AM	0	11	24	3	0	38	0	1	22	8	0	31	0	5	17	1	0	23	0	2	27	4	0	33	125
10:45 AM	0	10	30	6	0	46	0	3	21	9	0	33	0	2	24	2	0	28	0	3	19	4	0	26	133
Hourly Total	0	41	109	20	0	170	0	11	82	29	0	122	0	12	75	12	0	99	1	10	86	14	0	111	502
11:00 AM	0	9	17	3	0	29	0	4	28	9	0	41	0	3	19	3	0	25	0	2	24	2	0	28	123
11:15 AM	0	8	32	7	0	47	0	0	20	9	0	29	0	2	28	4	0	34	0	1	26	3	0	30	140
11:30 AM	0	18	27	1	0	46	0	5	42	8	0	55	0	4	25	3	0	32	0	3	26	3	0	32	165
11:45 AM	0	14	22	4	0	40	0	4	22	10	0	36	0	2	20	9	0	31	0	4	24	5	0	33	140
Hourly Total	0	49	98	15	0	162	0	13	112	36	0	161	0	11	92	19	0	122	0	10	100	13	0	123	568
12:00 PM	0	8	22	7	0	37	0	1	33	10	0	44	1	5	23	7	0	36	0	3	28	6	0	37	154
12:15 PM	0	10	18	5	0	33	0	8	38	5	0	51	0	5	18	5	0	28	0	4	18	6	0	28	140
12:30 PM	0	9	32	5	0	46	0	9	30	10	0	49	1	5	38	3	0	47	0	5	26	3	0	34	176
12:45 PM	0	9	23	4	0	36	0	3	22	15	0	40	1	4	26	1	0	32	0	5	37	1	0	43	151
Hourly Total	0	36	95	21	0	152	0	21	123	40	0	184	3	19	105	16	0	143	0	17	109	16	0	142	621
1:00 PM	0	7	28	4	0	39	0	5	35	7	0	47	1	6	27	4	0	38	0	3	22	2	0	27	151
1:15 PM	0	9	27	8	0	44	0	3	23	12	0	38	0	9	24	6	0	39	0	4	28	2	0	34	155
1:30 PM	0	8	22	5	0	35	0	5	30	8	0	43	0	9	28	8	0	45	0	6	34	4	0	44	167
1:45 PM	0	10	20	9	0	39	0	6	35	15	0	56	0	1	42	4	0	47	0	7	31	3	0	41	183
Hourly Total	0	34	97	26	0	157	0	19	123	42	0	184	1	25	121	22	0	169	0	20	115	11	0	146	656
2:00 PM	0	10	21	2	0	33	1	7	39	3	0	50	0	9	26	5	0	40	0	6	25	4	0	35	158
2:15 PM	0	12	18	5	0	35	0	6	49	25	0	80	0	10	38	4	0	52	0	11	33	6	0	50	217
2:30 PM	0	10	27	6	0	43	0	10	62	35	0	107	0	6	37	5	0	48	0	8	27	4	0	39	237
2:45 PM	0	14	26	5	0	45	0	4	51	22	0	77	2	5	41	2	0	50	0	9	38	5	0	52	224
Hourly Total	0	46	92	18	0	156	1	27	201	85	0	314	2	30	142	16	0	190	0	34	123	19	0	176	836
3:00 PM	0	18	38	6	0	62	1	5	49	18	0	73	0	8	55	10	0	73	0	5	19	4	0	28	236
3:15 PM	0	21	56	12	0	89	0	6	59	15	0	80	0	9	55	5	0	69	0	18	37	8	0	63	301
3:30 PM	1	14	35	5	0	55	1	8	102	34	0	145	0	9	64	1	0	74	0	11	49	2	0	62	336
3:45 PM	0	7	29	4	0	40	0	5	90	45	0	140	0	9	36	5	0	50	0	12	23	6	0	41	271
Hourly Total	1	60	158	27	0	246	2	24	300	112	0	438	0	35	210	21	0	266	0	46	128	20	0	194	1144

TMC 23103 - CSAH 116 @ CSAH 56

Ramsey MN

Thursday, December 7, 2023

Time	Southbound CSAH 56						Westbound CSAH 116						Northbound CSAH 56						Eastbound CSAH 116						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	6	35	8	0	49	1	4	102	39	0	146	1	14	48	8	0	71	0	9	33	3	0	45	311
4:15 PM	0	13	40	8	0	61	0	6	89	35	0	130	0	11	56	5	0	72	0	10	43	3	0	56	319
4:30 PM	0	19	38	4	0	61	0	6	90	24	0	120	0	12	49	5	0	66	0	15	53	7	0	75	322
4:45 PM	0	17	28	13	0	58	0	1	87	28	0	116	0	8	50	6	0	64	0	9	40	2	0	51	289
Hourly Total	0	55	141	33	0	229	1	17	368	126	0	512	1	45	203	24	0	273	0	43	169	15	0	227	1241
5:00 PM	0	12	38	10	0	60	0	6	75	24	0	105	0	11	62	3	0	76	0	18	41	6	0	65	306
5:15 PM	0	14	28	5	0	47	0	4	59	22	0	85	0	10	46	0	0	56	1	11	34	7	0	53	241
5:30 PM	0	10	33	7	0	50	1	5	74	22	0	102	0	11	41	4	0	56	0	9	29	5	0	43	251
5:45 PM	0	17	23	9	0	49	0	2	48	17	0	67	0	4	42	0	0	46	0	10	22	7	0	39	201
Hourly Total	0	53	122	31	0	206	1	17	256	85	0	359	0	36	191	7	0	234	1	48	126	25	0	200	999
6:00 PM	0	10	32	7	0	49	0	1	36	12	0	49	0	5	46	3	0	54	0	5	24	1	0	30	182
6:15 PM	0	16	22	9	0	47	0	1	47	22	0	70	0	3	35	4	0	42	0	4	28	4	0	36	195
6:30 PM	0	12	23	4	0	39	0	1	29	5	0	35	0	5	30	1	0	36	0	5	45	5	0	55	165
6:45 PM	0	7	16	6	0	29	0	2	28	11	0	41	0	3	26	2	0	31	0	1	21	5	0	27	128
Hourly Total	0	45	93	26	0	164	0	5	140	50	0	195	0	16	137	10	0	163	0	15	118	15	0	148	670
7:00 PM	0	4	22	5	0	31	1	1	31	7	0	40	0	7	20	2	0	29	0	6	11	2	0	19	119
7:15 PM	0	8	14	2	0	24	0	2	29	9	0	40	0	4	25	1	0	30	0	4	20	0	0	24	118
7:30 PM	0	3	12	3	0	18	0	2	19	7	0	28	0	7	19	1	0	27	0	3	31	4	0	38	111
7:45 PM	0	5	10	4	0	19	0	2	28	12	0	42	0	3	19	0	0	22	0	2	12	0	0	14	97
Hourly Total	0	20	58	14	0	92	1	7	107	35	0	150	0	21	83	4	0	108	0	15	74	6	0	95	445
8:00 PM	0	1	8	2	0	11	0	0	13	12	0	25	0	3	17	1	0	21	0	6	15	3	0	24	81
8:15 PM	0	4	12	1	0	17	0	4	20	6	0	30	0	3	20	1	0	24	0	0	12	0	0	12	83
8:30 PM	0	1	3	2	0	6	0	1	27	8	0	36	0	2	25	2	0	29	0	6	21	2	0	29	100
8:45 PM	0	3	12	4	0	19	0	0	13	6	0	19	0	5	17	2	0	24	0	3	13	4	0	20	82
Hourly Total	0	9	35	9	0	53	0	5	73	32	0	110	0	13	79	6	0	98	0	15	61	9	0	85	346
9:00 PM	0	4	12	1	0	17	0	0	23	8	0	31	0	5	18	2	0	25	0	4	9	5	0	18	91
9:15 PM	0	4	11	4	0	19	0	1	22	7	0	30	0	4	21	0	0	25	0	2	5	3	0	10	84
9:30 PM	0	2	6	1	0	9	0	1	3	6	0	10	0	6	15	0	0	21	0	1	18	4	0	23	63
9:45 PM	0	3	7	1	0	11	0	0	15	6	0	21	0	5	17	0	0	22	0	2	1	0	0	3	57
Hourly Total	0	13	36	7	0	56	0	2	63	27	0	92	0	20	71	2	0	93	0	9	33	12	0	54	295
10:00 PM	0	1	9	2	0	12	0	0	10	6	0	16	0	0	10	0	0	10	1	4	8	2	0	15	53
10:15 PM	0	0	3	0	0	3	0	1	11	3	0	15	0	2	7	1	0	10	0	3	8	1	0	12	40
10:30 PM	0	2	4	1	0	7	0	1	7	4	0	12	0	5	13	0	0	18	0	0	7	1	0	8	45
10:45 PM	0	2	1	0	0	3	0	0	4	7	0	11	0	3	5	0	0	8	0	0	4	0	0	4	26
Hourly Total	0	5	17	3	0	25	0	2	32	20	0	54	0	10	35	1	0	46	1	7	27	4	0	39	164
11:00 PM	0	1	0	0	0	1	0	0	3	3	0	6	1	4	6	0	0	11	0	1	2	2	0	5	23
11:15 PM	0	1	1	0	0	2	0	0	4	1	0	5	0	0	9	1	0	10	0	0	6	0	0	6	23
11:30 PM	0	1	0	0	0	1	0	0	10	2	0	12	0	0	2	1	0	3	0	1	2	0	0	3	19
11:45 PM	0	0	3	0	0	3	0	0	9	1	0	10	0	0	6	0	0	6	0	0	3	0	0	3	22
Hourly Total	0	3	4	0	0	7	0	0	26	7	0	33	1	4	23	2	0	30	0	2	13	2	0	17	87
DAILY TOTAL	2	868	2044	348	0	3262	6	213	2476	851	0	3546	9	356	1866	206	0	2437	4	352	2165	314	0	2835	12080
Cars	2	847	2000	337	0	3186	5	206	2392	836	0	3439	9	338	1821	188	0	2356	4	346	2097	300	0	2747	11728
Heavy Vehicles	0	21	44	11	0	76	1	7	84	15	0	107	0	18	45	18	0	81	0	6	68	14	0	88	352
Heavy Vehicle %	0.00%	2.42%	2.15%	3.16%	0.00%	2.33%	16.67%	3.29%	3.39%	1.76%	0.00%	3.02%	0.00%	5.06%	2.41%	8.74%	0.00%	3.32%	0.00%	1.70%	3.14%	4.46%	0.00%	3.10%	2.91%

**TMC 23103 - CSAH 116 @ CSAH 56
Ramsey MN
Thursday, December 7, 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	
7:15 AM	0	43	44	12	0	99	0	2	24	13	0	39	0	3	13	3	0	19	0	3	84	10	0	97	254
7:30 AM	0	39	72	10	0	121	0	10	38	25	0	73	0	2	20	1	0	23	0	6	59	6	0	71	288
7:45 AM	0	31	86	9	0	126	0	3	45	25	0	73	0	2	21	0	0	23	0	4	69	8	0	81	303
8:00 AM	0	18	61	8	0	87	0	4	45	8	0	57	1	5	29	9	0	44	0	3	43	6	0	52	240
Peak Hour Total	0	131	263	39	0	433	0	19	152	71	0	242	1	12	83	13	0	109	0	16	255	30	0	301	1085
PHF	0.000	0.762	0.765	0.813	0.000	0.859	0.000	0.475	0.844	0.710	0.000	0.829	0.250	0.600	0.716	0.361	0.000	0.619	0.000	0.667	0.759	0.750	0.000	0.776	0.895

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	6	35	8	0	49	1	4	102	39	0	146	1	14	48	8	0	71	0	9	33	3	0	45	311
4:15 PM	0	13	40	8	0	61	0	6	89	35	0	130	0	11	56	5	0	72	0	10	43	3	0	56	319
4:30 PM	0	19	38	4	0	61	0	6	90	24	0	120	0	12	49	5	0	66	0	15	53	7	0	75	322
4:45 PM	0	17	28	13	0	58	0	1	87	28	0	116	0	8	50	6	0	64	0	9	40	2	0	51	289
Peak Hour Total	0	55	141	33	0	229	1	17	368	126	0	512	1	45	203	24	0	273	0	43	169	15	0	227	1241
PHF	0.000	0.724	0.881	0.635	0.000	0.939	0.250	0.708	0.902	0.808	0.000	0.877	0.250	0.804	0.906	0.750	0.000	0.948	0.000	0.717	0.797	0.536	0.000	0.757	0.964

Total Vehicles On Leg				6333			
Vehicles Entering Intersection		3262		Vehicles Exiting Intersection		3071	
Southbound							
Cars	337	2000	847	2	0		
Heavy	11	44	21	0	0		
Total	348	2044	868	2	0		



Total Vehicles on Leg 6019	Vehicles Entering Intersection 2835	Eastbound	Cars	Heavy	Total
			0	0	0
			4	0	4
	346		6	352	
	2097		68	2165	
	Vehicles Exiting Intersection 3184		300	14	314



Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 3546	Total Vehicles on Leg 6791
836	15	851			
2392	84	2476			
206	7	213			
5	1	6			
0	0	0		Vehicles Exiting Intersection 3245	



Cars	0	9	338	1821	188
Heavy	0	0	18	45	18
Total	0	9	356	1866	206
Northbound					
Vehicles Entering Intersection			2437		
Vehicles Exiting Intersection			2580		
Total Vehicles On Leg			5017		



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
12/7/2023	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	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	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	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	1	0	0	0	0	0	0	0	0	0	0	0	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	0	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	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	6:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	6:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
	6:30	0	0	0	0	0	0	0	0	2	1	0	0	0	0	4	0	0	0	0	0	0	0	0	0
	6:45	0	1	2	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0
	7:00	0	2	1	0	0	0	0	0	2	0	0	0	0	2	1	0	0	0	0	0	2	0	0	0
	7:15	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	7:30	0	1	0	1	0	0	0	0	3	2	0	0	0	1	0	0	0	0	0	0	2	0	0	0
	7:45	0	0	10	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0
	8:00	0	1	2	0	0	0	0	0	4	0	0	0	0	3	1	2	0	0	0	0	1	0	0	0
	8:15	0	0	0	0	0	0	0	0	2	1	0	0	0	2	3	0	0	0	0	0	2	0	0	0
	8:30	0	2	0	0	0	0	0	0	3	2	0	0	0	1	1	1	0	0	0	0	0	0	0	0
	8:45	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00	0	0	0	1	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	1	2	0	0	0
	9:15	0	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	9:30	0	0	3	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	9:45	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0
	10:00	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	10:15	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	2	1	0	0
	10:30	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0
	10:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
	11:15	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
	11:30	0	1	0	0	0	0	0	1	7	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0
	11:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	4	3	0	0

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 23103

Study Date : 12/22/2023

Signal Warrants - Summary

Major Street Approaches

Eastbound: CSAH 116

Number of Lanes : 2+

Total Approach Volume: 2,835

Westbound: CSAH 116

Number of Lanes :2+

Total Approach Volume: 3,546

Minor Street Approaches

Northbound: CSAH 56

Number of Lanes :2+

Total Approach Volume: 2,437

Southbound: CSAH 56

Number of Lanes :2+

Total Approach Volume: 3,262

Warrant Summary (Rural Values Apply)

Warrant 1 - Eight Hour Vehicular Volumes.....**Not Satisfied**

Warrant 1A - Minimum Vehicular Volume.....**Not Satisfied**

Required volumes reached for 6 hours, 8 are needed

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

Required volumes reached for 2 hours, 8 are needed

Warrant 1C - Combination of Warrants.....**Not Satisfied**

Required 1A volumes reached for 7 hours, 8 are needed

Required 1B volumes reached for 4 hours, 8 are needed

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

Number of hours (5) volumes exceed minimum \geq minimum required (4).

Warrant 3 - Peak Hour.....**Satisfied**

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

Number of one hour periods (21) volumes exceed minimum \geq 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 23103

Study Date : 12/22/2023

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

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

Site Data Required

Rural Settings Apply = **True**
 Number of Major Lanes = **2 or more**
 Number of Minor Lanes = **2 or more**

Volume Requirements

Rural Factor of 70 % applied
 Veh/Hr Major = **420**
 Veh/Hr Minor = **140**

Time	Major Road				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
	CSAH 116					CSAH 56		
15:45 - 16:45	217	+	536	=	753	259	211	Yes
16:45 - 17:45	212	+	408	=	620	252	215	Yes
14:45 - 15:45	205	+	375	=	580	266	251	Yes
07:30 - 08:30	251	+	228	=	479	112	393	Yes
06:30 - 07:30	355	+	122	=	477	74	353	Yes
13:45 - 14:45	165	+	293	=	458	187	150	Yes
13:30 - 14:30	170	+	229	=	399	184	142	No
06:15 - 07:15	298	+	100	=	398	69	319	No
17:45 - 18:45	160	+	221	=	381	178	184	No
18:00 - 19:00	148	+	195	=	343	163	164	No
13:15 - 14:15	154	+	187	=	341	171	151	No
13:00 - 14:00	146	+	184	=	330	169	157	No
12:00 - 13:00	142	+	184	=	326	143	152	No
18:15 - 19:15	137	+	186	=	323	138	146	No
06:00 - 07:00	238	+	81	=	319	53	270	No
12:15 - 13:15	132	+	187	=	319	145	154	No
12:45 - 13:45	148	+	168	=	316	154	154	No
11:30 - 12:30	130	+	186	=	316	127	156	No
08:30 - 09:30	192	+	121	=	313	82	189	No
12:30 - 13:30	138	+	174	=	312	156	165	No
11:45 - 12:45	132	+	180	=	312	142	156	No
11:15 - 12:15	132	+	164	=	296	133	170	No
11:00 - 12:00	123	+	161	=	284	122	162	No
18:30 - 19:30	125	+	156	=	281	126	123	No
08:45 - 09:45	158		117		275	85	193	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 23103

Study Date : 12/22/2023

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 2 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **True**
 Number of Major Lanes = **2 or more**
 Number of Minor Lanes = **2 or more**

Volume Requirements

Rural Factor of 70 % applied
 Veh/Hr Major = **630**
 Veh/Hr Minor = **70**

Time	Major Road				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:00 - 17:00	227	+	512	=	739	273	229	Yes
15:00 - 16:00	194	+	438	=	632	266	246	Yes
14:45 - 15:45	205	+	375	=	580	266	251	No
17:00 - 18:00	200	+	359	=	559	234	206	No
07:00 - 08:00	336	+	216	=	552	87	443	No
07:15 - 08:15	301	+	242	=	543	109	433	No
06:45 - 07:45	358	+	172	=	530	81	404	No
14:30 - 15:30	182	+	337	=	519	240	239	No
14:15 - 15:15	169	+	337	=	506	223	185	No
14:00 - 15:00	176	+	314	=	490	190	156	No
07:30 - 08:30	251	+	228	=	479	112	393	No
06:30 - 07:30	355	+	122	=	477	74	353	No
17:15 - 18:15	165	+	303	=	468	212	195	No
13:45 - 14:45	165	+	293	=	458	187	150	No
17:30 - 18:30	148	+	288	=	436	198	195	No
07:45 - 08:45	235	+	186	=	421	111	322	No
13:30 - 14:30	170	+	229	=	399	184	142	No
06:15 - 07:15	298	+	100	=	398	69	319	No
17:45 - 18:45	160	+	221	=	381	178	184	No
08:00 - 09:00	207	+	146	=	353	108	250	No
18:00 - 19:00	148	+	195	=	343	163	164	No
13:15 - 14:15	154	+	187	=	341	171	151	No
13:00 - 14:00	146	+	184	=	330	169	157	No
12:00 - 13:00	142	+	184	=	326	143	152	No
18:15 - 19:15	137		186		323	138	146	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 23103

Study Date : 12/22/2023

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

Only 7 hours meet 1A minimums.
Only 4 hours meet 1B minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **2 or more**

Volume Requirements

Rural Factor of 70% applied
Warrant 1A 1B
Veh/Hr Major = **336 504**

Veh/Hr Minor = **112 56**

Time	Major Road				Total	Minor Road		Met1A?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
15:15 - 16:15	211	+	511	=	722	264	233	Yes
16:15 - 17:15	247	+	471	=	718	278	240	Yes
07:15 - 08:15	301	+	242	=	543	109	433	Yes
14:15 - 15:15	169	+	337	=	506	223	185	Yes
17:15 - 18:15	165	+	303	=	468	212	195	Yes
06:15 - 07:15	298	+	100	=	398	69	319	Yes
13:15 - 14:15	154	+	187	=	341	171	151	Yes
13:00 - 14:00	146	+	184	=	330	169	157	No
12:00 - 13:00	142	+	184	=	326	143	152	No
18:15 - 19:15	137	+	186	=	323	138	146	No
12:15 - 13:15	132	+	187	=	319	145	154	No
06:00 - 07:00	238		81		319	53	270	No

Time	Major Road				Total	Minor Road		Met1B?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
15:15 - 16:15	211	+	511	=	722	264	233	Yes
16:15 - 17:15	247	+	471	=	718	278	240	Yes
06:45 - 07:45	358	+	172	=	530	81	404	Yes
14:15 - 15:15	169	+	337	=	506	223	185	Yes
14:00 - 15:00	176	+	314	=	490	190	156	No
06:30 - 07:30	355	+	122	=	477	74	353	No
17:15 - 18:15	165	+	303	=	468	212	195	No
13:45 - 14:45	165	+	293	=	458	187	150	No
17:30 - 18:30	148	+	288	=	436	198	195	No
07:45 - 08:45	235	+	186	=	421	111	322	No
13:30 - 14:30	170	+	229	=	399	184	142	No
06:15 - 07:15	298		100		398	69	319	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 23103

Study Date : 12/22/2023

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.

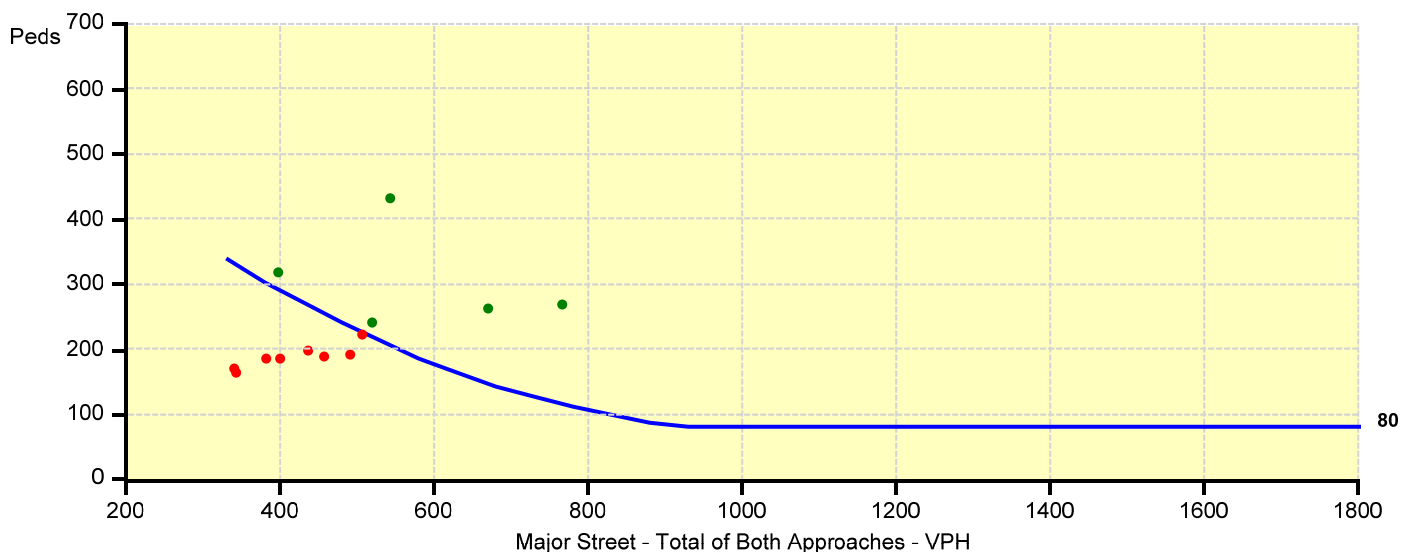
Summary

5 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
 Number of Major Lanes = **2 or more**
 Number of Minor Lanes = **2 or more**

Time	Major Road CSAH 116				Total	Minor Road CSAH 56		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
15:30 - 16:30	204	+	561	=	765	267	205	Yes
16:30 - 17:30	244	+	426	=	670	262	226	Yes
07:15 - 08:15	301	+	242	=	543	109	433	Yes
14:30 - 15:30	182	+	337	=	519	240	239	Yes
06:15 - 07:15	298	+	100	=	398	69	319	Yes
14:15 - 15:15	169	+	337	=	506	223	185	No
14:00 - 15:00	176	+	314	=	490	190	156	No
13:45 - 14:45	165	+	293	=	458	187	150	No
17:30 - 18:30	148	+	288	=	436	198	195	No
13:30 - 14:30	170	+	229	=	399	184	142	No
17:45 - 18:45	160	+	221	=	381	178	184	No
18:00 - 19:00	148		195		343	163	164	No



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 23103

Study Date : 12/22/2023

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 = **2 or more**
 Number of Minor Lanes = **2 or more**

Time	Major Road CSAH 116				Total	Minor Road CSAH 56		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
15:30 - 16:30	204	+	561	=	765	267	205	Yes
15:45 - 16:45	217	+	536	=	753	259	211	Yes
16:00 - 17:00	227	+	512	=	739	273	229	Yes
15:15 - 16:15	211	+	511	=	722	264	233	Yes
16:15 - 17:15	247	+	471	=	718	278	240	Yes
07:00 - 08:00	336	+	216	=	552	87	443	Yes
07:15 - 08:15	301	+	242	=	543	109	433	Yes
06:45 - 07:45	358	+	172	=	530	81	404	Yes
07:30 - 08:30	251	+	228	=	479	112	393	Yes
16:30 - 17:30	244	+	426	=	670	262	226	No
15:00 - 16:00	194	+	438	=	632	266	246	No
16:45 - 17:45	212	+	408	=	620	252	215	No

