

Date : 04/11/23

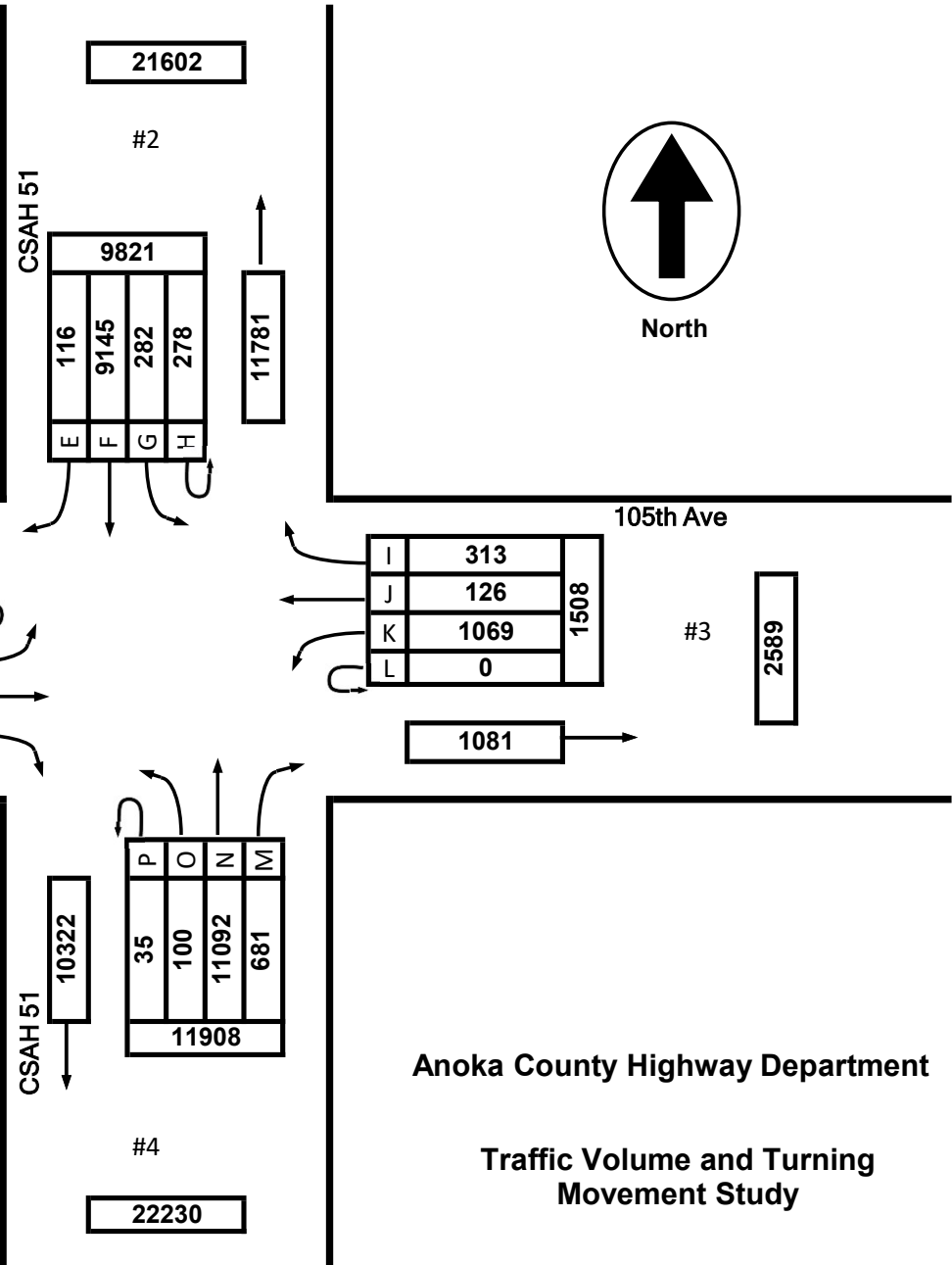
Count Number : TMC 2317

Location : CSAH 51
@ 105th Ave

Collection Period : 24 HR



North



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

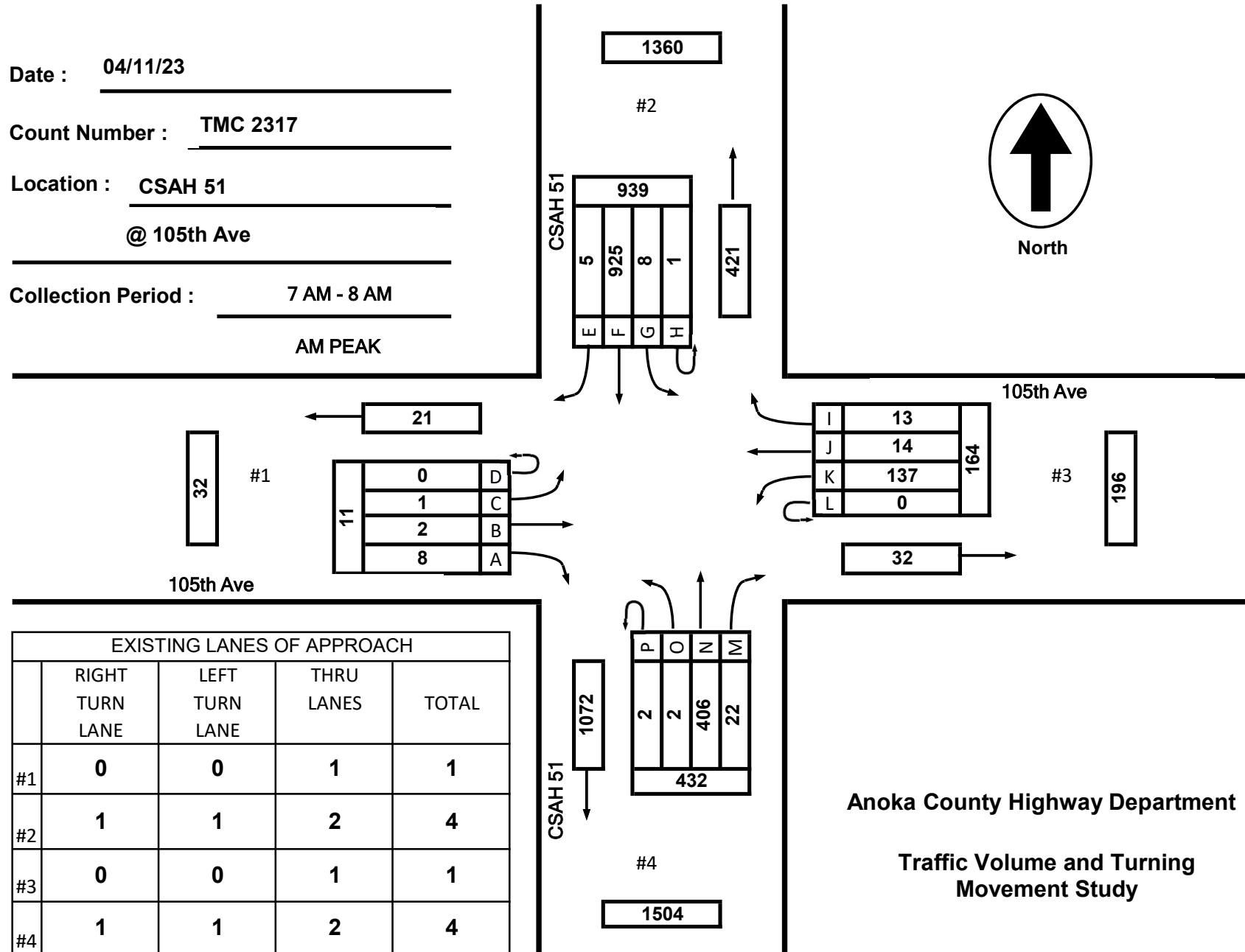
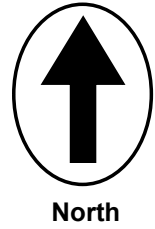
Anoka County Highway Department
 Traffic Volume and Turning Movement Study

Date : 04/11/23

Count Number : TMC 2317

Location : CSAH 51
@ 105th Ave

Collection Period : 7 AM - 8 AM
AM PEAK



Anoka County Highway Department

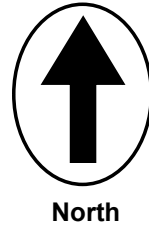
Traffic Volume and Turning Movement Study

Date : 04/11/23

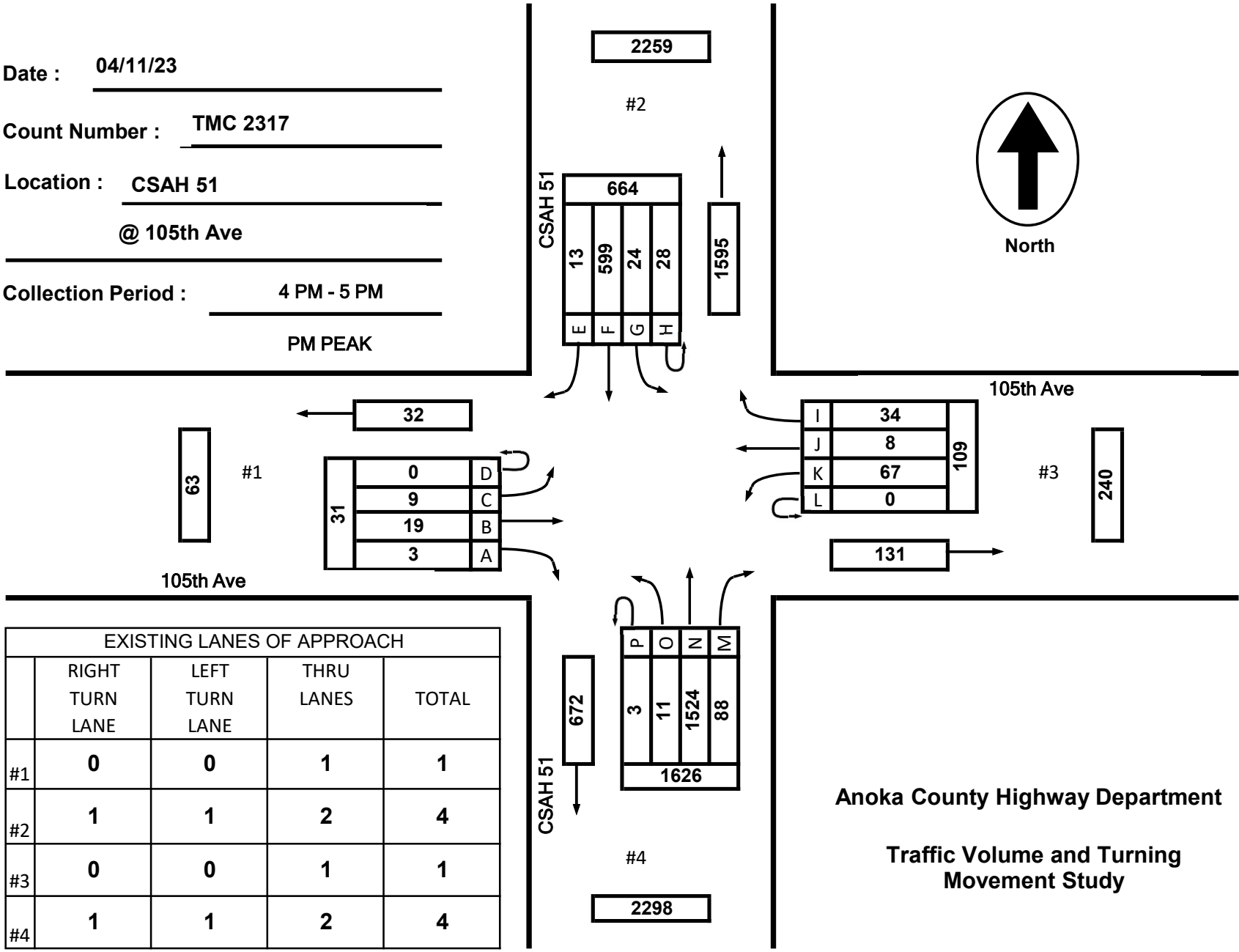
Count Number : TMC 2317

Location : CSAH 51
@ 105th Ave

Collection Period : 4 PM - 5 PM
PM PEAK



North



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

Anoka County Highway Department
 Traffic Volume and Turning Movement Study

TMC 2317 - CSAH 51 @ 105th Ave

0 0

Tuesday, April 11, 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	1	8	0	0	9	0	3	0	1	0	4	0	0	25	1	0	26	0	0	0	0	0	0	0	0	0	0	0	0	39
12:15 AM	0	1	9	0	0	10	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	22
12:30 AM	0	0	6	0	0	6	0	0	0	0	0	0	0	0	21	1	0	22	0	0	0	0	0	0	0	0	0	0	0	0	28
12:45 AM	0	0	9	0	0	9	0	1	1	0	0	2	0	1	15	2	0	18	0	0	0	0	0	0	0	0	0	0	0	0	29
Hourly Total	0	2	32	0	0	34	0	4	1	1	0	6	0	1	73	4	0	78	0	0	0	0	0	0	0	0	0	0	0	0	118
1:00 AM	0	0	12	0	0	12	0	1	1	1	1	3	0	0	13	2	0	15	0	0	0	0	0	0	0	0	0	0	0	0	30
1:15 AM	1	0	5	0	0	6	0	0	0	2	1	2	0	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	20
1:30 AM	0	0	12	0	0	12	0	0	0	0	0	0	0	0	10	2	0	12	0	0	1	0	0	0	0	0	1	0	0	1	25
1:45 AM	0	0	8	0	0	8	0	0	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	22
Hourly Total	1	0	37	0	0	38	0	1	1	3	2	5	0	0	49	4	0	53	0	0	1	0	0	0	0	0	1	0	0	1	97
2:00 AM	1	0	7	0	0	8	0	0	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	19
2:15 AM	0	0	4	0	0	4	0	0	0	0	0	0	0	0	14	1	0	15	0	0	0	0	0	0	0	0	0	0	0	0	19
2:30 AM	0	0	8	0	0	8	0	1	0	0	0	1	0	0	17	2	0	19	0	0	0	0	0	0	0	0	0	0	0	0	28
2:45 AM	0	0	4	0	0	4	0	0	0	0	0	0	1	0	6	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	11
Hourly Total	1	0	23	0	0	24	0	1	0	0	0	1	1	0	48	3	0	52	0	0	0	0	0	0	0	0	0	0	0	0	77
3:00 AM	0	0	10	0	0	10	0	3	0	0	0	3	0	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	23
3:15 AM	0	0	10	0	0	10	0	3	0	0	0	3	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	17
3:30 AM	0	0	20	0	0	20	0	2	0	0	0	2	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	29
3:45 AM	0	0	11	0	0	11	0	3	0	0	0	3	0	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	18
Hourly Total	0	0	51	0	0	51	0	11	0	0	0	11	0	0	24	1	0	25	0	0	0	0	0	0	0	0	0	0	0	0	87
4:00 AM	0	0	25	0	0	25	0	3	0	2	0	5	0	1	6	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	37
4:15 AM	0	0	37	0	0	37	0	4	0	0	0	4	1	0	6	0	0	7	0	0	0	1	0	0	0	0	0	1	0	1	49
4:30 AM	0	0	60	0	0	60	0	7	0	1	0	8	0	0	7	2	0	9	0	0	0	0	0	0	0	0	0	0	0	0	77
4:45 AM	0	0	63	0	0	63	0	7	0	0	0	7	0	0	10	0	0	10	0	0	0	1	0	0	0	0	0	1	0	1	81
Hourly Total	0	0	185	0	0	185	0	21	0	3	0	24	1	1	29	2	0	33	0	0	0	2	0	0	0	0	0	2	0	2	244
5:00 AM	0	0	65	0	0	65	0	12	1	1	0	14	1	0	10	0	0	11	0	0	0	1	0	0	0	0	0	1	0	1	91
5:15 AM	0	0	104	1	0	105	0	10	0	0	0	10	0	0	13	0	0	13	0	0	0	1	0	0	0	0	0	1	0	1	129
5:30 AM	0	0	116	0	0	116	0	19	0	0	1	19	1	0	18	1	0	20	0	0	0	0	0	0	0	0	0	0	0	0	155
5:45 AM	0	1	123	0	0	124	0	12	0	0	0	12	0	0	16	1	0	17	0	0	0	0	1	0	0	0	0	1	0	1	154
Hourly Total	0	1	408	1	0	410	0	53	1	1	1	55	2	0	57	2	0	61	0	0	0	3	0	0	0	0	0	3	0	3	529
6:00 AM	0	0	147	0	0	147	0	25	0	1	0	26	0	0	32	0	0	32	0	0	0	1	0	0	0	0	0	1	0	1	206
6:15 AM	0	0	188	0	0	188	0	30	2	1	0	33	0	0	38	5	0	43	0	1	1	1	0	0	0	1	1	0	0	3	267
6:30 AM	0	0	234	0	0	234	0	24	0	1	1	25	0	0	65	3	1	68	0	0	0	0	2	0	0	0	0	2	0	2	329
6:45 AM	0	0	189	1	0	190	0	29	2	2	0	33	0	1	74	2	0	77	0	1	0	1	1	0	0	1	0	1	1	2	302
Hourly Total	0	0	758	1	0	759	0	108	4	5	1	117	0	1	209	10	1	220	0	2	1	5	1	0	0	2	1	5	1	8	1104
7:00 AM	0	1	193	3	0	197	0	37	4	2	0	43	0	1	114	5	0	120	0	0	0	2	0	0	0	0	0	2	0	2	362
7:15 AM	0	3	241	0	0	244	0	38	4	3	0	45	0	0	88	5	0	93	0	0	2	2	1	0	0	0	2	2	1	4	386
7:30 AM	1	3	276	2	0	282	0	33	3	5	0	41	2	0	98	2	0	102	0	1	0	2	0	0	0	1	0	2	0	3	428
7:45 AM	0	1	215	0	0	216	0	29	3	3	1	35	0	1	106	10	0	117	0	0	0	2	0	0	0	0	0	2	0	2	370
Hourly Total	1	8	925	5	0	939	0	137	14	13	1	164	2	2	406	22	0	432	0	1	2	8	1	0	0	1	2	8	1	11	1546

TMC 2317 - CSAH 51 @ 105th Ave

0 0

Tuesday, April 11, 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	2	186	1	1	189	0	10	0	5	0	15	0	1	90	6	1	97	0	1	0	1	1	2	303
8:15 AM	2	6	161	1	0	170	0	26	2	0	0	28	1	0	89	5	0	95	0	2	2	0	0	4	297
8:30 AM	1	2	180	0	0	183	0	29	1	5	0	35	0	1	93	7	0	101	0	0	2	0	0	2	321
8:45 AM	1	1	155	0	0	157	0	16	1	7	0	24	1	0	107	7	0	115	0	2	1	1	1	4	300
Hourly Total	4	11	682	2	1	699	0	81	4	17	0	102	2	2	379	25	1	408	0	5	5	2	2	12	1221
9:00 AM	5	3	127	0	0	135	0	18	6	3	0	27	0	1	111	4	0	116	0	0	1	3	0	4	282
9:15 AM	3	1	160	1	0	165	0	19	1	2	0	22	0	1	123	11	0	135	0	1	1	1	0	3	325
9:30 AM	4	2	146	0	0	152	0	10	0	7	0	17	1	0	107	6	0	114	0	0	1	1	0	2	285
9:45 AM	6	2	94	0	0	102	0	11	3	4	1	18	1	4	89	10	0	104	0	2	1	3	1	6	230
Hourly Total	18	8	527	1	0	554	0	58	10	16	1	84	2	6	430	31	0	469	0	3	4	8	1	15	1122
10:00 AM	3	8	103	2	1	116	0	11	1	4	2	16	0	0	89	8	0	97	0	0	1	0	1	1	230
10:15 AM	5	5	109	0	0	119	0	12	1	2	0	15	0	0	80	5	0	85	0	1	1	0	0	2	221
10:30 AM	2	3	112	0	0	117	0	13	1	1	2	15	1	1	97	6	0	105	0	0	0	1	3	1	238
10:45 AM	6	5	77	0	0	88	0	11	2	4	2	17	1	1	98	8	0	108	0	1	0	1	3	2	215
Hourly Total	16	21	401	2	1	440	0	47	5	11	6	63	2	2	364	27	0	395	0	2	2	2	7	6	904
11:00 AM	1	3	88	0	0	92	0	8	2	5	1	15	0	0	99	3	0	102	0	5	2	3	1	10	219
11:15 AM	5	8	96	3	0	112	0	9	2	8	0	19	0	0	97	8	0	105	0	1	4	0	0	5	241
11:30 AM	6	3	113	2	0	124	0	14	0	7	0	21	1	1	114	6	0	122	0	2	1	2	0	5	272
11:45 AM	5	5	100	3	0	113	0	14	0	3	0	17	0	6	123	10	0	139	0	1	1	1	0	3	272
Hourly Total	17	19	397	8	0	441	0	45	4	23	1	72	1	7	433	27	0	468	0	9	8	6	1	23	1004
12:00 PM	0	0	97	3	0	100	0	16	5	3	1	24	0	0	138	8	0	146	0	2	2	2	1	6	276
12:15 PM	6	5	124	2	0	137	0	8	0	6	0	14	0	0	166	10	0	176	0	0	1	1	0	2	329
12:30 PM	5	3	101	3	0	112	0	15	2	3	0	20	0	2	138	8	0	148	0	3	2	1	0	6	286
12:45 PM	3	3	123	4	0	133	0	15	2	7	0	24	1	1	135	5	0	142	0	3	0	0	0	3	302
Hourly Total	14	11	445	12	0	482	0	54	9	19	1	82	1	3	577	31	0	612	0	8	5	4	1	17	1193
1:00 PM	4	7	122	0	0	133	0	10	3	2	0	15	2	2	155	12	0	171	0	3	1	3	0	7	326
1:15 PM	9	3	125	1	0	138	0	15	1	1	1	17	1	2	181	6	0	190	0	3	2	1	0	6	351
1:30 PM	11	3	119	1	0	134	0	13	2	6	0	21	0	2	152	10	0	164	0	0	2	0	0	2	321
1:45 PM	6	6	120	2	0	134	0	16	4	3	0	23	0	2	171	9	0	182	0	2	3	1	0	6	345
Hourly Total	30	19	486	4	0	539	0	54	10	12	1	76	3	8	659	37	0	707	0	8	8	5	0	21	1343
2:00 PM	4	4	125	3	0	136	0	10	2	3	0	15	1	4	179	9	0	193	0	0	2	2	0	4	348
2:15 PM	2	6	126	5	0	139	0	6	2	2	1	10	1	0	199	9	0	209	0	1	3	1	1	5	363
2:30 PM	7	5	143	1	0	156	0	21	2	4	0	27	0	4	213	14	0	231	0	4	1	0	0	5	419
2:45 PM	6	8	119	1	0	134	0	11	2	2	0	15	0	4	258	23	0	285	0	3	3	2	1	8	442
Hourly Total	19	23	513	10	0	565	0	48	8	11	1	67	2	12	849	55	0	918	0	8	9	5	2	22	1572
3:00 PM	4	5	133	1	2	143	0	13	1	5	0	19	0	1	236	11	0	248	0	1	2	1	2	4	414
3:15 PM	4	3	155	6	2	168	0	15	2	9	2	26	1	0	334	25	0	360	0	2	2	1	4	5	559
3:30 PM	9	7	165	3	0	184	0	18	2	8	2	28	1	1	320	20	0	342	0	3	1	2	0	6	560
3:45 PM	8	8	150	1	0	167	0	12	0	9	1	21	2	4	378	16	0	400	0	1	5	0	0	6	594
Hourly Total	25	23	603	11	4	662	0	58	5	31	5	94	4	6	1268	72	0	1350	0	7	10	4	6	21	2127

TMC 2317 - CSAH 51 @ 105th Ave
0 0

Tuesday, April 11, 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	5	8	163	2	0	178	0	16	0	10	2	26	0	3	357	11	1	371	0	3	4	0	1	7	582
4:15 PM	7	6	156	5	0	174	0	19	2	6	0	27	0	4	371	21	0	396	0	3	3	0	0	6	603
4:30 PM	8	8	163	5	1	184	0	19	1	10	2	30	1	2	386	25	0	414	0	1	3	1	0	5	633
4:45 PM	5	4	144	2	0	155	0	13	4	6	0	23	1	1	378	28	0	408	0	2	7	1	0	10	596
Hourly Total	25	26	626	14	1	691	0	67	7	32	4	106	2	10	1492	85	1	1589	0	9	17	2	1	28	2414
5:00 PM	8	6	136	1	0	151	0	16	1	12	1	29	1	4	389	14	0	408	0	3	6	1	0	10	598
5:15 PM	6	4	141	1	0	152	0	20	1	6	0	27	0	2	309	22	2	333	0	4	5	1	1	10	522
5:30 PM	7	9	136	4	1	156	0	22	5	14	2	41	0	0	326	31	0	357	0	3	4	0	1	7	561
5:45 PM	7	9	109	3	0	128	0	9	2	3	0	14	0	4	270	12	0	286	0	1	2	2	0	5	433
Hourly Total	28	28	522	9	1	587	0	67	9	35	3	111	1	10	1294	79	2	1384	0	11	17	4	2	32	2114
6:00 PM	6	6	129	2	0	143	0	14	4	10	0	28	1	6	215	11	3	233	0	2	2	1	0	5	409
6:15 PM	4	7	139	4	0	154	0	10	1	3	2	14	2	3	220	16	1	241	0	2	1	3	0	6	415
6:30 PM	10	5	105	3	0	123	0	15	5	6	0	26	0	2	171	10	0	183	0	3	4	1	4	8	340
6:45 PM	4	8	103	4	0	119	0	11	6	3	0	20	0	2	162	7	0	171	0	2	2	2	2	6	316
Hourly Total	24	26	476	13	0	539	0	50	16	22	2	88	3	13	768	44	4	828	0	9	9	7	6	25	1480
7:00 PM	4	6	94	2	0	106	0	11	4	5	0	20	0	2	133	10	0	145	0	2	1	2	0	5	276
7:15 PM	4	6	96	0	0	106	0	1	0	3	0	4	0	1	130	12	0	143	0	1	3	0	1	4	257
7:30 PM	2	3	72	0	0	77	0	9	4	4	1	17	1	2	158	5	2	166	0	1	3	2	0	6	266
7:45 PM	5	5	72	1	0	83	0	13	1	6	0	20	0	2	116	7	0	125	0	2	0	0	2	2	230
Hourly Total	15	20	334	3	0	372	0	34	9	18	1	61	1	7	537	34	2	579	0	6	7	4	3	17	1029
8:00 PM	3	7	87	0	0	97	0	11	1	10	2	22	1	0	115	15	0	131	0	0	1	0	0	1	251
8:15 PM	6	7	71	3	0	87	0	7	1	4	2	12	0	2	127	5	0	134	0	1	2	0	0	3	236
8:30 PM	3	3	77	2	0	85	0	5	1	3	0	9	1	2	104	6	0	113	0	1	1	0	0	2	209
8:45 PM	10	1	76	1	0	88	0	7	0	2	1	9	0	0	93	6	0	99	0	3	1	0	0	4	200
Hourly Total	22	18	311	6	0	357	0	30	3	19	5	52	2	4	439	32	0	477	0	5	5	0	0	10	896
9:00 PM	7	2	76	4	0	89	0	4	0	3	1	7	1	1	99	7	0	108	0	2	2	0	0	4	208
9:15 PM	5	3	42	0	0	50	0	4	0	3	0	7	0	0	75	10	0	85	0	0	0	0	0	0	142
9:30 PM	2	2	51	1	0	56	0	3	2	2	1	7	0	0	72	4	0	76	0	1	0	1	0	2	141
9:45 PM	3	2	42	1	1	48	0	5	0	0	1	5	0	0	73	3	0	76	0	0	2	0	1	2	131
Hourly Total	17	9	211	6	1	243	0	16	2	8	3	26	1	1	319	24	0	345	0	3	4	1	1	8	622
10:00 PM	1	1	41	1	0	44	0	7	0	2	0	9	0	1	83	5	0	89	0	0	0	1	0	1	143
10:15 PM	0	2	32	2	0	36	0	6	0	2	0	8	1	2	63	7	0	73	0	0	2	0	0	2	119
10:30 PM	0	4	27	1	0	32	0	4	1	3	0	8	0	0	61	4	0	65	0	1	0	0	0	1	106
10:45 PM	0	0	24	2	0	26	0	0	0	2	0	2	1	0	40	6	0	47	0	1	2	0	0	3	78
Hourly Total	1	7	124	6	0	138	0	17	1	9	0	27	2	3	247	22	0	274	0	2	4	1	0	7	446
11:00 PM	0	0	23	0	0	23	0	1	1	1	0	3	0	0	52	6	0	58	0	0	0	0	0	0	84
11:15 PM	0	0	21	0	0	21	0	3	0	0	0	3	0	0	37	0	0	37	0	0	0	0	1	0	61
11:30 PM	0	1	11	1	0	13	0	2	1	2	0	5	0	0	32	1	0	33	0	0	0	0	0	0	51
11:45 PM	0	1	13	1	0	15	0	1	1	1	0	3	0	1	21	1	0	23	0	0	0	0	0	0	41
Hourly Total	0	2	68	2	0	72	0	7	3	4	0	14	0	1	142	8	0	151	0	0	0	0	1	0	237
DAILY TOTAL	278	282	9145	116	9	9821	0	1069	126	313	39	1508	35	100	11092	681	11	11908	0	98	118	73	36	289	23526
Cars	278	277	9036	116	5	9707	0	1059	122	312	12	1493	35	99	10919	676	2	11729	0	97	117	71	30	285	23214
Heavy Vehicles	0	5	109	0	4	114	0	10	4	1	27	15	0	1	173	5	9	179	0	1	1	2	6	4	312
Heavy Vehicle %	0.00%	1.77%	1.19%	0.00%	44.44%	1.16%	0.00%	0.94%	3.17%	0.32%	69.23%	0.99%	0.00%	1.00%	1.56%	0.73%	81.82%	1.50%	0.00%	1.02%	0.85%	2.74%	16.67%	1.38%	1.33%

TMC 2317 - CSAH 51 @ 105th Ave

0 0

Tuesday, April 11, 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							
7:00 AM	0	1	193	3	0	197	0	37	4	2	0	43	0	1	114	5	0	120	0	0	0	2	0	2	0	0	2	1	0	3	362
7:15 AM	0	3	241	0	0	244	0	38	4	3	0	45	0	0	88	5	0	93	0	0	2	2	1	4	0	0	2	1	0	4	386
7:30 AM	1	3	276	2	0	282	0	33	3	5	0	41	2	0	98	2	0	102	0	1	0	2	0	3	0	1	0	2	0	3	428
7:45 AM	0	1	215	0	0	216	0	29	3	3	1	35	0	1	106	10	0	117	0	0	0	2	0	2	0	0	0	2	0	2	370
Peak Hour Total	1	8	925	5	0	939	0	137	14	13	1	164	2	2	406	22	0	432	0	1	2	8	1	11	0	1	2	8	1	11	1546
PHF	0.250	0.667	0.838	0.417	0.000	0.832	0.000	0.901	0.875	0.650	0.250	0.911	0.250	0.500	0.890	0.550	0.000	0.900	0.000	0.250	0.250	1.000	0.250	0.688	0.000	0.250	0.250	1.000	0.250	0.688	0.903

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							
4:15 PM	7	6	156	5	0	174	0	19	2	6	0	27	0	4	371	21	0	396	0	3	3	0	0	6	0	3	3	0	0	6	603
4:30 PM	8	8	163	5	1	184	0	19	1	10	2	30	1	2	386	25	0	414	0	1	3	1	0	5	0	1	3	1	0	5	633
4:45 PM	5	4	144	2	0	155	0	13	4	6	0	23	1	1	378	28	0	408	0	2	7	1	0	10	0	2	7	1	0	10	596
5:00 PM	8	6	136	1	0	151	0	16	1	12	1	29	1	4	389	14	0	408	0	3	6	1	0	10	0	3	6	1	0	10	598
Peak Hour Total	28	24	599	13	1	664	0	67	8	34	3	109	3	11	1524	88	0	1626	0	9	19	3	0	31	0	9	19	3	0	31	2430
PHF	0.875	0.750	0.919	0.650	0.250	0.902	0.000	0.882	0.500	0.708	0.375	0.908	0.750	0.688	0.979	0.786	0.000	0.982	0.000	0.750	0.679	0.750	0.000	0.775	0.000	0.750	0.679	0.750	0.000	0.775	0.960

Total Vehicles On Leg				21602	
Vehicles Entering Intersection		9821	Vehicles Exiting Intersection		11781
Southbound					
Cars	116	9036	277	278	5
Heavy	0	109	5	0	4
Total	116	9145	282	278	9



Total Vehicles on Leg 631	Vehicles Entering Intersection 289	Eastbound	Cars	Heavy	Total	
			30	6	36	
			0	0	0	
	Vehicles Exiting Intersection 342		Cars	Heavy	Total	
	97		1	98		
117	1	118				
			71	2	73	



Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 1508	Total Vehicles on Leg 2589
312	1	313			
122	4	126			
1059	10	1069			
0	0	0			
12	27	39	Vehicles Exiting Intersection 1081		



Cars	2	35	99	10919	676
Heavy	9	0	1	173	5
Total	11	35	100	11092	681
Northbound					
Vehicles Entering Intersection			Vehicles Exiting Intersection		
11908			10322		
Total Vehicles On Leg			22230		



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2317

Study Date : 05/02/2023

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 51

Number of Lanes : 2+

Total Approach Volume: 11,908

Southbound: CSAH 51

Number of Lanes :2+

Total Approach Volume: 9,821

Minor Street Approaches

Eastbound: 105th Ave

Number of Lanes :1

Total Approach Volume: 289

Westbound: 105th Ave

Number of Lanes :1

Total Approach Volume: 1,508

Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 5 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic.....Satisfied

Required volumes reached for 15 hours, 8 are needed

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

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

Required 1B volumes reached for 15 hours, 8 are needed

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

Number of hours (15) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

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

Number of one hour periods (20) 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 2317

Study Date : 05/02/2023

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 5 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 = **1**

Volume Requirements

Rural Factor of 70 % applied
 Veh/Hr Major = **420**
 Veh/Hr Minor = **105**

Time	Major Road				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:00 - 17:00	1589	+	691	=	2280	28	106	Yes
17:00 - 18:00	1384	+	587	=	1971	32	111	Yes
07:00 - 08:00	432	+	939	=	1371	11	164	Yes
08:15 - 09:15	427	+	645	=	1072	14	114	Yes
06:00 - 07:00	220	+	759	=	979	8	117	Yes
15:45 - 16:45	1581	+	703	=	2284	24	104	No
15:30 - 16:30	1509	+	703	=	2212	25	102	No
15:15 - 16:15	1473	+	697	=	2170	24	101	No
15:00 - 16:00	1350	+	662	=	2012	21	94	No
14:45 - 15:45	1235	+	629	=	1864	23	88	No
14:30 - 15:30	1124	+	601	=	1725	22	87	No
14:15 - 15:15	973	+	572	=	1545	22	71	No
14:00 - 15:00	918	+	565	=	1483	22	67	No
13:45 - 14:45	815	+	565	=	1380	20	75	No
18:00 - 19:00	828	+	539	=	1367	25	88	No
13:30 - 14:30	748	+	543	=	1291	17	69	No
13:15 - 14:15	729	+	542	=	1271	18	76	No
13:00 - 14:00	707	+	539	=	1246	21	76	No
18:15 - 19:15	740	+	502	=	1242	25	80	No
12:45 - 13:45	667	+	538	=	1205	18	77	No
12:30 - 13:30	651	+	516	=	1167	22	76	No
12:15 - 13:15	637	+	515	=	1152	18	73	No
08:00 - 09:00	408	+	699	=	1107	12	102	No
18:30 - 19:30	642	+	454	=	1096	23	70	No
12:00 - 13:00	612		482		1094	17	82	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2317

Study Date : 05/02/2023

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

15 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 = **1**

Volume Requirements

Rural Factor of 70 % applied
 Veh/Hr Major = **630**
 Veh/Hr Minor = **53**

Time	Major Road				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
15:30 - 16:30	1509	+	703	=	2212	25	102	Yes
16:30 - 17:30	1563	+	642	=	2205	35	109	Yes
14:30 - 15:30	1124	+	601	=	1725	22	87	Yes
17:30 - 18:30	1117	+	581	=	1698	23	97	Yes
13:30 - 14:30	748	+	543	=	1291	17	69	Yes
07:30 - 08:30	411	+	857	=	1268	11	119	Yes
06:30 - 07:30	358	+	865	=	1223	10	146	Yes
12:30 - 13:30	651	+	516	=	1167	22	76	Yes
08:30 - 09:30	467	+	640	=	1107	13	108	Yes
18:30 - 19:30	642	+	454	=	1096	23	70	Yes
11:30 - 12:30	583	+	474	=	1057	16	76	Yes
19:30 - 20:30	556	+	344	=	900	12	71	Yes
09:30 - 10:30	400	+	489	=	889	11	66	Yes
10:30 - 11:30	420	+	409	=	829	18	66	Yes
05:30 - 06:30	112	+	575	=	687	5	90	Yes
20:30 - 21:30	405	+	312	=	717	10	32	No
20:45 - 21:45	368	+	283	=	651	10	30	No
21:00 - 22:00	345	+	243	=	588	8	26	No
05:15 - 06:15	82	+	492	=	574	3	67	No
21:15 - 22:15	326	+	198	=	524	5	28	No
21:30 - 22:30	314	+	184	=	498	7	29	No
05:00 - 06:00	61	+	410	=	471	3	55	No
21:45 - 22:45	303	+	160	=	463	6	30	No
22:00 - 23:00	274	+	138	=	412	7	27	No
04:45 - 05:45	54		349		403	3	50	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2317

Study Date : 05/02/2023

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

8 hours meet 1A minimums.
15 hours meet 1B minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

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

Veh/Hr Minor = **84 42**

Major Road CSAH 51

Minor Road 105th Ave

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
15:30 - 16:30	1509	+	703	=	2212	25	102	Yes
16:30 - 17:30	1563	+	642	=	2205	35	109	Yes
14:30 - 15:30	1124	+	601	=	1725	22	87	Yes
17:30 - 18:30	1117	+	581	=	1698	23	97	Yes
07:30 - 08:30	411	+	857	=	1268	11	119	Yes
06:30 - 07:30	358	+	865	=	1223	10	146	Yes
08:30 - 09:30	467	+	640	=	1107	13	108	Yes
05:30 - 06:30	112	+	575	=	687	5	90	Yes
14:15 - 15:15	973	+	572	=	1545	22	71	No
14:00 - 15:00	918	+	565	=	1483	22	67	No
13:45 - 14:45	815	+	565	=	1380	20	75	No
13:30 - 14:30	748	+	543	=	1291	17	69	No

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
16:15 - 17:15	1626	+	664	=	2290	31	109	Yes
15:15 - 16:15	1473	+	697	=	2170	24	101	Yes
17:15 - 18:15	1209	+	579	=	1788	27	110	Yes
14:15 - 15:15	973	+	572	=	1545	22	71	Yes
07:15 - 08:15	409	+	931	=	1340	11	136	Yes
13:15 - 14:15	729	+	542	=	1271	18	76	Yes
18:15 - 19:15	740	+	502	=	1242	25	80	Yes
12:15 - 13:15	637	+	515	=	1152	18	73	Yes
06:15 - 07:15	308	+	809	=	1117	9	134	Yes
08:15 - 09:15	427	+	645	=	1072	14	114	Yes
09:15 - 10:15	450	+	535	=	985	12	73	Yes
11:15 - 12:15	512	+	449	=	961	19	81	Yes

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2317

Study Date : 05/02/2023

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.

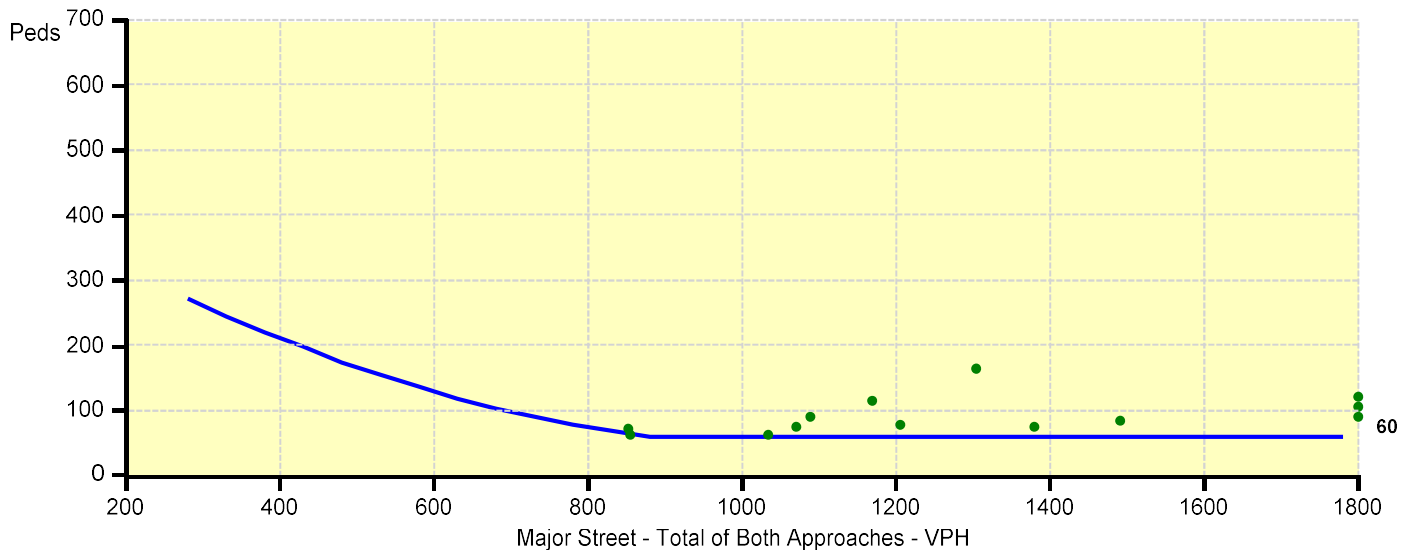
Summary

15 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 = **1**

Time	Major Road				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
	CSAH 51					105th Ave		
15:45 - 16:45	1581	+	703	=	2284	24	104	Yes
16:45 - 17:45	1506	+	614	=	2120	37	120	Yes
14:45 - 15:45	1235	+	629	=	1864	23	88	Yes
17:45 - 18:45	943	+	548	=	1491	24	82	Yes
13:45 - 14:45	815	+	565	=	1380	20	75	Yes
06:45 - 07:45	392	+	913	=	1305	11	162	Yes
12:45 - 13:45	667	+	538	=	1205	18	77	Yes
07:45 - 08:45	410	+	758	=	1168	10	113	Yes
08:45 - 09:45	480	+	609	=	1089	13	90	Yes
11:45 - 12:45	609	+	462	=	1071	17	75	Yes
18:45 - 19:45	625	+	408	=	1033	21	61	Yes
19:45 - 20:45	503		352		855	8	63	Yes



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2317

Study Date : 05/02/2023

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

31 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 = **1**

Time	Major Road CSAH 51				Total	Minor Road 105th Ave		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:15 - 17:15	1626	+	664	=	2290	31	109	Yes
15:45 - 16:45	1581	+	703	=	2284	24	104	Yes
16:00 - 17:00	1589	+	691	=	2280	28	106	Yes
15:30 - 16:30	1509	+	703	=	2212	25	102	Yes
16:30 - 17:30	1563	+	642	=	2205	35	109	Yes
15:15 - 16:15	1473	+	697	=	2170	24	101	Yes
16:45 - 17:45	1506	+	614	=	2120	37	120	Yes
15:00 - 16:00	1350	+	662	=	2012	21	94	Yes
17:00 - 18:00	1384	+	587	=	1971	32	111	Yes
14:45 - 15:45	1235	+	629	=	1864	23	88	Yes
17:15 - 18:15	1209	+	579	=	1788	27	110	Yes
14:30 - 15:30	1124		601		1725	22	87	Yes

