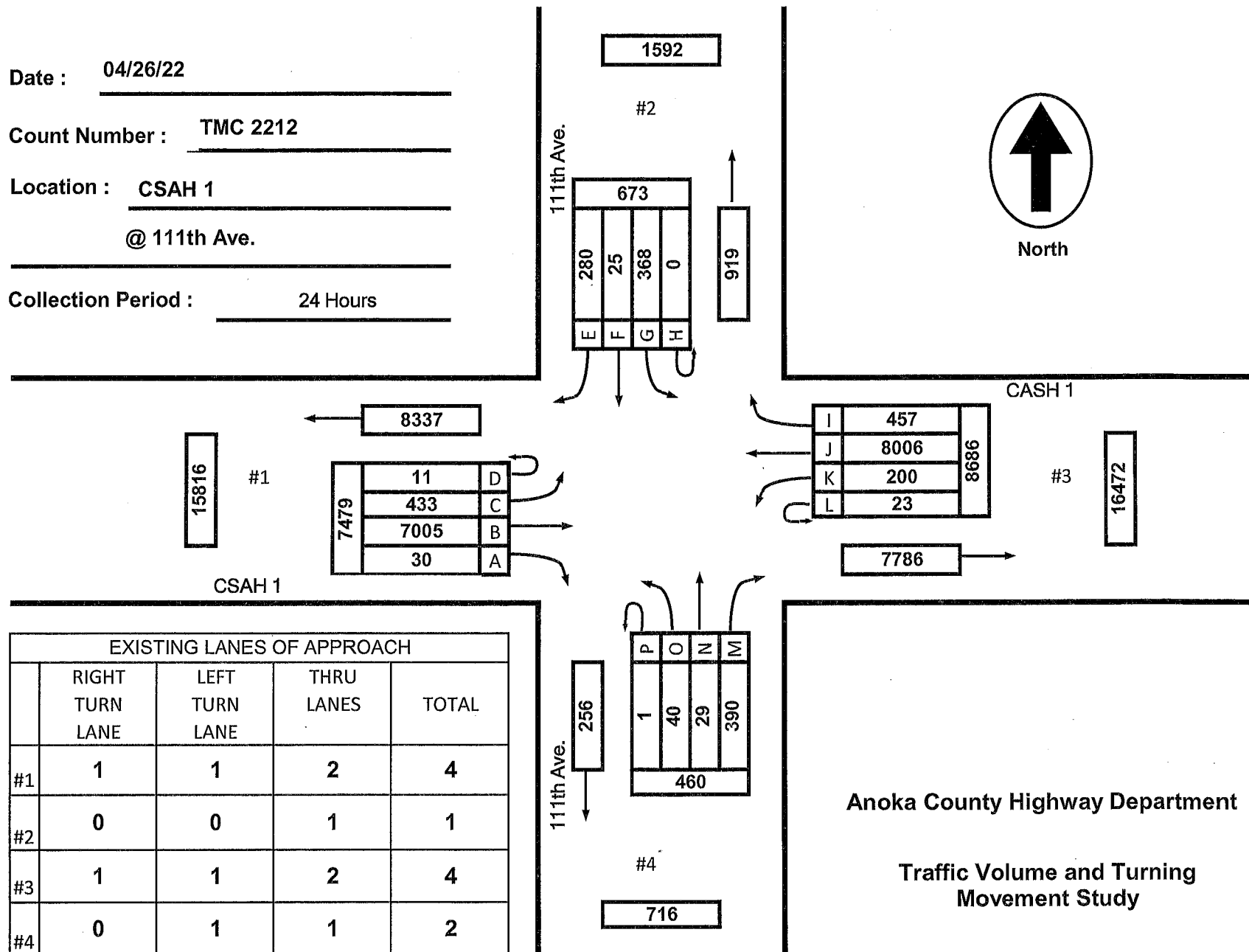


Date : 04/26/22

Count Number : TMC 2212

Location : CSAH 1
@ 111th Ave.

Collection Period : 24 Hours

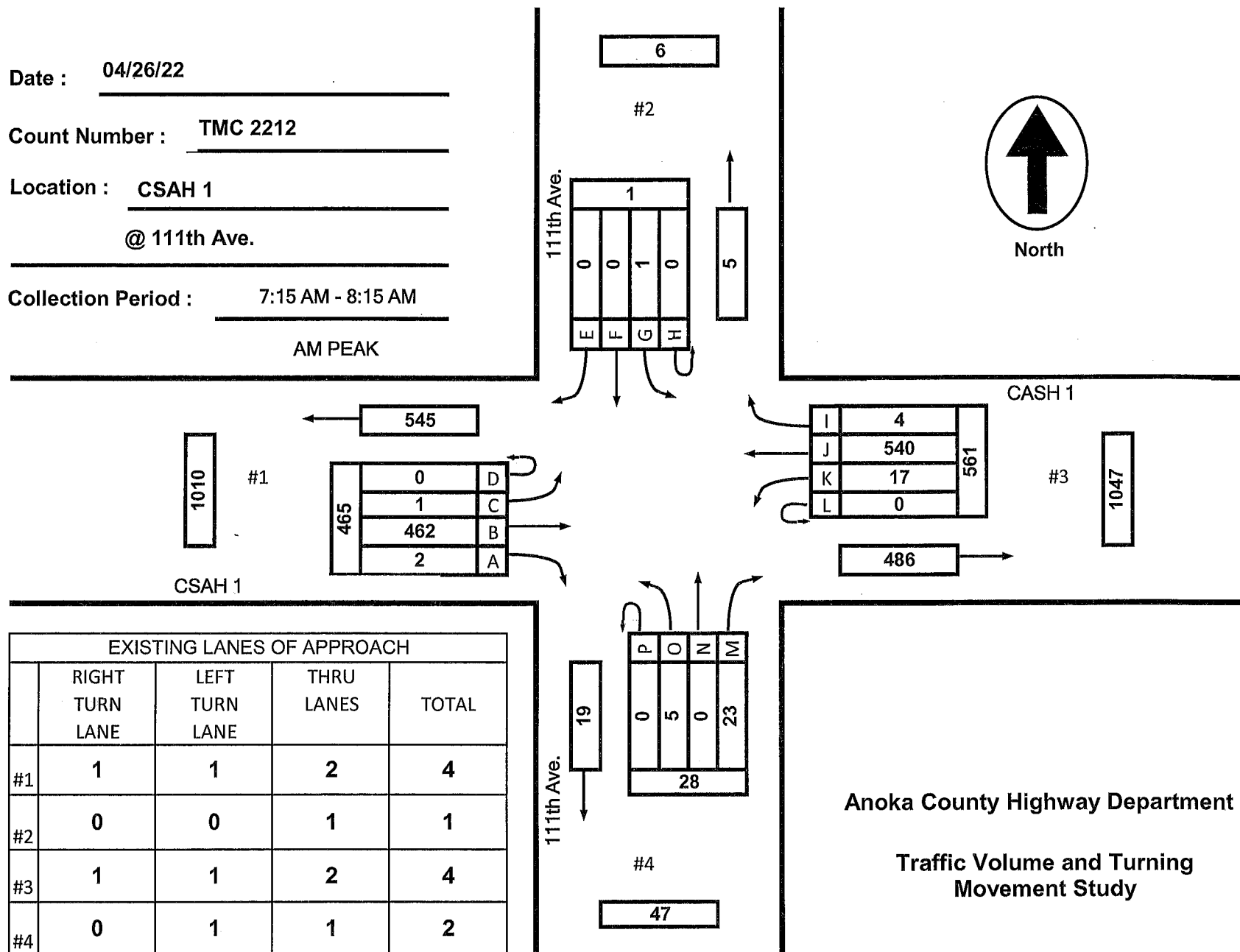


Date : 04/26/22

Count Number : TMC 2212

Location : CSAH 1
@ 111th Ave.

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	0	0	1	1
#3	1	1	2	4
#4	0	1	1	2

Anoka County Highway Department

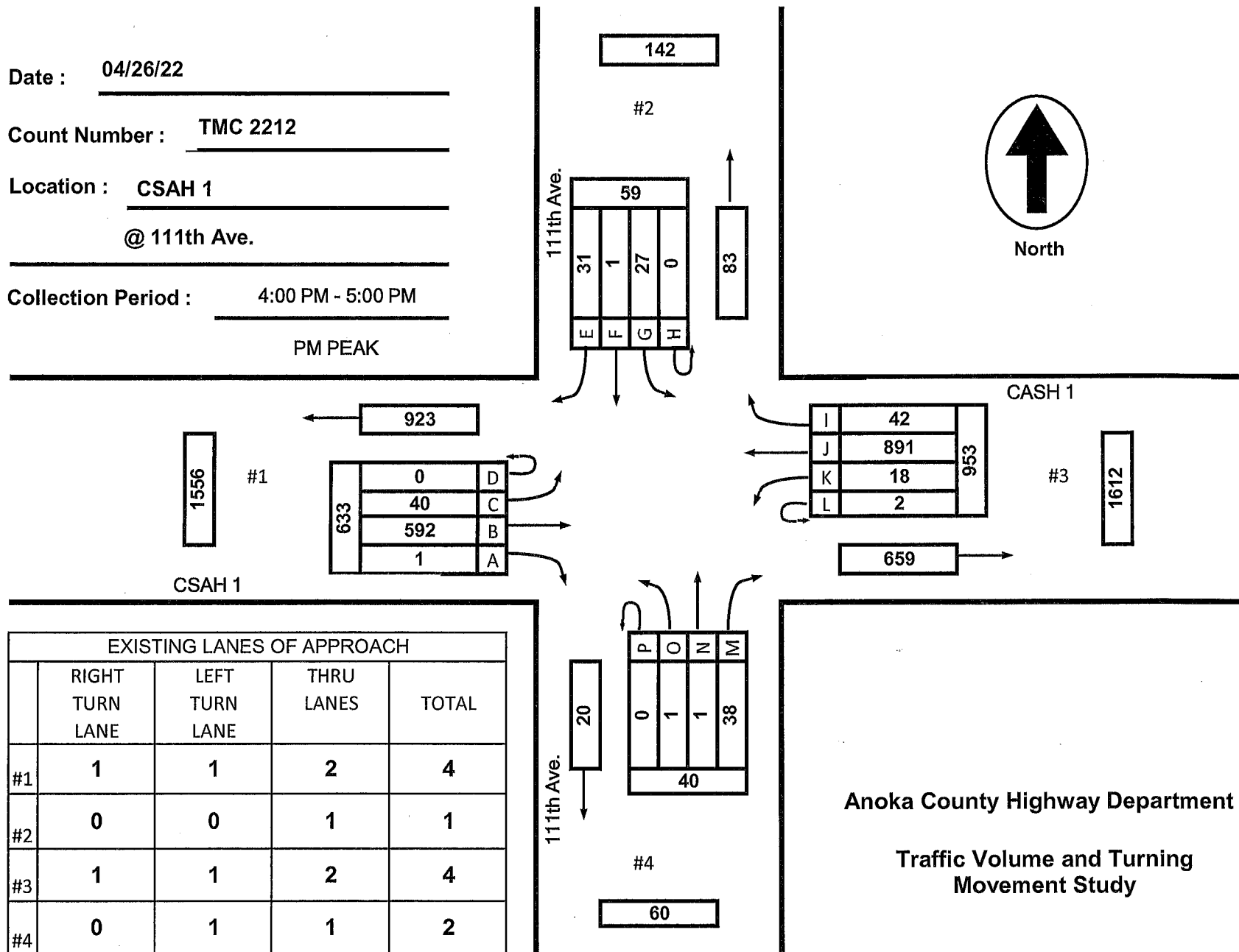
Traffic Volume and Turning Movement Study

Date : 04/26/22

Count Number : TMC 2212

Location : CSAH 1
@ 111th Ave.

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



**CSAH 1 @ 111th Ave
Coon Rapids MN
Tuesday, April 26, 2022**

Time	Southbound 111th Ave						Westbound CSAH 1						Northbound 111th Ave						Eastbound CSAH 1						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	12	0	0	12	0	0	0	0	0	0	0	0	14	0	0	14	26
12:15 AM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	5	0	0	5	12
12:30 AM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	5	0	0	5	10
12:45 AM	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	7	0	0	7	17
Hourly Total	0	0	0	0	0	0	0	0	34	0	0	34	0	0	0	0	0	0	0	0	31	0	0	31	65
1:00 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	12	0	0	12	18
1:15 AM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	7	0	0	7	14
1:30 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	6	0	0	6	10
1:45 AM	0	0	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	0	0	3	0	0	3	7
Hourly Total	0	0	0	0	0	0	0	1	20	0	0	21	0	0	0	0	0	0	0	0	28	0	0	28	49
2:00 AM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	4	0	0	4	9
2:15 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	2	0	0	3	5
2:30 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	2	0	2	0	0	3	0	0	3	9
2:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	5	0	0	5	6
Hourly Total	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	2	0	2	0	1	14	0	0	15	29
3:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	6	0	0	6	7
3:15 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	6	0	0	6	12
3:30 AM	0	0	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	0	0	8	0	0	8	13
3:45 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	3	0	0	3	6
Hourly Total	0	0	0	0	0	0	0	0	14	1	0	15	0	0	0	0	0	0	0	0	23	0	0	23	38
4:00 AM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	10	0	0	10	17
4:15 AM	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	12	0	0	12	22
4:30 AM	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	19	0	0	19	29
4:45 AM	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	15	0	0	15	25
Hourly Total	0	0	0	0	0	0	0	0	37	0	0	37	0	0	0	0	0	0	0	0	56	0	0	56	93
5:00 AM	0	0	0	0	0	0	0	0	18	1	0	19	0	0	0	0	0	0	0	0	20	0	0	20	39
5:15 AM	0	0	0	0	0	0	0	0	20	0	0	20	0	0	0	3	0	3	0	0	34	0	0	34	57
5:30 AM	0	0	0	0	0	0	0	0	24	0	0	24	0	0	0	2	0	2	0	0	41	0	0	41	67
5:45 AM	0	0	0	0	0	0	0	0	28	0	0	28	0	0	0	3	0	3	0	0	43	0	0	43	74
Hourly Total	0	0	0	0	0	0	0	0	90	1	0	91	0	0	0	8	0	8	0	0	138	0	0	138	237
6:00 AM	0	0	0	0	0	0	0	0	34	0	0	34	0	1	0	2	0	3	0	1	51	0	0	52	89
6:15 AM	0	0	0	0	0	0	0	0	47	0	0	49	0	0	0	5	0	5	0	2	74	0	0	76	130
6:30 AM	0	1	0	0	0	1	0	0	90	0	0	90	0	0	0	6	0	6	0	0	92	0	0	92	189
6:45 AM	0	0	0	0	0	0	0	0	100	0	0	100	0	0	0	6	0	6	0	0	82	1	0	83	189
Hourly Total	0	1	0	0	0	1	0	0	271	0	0	273	0	1	0	19	0	20	0	3	299	1	0	303	597
7:00 AM	0	2	0	0	0	2	0	2	73	1	0	76	0	0	0	7	0	7	0	1	122	1	0	124	209
7:15 AM	0	0	0	0	2	0	0	3	125	0	0	128	0	0	0	4	0	4	0	2	102	0	0	102	234
7:30 AM	0	1	0	0	0	1	0	3	141	1	0	145	0	0	0	6	0	6	0	1	138	1	0	140	292
7:45 AM	0	0	0	0	1	0	0	7	170	2	0	179	0	1	0	9	1	10	0	0	105	1	0	106	295
Hourly Total	0	3	0	0	3	3	0	15	509	4	0	528	0	1	0	26	1	27	0	2	467	3	0	472	1030

**CSAH 1 @ 111th Ave
Coon Rapids MN
Tuesday, April 26, 2022**

Time	Southbound 111th Ave						Westbound CSAH 1						Northbound 111th Ave						Eastbound CSAH 1						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	4	104	1	0	109	0	4	0	4	0	8	0	0	117	0	0	117	234
8:15 AM	0	1	0	1	0	2	0	5	80	5	0	90	0	0	1	11	0	12	0	3	92	1	1	96	200
8:30 AM	0	1	0	0	0	1	0	3	95	6	0	104	0	2	0	6	0	8	0	1	106	0	0	107	220
8:45 AM	0	3	0	0	0	3	0	3	125	11	0	139	0	1	0	4	0	5	0	4	100	0	0	104	251
Hourly Total	0	5	0	1	0	6	0	15	404	23	0	442	0	7	1	25	0	33	0	8	416	1	1	424	905
9:00 AM	0	1	1	4	0	6	0	2	103	5	0	110	0	2	1	7	0	10	0	9	114	1	0	124	250
9:15 AM	0	2	0	6	1	8	1	5	141	3	0	150	0	0	1	6	0	7	0	3	77	0	0	80	245
9:30 AM	0	4	0	4	0	8	0	4	90	4	0	98	0	1	0	7	1	8	1	8	86	2	0	97	211
9:45 AM	0	6	0	5	0	11	2	7	118	8	0	135	0	1	1	4	0	6	1	10	97	0	0	108	260
Hourly Total	0	13	1	19	1	33	3	18	452	20	0	493	0	4	3	24	1	31	2	30	374	3	0	409	966
10:00 AM	0	4	0	5	0	9	0	4	103	8	0	115	0	1	0	5	0	6	0	8	94	0	0	102	232
10:15 AM	0	3	0	5	0	8	0	1	93	7	3	101	0	1	1	4	1	6	0	4	91	0	0	95	210
10:30 AM	0	8	1	3	0	12	0	3	123	8	0	134	0	2	2	9	0	13	0	8	94	0	0	102	261
10:45 AM	0	10	1	5	0	16	0	2	110	8	0	120	0	0	0	6	0	6	1	13	93	1	0	108	250
Hourly Total	0	25	2	18	0	45	0	10	429	31	3	470	0	4	3	24	1	31	1	33	372	1	0	407	953
11:00 AM	0	9	1	9	1	19	0	5	117	8	0	130	0	0	2	6	0	8	1	6	95	1	0	103	260
11:15 AM	0	9	0	6	0	15	0	3	99	10	0	112	0	1	0	4	0	5	1	13	97	1	0	112	244
11:30 AM	0	6	0	13	0	19	0	2	100	7	0	109	0	1	2	3	0	6	1	9	100	0	0	110	244
11:45 AM	0	10	0	3	0	13	1	3	114	10	0	128	0	0	1	2	0	3	0	11	110	0	0	121	265
Hourly Total	0	34	1	31	1	66	1	13	430	35	0	479	0	2	5	15	0	22	3	39	402	2	0	446	1013
12:00 PM	0	12	0	6	0	18	1	7	90	8	0	106	0	0	1	1	0	2	1	13	120	2	0	136	262
12:15 PM	0	9	2	8	0	19	0	5	103	6	0	114	0	0	0	9	0	9	0	8	145	0	0	153	295
12:30 PM	0	7	1	5	0	13	0	5	133	14	0	152	0	0	0	7	0	7	0	8	103	1	0	112	284
12:45 PM	0	12	1	11	0	24	0	7	121	16	0	144	0	1	1	10	0	12	0	16	77	0	0	92	272
Hourly Total	0	40	4	30	0	74	1	24	447	44	0	516	0	1	2	27	0	30	1	44	445	3	0	493	1113
1:00 PM	0	11	0	8	1	19	0	2	114	11	0	127	0	0	1	13	0	14	0	14	99	2	0	115	275
1:15 PM	0	9	0	7	0	16	0	9	144	15	2	168	0	0	1	4	1	5	0	5	114	0	0	119	308
1:30 PM	0	13	3	3	0	19	0	4	134	17	0	155	0	0	3	14	0	17	1	13	132	1	0	147	338
1:45 PM	0	7	0	9	0	16	0	3	168	17	0	188	0	1	0	10	0	11	1	9	108	1	0	119	334
Hourly Total	0	40	3	27	1	70	0	18	560	60	2	638	0	1	5	41	1	47	2	41	453	4	0	500	1255
2:00 PM	0	7	0	11	0	18	0	2	156	14	0	172	0	3	0	10	0	13	0	8	113	1	0	122	325
2:15 PM	0	10	0	4	0	14	0	7	174	12	0	193	0	1	0	5	0	6	0	14	124	0	0	138	351
2:30 PM	0	14	0	7	0	21	0	1	157	11	0	169	0	1	1	2	0	4	0	12	134	1	0	147	341
2:45 PM	0	8	0	12	0	20	0	3	176	15	0	194	0	0	0	7	0	7	0	7	131	0	0	138	359
Hourly Total	0	39	0	34	0	73	0	13	663	52	0	728	0	5	1	24	0	30	0	41	502	2	0	545	1376
3:00 PM	0	11	1	5	1	17	1	2	137	11	0	151	0	2	1	4	0	7	0	13	132	1	0	146	321
3:15 PM	0	9	0	7	0	16	1	1	172	12	2	186	0	0	0	8	0	8	0	14	148	2	0	164	374
3:30 PM	0	2	0	7	1	9	1	3	180	12	0	196	0	0	0	7	0	7	0	19	199	0	0	218	430
3:45 PM	0	17	1	13	0	31	1	5	166	11	0	183	0	0	0	4	0	4	0	7	164	0	2	171	389
Hourly Total	0	39	2	32	2	73	4	11	655	46	2	716	0	2	1	23	0	26	0	53	643	3	2	699	1514

**CSAH 1 @ 11th Ave
Coon Rapids MN
Tuesday, April 26, 2022**

Time	Southbound 111th Ave						Westbound CSAH 1						Northbound 111th Ave						Eastbound CSAH 1						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	7	0	16	0	23	2	5	222	9	0	238	0	0	0	11	0	11	0	10	155	0	1	165	437
4:15 PM	0	4	1	5	0	10	0	4	190	6	0	200	0	0	0	8	0	8	0	11	160	0	0	171	389
4:30 PM	0	6	0	8	0	14	0	7	232	18	0	257	0	0	1	10	2	11	0	13	141	0	2	154	436
4:45 PM	0	10	0	2	0	12	0	2	247	9	0	258	0	1	0	9	0	10	0	6	136	1	0	143	423
Hourly Total	0	27	1	31	0	59	2	18	891	42	0	953	0	1	1	38	2	40	0	40	592	1	3	633	1685
5:00 PM	0	10	0	4	0	14	1	5	207	10	0	223	0	2	1	7	1	10	0	5	156	1	1	162	409
5:15 PM	0	5	0	4	1	9	1	6	220	10	0	237	0	0	0	12	2	12	0	5	125	0	1	130	388
5:30 PM	0	4	0	2	1	6	1	4	141	7	0	153	0	0	0	11	0	11	0	10	91	0	3	101	271
5:45 PM	0	4	0	5	0	9	0	2	167	22	1	191	0	0	0	3	0	3	1	10	112	0	0	123	326
Hourly Total	0	23	0	15	2	38	3	17	735	49	1	804	0	2	1	33	3	36	1	30	484	1	5	516	1394
6:00 PM	0	6	0	6	0	12	0	5	100	11	0	116	0	0	0	9	1	9	0	11	103	0	0	114	251
6:15 PM	0	4	4	8	0	16	0	2	121	5	0	128	0	0	1	6	0	7	0	7	93	0	0	100	251
6:30 PM	0	4	0	6	0	10	1	0	116	8	0	125	0	0	1	7	0	8	0	6	76	0	0	82	225
6:45 PM	0	11	1	2	0	14	1	2	89	4	0	96	0	0	0	2	0	2	0	12	86	1	0	99	211
Hourly Total	0	25	5	22	0	52	2	9	426	28	0	465	0	0	2	24	1	26	0	36	368	1	0	395	938
7:00 PM	0	7	0	1	0	8	2	3	85	5	0	95	0	0	0	4	0	4	0	10	92	0	0	102	209
7:15 PM	0	5	0	4	2	9	0	1	72	2	0	75	0	3	2	2	2	7	0	4	63	0	0	67	158
7:30 PM	0	13	2	1	0	16	1	3	82	7	0	93	0	0	1	0	1	1	0	9	77	0	0	86	196
7:45 PM	0	5	0	3	0	8	0	0	90	2	0	92	1	1	0	7	0	9	0	3	68	1	0	72	181
Hourly Total	0	30	2	9	2	41	3	7	329	16	0	355	1	4	3	13	3	21	0	26	300	1	0	327	744
8:00 PM	0	5	2	1	0	8	3	0	66	1	0	70	0	1	0	2	0	3	1	2	86	0	0	89	170
8:15 PM	0	5	2	3	0	10	0	1	72	2	0	75	0	0	0	5	0	5	0	0	70	0	0	70	160
8:30 PM	0	4	0	1	0	5	0	2	50	1	0	53	0	1	1	4	0	6	0	1	53	2	0	56	120
8:45 PM	0	3	0	2	2	5	0	1	42	0	0	43	0	0	0	1	0	1	0	1	39	0	0	40	89
Hourly Total	0	17	4	7	2	28	3	4	230	4	0	241	0	2	1	12	0	15	1	4	248	2	0	255	539
9:00 PM	0	4	0	3	1	7	0	0	57	0	1	57	0	0	0	2	1	2	0	0	43	0	0	43	109
9:15 PM	0	1	0	0	0	1	1	1	39	0	0	41	0	2	0	2	0	4	0	0	40	1	1	41	87
9:30 PM	0	0	0	0	0	0	0	1	39	0	0	40	0	0	0	0	0	0	0	0	41	0	0	41	81
9:45 PM	0	0	0	0	0	0	0	1	36	0	0	37	0	0	0	0	0	0	0	1	35	0	0	36	73
Hourly Total	0	5	0	3	1	8	1	3	171	0	1	175	0	2	0	4	1	6	0	1	159	1	1	161	350
10:00 PM	0	2	0	1	0	3	0	0	39	1	0	40	0	0	0	2	0	2	0	0	29	0	0	29	74
10:15 PM	0	0	0	0	0	0	0	0	29	0	0	29	0	1	0	2	0	3	0	0	25	0	0	25	57
10:30 PM	0	0	0	0	0	0	0	1	30	0	0	31	0	0	0	1	0	1	0	1	30	0	0	31	63
10:45 PM	0	0	0	0	0	0	0	0	31	0	0	31	0	0	0	2	0	2	0	0	23	0	0	23	56
Hourly Total	0	2	0	1	0	3	0	1	129	1	0	131	0	1	0	7	0	8	0	1	107	0	0	108	250
11:00 PM	0	0	0	0	0	0	0	0	30	0	0	30	0	0	0	0	0	0	0	0	43	0	0	43	73
11:15 PM	0	0	0	0	0	0	0	1	17	0	0	18	0	0	0	1	0	1	0	0	14	0	0	14	33
11:30 PM	0	0	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	0	0	29	0	0	29	43
11:45 PM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	9	0	0	9	16
Hourly Total	0	0	0	0	0	0	0	1	68	0	0	69	0	0	0	1	0	1	0	0	95	0	0	95	165
DAILY TOTAL	0	368	25	280	15	673	23	200	8006	457	9	8686	1	40	29	390	14	460	11	433	7005	30	12	7479	17298
Cars	0	364	25	278	12	667	23	176	7802	453	7	8454	1	39	29	369	13	438	11	428	6833	30	12	7302	16861
Heavy Vehicles	0	4	0	2	3	6	0	24	204	4	2	232	0	1	0	21	1	22	0	5	172	0	0	177	437
Heavy Vehicle %	0.00%	1.09%	0.00%	0.71%	20.00%	0.89%	0.00%	12.00%	2.55%	0.88%	22.22%	2.67%	0.00%	2.50%	0.00%	5.38%	7.14%	4.78%	0.00%	1.15%	2.46%	0.00%	0.00%	2.37%	2.53%

**CSAH 1 @ 111th Ave
Coon Rapids MN
Tuesday, April 26, 2022**

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	0	0	0	2	0	0	3	125	0	0	128	0	0	0	4	0	4	0	0	102	0	0	102	0	0	102	0	0	102	234
7:30 AM	0	1	0	0	0	1	0	3	141	1	0	145	0	0	0	6	0	6	0	1	138	1	0	140	0	0	140	0	0	140	292
7:45 AM	0	0	0	0	1	0	0	7	170	2	0	179	0	1	0	9	1	10	0	0	105	1	0	106	0	0	106	0	0	106	295
8:00 AM	0	0	0	0	0	0	0	4	104	1	0	109	0	4	0	4	0	8	0	0	117	0	0	117	0	0	117	0	0	117	234
Peak Hour Total PHF	0.000	0.250	0.000	0.000	0.375	0.250	0.000	0.607	0.794	0.500	0.000	0.784	0.000	0.313	0.000	0.639	0.250	0.700	0.000	0.250	0.837	0.500	0.000	0.830	0.000	0.250	0.830	0.000	0.250	0.830	0.984

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	7	0	16	0	23	2	5	222	9	0	238	0	0	0	11	0	11	0	10	155	0	1	166	0	0	166	0	0	166	437
4:15 PM	0	4	1	5	0	10	0	4	190	6	0	200	0	0	0	8	0	8	0	11	160	0	0	171	0	0	171	0	0	171	389
4:30 PM	0	6	0	8	0	14	0	7	232	18	0	267	0	0	1	10	2	11	0	13	141	0	2	154	0	0	154	0	0	154	436
4:45 PM	0	10	0	2	0	12	0	2	247	9	0	258	0	1	0	9	0	10	0	6	136	1	0	143	0	0	143	0	0	143	423
Peak Hour Total PHF	0.000	0.675	0.250	0.484	0.000	0.641	0.250	0.643	0.902	0.583	0.000	0.923	0.000	0.250	0.250	0.864	0.250	0.909	0.000	0.769	0.925	0.250	0.375	0.925	0.000	0.769	0.925	0.250	0.375	0.925	0.984

Total Vehicles On Leg		1592	
Vehicles Entering Intersection	673	Vehicles Exiting Intersection	919
Southbound			
Cars	276	25	364
Heavy	2	0	4
Total	280	25	368



Total Vehicles on Leg 15816	Vehicles Entering Intersection 7479	Eastbound	Cars	Heavy	Total
			12	0	12
	11		0	11	
	428		5	433	
	6833		172	7005	
	Vehicles Exiting Intersection 8337		30	0	30



Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 8686	Total Vehicles on Leg 16472
463	4	457			
7802	204	8006			
176	24	200			
23	0	23			
7	2	9		Vehicles Exiting Intersection 7786	



Cars	13	1	39	29	369
Heavy	1	0	1	0	21
Total	14	1	40	29	390
Northbound					
Vehicles Entering Intersection	460		Vehicles Exiting Intersection	256	
Total Vehicles On Leg	716				



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2212

Study Date : 04/26/2022

Signal Warrants - Summary

Major Street Approaches

Eastbound: CSAH 1

Number of Lanes : 2+

Total Approach Volume: 7,479

Westbound: CSAH 1

Number of Lanes :2+

Total Approach Volume: 8,686

Minor Street Approaches

Northbound: 111th Ave.

Number of Lanes :1

Total Approach Volume: 460

Southbound: 111th Ave.

Number of Lanes :1

Total Approach Volume: 673

Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 0 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.....Not Satisfied

Required 1A volumes reached for 0 hours, 8 are needed

Required 1B volumes reached for 9 hours, 8 are needed

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

Number of hours (6) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

Warrant 3A - Peak Hour Delay.....Not Satisfied

Approach volumes on minor street don't exceed minimums for any one hour period. 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 2212

Study Date : 04/26/2022

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 0 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 CSAH 1				Total	Minor Road 111th Ave.		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:00 - 17:00	633	+	953	=	1586	40	59	No
16:15 - 17:15	630	+	938	=	1568	39	50	No
16:30 - 17:30	589	+	975	=	1564	43	49	No
15:30 - 16:30	725	+	817	=	1542	30	73	No
15:45 - 16:45	661	+	878	=	1539	34	78	No
15:15 - 16:15	718	+	803	=	1521	30	79	No
15:00 - 16:00	699	+	716	=	1415	26	73	No
16:45 - 17:45	536	+	871	=	1407	43	41	No
14:45 - 15:45	666	+	727	=	1393	29	62	No
17:00 - 18:00	516	+	804	=	1320	36	38	No
14:30 - 15:30	595	+	700	=	1295	26	74	No
14:15 - 15:15	569	+	707	=	1276	24	72	No
14:00 - 15:00	545	+	728	=	1273	30	73	No
13:45 - 14:45	526	+	722	=	1248	34	69	No
13:30 - 14:30	526	+	708	=	1234	47	67	No
13:15 - 14:15	507	+	683	=	1190	46	69	No
17:15 - 18:15	468	+	697	=	1165	35	36	No
13:00 - 14:00	500	+	638	=	1138	47	70	No
12:45 - 13:45	473	+	594	=	1067	48	78	No
12:30 - 13:30	438	+	591	=	1029	38	72	No
07:15 - 08:15	465	+	561	=	1026	28	1	No
17:30 - 18:30	438	+	588	=	1026	30	43	No
11:45 - 12:45	522	+	500	=	1022	21	63	No
12:00 - 13:00	493	+	516	=	1009	30	74	No
12:15 - 13:15	472		537		1009	42	75	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2212

Study Date : 04/26/2022

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 = **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 CSAH 1				Total	Minor Road 111th Ave.		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
15:15 - 16:15	718	+	803	=	1521	30	79	Yes
14:15 - 15:15	569	+	707	=	1276	24	72	Yes
13:15 - 14:15	507	+	683	=	1190	46	69	Yes
12:15 - 13:15	472	+	537	=	1009	42	75	Yes
11:15 - 12:15	479	+	455	=	934	16	65	Yes
10:15 - 11:15	408	+	485	=	893	33	55	Yes
16:15 - 17:15	630	+	938	=	1568	39	50	No
16:30 - 17:30	589	+	975	=	1564	43	49	No
16:45 - 17:45	536	+	871	=	1407	43	41	No
17:00 - 18:00	516	+	804	=	1320	36	38	No
17:15 - 18:15	468	+	697	=	1165	35	36	No
07:15 - 08:15	465	+	561	=	1026	28	1	No
17:30 - 18:30	438	+	588	=	1026	30	43	No
07:00 - 08:00	472	+	528	=	1000	27	3	No
07:30 - 08:30	459	+	523	=	982	36	3	No
17:45 - 18:45	419	+	560	=	979	27	47	No
08:30 - 09:30	415	+	503	=	918	30	18	No
07:45 - 08:45	426	+	482	=	908	38	3	No
09:00 - 10:00	409	+	493	=	902	31	33	No
08:45 - 09:45	405	+	497	=	902	30	25	No
06:45 - 07:45	449	+	449	=	898	23	3	No
09:45 - 10:45	407	+	485	=	892	31	40	No
09:15 - 10:15	387	+	498	=	885	27	36	No
10:00 - 11:00	407	+	470	=	877	31	45	No
08:15 - 09:15	431		443		874	35	12	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2212

Study Date : 04/26/2022

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 0 hours meet 1A minimums.
9 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 = **1**

Volume Requirements

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

Veh/Hr Minor = **84 42**

Major Road CSAH 1

Minor Road 111th Ave.

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1A?
16:00 - 17:00	633	+	953	=	1586	40	59	No
16:15 - 17:15	630	+	938	=	1568	39	50	No
16:30 - 17:30	589	+	975	=	1564	43	49	No
15:30 - 16:30	725	+	817	=	1542	30	73	No
15:45 - 16:45	661	+	878	=	1539	34	78	No
15:15 - 16:15	718	+	803	=	1521	30	79	No
15:00 - 16:00	699	+	716	=	1415	26	73	No
16:45 - 17:45	536	+	871	=	1407	43	41	No
14:45 - 15:45	666	+	727	=	1393	29	62	No
17:00 - 18:00	516	+	804	=	1320	36	38	No
14:30 - 15:30	595	+	700	=	1295	26	74	No
14:15 - 15:15	569	+	707	=	1276	24	72	No

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?
16:00 - 17:00	633	+	953	=	1586	40	59	Yes
15:00 - 16:00	699	+	716	=	1415	26	73	Yes
14:00 - 15:00	545	+	728	=	1273	30	73	Yes
13:00 - 14:00	500	+	638	=	1138	47	70	Yes
17:30 - 18:30	438	+	588	=	1026	30	43	Yes
12:00 - 13:00	493	+	516	=	1009	30	74	Yes
11:00 - 12:00	446	+	479	=	925	22	66	Yes
10:00 - 11:00	407	+	470	=	877	31	45	Yes
18:45 - 19:45	354	+	359	=	713	14	47	Yes
17:00 - 18:00	516	+	804	=	1320	36	38	No
17:15 - 18:15	468	+	697	=	1165	35	36	No
07:15 - 08:15	465	+	561	=	1026	28	1	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2212

Study Date : 04/26/2022

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.

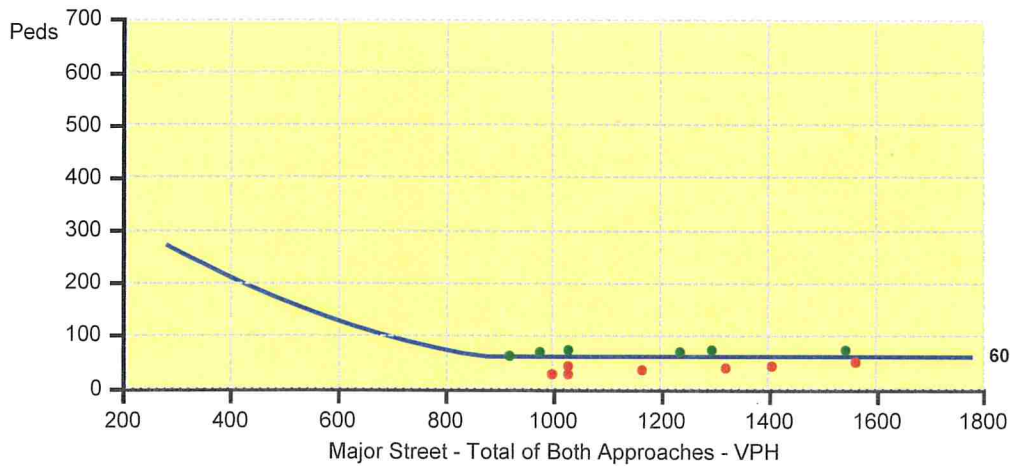
Summary

6 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 1				Total	Minor Road 111th Ave.		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
15:30 - 16:30	725	+	817	=	1542	30	73	Yes
14:30 - 15:30	595	+	700	=	1295	26	74	Yes
13:30 - 14:30	526	+	708	=	1234	47	67	Yes
12:30 - 13:30	438	+	591	=	1029	38	72	Yes
11:30 - 12:30	520	+	457	=	977	20	69	Yes
10:30 - 11:30	425	+	496	=	921	32	62	Yes
16:30 - 17:30	589	+	975	=	1564	43	49	No
16:45 - 17:45	536	+	871	=	1407	43	41	No
17:00 - 18:00	516	+	804	=	1320	36	38	No
17:15 - 18:15	468	+	697	=	1165	35	36	No
07:15 - 08:15	465	+	561	=	1026	28	1	No
							43	No



ANOKA COUNTY HIGHWAY PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2212
Study Date : 04/26/2022

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

2 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 1				Total	Minor Road 111th Ave.		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
15:45 - 16:45	661	+	878	=	1539	34	78	Yes
15:15 - 16:15	718	+	803	=	1521	30	79	Yes
16:00 - 17:00	633	+	953	=	1586	40	59	No
16:15 - 17:15	630	+	938	=	1568	39	50	No
16:30 - 17:30	589	+	975	=	1564	43	49	No
15:30 - 16:30	725	+	817	=	1542	30	73	No
15:00 - 16:00	699	+	716	=	1415	26	73	No
16:45 - 17:45	536	+	871	=	1407	43	41	No
14:45 - 15:45	666	+	727	=	1393	29	62	No
17:00 - 18:00	516	+	804	=	1320	36	38	No
14:30 - 15:30	595	+	700	=	1295	26	74	No
							72	No

