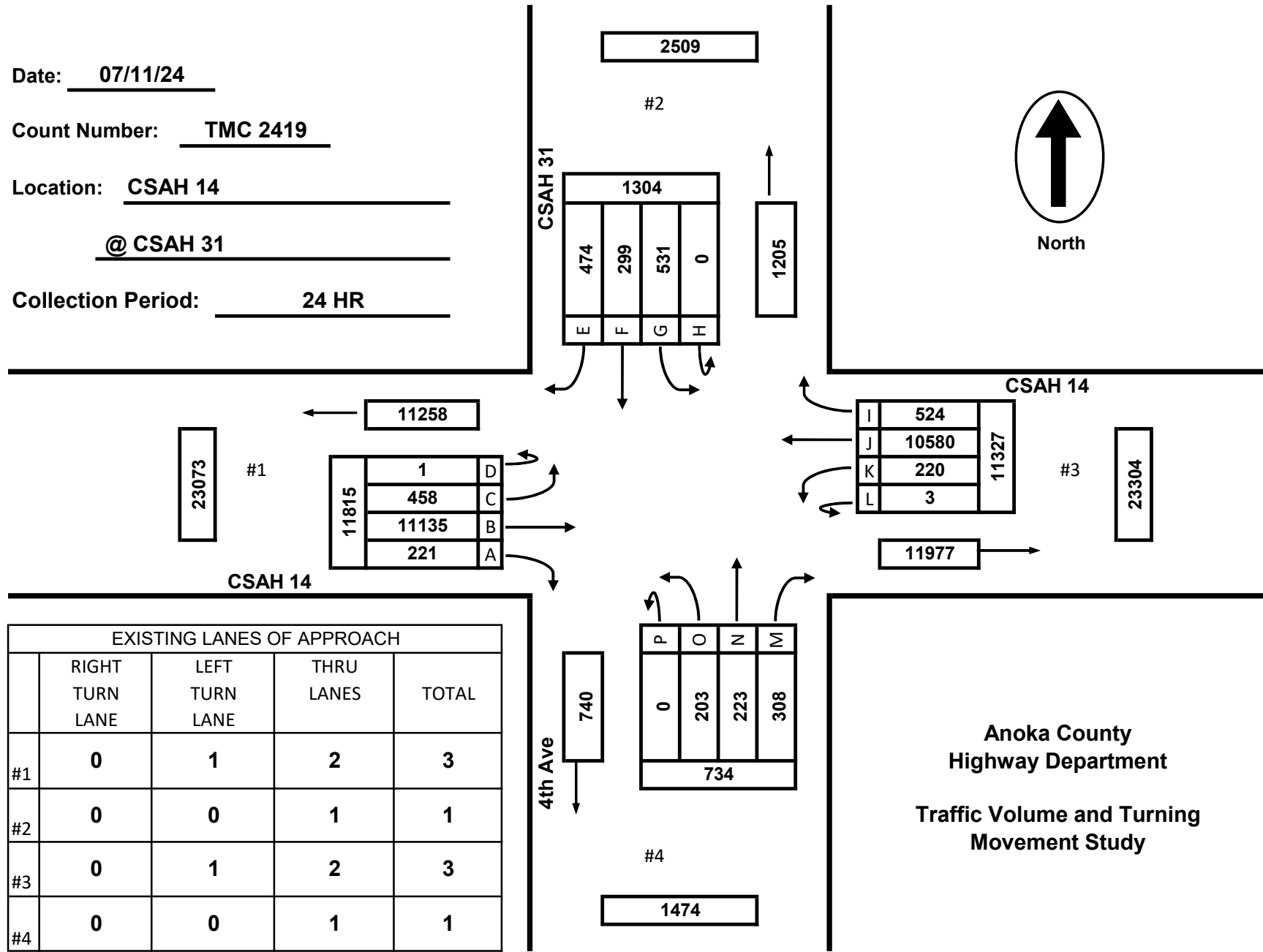
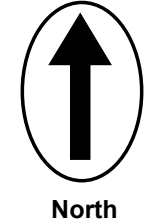


Date: 07/11/24

Count Number: TMC 2419

Location: CSAH 14
@ CSAH 31

Collection Period: 24 HR



2509

#2

1304			
474	299	531	0
E	F	G	H

1205

CSAH 14

I	524	11327
J	10580	
K	220	
L	3	

#3

23304

11977

CSAH 14

11815		1	D
		458	C
		11135	B
		221	A

#1

23073

11258

P	O	N	M
0	203	223	308
734			

#4

1474

4th Ave
740

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

Anoka County
 Highway Department
 Traffic Volume and Turning
 Movement Study

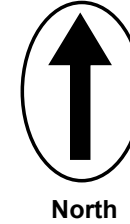
Date: 07/11/24

Count Number: TMC 2419

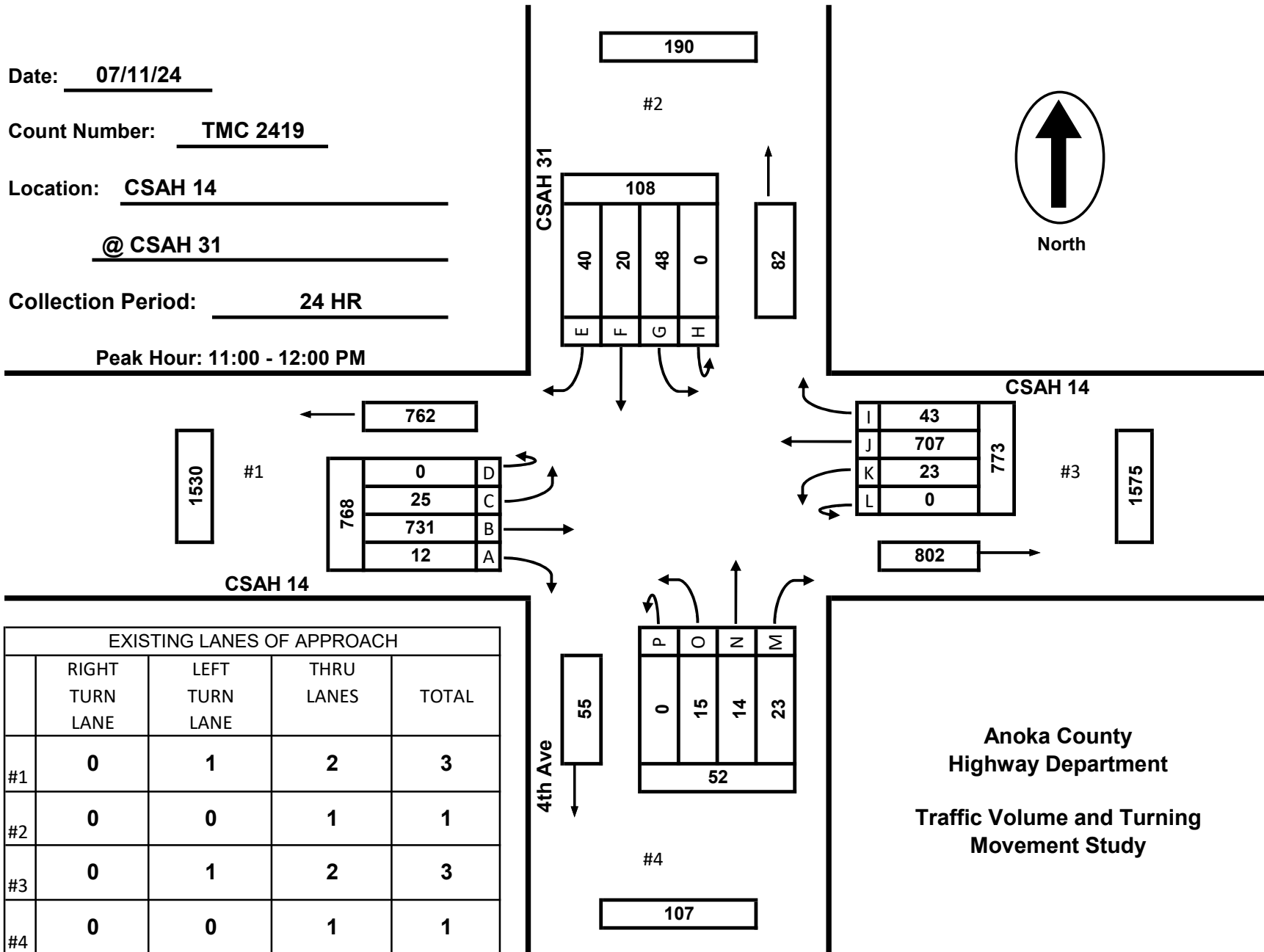
Location: CSAH 14
@ CSAH 31

Collection Period: 24 HR

Peak Hour: 11:00 - 12:00 PM



North



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

Anoka County
 Highway Department
 Traffic Volume and Turning
 Movement Study

Date: 07/11/24

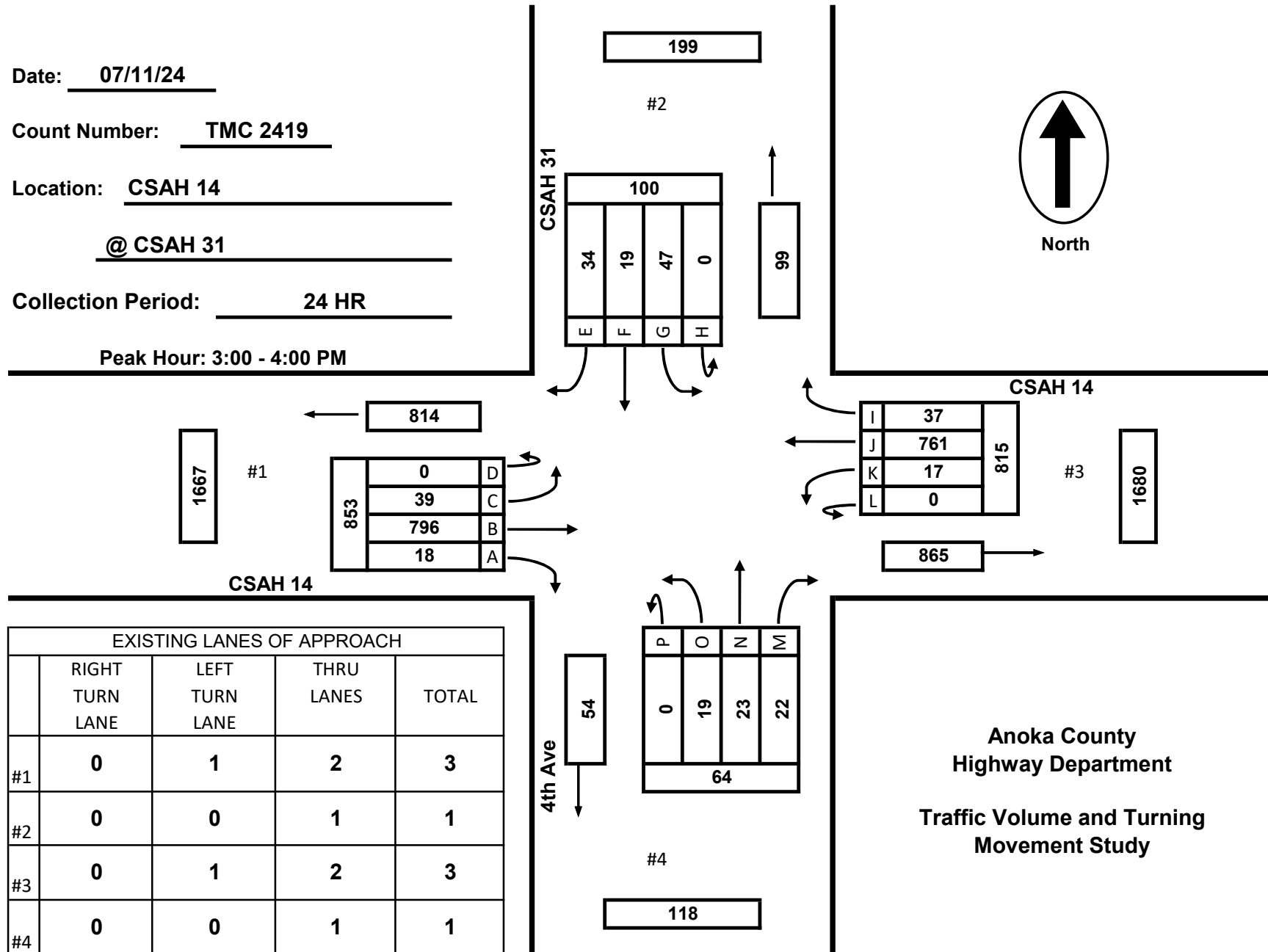
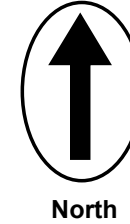
Count Number: TMC 2419

Location: CSAH 14

@ CSAH 31

Collection Period: 24 HR

Peak Hour: 3:00 - 4:00 PM



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

Anoka County
Highway Department
Traffic Volume and Turning
Movement Study

TMC 2419 - CSAH 14 @ CSAH 31
Anoka MN
Thursday, July 11, 2024

Time	Southbound CSAH 31						Westbound CSAH 14						Northbound 4th Ave						Eastbound CSAH 14						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	0	0	0	1	0	0	14	0	0	14	0	1	0	0	2	1	0	1	8	0	0	9	25
12:15 AM	0	1	0	0	1	1	0	1	14	0	0	15	0	0	1	0	0	1	0	0	14	0	0	14	31
12:30 AM	0	0	0	1	0	1	0	0	11	0	0	11	0	0	0	1	2	1	0	1	22	0	0	23	36
12:45 AM	0	1	0	0	1	1	0	0	11	2	0	13	0	0	0	0	1	0	0	1	10	0	0	11	25
Hourly Total	0	3	0	1	2	4	0	1	50	2	0	53	0	1	1	1	5	3	0	3	54	0	0	57	117
1:00 AM	0	1	0	0	1	1	0	0	19	0	0	19	0	1	0	0	0	1	0	1	17	0	0	18	39
1:15 AM	0	1	0	0	0	1	0	0	5	0	0	5	0	0	1	0	0	1	0	1	13	0	0	14	21
1:30 AM	0	2	0	0	1	2	0	0	8	0	0	8	0	0	1	0	0	1	0	0	11	0	0	11	22
1:45 AM	0	0	0	0	1	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	13	0	0	13	19
Hourly Total	0	4	0	0	3	4	0	0	38	0	0	38	0	1	2	0	0	3	0	2	54	0	0	56	101
2:00 AM	0	0	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	0	0	6	0	0	6	17
2:15 AM	0	0	1	1	0	2	0	1	10	0	0	11	0	0	0	0	0	0	0	1	14	0	0	15	28
2:30 AM	0	0	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	0	0	0	10	0	0	10	17
2:45 AM	0	3	0	0	0	3	0	0	3	0	0	3	0	0	0	1	0	1	1	0	7	0	0	8	15
Hourly Total	0	3	1	1	0	5	0	1	30	1	0	32	0	0	0	1	0	1	0	1	37	0	0	39	77
3:00 AM	0	3	0	1	0	4	0	0	7	0	0	7	0	0	0	0	0	0	0	0	6	0	0	6	17
3:15 AM	0	0	0	1	0	1	0	0	6	0	0	6	0	0	0	0	0	0	0	0	7	0	0	7	14
3:30 AM	0	0	0	0	0	0	0	0	16	2	0	18	0	0	0	0	0	0	0	0	7	0	0	7	25
3:45 AM	0	1	0	1	0	2	0	0	12	1	0	13	0	1	0	0	0	1	0	0	8	1	0	9	25
Hourly Total	0	4	0	3	0	7	0	0	41	3	0	44	0	1	0	0	0	1	0	0	28	1	0	29	81
4:00 AM	0	1	0	0	0	1	0	0	19	0	0	19	0	0	0	0	0	0	0	0	14	0	0	14	34
4:15 AM	0	1	0	2	0	3	0	0	18	0	0	18	0	1	1	0	0	2	0	0	10	0	0	10	33
4:30 AM	0	0	0	4	0	4	0	0	32	2	0	34	0	1	0	0	1	1	0	0	11	0	0	11	50
4:45 AM	0	0	0	2	0	2	0	0	26	0	0	26	0	2	0	0	0	2	0	0	24	0	0	24	54
Hourly Total	0	2	0	8	0	10	0	0	95	2	0	97	0	4	1	0	1	5	0	0	59	0	0	59	171
5:00 AM	0	0	0	2	0	2	0	0	39	1	0	40	0	3	0	1	0	4	0	1	23	0	0	24	70
5:15 AM	0	1	0	2	0	3	1	0	75	1	0	77	0	2	0	0	2	2	0	1	23	0	0	24	106
5:30 AM	0	3	1	3	0	7	0	0	78	4	0	82	0	1	0	0	1	1	0	1	39	0	0	40	130
5:45 AM	0	2	0	4	0	6	0	0	55	1	0	56	0	0	0	0	0	0	0	2	59	2	0	63	125
Hourly Total	0	6	1	11	0	18	1	0	247	7	0	255	0	6	0	1	3	7	0	5	144	2	0	151	431
6:00 AM	0	2	2	4	0	8	0	1	87	2	0	90	0	1	0	1	0	2	0	2	55	1	0	58	158
6:15 AM	0	3	3	6	0	12	0	0	121	8	0	129	0	0	1	0	0	1	0	10	96	0	0	106	248
6:30 AM	0	7	1	8	0	16	0	1	149	3	0	153	0	4	0	0	2	4	0	5	113	0	0	118	291
6:45 AM	0	7	1	3	0	11	0	0	136	7	0	143	0	1	1	2	0	4	0	2	144	2	1	148	306
Hourly Total	0	19	7	21	0	47	0	2	493	20	0	515	0	6	2	3	2	11	0	19	408	3	1	430	1003
7:00 AM	0	6	5	3	0	14	0	0	147	3	1	150	0	3	1	2	0	6	0	2	105	1	0	108	278
7:15 AM	0	6	8	6	0	20	0	2	139	4	1	145	0	1	1	0	3	2	0	9	128	2	0	139	306
7:30 AM	0	3	9	4	0	16	0	4	138	11	0	153	0	5	2	7	0	14	0	3	135	10	0	148	331
7:45 AM	0	5	6	6	0	17	0	9	161	26	0	196	0	1	8	6	1	15	0	14	164	6	0	184	412
Hourly Total	0	20	28	19	0	67	0	15	585	44	2	644	0	10	12	15	4	37	0	28	532	19	0	579	1327

TMC 2419 - CSAH 14 @ CSAH 31
Anoka MN
Thursday, July 11, 2024

Time	Southbound CSAH 31						Westbound CSAH 14						Northbound 4th Ave						Eastbound CSAH 14						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	9	2	1	0	12	0	2	133	12	0	147	0	4	6	1	1	11	0	7	133	5	0	145	315
8:15 AM	0	4	6	10	0	20	0	2	135	13	0	150	0	1	0	1	0	2	0	4	116	2	0	122	294
8:30 AM	0	6	6	9	0	21	0	5	117	10	0	132	0	1	3	9	1	13	0	3	121	5	1	129	295
8:45 AM	0	10	8	7	0	25	0	9	132	10	1	151	0	5	2	3	0	10	0	12	146	6	1	164	350
Hourly Total	0	29	22	27	0	78	0	18	517	45	1	580	0	11	11	14	2	36	0	26	516	18	2	560	1254
9:00 AM	0	6	3	9	2	18	0	4	145	10	0	159	0	4	2	9	0	15	0	3	132	4	1	139	331
9:15 AM	0	3	3	7	1	13	0	6	133	1	0	140	0	1	2	4	1	7	0	5	145	0	0	150	310
9:30 AM	0	2	6	8	1	16	0	5	176	6	0	187	0	3	7	2	0	12	0	9	153	3	0	165	380
9:45 AM	0	7	12	8	0	27	0	6	128	10	0	144	0	0	4	7	2	11	0	6	164	6	0	176	358
Hourly Total	0	18	24	32	4	74	0	21	582	27	0	630	0	8	15	22	3	45	0	23	594	13	1	630	1379
10:00 AM	0	4	2	4	0	10	0	2	144	5	0	151	0	4	2	3	0	9	0	4	134	5	0	143	313
10:15 AM	0	4	5	5	0	14	0	4	139	11	0	154	0	3	1	2	2	6	0	8	165	2	1	175	349
10:30 AM	0	11	4	2	1	17	0	2	191	5	1	198	0	2	4	2	1	8	0	9	176	3	0	188	411
10:45 AM	0	8	7	8	1	23	0	9	162	14	0	185	0	4	2	3	0	9	0	8	159	3	2	170	387
Hourly Total	0	27	18	19	2	64	0	17	636	35	1	688	0	13	9	10	3	32	0	29	634	13	3	676	1460
11:00 AM	0	8	4	9	1	21	0	6	181	10	0	197	0	8	4	3	0	15	0	11	182	5	1	198	431
11:15 AM	0	12	6	5	1	23	0	6	164	11	0	181	0	3	3	5	1	11	0	3	168	4	0	175	390
11:30 AM	0	16	4	10	1	30	0	7	184	6	0	197	0	0	5	6	2	11	0	7	182	1	1	190	428
11:45 AM	0	12	6	16	1	34	0	4	178	16	0	198	0	4	2	9	1	15	0	4	199	2	1	205	452
Hourly Total	0	48	20	40	4	108	0	23	707	43	0	773	0	15	14	23	4	52	0	25	731	12	3	768	1701
12:00 PM	0	16	5	10	1	31	0	2	177	8	1	187	0	7	5	4	0	16	0	7	196	6	1	209	443
12:15 PM	0	17	0	11	1	28	0	4	193	9	1	206	0	2	2	6	1	10	0	11	186	6	0	203	447
12:30 PM	0	12	3	13	2	28	0	5	189	12	2	206	0	2	5	8	0	15	0	10	216	4	0	230	479
12:45 PM	0	10	8	16	2	34	0	5	169	14	0	188	0	4	5	9	0	18	0	11	184	5	3	200	440
Hourly Total	0	55	16	50	6	121	0	16	728	43	4	787	0	15	17	27	1	59	0	39	782	21	4	842	1809
1:00 PM	0	5	6	12	1	23	0	2	165	21	1	188	0	3	1	12	2	16	0	9	203	5	1	217	444
1:15 PM	0	5	6	11	1	22	0	3	151	12	1	166	0	3	3	5	3	11	0	6	157	3	0	166	365
1:30 PM	0	14	3	8	2	25	0	2	187	9	0	198	0	4	5	2	1	11	0	9	210	4	0	223	457
1:45 PM	0	5	4	13	2	22	0	4	172	13	0	189	0	2	5	2	0	9	0	14	190	3	0	207	427
Hourly Total	0	29	19	44	6	92	0	11	675	55	2	741	0	12	14	21	6	47	0	38	760	15	1	813	1693
2:00 PM	0	7	6	11	3	24	1	2	162	10	1	175	0	3	5	4	0	12	0	4	181	10	0	195	406
2:15 PM	0	6	11	3	2	20	0	6	200	9	0	215	0	1	4	10	1	15	0	9	210	2	0	221	471
2:30 PM	0	9	4	11	4	24	0	3	181	9	1	193	0	2	1	7	2	10	0	8	217	2	2	227	454
2:45 PM	0	12	7	9	3	28	0	6	150	6	0	162	0	1	3	5	0	9	0	11	188	7	1	206	405
Hourly Total	0	34	28	34	12	96	1	17	693	34	2	745	0	7	13	26	3	46	0	32	796	21	3	849	1736
3:00 PM	0	8	5	3	3	16	0	7	195	6	0	208	0	3	7	9	1	19	0	5	211	3	1	219	462
3:15 PM	0	14	8	13	4	35	0	3	170	7	0	180	0	6	4	3	1	13	0	6	195	4	0	205	433
3:30 PM	0	10	3	5	3	18	0	3	199	12	0	214	0	4	7	7	2	18	0	14	199	7	0	220	470
3:45 PM	0	15	3	13	0	31	0	4	197	12	0	213	0	6	5	3	0	14	0	14	191	4	0	209	467
Hourly Total	0	47	19	34	10	100	0	17	761	37	0	815	0	19	23	22	4	64	0	39	796	18	1	853	1832

TMC 2419 - CSAH 14 @ CSAH 31
Anoka MN
Thursday, July 11, 2024

Time	Southbound CSAH 31						Westbound CSAH 14						Northbound 4th Ave						Eastbound CSAH 14						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	14	7	8	1	29	0	2	182	5	0	189	0	4	4	5	2	13	0	9	175	3	0	187	418
4:15 PM	0	12	9	2	0	23	0	2	194	1	0	197	0	3	4	4	0	11	0	10	191	2	1	203	434
4:30 PM	0	31	8	8	2	47	0	2	198	6	2	206	0	6	5	7	1	18	0	6	194	4	0	204	475
4:45 PM	0	14	8	8	2	30	0	2	185	7	0	194	0	5	7	6	0	18	0	4	181	3	0	188	430
Hourly Total	0	71	32	26	5	129	0	8	759	19	2	786	0	18	20	22	3	60	0	29	741	12	1	782	1757
5:00 PM	0	5	10	11	2	26	0	6	192	11	1	209	0	10	7	7	6	24	0	7	193	4	3	204	463
5:15 PM	0	6	5	5	6	16	0	5	200	5	0	210	0	4	5	3	2	12	0	12	200	4	0	216	454
5:30 PM	0	6	3	4	0	13	0	3	187	3	0	193	0	1	4	9	0	14	0	15	214	2	0	231	451
5:45 PM	0	11	3	6	0	20	0	2	193	6	0	201	0	1	2	4	0	7	0	6	209	1	0	216	444
Hourly Total	0	28	21	26	8	75	0	16	772	25	1	813	0	16	18	23	8	57	0	40	816	11	3	867	1812
6:00 PM	0	10	8	5	1	23	0	2	171	10	0	183	0	2	2	5	4	9	0	5	197	5	0	207	422
6:15 PM	0	10	2	6	3	18	0	3	146	5	1	154	0	1	2	5	2	8	0	10	198	5	0	213	393
6:30 PM	0	4	5	4	2	13	1	7	140	3	1	151	0	1	4	7	5	12	0	5	198	1	0	204	380
6:45 PM	0	9	2	6	2	17	0	3	149	3	1	155	0	2	2	2	3	6	0	6	157	2	0	165	343
Hourly Total	0	33	17	21	8	71	1	15	606	21	3	643	0	6	10	19	14	35	0	26	750	13	0	789	1538
7:00 PM	0	7	2	7	2	16	0	1	133	2	2	136	0	2	2	5	11	9	0	7	157	1	2	165	326
7:15 PM	0	4	4	4	6	12	0	3	134	6	3	143	0	0	3	2	12	5	0	5	168	2	2	175	335
7:30 PM	0	5	0	3	3	8	0	0	127	7	1	134	0	1	2	4	2	7	0	5	149	0	1	154	303
7:45 PM	0	3	5	5	0	13	0	4	112	4	4	120	0	4	2	2	0	8	0	2	127	5	4	134	275
Hourly Total	0	19	11	19	11	49	0	8	506	19	10	533	0	7	9	13	25	29	0	19	601	8	9	628	1239
8:00 PM	0	2	3	3	1	8	0	1	117	5	0	123	0	3	8	13	2	24	0	3	140	1	0	144	299
8:15 PM	0	3	3	3	1	9	0	2	111	4	0	117	0	2	4	2	3	8	0	0	116	1	0	117	251
8:30 PM	0	3	2	5	2	10	0	1	98	6	0	105	0	1	1	2	0	4	0	5	129	5	0	139	258
8:45 PM	0	4	2	4	2	10	0	3	98	2	0	103	0	1	5	1	3	7	0	6	119	1	1	126	246
Hourly Total	0	12	10	15	6	37	0	7	424	17	0	448	0	7	18	18	8	43	0	14	504	8	1	526	1054
9:00 PM	0	0	0	2	0	2	0	0	98	4	2	102	0	1	1	0	4	2	0	2	123	1	3	126	232
9:15 PM	0	4	1	2	2	7	0	2	76	1	0	79	0	0	0	0	0	0	0	3	97	2	0	102	188
9:30 PM	0	2	1	4	2	7	0	1	79	3	0	83	0	0	1	0	2	1	0	6	94	1	0	101	192
9:45 PM	0	0	0	2	0	2	0	1	54	4	0	59	0	3	7	7	0	17	0	2	65	2	0	69	147
Hourly Total	0	6	2	10	4	18	0	4	307	12	2	323	0	4	9	7	6	20	0	13	379	6	3	398	759
10:00 PM	0	3	0	1	4	4	0	0	55	3	2	58	0	3	3	4	8	10	0	3	58	1	0	62	134
10:15 PM	0	1	0	2	4	3	0	1	50	3	2	54	0	6	1	6	4	13	0	1	71	2	0	74	144
10:30 PM	0	2	0	2	0	4	0	0	46	2	0	48	0	2	0	5	7	7	0	1	87	0	0	88	147
10:45 PM	0	0	1	2	1	3	0	1	30	2	0	33	0	2	0	3	0	5	0	1	60	2	1	63	104
Hourly Total	0	6	1	7	9	14	0	2	181	10	4	193	0	13	4	18	19	35	0	6	276	5	1	287	529
11:00 PM	0	6	1	3	0	10	0	0	49	1	0	50	0	1	0	1	0	2	0	0	52	1	0	53	115
11:15 PM	0	1	0	1	0	2	0	0	35	0	0	35	0	0	1	1	0	2	0	1	35	0	0	36	75
11:30 PM	0	1	1	0	0	2	0	1	49	1	0	51	0	1	0	0	2	1	0	0	29	1	3	30	84
11:45 PM	0	0	0	2	0	2	0	0	14	1	0	15	0	1	0	0	0	1	0	1	27	0	0	28	46
Hourly Total	0	8	2	6	0	16	0	1	147	3	0	151	0	3	1	2	2	6	0	2	143	2	3	147	320
DAILY TOTAL	0	531	299	474	100	1304	3	220	10580	524	34	11327	0	203	223	308	126	734	1	458	11135	221	40	11815	25180
Cars	0	525	294	460	88	1279	3	214	10371	516	28	11104	0	196	219	305	107	720	1	451	10934	219	32	11605	24708
Heavy Vehicles	0	6	5	14	12	25	0	6	209	8	6	223	0	7	4	3	19	14	0	7	201	2	8	210	472
Heavy Vehicle %	0.00%	1.13%	1.67%	2.95%	12.00%	1.92%	0.00%	2.73%	1.98%	1.53%	17.65%	1.97%	0.00%	3.45%	1.79%	0.97%	15.08%	1.91%	0.00%	1.53%	1.81%	0.90%	20.00%	1.78%	1.87%

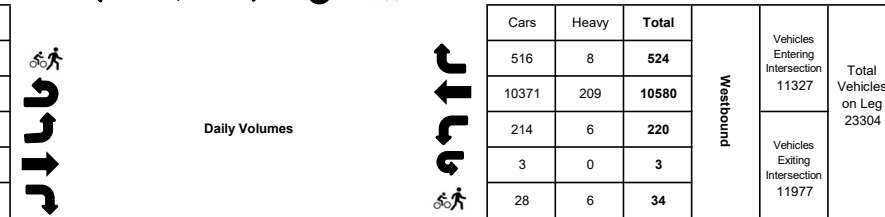
TMC 2419 - CSAH 14 @ CSAH 31
Anoka MN
Thursday, July 11, 2024
AM Peak Hour

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	
11:00 AM	0	8	4	9	1	21	0	6	181	10	0	197	0	8	4	3	0	15	0	11	182	5	1	198	431
11:15 AM	0	12	6	5	1	23	0	6	164	11	0	181	0	3	3	5	1	11	0	3	168	4	0	175	390
11:30 AM	0	16	4	10	1	30	0	7	184	6	0	197	0	0	5	6	2	11	0	7	182	1	1	190	428
11:45 AM	0	12	6	16	1	34	0	4	178	16	0	198	0	4	2	9	1	15	0	4	199	2	1	205	452
Peak Hour Total	0	48	20	40	4	108	0	23	707	43	0	773	0	15	14	23	4	52	0	25	731	12	3	768	1701
PHF	0.000	0.750	0.833	0.625	1.000	0.794	0.000	0.821	0.961	0.672	0.000	0.976	0.000	0.469	0.700	0.639	0.500	0.867	0.000	0.568	0.918	0.600	0.750	0.937	0.941

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
3:00 PM	0	8	5	3	3	16	0	7	195	6	0	208	0	3	7	9	1	19	0	5	211	3	1	219	462
3:15 PM	0	14	8	13	4	35	0	3	170	7	0	180	0	6	4	3	1	13	0	6	195	4	0	205	433
3:30 PM	0	10	3	5	3	18	0	3	199	12	0	214	0	4	7	7	2	18	0	14	199	7	0	220	470
3:45 PM	0	15	3	13	0	31	0	4	197	12	0	213	0	6	5	3	0	14	0	14	191	4	0	209	467
Peak Hour Total	0	47	19	34	10	100	0	17	761	37	0	815	0	19	23	22	4	64	0	39	796	18	1	853	1832
PHF	0.000	0.783	0.594	0.654	0.625	0.714	0.000	0.607	0.956	0.771	0.000	0.952	0.000	0.792	0.821	0.611	0.500	0.842	0.000	0.696	0.943	0.643	0.250	0.969	0.974

Total Vehicles On Leg				2509	
Vehicles Entering Intersection		1304	Vehicles Exiting Intersection		1205
Southbound					
Cars	460	294	525	0	88
Heavy	14	5	6	0	12
Total	474	299	531	0	100



Cars	107	0	196	219	305		
Heavy	19	0	7	4	3		
Total	126	0	203	223	308		
Northbound							
Vehicles Entering Intersection			734	Vehicles Exiting Intersection			740
Total Vehicles On Leg				1474			

ANOKA COUNTY HIGHWAY

PC - WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2419

Study Date : 07/16/2024

Signal Warrants - Summary

Major Street Approaches

Eastbound: CSAH 14

Number of Lanes : 2+

Total Approach Volume: 11,815

Westbound: CSAH 14

Number of Lanes : 2+

Total Approach Volume: 11,327

Minor Street Approaches

Northbound: 4th Ave

Number of Lanes : 1

Total Approach Volume: 734

Southbound: CSAH 31

Number of Lanes : 1

Total Approach Volume: 1,304

Warrant Summary (Urban Values Apply)

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

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

Required volumes reached for 0 hours, 8 are needed

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

Required volumes reached for 8 hours, 8 are needed

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

Required 1A volumes reached for 2 hours, 8 are needed

Required 1B volumes reached for 12 hours, 8 are needed

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

Number of hours (7) volumes exceed minimum \geq minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

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

Number of one hour periods (16) 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 2419

Study Date : 07/16/2024

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 = **False**
 Number of Major Lanes = **2 or more**
 Number of Minor Lanes = **1**

Volume Requirements

Veh/Hr Major = **600**

Veh/Hr Minor = **150**

Time	Major Road				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
17:00 - 18:00	867	+	813	=	1680	57	75	No
15:00 - 16:00	853	+	815	=	1668	64	100	No
17:15 - 18:15	870	+	787	=	1657	42	72	No
14:15 - 15:15	873	+	778	=	1651	53	88	No
16:45 - 17:45	839	+	806	=	1645	68	85	No
11:45 - 12:45	847	+	797	=	1644	56	121	No
12:15 - 13:15	850	+	788	=	1638	59	113	No
15:30 - 16:30	819	+	813	=	1632	56	101	No
16:30 - 17:30	812	+	819	=	1631	72	119	No
12:00 - 13:00	842	+	787	=	1629	59	121	No
13:30 - 14:30	846	+	777	=	1623	47	91	No
13:45 - 14:45	850	+	772	=	1622	46	90	No
15:15 - 16:15	821	+	796	=	1617	58	113	No
14:45 - 15:45	850	+	764	=	1614	59	97	No
15:45 - 16:45	803	+	805	=	1608	56	130	No
16:15 - 17:15	799	+	806	=	1605	71	126	No
14:30 - 15:30	857	+	743	=	1600	51	103	No
17:30 - 18:30	867	+	731	=	1598	38	74	No
11:30 - 12:30	807	+	788	=	1595	52	123	No
14:00 - 15:00	849	+	745	=	1594	46	96	No
16:00 - 17:00	782	+	786	=	1568	60	129	No
12:30 - 13:30	813	+	748	=	1561	60	107	No
13:00 - 14:00	813	+	741	=	1554	47	92	No
12:45 - 13:45	806	+	740	=	1546	56	104	No
11:15 - 12:15	779		763		1542	53	118	No

ANOKA COUNTY HIGHWAY

PC - WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2419

Study Date : 07/16/2024

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

8 one hour periods meet minimums.
Warrant IS met.

Site Data Required

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

Volume Requirements

Veh/Hr Major = **900**

Veh/Hr Minor = **75**

Time	Major Road				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
14:15 - 15:15	873	+	778	=	1651	53	88	Yes
12:15 - 13:15	850	+	788	=	1638	59	113	Yes
15:15 - 16:15	821	+	796	=	1617	58	113	Yes
16:15 - 17:15	799	+	806	=	1605	71	126	Yes
11:15 - 12:15	779	+	763	=	1542	53	118	Yes
13:15 - 14:15	791	+	728	=	1519	43	93	Yes
10:15 - 11:15	731	+	734	=	1465	38	75	Yes
08:00 - 09:00	560	+	580	=	1140	36	78	Yes
17:15 - 18:15	870	+	787	=	1657	42	72	No
17:30 - 18:30	867	+	731	=	1598	38	74	No
17:45 - 18:45	840	+	689	=	1529	36	74	No
18:00 - 19:00	789	+	643	=	1432	35	71	No
10:00 - 11:00	676	+	688	=	1364	32	64	No
18:15 - 19:15	747	+	596	=	1343	35	64	No
09:45 - 10:45	682	+	647	=	1329	34	68	No
09:30 - 10:30	659	+	636	=	1295	38	67	No
18:30 - 19:30	709	+	585	=	1294	32	58	No
09:00 - 10:00	630	+	630	=	1260	45	74	No
07:15 - 08:15	616	+	641	=	1257	42	65	No
09:15 - 10:15	634	+	622	=	1256	39	66	No
07:30 - 08:30	599	+	646	=	1245	42	65	No
18:45 - 19:45	659	+	568	=	1227	27	53	No
07:00 - 08:00	579	+	644	=	1223	37	67	No
07:45 - 08:45	580	+	625	=	1205	41	70	No
19:00 - 20:00	628		533		1161	29	49	No

ANOKA COUNTY HIGHWAY

PC - WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2419

Study Date : 07/16/2024

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 2 hours meet 1A minimums.
12 hours meet 1B minimums.
Warrant is NOT met.

Site Data Required

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

Volume Requirements

Warrant 1A 1B
Veh/Hr Major = **480 720**

Veh/Hr Minor = **120 60**

Major Road CSAH 14

Minor Road 4th Ave

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1A?
15:45 - 16:45	803	+	805	=	1608	56	130	Yes
11:30 - 12:30	807	+	788	=	1595	52	123	Yes
17:00 - 18:00	867	+	813	=	1680	57	75	No
15:00 - 16:00	853	+	815	=	1668	64	100	No
17:15 - 18:15	870	+	787	=	1657	42	72	No
14:15 - 15:15	873	+	778	=	1651	53	88	No
16:45 - 17:45	839	+	806	=	1645	68	85	No
15:30 - 16:30	819	+	813	=	1632	56	101	No
13:30 - 14:30	846	+	777	=	1623	47	91	No
13:45 - 14:45	850	+	772	=	1622	46	90	No
15:15 - 16:15	821	+	796	=	1617	58	113	No
14:45 - 15:45	850	+	764	=	1614	59	97	No

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?
15:30 - 16:30	819	+	813	=	1632	56	101	Yes
16:30 - 17:30	812	+	819	=	1631	72	119	Yes
13:30 - 14:30	846	+	777	=	1623	47	91	Yes
14:30 - 15:30	857	+	743	=	1600	51	103	Yes
17:30 - 18:30	867	+	731	=	1598	38	74	Yes
11:30 - 12:30	807	+	788	=	1595	52	123	Yes
12:30 - 13:30	813	+	748	=	1561	60	107	Yes
10:30 - 11:30	731	+	761	=	1492	43	84	Yes
09:30 - 10:30	659	+	636	=	1295	38	67	Yes
07:30 - 08:30	599	+	646	=	1245	42	65	Yes
08:30 - 09:30	582	+	582	=	1164	45	77	Yes
06:30 - 07:30	513	+	591	=	1104	16	61	Yes

ANOKA COUNTY HIGHWAY

PC - WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2419

Study Date : 07/16/2024

Warrant 2 - Four Hour Volumes

Description

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

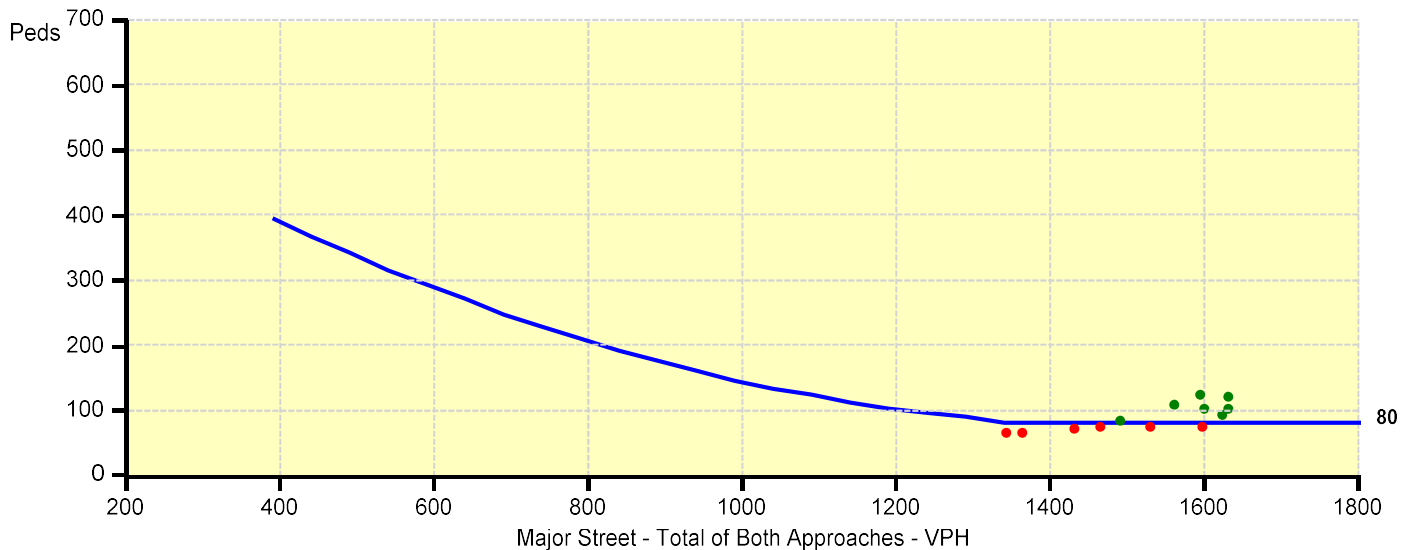
Summary

7 one hour periods meet minimums.
Warrant IS met.

Site Data Required

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

Time	Major Road CSAH 14					Minor Road 4th Ave		Met?
	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	
15:30 - 16:30	819	+	813	=	1632	56	101	Yes
16:30 - 17:30	812	+	819	=	1631	72	119	Yes
13:30 - 14:30	846	+	777	=	1623	47	91	Yes
14:30 - 15:30	857	+	743	=	1600	51	103	Yes
11:30 - 12:30	807	+	788	=	1595	52	123	Yes
12:30 - 13:30	813	+	748	=	1561	60	107	Yes
10:30 - 11:30	731	+	761	=	1492	43	84	Yes
17:30 - 18:30	867	+	731	=	1598	38	74	No
17:45 - 18:45	840	+	689	=	1529	36	74	No
10:15 - 11:15	731	+	734	=	1465	38	75	No
18:00 - 19:00	789	+	643	=	1432	35	71	No
10:00 - 11:00	676	+	688	=	1364	32	64	No



ANOKA COUNTY HIGHWAY

PC - WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2419

Study Date : 07/16/2024

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

7 one hour periods meet minimums.
Warrant IS met.

Site Data Required

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

Time	Major Road CSAH 14				Total	Minor Road 4th Ave		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
11:45 - 12:45	847	+	797	=	1644	56	121	Yes
16:30 - 17:30	812	+	819	=	1631	72	119	Yes
12:00 - 13:00	842	+	787	=	1629	59	121	Yes
15:45 - 16:45	803	+	805	=	1608	56	130	Yes
16:15 - 17:15	799	+	806	=	1605	71	126	Yes
11:30 - 12:30	807	+	788	=	1595	52	123	Yes
16:00 - 17:00	782	+	786	=	1568	60	129	Yes
17:00 - 18:00	867	+	813	=	1680	57	75	No
15:00 - 16:00	853	+	815	=	1668	64	100	No
17:15 - 18:15	870	+	787	=	1657	42	72	No
14:15 - 15:15	873	+	778	=	1651	53	88	No
16:45 - 17:45	839	+	806	=	1645	68	85	No

