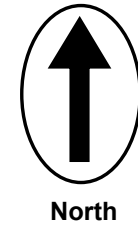


Date: 01/30/24

Count Number: TMC 2444

Location: CSAH 14
@ 21st Ave

Collection Period: 24 HR



3086

#2

21st Ave

1660			
E	F	G	H
218	70	1372	0

1426

CSAH 14

I	1001	8640
J	6574	
K	1015	
L	50	

#3

17577

8937

7332

14545

#1

7213	172	D
	357	C
	6270	B
	414	A

CSAH 14

P	O	Z	M
0	368	68	1245
1681			

#4

3180

21st Ave

1499

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

Anoka County
 Highway Department
 Traffic Volume and Turning
 Movement Study

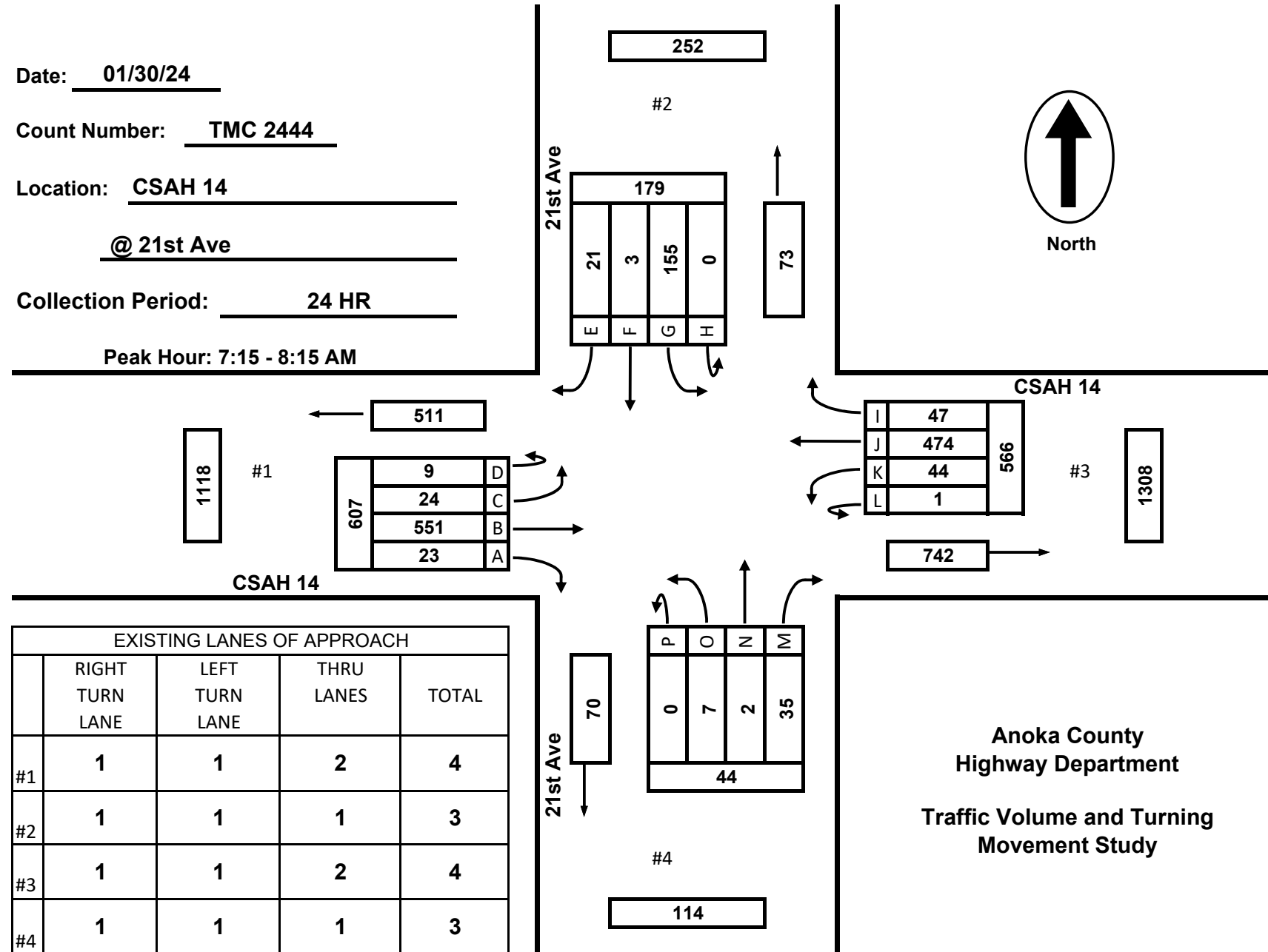
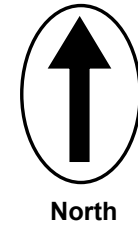
Date: 01/30/24

Count Number: TMC 2444

Location: CSAH 14
@ 21st Ave

Collection Period: 24 HR

Peak Hour: 7:15 - 8:15 AM



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

Anoka County
 Highway Department
 Traffic Volume and Turning
 Movement Study

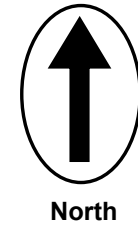
Date: 01/30/24

Count Number: TMC 2444

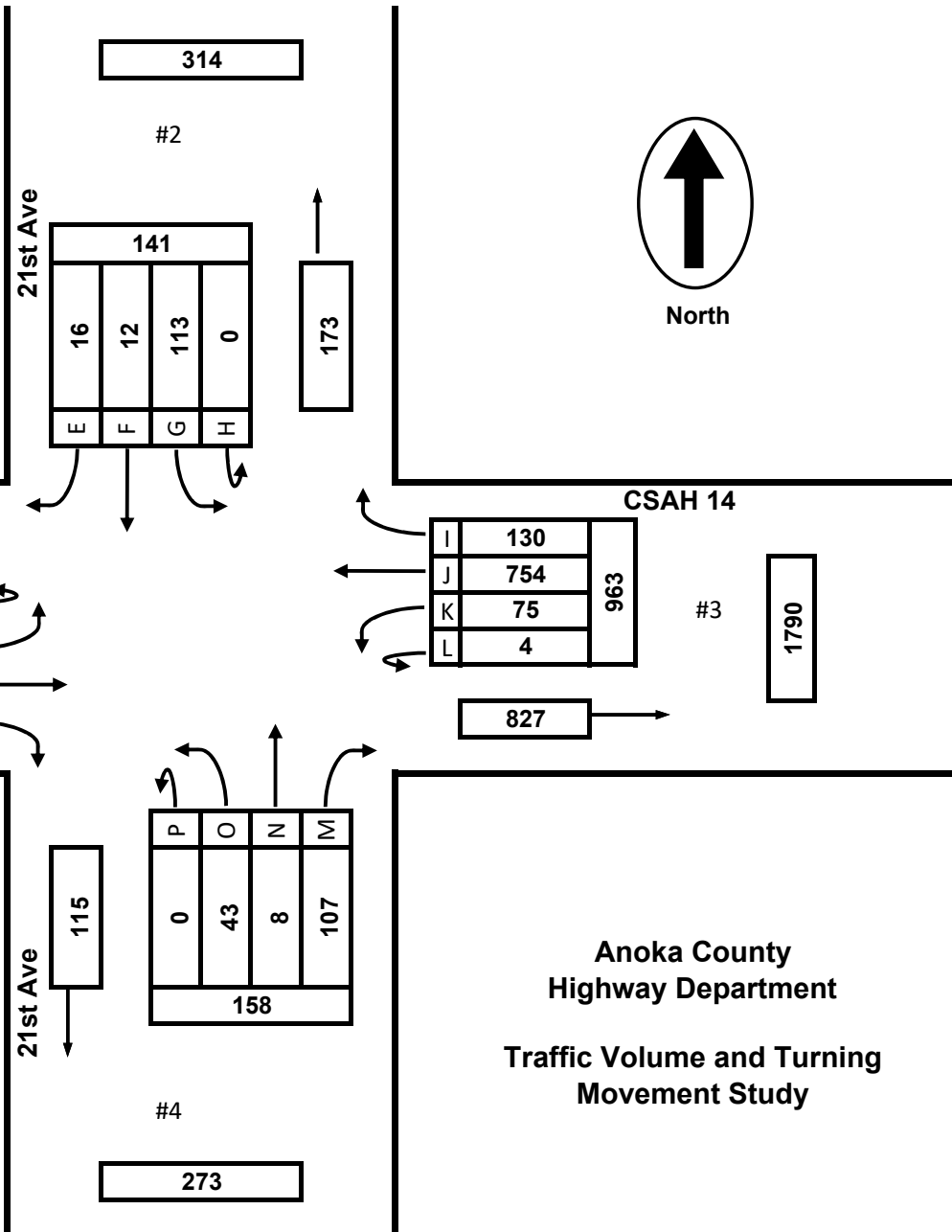
Location: CSAH 14
@ 21st Ave

Collection Period: 24 HR

Peak Hour: 4:15 - 5:15 PM



North



CSAH 14

CSAH 14

EXISTING LANES OF APPROACH

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

Anoka County
 Highway Department
 Traffic Volume and Turning
 Movement Study

TMC 2444 - CSAH 14 @ 21st Ave
Centerville MN
Tuesday, January 30, 2024

Time	Southbound 21st Ave						Westbound CSAH 14						Northbound 21st 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	0	0	0	0	0	0	2	6	1	0	9	0	0	0	0	0	0	0	1	3	1	0	5	14
12:15 AM	0	3	0	0	0	3	0	3	5	2	0	10	0	0	0	0	0	0	0	0	2	0	0	2	15
12:30 AM	0	0	1	1	0	2	0	8	5	5	0	18	0	0	0	1	0	1	0	2	1	5	0	8	29
12:45 AM	0	0	2	0	0	2	0	13	2	0	0	15	0	0	0	2	0	2	0	2	0	3	0	5	24
Hourly Total	0	3	3	1	0	7	0	26	18	8	0	52	0	0	0	3	0	3	0	5	6	9	0	20	82
1:00 AM	0	1	3	0	0	4	0	15	2	3	0	20	0	1	0	1	0	2	0	0	1	2	0	3	29
1:15 AM	0	3	0	0	0	3	0	5	5	0	0	10	0	1	0	1	0	2	0	0	4	4	0	8	23
1:30 AM	0	0	0	0	0	0	0	3	2	1	0	6	0	0	0	3	0	3	0	0	3	1	0	4	13
1:45 AM	0	0	0	0	0	0	0	2	4	1	0	7	0	1	0	2	0	3	0	0	1	0	0	1	11
Hourly Total	0	4	3	0	0	7	0	25	13	5	0	43	0	3	0	7	0	10	0	0	9	7	0	16	76
2:00 AM	0	1	0	1	0	2	0	0	4	0	0	4	0	0	1	3	0	4	1	0	2	1	0	4	14
2:15 AM	0	1	0	0	0	1	0	4	4	1	0	9	0	0	0	3	0	3	0	0	5	1	0	6	19
2:30 AM	0	0	0	0	0	0	1	2	2	0	0	5	0	1	0	2	0	3	0	0	1	1	0	2	10
2:45 AM	0	0	0	0	0	0	0	6	1	0	0	7	0	0	0	1	0	1	2	0	2	1	0	5	13
Hourly Total	0	2	0	1	0	3	1	12	11	1	0	25	0	1	1	9	0	11	3	0	10	4	0	17	56
3:00 AM	0	2	0	0	0	2	0	2	5	1	0	8	0	0	0	0	0	0	1	0	1	0	0	2	12
3:15 AM	0	1	0	0	0	1	0	1	3	1	0	5	0	0	0	4	0	4	1	0	6	0	0	7	17
3:30 AM	0	1	0	0	0	1	0	1	8	1	0	10	0	0	0	1	0	1	0	0	3	0	0	3	15
3:45 AM	0	2	0	0	0	2	0	2	3	0	0	5	0	1	0	1	0	2	0	1	5	2	0	8	17
Hourly Total	0	6	0	0	0	6	0	6	19	3	0	28	0	1	0	6	0	7	2	1	15	2	0	20	61
4:00 AM	0	2	1	0	0	3	0	0	6	0	0	6	0	0	0	0	0	0	1	0	11	1	0	13	22
4:15 AM	0	2	0	0	0	2	0	0	14	0	0	14	0	0	0	0	0	0	0	0	17	0	0	17	33
4:30 AM	0	2	0	1	0	3	0	1	18	1	0	20	0	2	0	0	0	2	1	1	24	0	0	26	51
4:45 AM	0	6	0	1	0	7	0	2	18	0	0	20	0	0	0	2	0	2	1	0	24	2	0	27	56
Hourly Total	0	12	1	2	0	15	0	3	56	1	0	60	0	2	0	2	0	4	3	1	76	3	0	83	162
5:00 AM	0	8	0	0	0	8	0	7	22	3	0	32	0	0	0	2	0	2	0	1	29	1	0	31	73
5:15 AM	0	11	0	1	0	12	0	6	34	1	0	41	0	3	0	2	0	5	1	1	33	1	0	36	94
5:30 AM	0	20	0	3	0	23	0	8	40	1	0	49	0	1	0	6	0	7	1	3	46	7	0	57	136
5:45 AM	0	11	0	1	0	12	0	12	49	13	0	74	0	2	0	4	0	6	0	2	57	4	0	63	155
Hourly Total	0	50	0	5	0	55	0	33	145	18	0	196	0	6	0	14	0	20	2	7	165	13	0	187	458
6:00 AM	0	18	2	0	0	20	0	15	47	4	0	66	0	1	1	11	0	13	3	3	55	9	0	70	169
6:15 AM	0	28	1	2	0	31	0	43	65	6	0	114	0	2	0	10	0	12	4	0	87	10	0	101	258
6:30 AM	0	26	2	5	0	33	1	15	66	4	0	86	0	3	0	11	0	14	0	1	100	7	0	108	241
6:45 AM	0	23	0	2	0	25	0	12	84	13	0	109	0	4	1	10	0	15	3	8	150	7	0	168	317
Hourly Total	0	95	5	9	0	109	1	85	262	27	0	375	0	10	2	42	0	54	10	12	392	33	0	447	985
7:00 AM	0	32	0	4	0	36	2	12	81	8	0	103	0	3	0	5	0	8	4	2	126	8	0	140	287
7:15 AM	0	40	1	8	0	49	0	9	121	9	0	139	0	2	0	8	0	10	1	8	143	6	0	158	356
7:30 AM	0	44	0	5	0	49	0	10	130	6	0	146	0	2	0	7	0	9	1	7	158	4	0	170	374
7:45 AM	0	31	1	7	0	39	1	12	135	17	0	165	0	2	0	5	0	7	5	3	142	5	0	155	366
Hourly Total	0	147	2	24	0	173	3	43	467	40	0	553	0	9	0	25	0	34	11	20	569	23	0	623	1383

**TMC 2444 - CSAH 14 @ 21st Ave
Centerville MN
Tuesday, January 30, 2024**

Time	Southbound 21st Ave						Westbound CSAH 14						Northbound 21st 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	40	1	1	0	42	0	13	88	15	0	116	0	1	2	15	0	18	2	6	108	8	0	124	300
8:15 AM	0	24	0	2	1	26	0	7	98	12	0	117	0	6	0	3	0	9	2	5	98	3	0	108	260
8:30 AM	0	24	2	4	0	30	0	15	92	10	0	117	0	7	2	18	0	27	3	4	108	7	0	122	296
8:45 AM	0	18	2	0	0	20	2	16	92	12	0	122	0	3	2	10	0	15	2	3	102	6	0	113	270
Hourly Total	0	106	5	7	1	118	2	51	370	49	0	472	0	17	6	46	0	69	9	18	416	24	0	467	1126
9:00 AM	0	19	0	9	0	28	1	29	76	14	0	120	0	5	0	12	0	17	4	7	93	3	0	107	272
9:15 AM	0	17	2	2	0	21	1	31	80	9	0	121	0	3	1	18	0	22	4	8	84	14	0	110	274
9:30 AM	0	16	1	6	0	23	1	21	61	9	0	92	0	3	1	11	0	15	1	4	86	8	0	99	229
9:45 AM	0	20	0	2	0	22	1	22	53	6	0	82	0	3	2	11	0	16	2	4	74	7	0	87	207
Hourly Total	0	72	3	19	0	94	4	103	270	38	0	415	0	14	4	52	0	70	11	23	337	32	0	403	982
10:00 AM	0	21	4	4	0	29	1	21	77	5	0	104	0	8	0	26	0	34	1	9	76	4	0	90	257
10:15 AM	0	16	0	6	0	22	3	17	88	8	0	116	0	19	1	18	0	38	4	6	74	6	0	90	266
10:30 AM	0	20	2	4	0	26	1	22	68	12	0	103	0	11	1	38	0	50	3	4	78	5	0	90	269
10:45 AM	0	23	0	6	0	29	1	20	61	12	0	94	0	6	3	23	0	32	2	5	70	3	0	80	235
Hourly Total	0	80	6	20	0	106	6	80	294	37	0	417	0	44	5	105	0	154	10	24	298	18	0	350	1027
11:00 AM	0	21	0	3	0	24	0	13	76	7	0	96	0	19	0	32	0	51	3	7	85	6	0	101	272
11:15 AM	0	20	2	4	0	26	1	9	82	20	0	112	0	8	0	18	0	26	4	4	67	9	0	84	248
11:30 AM	0	21	0	3	0	24	1	11	78	8	0	98	0	13	0	44	0	57	2	8	66	7	0	83	262
11:45 AM	0	21	2	2	1	25	0	16	74	10	0	100	0	13	3	52	1	68	3	11	104	7	1	125	318
Hourly Total	0	83	4	12	1	99	2	49	310	45	0	406	0	53	3	146	1	202	12	30	322	29	1	393	1100
12:00 PM	0	28	1	5	0	34	2	9	91	18	0	120	0	11	3	37	0	51	6	5	91	6	0	108	313
12:15 PM	0	31	2	2	0	35	1	10	109	13	0	133	0	5	0	23	0	28	4	3	77	6	0	90	286
12:30 PM	0	19	1	1	0	21	1	19	91	12	0	123	0	10	1	14	0	25	3	6	74	9	0	92	261
12:45 PM	0	13	0	2	0	15	1	10	94	12	0	117	0	5	2	10	0	17	5	5	96	2	0	108	257
Hourly Total	0	91	4	10	0	105	5	48	385	55	0	493	0	31	6	84	0	121	18	19	338	23	0	398	1117
1:00 PM	0	22	0	4	0	26	1	10	78	17	0	106	0	3	1	12	0	16	2	5	97	4	0	108	256
1:15 PM	0	18	3	4	0	25	2	10	87	14	0	113	0	3	3	14	0	20	2	7	95	7	0	111	269
1:30 PM	0	20	0	1	0	21	0	16	94	12	0	122	0	4	2	16	1	22	1	11	85	6	0	103	268
1:45 PM	0	18	2	3	0	23	2	8	83	11	0	104	0	6	1	10	0	17	3	3	91	7	1	104	248
Hourly Total	0	78	5	12	0	95	5	44	342	54	0	445	0	16	7	52	1	75	8	26	368	24	1	426	1041
2:00 PM	0	11	1	3	0	15	1	12	93	10	0	116	0	7	0	25	0	32	1	10	87	5	0	103	266
2:15 PM	0	26	2	4	0	32	1	11	120	13	0	145	0	5	0	14	0	19	1	4	87	5	0	97	293
2:30 PM	0	19	0	4	0	23	0	7	125	17	0	149	0	3	1	19	0	23	1	5	110	5	0	121	316
2:45 PM	0	20	1	2	0	23	0	11	125	20	0	156	0	3	0	14	0	17	3	4	120	7	0	134	330
Hourly Total	0	76	4	13	0	93	2	41	463	60	0	566	0	18	1	72	0	91	6	23	404	22	0	455	1205
3:00 PM	0	11	1	5	0	17	1	8	129	23	0	161	0	10	2	41	1	53	3	10	125	10	1	148	379
3:15 PM	0	22	1	7	0	30	0	6	165	17	0	188	0	5	1	16	0	22	1	3	102	4	0	110	350
3:30 PM	0	28	1	4	0	33	3	4	193	23	0	223	0	5	3	22	0	30	1	8	127	3	0	139	425
3:45 PM	0	25	3	4	0	32	0	8	184	27	0	219	0	3	0	12	0	15	5	10	153	8	0	176	442
Hourly Total	0	86	6	20	0	112	4	26	671	90	0	791	0	23	6	91	1	120	10	31	507	25	1	573	1596

**TMC 2444 - CSAH 14 @ 21st Ave
Centerville MN**

Tuesday, January 30, 2024

Time	Southbound 21st Ave						Westbound CSAH 14						Northbound 21st 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	33	1	6	0	40	2	14	180	23	0	219	0	3	3	15	0	21	3	9	132	8	0	152	432
4:15 PM	0	24	3	6	0	33	2	26	204	35	0	267	0	14	4	14	0	32	4	9	149	5	0	167	499
4:30 PM	0	26	4	2	0	32	1	16	178	35	0	230	0	8	2	19	0	29	1	5	147	5	0	158	449
4:45 PM	0	34	3	3	0	40	0	22	193	24	0	239	0	8	0	21	0	29	1	11	145	11	0	168	476
Hourly Total	0	117	11	17	0	145	5	78	755	117	0	955	0	33	9	69	0	111	9	34	573	29	0	645	1856
5:00 PM	0	29	2	5	0	36	1	11	179	36	0	227	0	13	2	53	0	68	6	10	162	7	0	185	516
5:15 PM	0	36	1	5	0	42	1	23	160	33	0	217	0	2	0	23	0	25	2	6	130	5	0	143	427
5:30 PM	0	8	0	4	0	12	1	15	126	26	0	168	0	5	2	19	0	26	2	3	96	9	0	110	316
5:45 PM	0	28	1	3	0	32	0	20	138	18	0	176	0	2	1	17	0	20	3	4	106	6	1	119	347
Hourly Total	0	101	4	17	0	122	3	69	603	113	0	788	0	22	5	112	0	139	13	23	494	27	1	557	1606
6:00 PM	0	22	0	4	0	26	0	23	139	16	0	178	0	5	3	20	0	28	2	7	96	3	0	108	340
6:15 PM	0	20	1	3	0	24	0	17	131	21	0	169	0	3	1	19	0	23	1	4	102	6	0	113	329
6:30 PM	0	18	0	1	0	19	0	18	98	25	0	141	0	5	1	14	0	20	5	5	86	7	0	103	283
6:45 PM	0	11	0	2	0	13	0	12	72	12	0	96	0	3	0	17	0	20	1	3	73	7	0	84	213
Hourly Total	0	71	1	10	0	82	0	70	440	74	0	584	0	16	5	70	0	91	9	19	357	23	0	408	1165
7:00 PM	0	4	0	5	0	9	2	19	67	17	0	105	0	6	1	19	0	26	1	4	63	5	0	73	213
7:15 PM	0	6	0	4	0	10	0	15	64	12	0	91	0	3	0	25	0	28	2	5	53	3	0	63	192
7:30 PM	0	12	0	2	0	14	1	17	62	16	0	96	0	7	1	23	0	31	2	3	41	12	0	58	199
7:45 PM	0	5	0	2	0	7	0	20	43	18	0	81	0	5	1	28	0	34	1	1	42	3	0	47	169
Hourly Total	0	27	0	13	0	40	3	71	236	63	0	373	0	21	3	95	0	119	6	13	199	23	0	241	773
8:00 PM	0	7	0	1	0	8	0	14	56	5	0	75	0	3	3	25	0	31	0	2	46	3	0	51	165
8:15 PM	0	5	0	1	0	6	0	4	52	9	0	65	0	2	0	16	0	18	2	2	47	9	0	60	149
8:30 PM	0	6	2	0	0	8	0	7	47	13	0	67	0	6	1	16	0	23	3	3	34	2	0	42	140
8:45 PM	0	4	0	0	0	4	1	5	51	9	0	66	0	4	0	12	0	16	3	2	59	1	0	65	151
Hourly Total	0	22	2	2	0	26	1	30	206	36	0	273	0	15	4	69	0	88	8	9	186	15	0	218	605
9:00 PM	0	3	0	1	0	4	0	8	28	4	0	40	0	2	0	16	0	18	1	4	41	4	0	50	112
9:15 PM	0	6	0	0	0	6	1	2	36	5	0	44	0	3	0	15	0	18	2	2	33	0	0	37	105
9:30 PM	0	4	0	1	0	5	0	3	27	8	0	38	0	3	0	7	0	10	1	2	36	0	0	39	92
9:45 PM	0	5	0	1	0	6	2	1	28	7	0	38	0	2	0	9	0	11	1	3	27	2	0	33	88
Hourly Total	0	18	0	3	0	21	3	14	119	24	0	160	0	10	0	47	0	57	5	11	137	6	0	159	397
10:00 PM	0	5	0	1	0	6	0	1	21	10	0	32	0	3	0	6	0	9	0	2	14	0	0	16	63
10:15 PM	0	9	1	0	0	10	0	1	20	5	0	26	0	0	0	2	0	2	0	2	13	0	0	15	53
10:30 PM	0	4	0	0	0	4	0	2	19	5	0	26	0	0	0	6	0	6	2	0	16	0	0	18	54
10:45 PM	0	2	0	0	0	2	0	0	10	7	0	17	0	0	0	2	0	2	2	1	3	16	0	20	41
Hourly Total	0	20	1	1	0	22	0	4	70	27	0	101	0	3	0	16	0	19	3	7	59	0	0	69	211
11:00 PM	0	1	0	0	0	1	0	1	16	7	0	24	0	0	0	0	0	0	0	1	11	0	0	12	37
11:15 PM	0	1	0	0	0	1	0	2	9	6	0	17	0	0	0	0	0	0	1	0	6	0	0	7	25
11:30 PM	0	2	0	0	0	2	0	1	16	3	0	20	0	0	1	10	0	11	3	0	10	0	0	13	46
11:45 PM	0	1	0	0	0	1	0	0	8	0	0	8	0	0	0	1	0	1	0	0	6	0	0	6	16
Hourly Total	0	5	0	0	0	5	0	4	49	16	0	69	0	0	1	11	0	12	4	1	33	0	0	38	124
DAILY TOTAL	0	1372	70	218	2	1660	50	1015	6574	1001	0	8640	0	368	68	1245	3	1681	172	357	6270	414	4	7213	19194
Cars	0	1319	67	214	2	1600	50	928	6398	980	0	8356	0	347	67	1145	3	1559	171	346	6148	403	4	7068	18583
Heavy Vehicles	0	53	3	4	0	60	0	87	176	21	0	284	0	21	1	100	0	122	1	11	122	11	0	145	611
Heavy Vehicle %	0.00%	3.86%	4.29%	1.83%	0.00%	3.61%	0.00%	8.57%	2.68%	2.10%	0.00%	3.29%	0.00%	5.71%	1.47%	8.03%	0.00%	7.26%	0.58%	3.08%	1.95%	2.66%	0.00%	2.01%	3.18%

**TMC 2444 - CSAH 14 @ 21st Ave
Centerville MN**

Tuesday, January 30, 2024

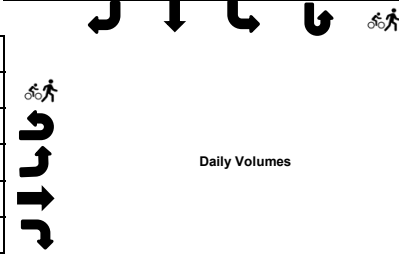
AM Peak Hour

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	
7:15 AM	0	40	1	8	0	49	0	9	121	9	0	139	0	2	0	8	0	10	1	8	143	6	0	158	
7:30 AM	0	44	0	5	0	49	0	10	130	6	0	146	0	2	0	7	0	9	1	7	158	4	0	170	
7:45 AM	0	31	1	7	0	39	1	12	135	17	0	165	0	2	0	5	0	7	5	3	142	5	0	155	
8:00 AM	0	40	1	1	0	42	0	13	88	15	0	116	0	1	2	15	0	18	2	6	108	8	0	124	
Peak Hour Total	0	155	3	21	0	179	1	44	474	47	0	566	0	7	2	35	0	44	9	24	551	23	0	607	
PHF	0.000	0.881	0.750	0.656	0.000	0.913	0.250	0.846	0.878	0.691	0.000	0.858	0.000	0.875	0.250	0.583	0.000	0.611	0.450	0.750	0.872	0.719	0.000	0.893	

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	0	24	3	6	0	33	2	26	204	35	0	267	0	14	4	14	0	32	4	9	149	5	0	167	
4:30 PM	0	26	4	2	0	32	1	16	178	35	0	230	0	8	2	19	0	29	1	5	147	5	0	158	
4:45 PM	0	34	3	3	0	40	0	22	193	24	0	239	0	8	0	21	0	29	1	11	145	11	0	168	
5:00 PM	0	29	2	5	0	36	1	11	179	36	0	227	0	13	2	53	0	68	6	10	162	7	0	185	
Peak Hour Total	0	113	12	16	0	141	4	75	754	130	0	963	0	43	8	107	0	158	12	35	603	28	0	678	
PHF	0.000	0.831	0.750	0.667	0.000	0.881	0.500	0.721	0.924	0.903	0.000	0.902	0.000	0.768	0.500	0.505	0.000	0.581	0.500	0.795	0.931	0.636	0.000	0.916	

Total Vehicles On Leg		3086	
Vehicles Entering Intersection	1660	Vehicles Exiting Intersection	1426
Southbound			
Cars	214	67	1319
Heavy	4	3	53
Total	218	70	1372



Total Vehicles on Leg 14545	Vehicles Entering Intersection 7213	Eastbound	Cars	Heavy	Total
			4	0	4
	171		1	172	
	346		11	357	
	6148		122	6270	
Vehicles Exiting Intersection 7332			403	11	414

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 8640	Total Vehicles on Leg 17577
980	21	1001			
6398	176	6574			
928	87	1015			
50	0	50			
0	0	0	Vehicles Exiting Intersection 8937		

Cars	3	0	347	67	1145
Heavy	0	0	21	1	100
Total	3	0	368	68	1245
Northbound					
Vehicles Entering Intersection 1681			Vehicles Exiting Intersection 1499		
Total Vehicles On Leg			3180		

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2444

Study Date : 02/06/2024

Signal Warrants - Summary

Major Street Approaches

Eastbound: CSAH 14

Number of Lanes : 2+

Total Approach Volume: 7,213

Westbound: CSAH 14

Number of Lanes : 2+

Total Approach Volume: 8,640

Minor Street Approaches

Northbound: 21st Ave

Number of Lanes : 1

Total Approach Volume: 1,681

Southbound: 21st Ave

Number of Lanes : 1

Total Approach Volume: 1,660

Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 12 hours, 8 are needed

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

Required volumes reached for 14 hours, 8 are needed

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

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

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

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

Number of hours (13) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

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

Number of one hour periods (36) 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 2444

Study Date : 02/06/2024

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

12 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 = **420**
 Veh/Hr Minor = **105**

Time	Major Road				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:15 - 17:15	678	+	963	=	1641	158	141	Yes
15:15 - 16:15	577	+	849	=	1426	88	135	Yes
17:15 - 18:15	480	+	739	=	1219	99	112	Yes
07:00 - 08:00	623	+	553	=	1176	34	173	Yes
14:15 - 15:15	500	+	611	=	1111	112	95	Yes
08:00 - 09:00	467	+	472	=	939	69	118	Yes
11:45 - 12:45	415	+	476	=	891	172	115	Yes
06:00 - 07:00	447	+	375	=	822	54	109	Yes
09:45 - 10:45	357	+	405	=	762	138	99	Yes
10:45 - 11:45	348	+	400	=	748	166	103	Yes
18:45 - 19:45	278	+	388	=	666	105	46	Yes
19:45 - 20:45	200	+	288	=	488	106	29	Yes
14:00 - 15:00	455	+	566	=	1021	91	93	No
13:45 - 14:45	425	+	514	=	939	91	93	No
13:30 - 14:30	407	+	487	=	894	90	91	No
12:45 - 13:45	430	+	458	=	888	75	87	No
18:15 - 19:15	373	+	511	=	884	89	65	No
13:15 - 14:15	421	+	455	=	876	91	84	No
13:00 - 14:00	426	+	445	=	871	75	95	No
09:00 - 10:00	403	+	415	=	818	70	94	No
09:15 - 10:15	386	+	399	=	785	87	95	No
09:30 - 10:30	366	+	394	=	760	103	96	No
18:30 - 19:30	323	+	433	=	756	94	51	No
05:45 - 06:45	342	+	340	=	682	45	96	No
05:30 - 06:30	291		303		594	38	86	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2444

Study Date : 02/06/2024

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

14 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 EB	+	Major WB	=		Minor NB	Minor SB	
15:45 - 16:45	653	+	935	=	1588	97	137	Yes
16:45 - 17:45	606	+	851	=	1457	148	130	Yes
14:45 - 15:45	531	+	728	=	1259	122	103	Yes
06:45 - 07:45	636	+	497	=	1133	42	159	Yes
17:45 - 18:45	443	+	664	=	1107	91	101	Yes
07:45 - 08:45	509	+	515	=	1024	61	137	Yes
13:45 - 14:45	425	+	514	=	939	91	93	Yes
11:45 - 12:45	415	+	476	=	891	172	115	Yes
12:45 - 13:45	430	+	458	=	888	75	87	Yes
08:45 - 09:45	429	+	455	=	884	69	92	Yes
09:45 - 10:45	357	+	405	=	762	138	99	Yes
10:45 - 11:45	348	+	400	=	748	166	103	Yes
05:45 - 06:45	342	+	340	=	682	45	96	Yes
18:45 - 19:45	278	+	388	=	666	105	46	Yes
05:30 - 06:30	291	+	303	=	594	38	86	No
20:00 - 21:00	218	+	273	=	491	88	26	No
19:45 - 20:45	200	+	288	=	488	106	29	No
05:15 - 06:15	226	+	230	=	456	31	67	No
20:15 - 21:15	217	+	238	=	455	75	22	No
20:30 - 21:30	194	+	217	=	411	75	22	No
05:00 - 06:00	187	+	196	=	383	20	55	No
20:45 - 21:45	191	+	188	=	379	62	19	No
21:00 - 22:00	159	+	160	=	319	57	21	No
04:45 - 05:45	151	+	142	=	293	16	50	No
21:15 - 22:15	125		152		277	48	23	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2444

Study Date : 02/06/2024

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

15 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 14

Minor Road 21st Ave

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1A?
16:30 - 17:30	654	+	913	=	1567	151	150	Yes
15:30 - 16:30	634	+	928	=	1562	98	138	Yes
14:30 - 15:30	513	+	654	=	1167	115	93	Yes
17:30 - 18:30	450	+	691	=	1141	97	94	Yes
07:30 - 08:30	557	+	544	=	1101	43	156	Yes
06:30 - 07:30	574	+	437	=	1011	47	143	Yes
08:30 - 09:30	452	+	480	=	932	81	99	Yes
13:30 - 14:30	407	+	487	=	894	90	91	Yes
12:30 - 13:30	419	+	459	=	878	78	87	Yes
11:30 - 12:30	406	+	451	=	857	204	118	Yes
10:30 - 11:30	355	+	405	=	760	159	105	Yes
09:30 - 10:30	366	+	394	=	760	103	96	Yes

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?
16:30 - 17:30	654	+	913	=	1567	151	150	Yes
15:30 - 16:30	634	+	928	=	1562	98	138	Yes
14:30 - 15:30	513	+	654	=	1167	115	93	Yes
17:30 - 18:30	450	+	691	=	1141	97	94	Yes
07:30 - 08:30	557	+	544	=	1101	43	156	Yes
06:30 - 07:30	574	+	437	=	1011	47	143	Yes
08:30 - 09:30	452	+	480	=	932	81	99	Yes
13:30 - 14:30	407	+	487	=	894	90	91	Yes
12:30 - 13:30	419	+	459	=	878	78	87	Yes
11:30 - 12:30	406	+	451	=	857	204	118	Yes
10:30 - 11:30	355	+	405	=	760	159	105	Yes
09:30 - 10:30	366	+	394	=	760	103	96	Yes

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2444

Study Date : 02/06/2024

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.

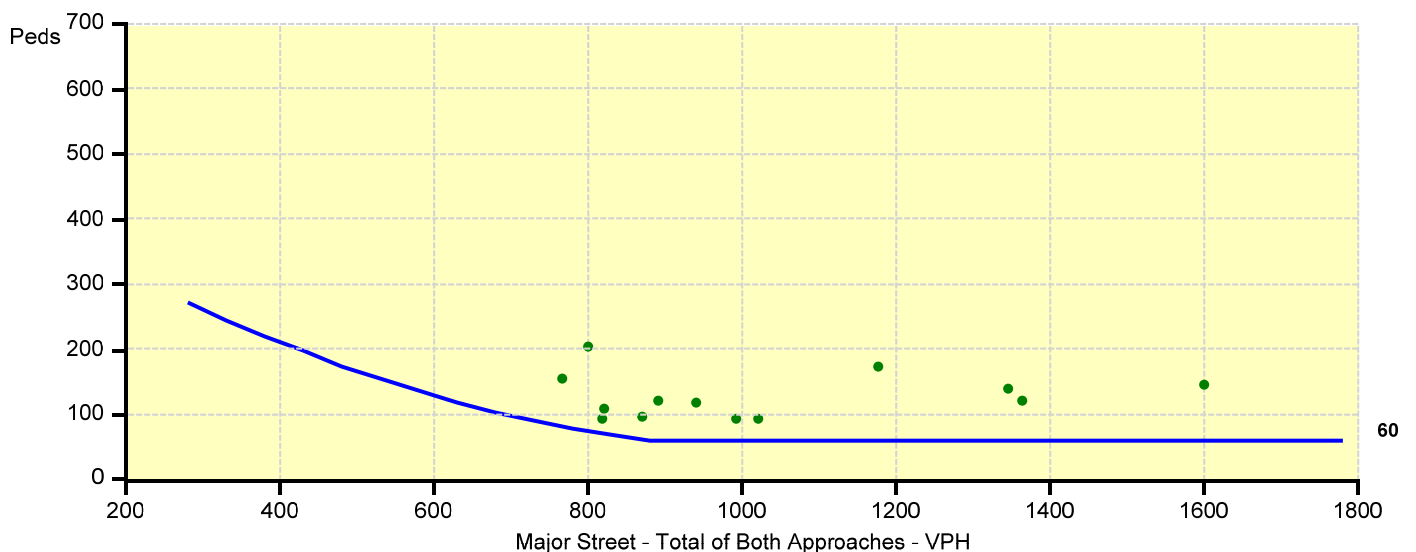
Summary

13 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 14					Minor Road 21st Ave		Met?
	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	
16:00 - 17:00	645	+	955	=	1600	111	145	Yes
15:00 - 16:00	573	+	791	=	1364	120	112	Yes
17:00 - 18:00	557	+	788	=	1345	139	122	Yes
07:00 - 08:00	623	+	553	=	1176	34	173	Yes
14:00 - 15:00	455	+	566	=	1021	91	93	Yes
18:00 - 19:00	408	+	584	=	992	91	82	Yes
08:00 - 09:00	467	+	472	=	939	69	118	Yes
12:00 - 13:00	398	+	493	=	891	121	105	Yes
13:00 - 14:00	426	+	445	=	871	75	95	Yes
06:00 - 07:00	447	+	375	=	822	54	109	Yes
09:00 - 10:00	403	+	415	=	818	70	94	Yes
11:00 - 12:00	393	+	406	=	799	202	99	Yes



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2444

Study Date : 02/06/2024

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

25 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 14				Total	Minor Road 21st Ave		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:15 - 17:15	678	+	963	=	1641	158	141	Yes
16:00 - 17:00	645	+	955	=	1600	111	145	Yes
15:45 - 16:45	653	+	935	=	1588	97	137	Yes
16:30 - 17:30	654	+	913	=	1567	151	150	Yes
15:30 - 16:30	634	+	928	=	1562	98	138	Yes
16:45 - 17:45	606	+	851	=	1457	148	130	Yes
15:15 - 16:15	577	+	849	=	1426	88	135	Yes
15:00 - 16:00	573	+	791	=	1364	120	112	Yes
17:00 - 18:00	557	+	788	=	1345	139	122	Yes
14:45 - 15:45	531	+	728	=	1259	122	103	Yes
17:15 - 18:15	480	+	739	=	1219	99	112	Yes
07:00 - 08:00	623		553		1176	34	173	Yes

