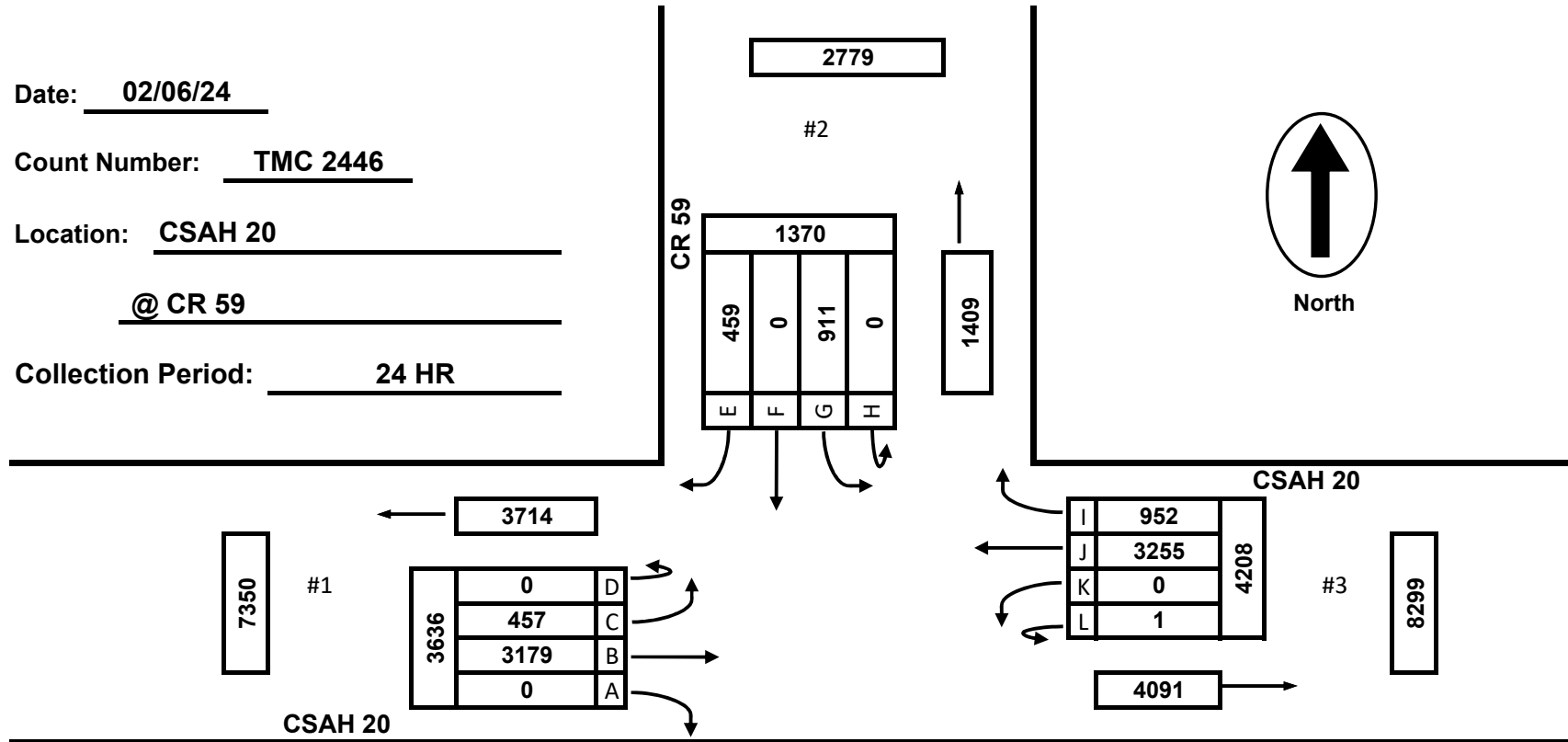


Date: 02/06/24

Count Number: TMC 2446

Location: CSAH 20  
@ CR 59

Collection Period: 24 HR



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

Anoka County  
 Highway Department  
 Traffic Volume and Turning  
 Movement Study

Date: 02/06/24

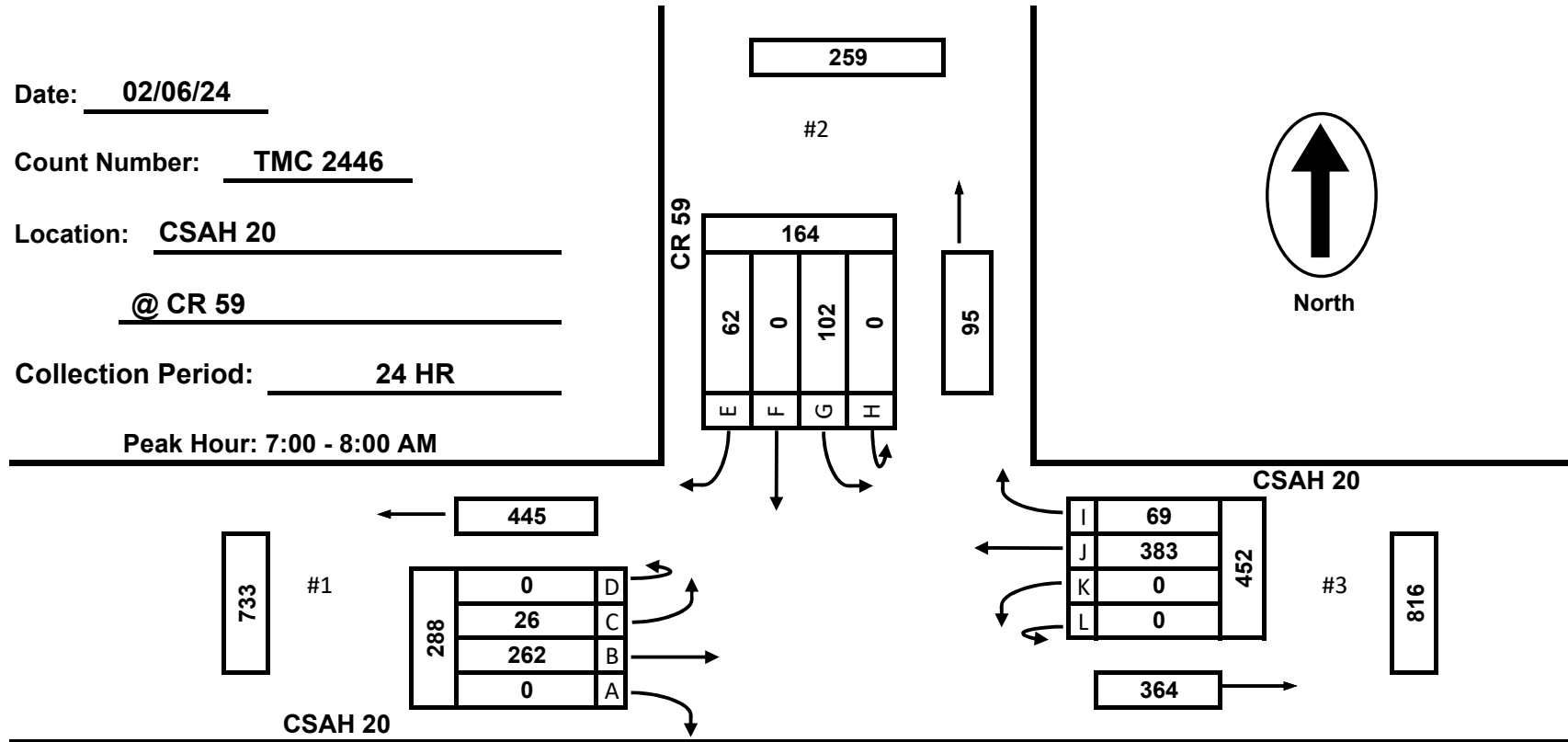
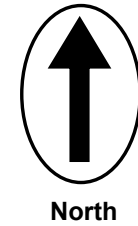
Count Number: TMC 2446

Location: CSAH 20

@ CR 59

Collection Period: 24 HR

Peak Hour: 7:00 - 8:00 AM



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

**Anoka County  
 Highway Department**  
**Traffic Volume and Turning  
 Movement Study**

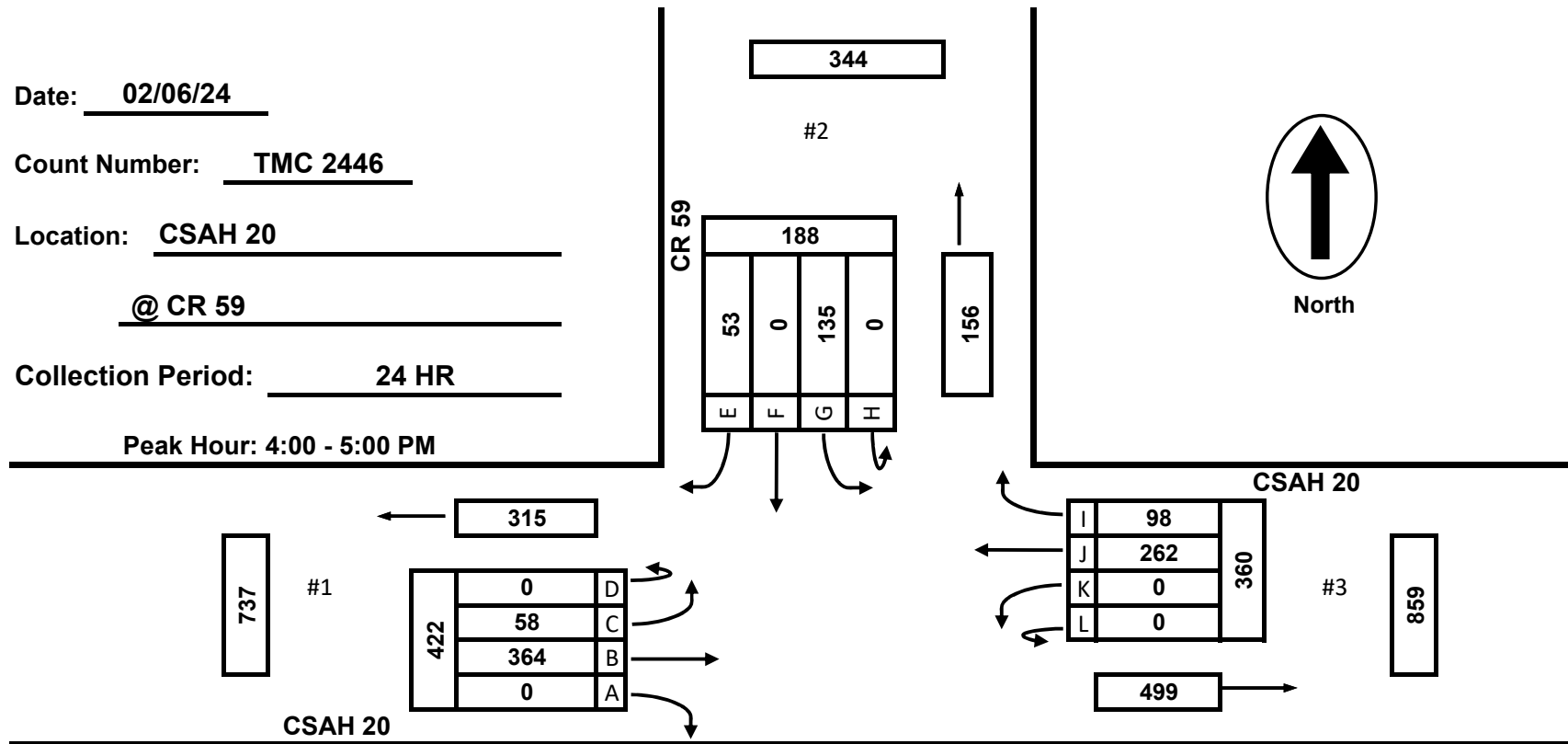
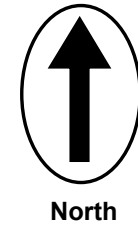
Date: 02/06/24

Count Number: TMC 2446

Location: CSAH 20  
@ CR 59

Collection Period: 24 HR

Peak Hour: 4:00 - 5:00 PM



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

Anoka County  
 Highway Department  
 Traffic Volume and Turning  
 Movement Study

TMC 2446 - CSAH 20 @ CR 59

Andover MN

Tuesday, February 6, 2024

Time	Southbound CR 59						Westbound CSAH 20						Northbound None						Eastbound CSAH 20						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	2	0	0	0	2	0	0	3	0	0	3	0	0	0	0	0	0	0	0	10	0	0	10	15
12:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	3
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
12:45 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	2	0	0	0	2	0	0	7	0	0	7	0	0	0	0	0	0	0	0	16	0	0	16	25
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	1	0	0	0	1	0	0	3	0	0	3	0	0	0	0	0	0	0	0	2	0	0	2	6
1:30 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
1:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	4	0	0	4	5
Hourly Total	0	1	0	0	0	1	0	0	7	0	0	7	0	0	0	0	0	0	0	0	6	0	0	6	14
2:00 AM	0	1	0	0	0	1	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2	0	0	2	5
2:15 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	1	0	0	2	4
2:30 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	3
2:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	1	0	0	0	1	0	0	7	0	0	7	0	0	0	0	0	0	0	1	4	0	0	5	13
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
3:15 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	1	2	0	0	3	6
3:30 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	1	0	0	1	7
3:45 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	1	0	0	1	5
Hourly Total	0	0	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	0	1	6	0	0	7	20
4:00 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	3	0	0	3	9
4:15 AM	0	3	0	4	0	7	0	0	9	0	0	9	0	0	0	0	0	0	0	0	1	0	0	1	17
4:30 AM	0	4	0	3	0	7	0	0	13	1	0	14	0	0	0	0	0	0	0	0	2	0	0	2	23
4:45 AM	0	3	0	0	0	3	0	0	11	0	0	11	0	0	0	0	0	0	0	0	3	0	0	3	17
Hourly Total	0	10	0	7	0	17	0	0	39	1	0	40	0	0	0	0	0	0	0	0	9	0	0	9	66
5:00 AM	0	5	0	1	0	6	0	0	19	1	0	20	0	0	0	0	0	0	0	0	9	0	0	9	35
5:15 AM	0	5	0	5	0	10	0	0	32	1	0	33	0	0	0	0	0	0	0	1	9	0	0	10	53
5:30 AM	0	3	0	3	0	6	0	0	32	2	0	34	0	0	0	0	0	0	0	0	20	0	0	20	60
5:45 AM	0	4	0	4	0	8	0	0	33	2	0	35	0	0	0	0	0	0	0	2	24	0	0	26	69
Hourly Total	0	17	0	13	0	30	0	0	116	6	0	122	0	0	0	0	0	0	0	3	62	0	0	65	217
6:00 AM	0	7	0	7	0	14	0	0	40	4	0	44	0	0	0	0	0	0	0	2	14	0	0	16	74
6:15 AM	0	9	0	7	0	16	0	0	65	3	0	68	0	0	0	0	0	0	0	0	21	0	0	21	105
6:30 AM	0	18	0	9	0	27	0	0	76	6	0	82	0	0	0	0	0	0	0	1	36	0	0	37	146
6:45 AM	0	19	0	10	0	29	0	0	79	11	0	90	0	0	0	0	0	0	0	3	54	0	0	57	176
Hourly Total	0	53	0	33	0	86	0	0	260	24	0	284	0	0	0	0	0	0	0	6	125	0	0	131	501
7:00 AM	0	25	0	20	0	45	0	0	89	6	0	95	0	0	0	0	0	0	0	3	44	0	0	47	187
7:15 AM	0	26	0	13	0	39	0	0	97	18	0	115	0	0	0	0	0	0	0	8	98	0	0	106	260
7:30 AM	0	30	0	17	0	47	0	0	124	26	0	150	0	0	0	0	0	0	0	7	62	0	0	69	266
7:45 AM	0	21	0	12	0	33	0	0	73	19	0	92	0	0	0	0	0	0	0	8	58	0	0	66	191
Hourly Total	0	102	0	62	0	164	0	0	383	69	0	452	0	0	0	0	0	0	0	26	262	0	0	288	904

TMC 2446 - CSAH 20 @ CR 59

Andover MN

Tuesday, February 6, 2024

Time	Southbound CR 59						Westbound CSAH 20						Northbound None						Eastbound CSAH 20						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	22	0	14	0	36	0	0	57	26	0	83	0	0	0	0	0	0	0	7	48	0	0	55	174
8:15 AM	0	24	0	18	0	42	0	0	53	36	0	89	0	0	0	0	0	0	0	10	36	0	0	46	177
8:30 AM	0	8	0	10	0	18	0	0	36	11	0	47	0	0	0	0	0	0	0	4	45	0	0	49	114
8:45 AM	0	10	0	10	0	20	0	0	55	14	0	69	0	0	0	0	0	0	0	7	42	0	0	49	138
Hourly Total	0	64	0	52	0	116	0	0	201	87	0	288	0	0	0	0	0	0	0	28	171	0	0	199	603
9:00 AM	0	16	0	9	0	25	0	0	49	54	0	103	0	0	0	0	0	0	0	12	21	0	0	33	161
9:15 AM	0	55	0	24	0	79	0	0	44	25	0	69	0	0	0	0	0	0	0	4	30	0	0	34	182
9:30 AM	0	10	0	9	0	19	0	0	39	11	0	50	0	0	0	0	0	0	0	6	31	0	0	37	106
9:45 AM	0	15	0	5	0	20	0	0	40	10	0	50	0	0	0	0	0	0	0	3	45	0	0	48	118
Hourly Total	0	96	0	47	0	143	0	0	172	100	0	272	0	0	0	0	0	0	0	25	127	0	0	152	567
10:00 AM	0	8	0	3	0	11	0	0	29	8	0	37	0	0	0	0	0	0	0	3	35	0	0	38	86
10:15 AM	0	6	0	9	0	15	0	0	33	4	0	37	0	0	0	0	0	0	0	7	29	0	0	36	88
10:30 AM	0	11	0	1	0	12	0	0	44	8	0	52	0	0	0	0	0	0	0	6	28	0	0	34	98
10:45 AM	0	6	0	3	0	9	1	0	38	7	0	46	0	0	0	0	0	0	0	3	36	0	0	39	94
Hourly Total	0	31	0	16	0	47	1	0	144	27	0	172	0	0	0	0	0	0	0	19	128	0	0	147	366
11:00 AM	0	4	0	7	0	11	0	0	45	5	0	50	0	0	0	0	0	0	0	1	52	0	0	53	114
11:15 AM	0	8	0	6	0	14	0	0	33	8	0	41	0	0	0	0	0	0	0	3	35	0	0	38	93
11:30 AM	0	16	0	5	0	21	0	0	37	12	0	49	0	0	0	0	0	0	0	3	34	0	0	37	107
11:45 AM	0	8	0	6	0	14	0	0	37	13	0	50	0	0	0	0	0	0	0	4	33	0	0	37	101
Hourly Total	0	36	0	24	0	60	0	0	152	38	0	190	0	0	0	0	0	0	0	11	154	0	0	165	415
12:00 PM	0	6	0	5	0	11	0	0	42	15	0	57	0	0	0	0	0	0	0	3	35	0	0	38	106
12:15 PM	0	5	0	6	0	11	0	0	40	9	0	49	0	0	0	0	0	0	0	2	33	0	0	35	95
12:30 PM	0	8	0	3	0	11	0	0	36	10	0	46	0	0	0	0	0	0	0	9	49	0	0	58	115
12:45 PM	0	14	0	3	0	17	0	0	30	12	0	42	0	0	0	0	0	0	0	5	48	0	0	53	112
Hourly Total	0	33	0	17	0	50	0	0	148	46	0	194	0	0	0	0	0	0	0	19	165	0	0	184	428
1:00 PM	0	11	0	5	0	16	0	0	40	5	0	45	0	0	0	0	0	0	0	5	31	0	0	36	97
1:15 PM	0	8	0	3	0	11	0	0	52	17	0	69	0	0	0	0	0	0	0	9	41	0	0	50	130
1:30 PM	0	11	0	3	0	14	0	0	31	6	0	37	0	0	0	0	0	0	0	2	37	0	0	39	90
1:45 PM	0	5	0	3	0	8	0	0	38	5	0	43	0	0	0	0	0	0	0	6	47	0	0	53	104
Hourly Total	0	35	0	14	0	49	0	0	161	33	0	194	0	0	0	0	0	0	0	22	156	0	0	178	421
2:00 PM	0	9	0	6	0	15	0	0	44	9	0	53	0	0	0	0	0	0	0	6	46	0	0	52	120
2:15 PM	0	13	0	9	0	22	0	0	48	15	0	63	0	0	0	0	0	0	0	11	70	0	0	81	166
2:30 PM	0	4	0	6	0	10	0	0	66	14	0	80	0	0	0	0	0	0	0	7	72	0	0	79	169
2:45 PM	0	12	0	5	0	17	0	0	50	14	0	64	0	0	0	0	0	0	0	8	60	0	0	68	149
Hourly Total	0	38	0	26	0	64	0	0	208	52	0	260	0	0	0	0	0	0	0	32	248	0	0	280	604
3:00 PM	0	21	0	4	0	25	0	0	61	19	0	80	0	0	0	0	0	0	0	5	60	0	0	65	170
3:15 PM	0	11	0	2	0	13	0	0	69	22	0	91	0	0	0	0	0	0	0	10	86	0	0	96	200
3:30 PM	0	9	0	8	0	17	0	0	51	35	0	86	0	0	0	0	0	0	0	17	70	0	1	87	190
3:45 PM	0	15	0	10	0	25	0	0	50	36	0	86	0	0	0	0	0	0	0	30	78	0	0	108	219
Hourly Total	0	56	0	24	0	80	0	0	231	112	0	343	0	0	0	0	0	0	0	62	294	0	1	356	779

TMC 2446 - CSAH 20 @ CR 59

Andover MN

Tuesday, February 6, 2024

Time	Southbound CR 59						Westbound CSAH 20						Northbound None						Eastbound CSAH 20						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	71	0	20	0	91	0	0	62	20	0	82	0	0	0	0	0	0	0	13	69	0	0	82	255
4:15 PM	0	26	0	14	0	40	0	0	73	23	0	96	0	0	0	0	0	0	0	15	102	0	0	117	253
4:30 PM	0	20	0	10	0	30	0	0	56	21	0	77	0	0	0	0	0	0	0	14	85	0	0	99	206
4:45 PM	0	18	0	9	0	27	0	0	71	34	0	105	0	0	0	0	0	0	0	16	108	0	0	124	256
Hourly Total	0	135	0	53	0	188	0	0	262	98	0	360	0	0	0	0	0	0	0	58	364	0	0	422	970
5:00 PM	0	18	0	8	0	26	0	0	77	19	0	96	0	0	0	0	0	0	0	21	82	0	0	103	225
5:15 PM	0	10	0	10	0	20	0	0	58	21	0	79	0	0	0	0	0	0	0	14	63	0	0	77	176
5:30 PM	0	16	0	7	0	23	0	0	54	25	0	79	0	0	0	0	0	0	0	7	66	0	0	73	175
5:45 PM	0	16	0	8	0	24	0	0	46	19	0	65	0	0	0	0	0	0	0	12	59	0	0	71	160
Hourly Total	0	60	0	33	0	93	0	0	235	84	0	319	0	0	0	0	0	0	0	54	270	0	0	324	736
6:00 PM	0	18	0	10	0	28	0	0	43	14	0	57	0	0	0	0	0	0	0	14	65	0	0	79	164
6:15 PM	0	13	0	2	0	15	0	0	52	17	0	69	0	0	0	0	0	0	0	13	87	0	0	100	184
6:30 PM	0	8	0	4	0	12	0	0	33	8	0	41	0	0	0	0	0	0	0	3	44	0	0	47	100
6:45 PM	0	6	0	3	0	9	0	0	34	11	0	45	0	0	0	0	0	0	0	10	46	0	0	56	110
Hourly Total	0	45	0	19	0	64	0	0	162	50	0	212	0	0	0	0	0	0	0	40	242	0	0	282	558
7:00 PM	0	6	0	2	0	8	0	0	23	10	0	33	0	0	0	0	0	0	0	7	39	0	0	46	87
7:15 PM	0	8	0	6	0	14	0	0	29	16	0	45	0	0	0	0	0	0	0	4	39	0	0	43	102
7:30 PM	0	18	0	4	0	22	0	0	43	5	0	48	0	0	0	0	0	0	0	1	28	0	0	29	99
7:45 PM	0	4	0	1	0	5	0	0	21	9	0	30	0	0	0	0	0	0	0	2	34	0	0	36	71
Hourly Total	0	36	0	13	0	49	0	0	116	40	0	156	0	0	0	0	0	0	0	14	140	0	0	154	359
8:00 PM	0	4	0	0	0	4	0	0	43	9	0	52	0	0	0	0	0	0	0	5	39	0	0	44	100
8:15 PM	0	6	0	2	0	8	0	0	39	26	0	65	0	0	0	0	0	0	0	6	19	0	0	25	98
8:30 PM	0	15	0	1	0	16	0	0	19	6	0	25	0	0	0	0	0	0	0	0	22	0	0	22	63
8:45 PM	0	3	0	0	0	3	0	0	22	5	0	27	0	0	0	0	0	0	0	5	31	0	0	36	66
Hourly Total	0	28	0	3	0	31	0	0	123	46	0	169	0	0	0	0	0	0	0	16	111	0	0	127	327
9:00 PM	0	3	0	0	0	3	0	0	32	5	0	37	0	0	0	0	0	0	0	5	16	0	0	21	61
9:15 PM	0	2	0	1	0	3	0	0	16	13	0	29	0	0	0	0	0	0	0	2	15	0	0	17	49
9:30 PM	0	18	0	1	0	19	0	0	14	6	0	20	0	0	0	0	0	0	0	2	12	0	0	14	53
9:45 PM	0	3	0	0	0	3	0	0	7	1	0	8	0	0	0	0	0	0	0	2	17	0	0	19	30
Hourly Total	0	26	0	2	0	28	0	0	69	25	0	94	0	0	0	0	0	0	0	11	60	0	0	71	193
10:00 PM	0	2	0	0	0	2	0	0	6	4	0	10	0	0	0	0	0	0	0	2	12	0	0	14	26
10:15 PM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	15	0	0	15	21
10:30 PM	0	1	0	1	0	2	0	0	10	5	0	15	0	0	0	0	0	0	0	3	9	0	0	12	29
10:45 PM	0	1	0	0	0	1	0	0	5	1	0	6	0	0	0	0	0	0	0	2	4	0	0	6	13
Hourly Total	0	4	0	1	0	5	0	0	27	10	0	37	0	0	0	0	0	0	0	7	40	0	0	47	89
11:00 PM	0	1	0	0	0	1	0	0	3	1	0	4	0	0	0	0	0	0	0	1	2	0	0	3	8
11:15 PM	0	0	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	0	0	1	8	0	0	9	13
11:30 PM	0	1	0	0	0	1	0	0	2	1	0	3	0	0	0	0	0	0	0	0	3	0	0	3	7
11:45 PM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	6	0	0	6	11
Hourly Total	0	2	0	0	0	2	0	0	12	4	0	16	0	0	0	0	0	0	0	2	19	0	0	21	39
<b>DAILY TOTAL</b>	<b>0</b>	<b>911</b>	<b>0</b>	<b>459</b>	<b>0</b>	<b>1370</b>	<b>1</b>	<b>0</b>	<b>3255</b>	<b>952</b>	<b>0</b>	<b>4208</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>457</b>	<b>3179</b>	<b>0</b>	<b>1</b>	<b>3636</b>	<b>9214</b>
<b>Cars</b>	0	875	0	444	0	1319	1	0	3194	918	0	4113	0	0	0	0	0	0	0	446	3127	0	1	3573	9005
<b>Heavy Vehicles</b>	0	36	0	15	0	51	0	0	61	34	0	95	0	0	0	0	0	0	0	11	52	0	0	63	209
<b>Heavy Vehicle %</b>	0.00%	3.95%	0.00%	3.27%	0.00%	3.72%	0.00%	0.00%	1.87%	3.57%	0.00%	2.26%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.41%	1.64%	0.00%	0.00%	1.73%	2.27%

**TMC 2446 - CSAH 20 @ CR 59  
Andover MN**

**Tuesday, February 6, 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	
7:00 AM	0	25	0	20	0	45	0	0	89	6	0	95	0	0	0	0	0	0	0	3	44	0	0	47	187
7:15 AM	0	26	0	13	0	39	0	0	97	18	0	115	0	0	0	0	0	0	0	8	98	0	0	106	260
7:30 AM	0	30	0	17	0	47	0	0	124	26	0	150	0	0	0	0	0	0	0	7	62	0	0	69	266
7:45 AM	0	21	0	12	0	33	0	0	73	19	0	92	0	0	0	0	0	0	0	8	58	0	0	66	191
Peak Hour Total	0	102	0	62	0	164	0	0	383	69	0	452	0	0	0	0	0	0	0	26	262	0	0	288	904
PHF	0.000	0.850	0.000	0.775	0.000	0.872	0.000	0.000	0.772	0.663	0.000	0.753	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.813	0.668	0.000	0.000	0.679	0.850

**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	71	0	20	0	91	0	0	62	20	0	82	0	0	0	0	0	0	0	13	69	0	0	82	255
4:15 PM	0	26	0	14	0	40	0	0	73	23	0	96	0	0	0	0	0	0	0	15	102	0	0	117	253
4:30 PM	0	20	0	10	0	30	0	0	56	21	0	77	0	0	0	0	0	0	0	14	85	0	0	99	206
4:45 PM	0	18	0	9	0	27	0	0	71	34	0	105	0	0	0	0	0	0	0	16	108	0	0	124	256
Peak Hour Total	0	135	0	53	0	188	0	0	262	98	0	360	0	0	0	0	0	0	0	58	364	0	0	422	970
PHF	0.000	0.475	0.000	0.663	0.000	0.516	0.000	0.000	0.897	0.721	0.000	0.857	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.906	0.843	0.000	0.000	0.851	0.947

Total Vehicles On Leg		2779	
Vehicles Entering Intersection	1370	Vehicles Exiting Intersection	1409
<b>Southbound</b>			
Cars	444	0	875
Heavy	15	0	36
<b>Total</b>	<b>459</b>	<b>0</b>	<b>911</b>



Total Vehicles on Leg 7350	Vehicles Entering Intersection 3636	Eastbound	Cars	Heavy	Total	
			1	0	1	
	0		0	0		
	446		11	457		
	3127		52	3179		
Vehicles Exiting Intersection 3714	0	0	0			

Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 4208	Total Vehicles on Leg 8299
918	34	952			
3194	61	3255			
0	0	0			
1	0	1			
0	0	0	Vehicles Exiting Intersection 4091		

Cars	0	0	0	0	0
Heavy	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Northbound</b>					
Vehicles Entering Intersection	0		Vehicles Exiting Intersection	0	
Total Vehicles On Leg	0				





# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2446

Study Date : 02/14/2024

## Signal Warrants - Summary

### Major Street Approaches

Eastbound: CSAH 20

Number of Lanes : 1

Total Approach Volume: 3,636

Westbound: CSAH 20

Number of Lanes : 1

Total Approach Volume: 4,208

### Minor Street Approaches

Southbound: CR 59

Number of Lanes : 1

Total Approach Volume: 1,370

### Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 6 hours, 8 are needed

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

Required volumes reached for 6 hours, 8 are needed

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

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

Required 1B volumes reached for 8 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.....Satisfied

Number of one hour periods (12) 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 2446

Study Date : 02/14/2024

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

#### Site Data Required

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

#### Volume Requirements

Rural Factor of 70 % applied  
 Veh/Hr Major = **350**  
 Veh/Hr Minor = **105**

Time	Major Road				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
							None	
16:15 - 17:15	443	+	374	=	817	0	123	Yes
07:15 - 08:15	296	+	440	=	736	0	155	Yes
15:15 - 16:15	373	+	345	=	718	0	146	Yes
06:15 - 07:15	162	+	335	=	497	0	117	Yes
08:15 - 09:15	177	+	308	=	485	0	105	Yes
09:15 - 10:15	157	+	206	=	363	0	129	Yes
15:00 - 16:00	356	+	343	=	699	0	80	No
14:45 - 15:45	316	+	321	=	637	0	72	No
14:30 - 15:30	308	+	315	=	623	0	65	No
17:30 - 18:30	323	+	270	=	593	0	90	No
17:15 - 18:15	300	+	280	=	580	0	95	No
14:15 - 15:15	293	+	287	=	580	0	74	No
14:00 - 15:00	280	+	260	=	540	0	64	No
17:45 - 18:45	297	+	232	=	529	0	79	No
13:45 - 14:45	265	+	239	=	504	0	55	No
18:00 - 19:00	282	+	212	=	494	0	64	No
18:15 - 19:15	249	+	188	=	437	0	44	No
13:30 - 14:30	225	+	196	=	421	0	59	No
06:00 - 07:00	131	+	284	=	415	0	86	No
12:30 - 13:30	197	+	202	=	399	0	55	No
13:15 - 14:15	194	+	202	=	396	0	48	No
12:00 - 13:00	184	+	194	=	378	0	50	No
13:00 - 14:00	178	+	194	=	372	0	49	No
12:45 - 13:45	178	+	193	=	371	0	58	No
11:45 - 12:45	168		202		370	0	47	No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2446

Study Date : 02/14/2024

## 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

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

#### Site Data Required

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

#### Volume Requirements

Rural Factor of 70 % applied  
 Veh/Hr Major = **525**  
 Veh/Hr Minor = **52**

Time	Major Road				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:00 - 17:00	422	+	360	=	782	0	188	Yes
15:00 - 16:00	356	+	343	=	699	0	80	Yes
07:30 - 08:30	236	+	414	=	650	0	158	Yes
17:00 - 18:00	324	+	319	=	643	0	93	Yes
06:30 - 07:30	247	+	382	=	629	0	140	Yes
14:00 - 15:00	280	+	260	=	540	0	64	Yes
13:45 - 14:45	265	+	239	=	504	0	55	No
06:15 - 07:15	162	+	335	=	497	0	117	No
18:00 - 19:00	282	+	212	=	494	0	64	No
08:30 - 09:30	165	+	288	=	453	0	142	No
08:45 - 09:45	153	+	291	=	444	0	143	No
18:15 - 19:15	249	+	188	=	437	0	44	No
09:00 - 10:00	152	+	272	=	424	0	143	No
13:30 - 14:30	225	+	196	=	421	0	59	No
06:00 - 07:00	131	+	284	=	415	0	86	No
12:30 - 13:30	197	+	202	=	399	0	55	No
13:15 - 14:15	194	+	202	=	396	0	48	No
12:00 - 13:00	184	+	194	=	378	0	50	No
13:00 - 14:00	178	+	194	=	372	0	49	No
12:45 - 13:45	178	+	193	=	371	0	58	No
11:45 - 12:45	168	+	202	=	370	0	47	No
12:15 - 13:15	182	+	182	=	364	0	55	No
09:15 - 10:15	157	+	206	=	363	0	129	No
18:30 - 19:30	192	+	164	=	356	0	43	No
11:00 - 12:00	165		190		355	0	60	No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2446

Study Date : 02/14/2024

## 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 7 hours meet 1A minimums.  
8 hours meet 1B minimums.  
Warrant is NOT met.

#### Site Data Required

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

#### Volume Requirements

Rural Factor of 70% applied  
Warrant 1A 1B  
Veh/Hr Major = **280 420**

Veh/Hr Minor = **84 42**

#### Major Road CSAH 20

#### Minor Road None

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1A?
16:15 - 17:15	443	+	374	=	817	0	123	Yes
07:00 - 08:00	288	+	452	=	740	0	164	Yes
15:15 - 16:15	373	+	345	=	718	0	146	Yes
17:15 - 18:15	300	+	280	=	580	0	95	Yes
08:00 - 09:00	199	+	288	=	487	0	116	Yes
09:00 - 10:00	152	+	272	=	424	0	143	Yes
06:00 - 07:00	131	+	284	=	415	0	86	Yes
15:00 - 16:00	356	+	343	=	699	0	80	No
14:45 - 15:45	316	+	321	=	637	0	72	No
14:30 - 15:30	308	+	315	=	623	0	65	No
14:15 - 15:15	293	+	287	=	580	0	74	No
14:00 - 15:00	280	+	260	=	540	0	64	No

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?
16:30 - 17:30	403	+	357	=	760	0	103	Yes
15:30 - 16:30	394	+	350	=	744	0	173	Yes
07:15 - 08:15	296	+	440	=	736	0	155	Yes
14:30 - 15:30	308	+	315	=	623	0	65	Yes
17:30 - 18:30	323	+	270	=	593	0	90	Yes
06:15 - 07:15	162	+	335	=	497	0	117	Yes
08:15 - 09:15	177	+	308	=	485	0	105	Yes
13:30 - 14:30	225	+	196	=	421	0	59	Yes
06:00 - 07:00	131	+	284	=	415	0	86	No
12:30 - 13:30	197	+	202	=	399	0	55	No
13:15 - 14:15	194	+	202	=	396	0	48	No
12:00 - 13:00	184	+	194	=	378	0	50	No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2446

Study Date : 02/14/2024

## 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.

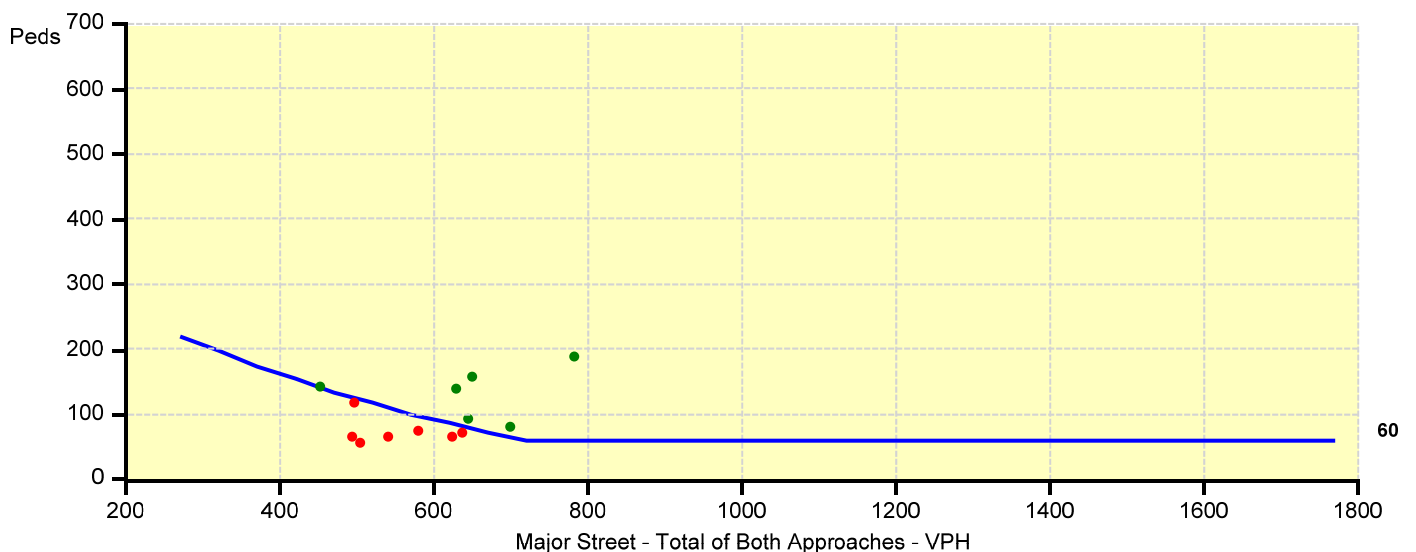
#### Summary

6 one hour periods meet minimums.  
Warrant IS met.

#### Site Data Required

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

Time	Major Road				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:00 - 17:00	422	+	360	=	782	0	188	Yes
15:00 - 16:00	356	+	343	=	699	0	80	Yes
07:30 - 08:30	236	+	414	=	650	0	158	Yes
17:00 - 18:00	324	+	319	=	643	0	93	Yes
06:30 - 07:30	247	+	382	=	629	0	140	Yes
08:30 - 09:30	165	+	288	=	453	0	142	Yes
14:45 - 15:45	316	+	321	=	637	0	72	No
14:30 - 15:30	308	+	315	=	623	0	65	No
14:15 - 15:15	293	+	287	=	580	0	74	No
14:00 - 15:00	280	+	260	=	540	0	64	No
13:45 - 14:45	265	+	239	=	504	0	55	No
06:15 - 07:15	162	+	335	=	497	0	117	No



# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2446

Study Date : 02/14/2024

## 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.

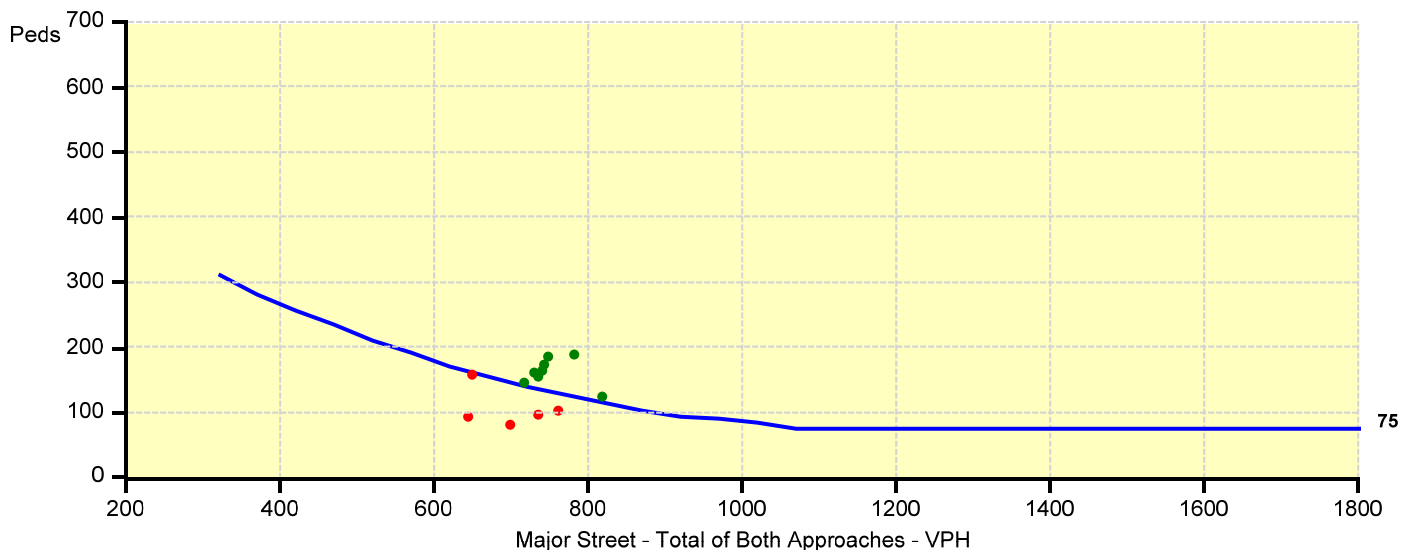
#### Summary

8 one hour periods meet minimums.  
Warrant IS met.

#### Site Data Required

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

Time	Major Road CSAH 20				Total	Minor Road None		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:15 - 17:15	443	+	374	=	817	0	123	Yes
16:00 - 17:00	422	+	360	=	782	0	188	Yes
15:45 - 16:45	406	+	341	=	747	0	186	Yes
15:30 - 16:30	394	+	350	=	744	0	173	Yes
07:00 - 08:00	288	+	452	=	740	0	164	Yes
07:15 - 08:15	296	+	440	=	736	0	155	Yes
06:45 - 07:45	279	+	450	=	729	0	160	Yes
15:15 - 16:15	373	+	345	=	718	0	146	Yes
16:30 - 17:30	403	+	357	=	760	0	103	No
16:45 - 17:45	377	+	359	=	736	0	96	No
15:00 - 16:00	356	+	343	=	699	0	80	No
07:30 - 08:30	236	+	414	=	650	0	158	No



# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2446

Study Date : 02/14/2024

## Multiway Stop Warrants - Summary

### Major Street Approaches

**Eastbound: CSAH 20**  
 Number of Lanes : 1  
 Total Approach Volume: 3,636

**Westbound: CSAH 20**  
 Number of Lanes : 1  
 Total Approach Volume: 4,208

### Minor Street Approaches

**Northbound: None**  
 Number of Lanes : 2+  
 Total Approach Volume: 0

**Southbound: CR 59**  
 Number of Lanes : 1  
 Total Approach Volume: 1,370

### Warrant Summary (Rural Values Apply)

<b>Criteria A - Interim Measure</b> .....	<b>Not Evaluated</b>
If traffic signals are justified, stop signs can be installed as an interim measure.	
<b>Criteria B - Crash Experience</b> .....	<b>Not Satisfied</b>
Number of crashes (-1) is less than minimum required (5).	
<b>Criteria C - Minimum Volumes and Delays</b> .....	<b>Not Satisfied</b>
Average of 8 highest hours is less than volume criteria.	
<b>Criteria D - 80% of Volumes, Delays, and Crashes</b> .....	<b>Not Satisfied</b>
Number of crashes (-1) is less than minimum required (4). Average of 8 highest hours is less than volume criteria.	

### Criteria C Volume Summary

Time	Major Total	Major Avg	Minor Total	Minor Avg	Major Crit	Minor Crit	Meets?
16:00 - 17:00	782	601.1	188	114.5	210	140	No
07:00 - 08:00	740		164				
15:00 - 16:00	699		83				
17:00 - 18:00	643		93				
14:00 - 15:00	540		65				
08:00 - 09:00	487		116				
09:00 - 10:00	424		143				
18:00 - 19:00	494		64				
06:00 - 07:00	415		86				
12:30 - 13:30	399		55				
11:00 - 12:00	355		60				
19:15 - 20:15	327		45				

### Criteria D Volume Summary

Time	Major Total	Major Avg	Minor Total	Minor Avg	Major Crit	Minor Crit	Meets?
16:00 - 17:00	782	601.1	188	114.5	240	160	No
07:00 - 08:00	740		164				
15:00 - 16:00	699		83				
17:00 - 18:00	643		93				
14:00 - 15:00	540		65				
08:00 - 09:00	487		116				
09:00 - 10:00	424		143				
18:00 - 19:00	494		64				
06:00 - 07:00	415		86				
12:30 - 13:30	399		55				
11:00 - 12:00	355		60				
19:15 - 20:15	327		45				