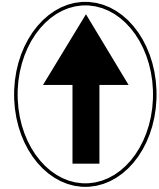


Date : 11/08/23

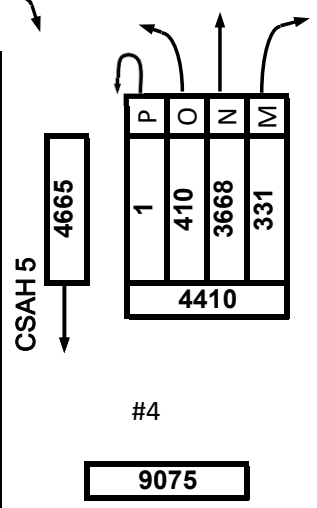
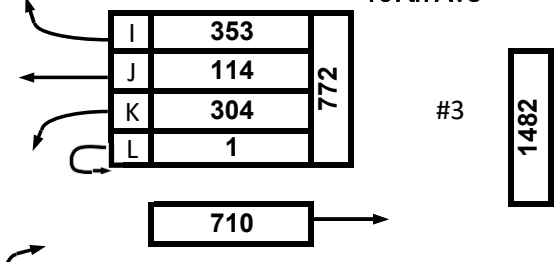
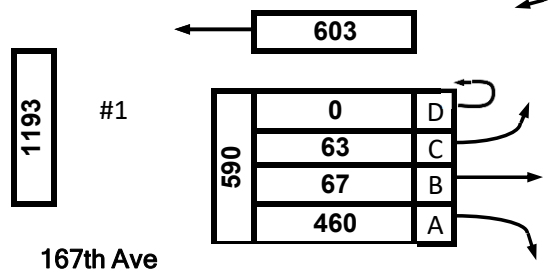
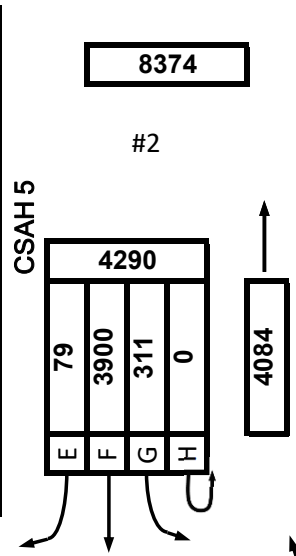
Count Number : TMC 2389

Location : CSAH 5  
@ 167th Ave

Collection Period : 24 HR



North



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

Anoka County Highway Department

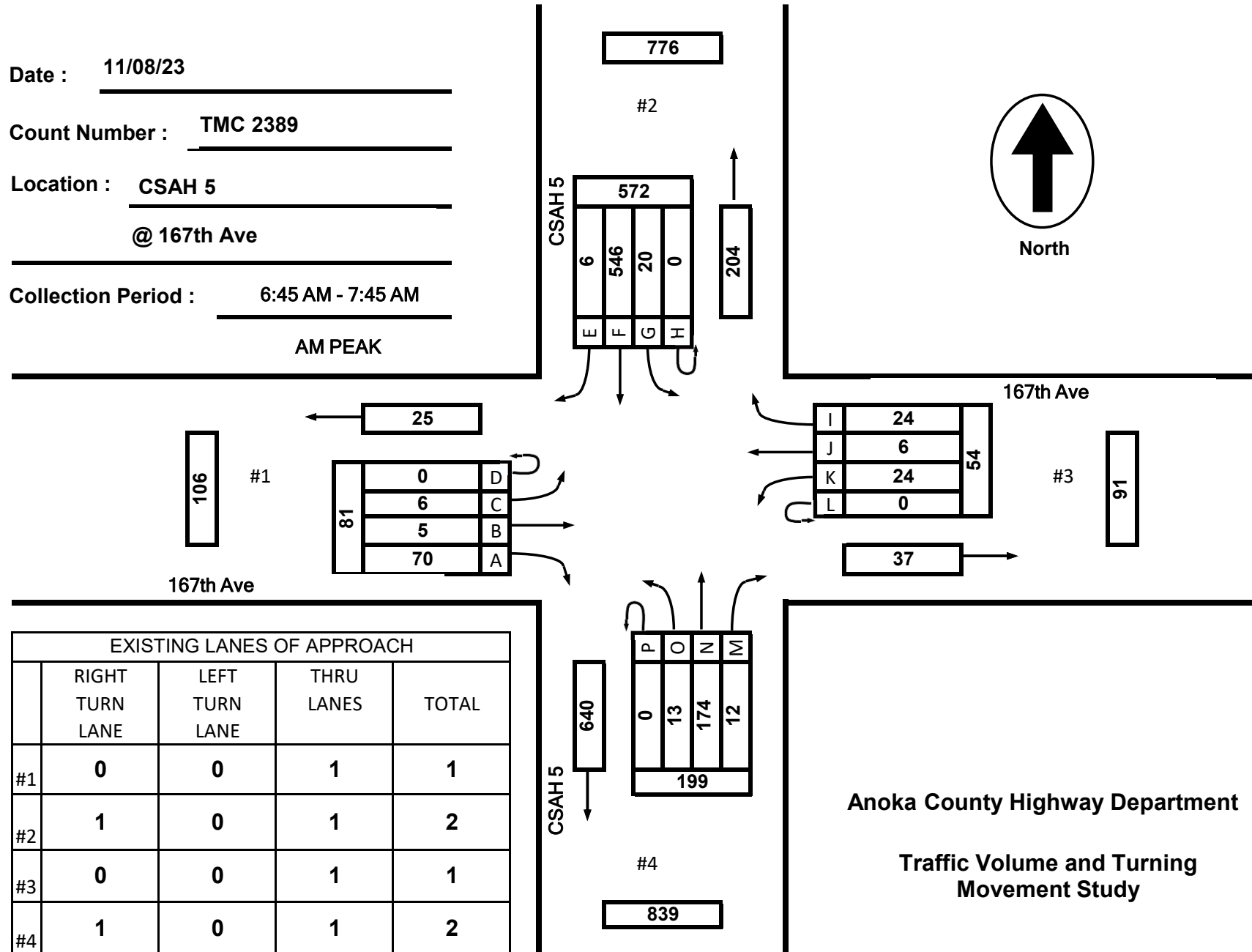
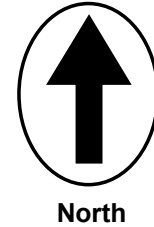
Traffic Volume and Turning Movement Study

Date : 11/08/23

Count Number : TMC 2389

Location : CSAH 5  
@ 167th Ave

Collection Period : 6:45 AM - 7:45 AM  
**AM PEAK**



Anoka County Highway Department

Traffic Volume and Turning Movement Study

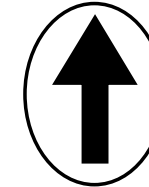
Date : 11/08/23

Count Number : TMC 2389

Location : CSAH 5  
@ 167th Ave

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

PM PEAK



North

1044

#2

CSAH 5

419			
11	356	52	0
E	F	G	H

625

123

#1

44	0	D
	4	C
	8	B
	32	A

167th Ave

79

I	44	88
J	18	
K	26	
L	0	

#3

212

167th Ave

124

P	O	N	M
0	50	577	64
691			

#4

1105

CSAH 5

414

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

Anoka County Highway Department

Traffic Volume and Turning Movement Study

**TMC 2389 - CSAH 5 @ 167th Ave  
Ramsey MN  
Wednesday, November 8, 2023**

Time	Southbound CSAH 5						Westbound 167th Ave						Northbound CSAH 5						Eastbound 167th Ave						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	1	0	0	1	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	7
12:15 AM	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12:30 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	2	2	0	0	4	0	0	0	1	0	1	0	0	0	1	0	1	6
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1	1
Hourly Total	0	0	5	0	0	5	0	0	0	0	0	0	0	2	8	0	0	10	0	0	0	2	0	2	0	0	0	2	0	2	17
1:00 AM	0	0	1	0	0	1	0	0	1	1	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4
1:15 AM	0	1	1	0	0	2	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	1	0	1	0	0	0	1	0	1	6
1:30 AM	0	0	3	0	0	3	0	1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5
1:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3
Hourly Total	0	1	5	0	0	6	0	1	1	2	0	4	0	1	6	0	0	7	0	0	0	1	0	1	0	0	0	1	0	1	18
2:00 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	4
2:15 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	6
2:30 AM	0	1	2	0	0	3	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	5
2:45 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	1	2	0	0	3	0	0	0	1	0	1	0	0	0	1	0	1	6
Hourly Total	0	1	7	0	0	8	0	0	0	0	0	0	0	1	11	0	0	12	0	0	0	1	0	1	0	0	0	1	0	1	21
3:00 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	0	0	0	0	0	0
3:15 AM	0	0	4	0	0	4	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	6
3:30 AM	0	0	4	0	0	4	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2	0	2	0	0	0	2	0	2	7
3:45 AM	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Hourly Total	0	0	13	0	0	13	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	2	0	2	0	0	0	2	0	2	18
4:00 AM	0	1	7	0	0	8	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
4:15 AM	0	0	19	1	0	20	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	3	0	3	0	0	0	3	0	3	25
4:30 AM	0	1	27	0	0	28	0	1	0	0	0	1	0	0	7	0	0	7	0	0	0	3	0	3	0	0	0	3	0	3	39
4:45 AM	0	0	19	0	0	19	0	0	0	2	0	2	0	0	4	0	0	4	0	0	0	4	0	4	0	0	0	4	0	4	29
Hourly Total	0	2	72	1	0	75	0	1	0	3	0	4	0	0	13	0	0	13	0	0	0	10	0	10	0	0	0	10	0	10	102
5:00 AM	0	1	33	0	0	34	0	1	0	0	0	1	0	0	4	0	0	4	0	0	0	6	0	6	0	0	0	6	0	6	45
5:15 AM	0	1	34	0	0	35	0	7	0	2	0	9	0	0	7	0	0	7	0	2	0	5	0	7	0	2	0	5	0	7	58
5:30 AM	0	0	57	0	0	57	0	4	0	1	0	5	0	0	19	1	0	20	0	0	1	5	0	6	0	0	1	5	0	6	88
5:45 AM	0	3	79	0	0	82	0	2	0	1	0	3	0	1	17	1	0	19	0	0	0	11	0	11	0	0	0	11	0	11	115
Hourly Total	0	5	203	0	0	208	0	14	0	4	0	18	0	1	47	2	0	50	0	2	1	27	0	30	0	2	1	27	0	30	306
6:00 AM	0	3	78	0	0	81	0	4	0	0	0	4	0	2	14	2	0	18	0	2	2	4	0	8	0	2	2	4	0	8	111
6:15 AM	0	0	121	0	0	121	0	5	0	2	0	7	0	0	22	1	0	23	0	0	1	15	0	16	0	0	1	15	0	16	167
6:30 AM	0	3	123	0	0	126	0	10	1	3	0	14	0	0	32	0	0	32	0	0	0	12	0	12	0	0	0	12	0	12	184
6:45 AM	0	4	141	2	0	147	0	6	1	6	0	13	0	4	38	5	0	47	0	0	2	16	0	18	0	0	2	16	0	18	225
Hourly Total	0	10	463	2	0	475	0	25	2	11	0	38	0	6	106	8	0	120	0	2	5	47	0	54	0	2	5	47	0	54	687
7:00 AM	0	7	149	1	0	157	0	10	2	6	0	18	0	3	41	2	0	46	0	4	0	19	0	23	0	4	0	19	0	23	244
7:15 AM	0	6	134	0	0	140	0	4	2	7	0	13	0	1	49	1	0	51	0	1	1	20	0	22	0	1	1	20	0	22	226
7:30 AM	0	3	122	3	0	128	0	4	1	5	0	10	0	5	46	4	0	55	0	1	2	15	0	18	0	1	2	15	0	18	211
7:45 AM	0	5	117	0	0	122	0	11	0	7	0	18	0	4	45	5	0	54	0	0	0	18	0	18	0	0	0	18	0	18	212
Hourly Total	0	21	522	4	0	547	0	29	5	25	0	59	0	13	181	12	0	206	0	6	3	72	0	81	0	6	3	72	0	81	893

**TMC 2389 - CSAH 5 @ 167th Ave  
Ramsey MN**

**Wednesday, November 8, 2023**

Time	Southbound CSAH 5						Westbound 167th Ave						Northbound CSAH 5						Eastbound 167th Ave						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalks	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalks	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalks	Vehicle Approach Total	
8:00 AM	0	6	97	0	0	103	0	3	1	8	0	12	0	2	65	3	0	70	0	0	0	9	0	9	194
8:15 AM	0	4	76	0	0	80	0	2	0	4	0	6	0	5	44	0	0	49	0	3	1	9	0	13	148
8:30 AM	0	1	71	0	0	72	0	3	0	4	0	7	0	3	46	2	0	51	0	2	0	5	0	7	137
8:45 AM	0	4	67	0	0	71	0	3	1	2	0	6	0	1	43	1	0	45	0	2	1	5	0	8	130
Hourly Total	0	15	311	0	0	326	0	11	2	18	0	31	0	11	198	6	0	215	0	7	2	28	0	37	609
9:00 AM	0	4	72	2	0	78	0	2	2	21	0	25	0	3	71	1	0	75	0	1	1	11	0	13	191
9:15 AM	0	6	135	1	0	142	0	2	1	4	0	7	0	2	58	1	0	61	0	1	2	9	0	12	222
9:30 AM	0	0	45	0	0	45	0	3	1	0	0	4	0	3	29	3	0	35	0	1	0	7	0	8	92
9:45 AM	0	2	38	0	0	40	0	3	0	1	0	4	0	2	25	2	0	29	0	0	0	2	0	2	75
Hourly Total	0	12	290	3	0	305	0	10	4	26	0	40	0	10	183	7	0	200	0	3	3	29	0	35	580
10:00 AM	0	1	42	0	0	43	0	0	0	1	0	1	0	0	33	4	0	37	0	0	1	6	0	7	88
10:15 AM	0	4	33	0	0	37	0	2	2	6	0	10	0	5	35	3	0	43	0	0	1	7	0	8	98
10:30 AM	0	2	39	0	0	41	0	2	2	3	0	7	0	2	22	1	0	25	0	2	0	7	0	9	82
10:45 AM	0	4	38	0	0	42	0	3	0	3	0	6	0	5	32	5	0	42	0	1	0	6	1	7	97
Hourly Total	0	11	152	0	0	163	0	7	4	13	0	24	0	12	122	13	0	147	0	3	2	26	1	31	365
11:00 AM	0	1	36	0	0	37	0	5	1	6	0	12	0	9	28	4	0	41	0	0	1	9	1	10	100
11:15 AM	0	7	38	1	0	46	0	2	1	5	0	8	0	5	54	4	0	63	0	0	1	6	0	7	124
11:30 AM	0	5	45	1	0	51	0	2	3	5	0	10	0	2	32	4	0	38	0	1	1	8	0	10	109
11:45 AM	0	5	39	2	0	46	0	6	0	3	0	9	0	4	47	4	0	55	0	2	5	2	0	9	119
Hourly Total	0	18	158	4	0	180	0	15	5	19	0	39	0	20	161	16	0	197	0	3	8	25	1	36	452
12:00 PM	0	3	40	2	0	45	0	6	1	5	0	12	0	5	39	5	0	49	0	2	1	8	0	11	117
12:15 PM	0	4	36	0	0	40	0	1	1	4	0	6	0	3	52	3	0	58	0	2	1	1	0	4	108
12:30 PM	0	5	51	1	0	57	0	5	3	6	0	14	0	6	52	5	0	63	0	3	0	4	0	7	141
12:45 PM	0	0	40	1	0	41	0	3	1	2	0	6	0	3	48	8	0	59	0	1	0	7	0	8	114
Hourly Total	0	12	167	4	0	183	0	15	6	17	0	38	0	17	191	21	0	229	0	8	2	20	0	30	480
1:00 PM	0	4	23	1	0	28	1	7	3	7	0	18	0	4	30	5	0	39	0	1	1	4	0	6	91
1:15 PM	0	3	25	1	0	29	0	3	1	4	0	8	0	4	42	6	0	52	0	0	0	3	0	3	92
1:30 PM	0	3	37	2	0	42	0	2	1	5	0	8	0	8	38	3	0	49	0	2	2	4	0	8	107
1:45 PM	0	2	40	1	0	43	0	5	2	3	0	10	0	3	48	4	0	55	0	0	2	8	0	10	118
Hourly Total	0	12	125	5	0	142	1	17	7	19	0	44	0	19	158	18	0	195	0	3	5	19	0	27	408
2:00 PM	0	3	42	4	0	49	0	5	0	7	0	12	0	7	51	6	0	64	0	1	1	3	0	5	130
2:15 PM	0	3	24	2	0	29	0	7	1	7	0	15	0	4	51	3	0	58	0	0	2	3	0	5	107
2:30 PM	0	6	43	2	0	51	0	3	3	4	0	10	0	16	75	6	0	97	0	1	0	3	0	4	162
2:45 PM	0	7	47	1	0	55	0	6	2	3	0	11	0	8	74	10	0	92	0	2	1	5	0	8	166
Hourly Total	0	19	156	9	0	184	0	21	6	21	0	48	0	35	251	25	0	311	0	4	4	14	0	22	565
3:00 PM	0	3	36	0	0	39	0	9	1	2	0	12	0	12	109	7	0	128	0	0	1	7	0	8	187
3:15 PM	0	6	50	4	0	60	0	2	0	6	0	8	0	4	123	13	0	140	0	1	1	4	0	6	214
3:30 PM	0	6	58	0	0	64	0	4	6	11	0	21	0	11	130	11	0	152	0	0	3	3	0	6	243
3:45 PM	0	7	58	1	0	66	0	5	3	6	0	14	1	8	132	10	0	151	0	0	0	5	0	5	236
Hourly Total	0	22	202	5	0	229	0	20	10	25	0	55	1	35	494	41	0	571	0	1	5	19	0	25	880

**TMC 2389 - CSAH 5 @ 167th Ave  
Ramsey MN**

**Wednesday, November 8, 2023**

Time	Southbound CSAH 5						Westbound 167th Ave						Northbound CSAH 5						Eastbound 167th Ave						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	20	125	2	0	147	0	4	3	8	0	15	0	15	129	14	0	158	0	1	1	5	0	7	327
4:15 PM	0	16	82	3	0	101	0	7	2	7	0	16	0	7	118	14	0	139	0	1	0	15	0	16	272
4:30 PM	0	8	60	2	0	70	0	6	5	17	0	28	0	14	178	19	0	211	0	1	4	9	0	14	323
4:45 PM	0	8	89	4	0	101	0	9	8	12	0	29	0	14	152	17	0	183	0	1	3	3	0	7	320
Hourly Total	0	52	356	11	0	419	0	26	18	44	0	88	0	50	577	64	0	691	0	4	8	32	0	44	1242
5:00 PM	0	13	82	3	0	98	0	5	5	13	0	23	0	16	101	7	0	124	0	4	1	9	0	14	259
5:15 PM	0	5	72	2	0	79	0	7	1	12	0	20	0	9	102	6	0	117	0	2	0	7	0	9	225
5:30 PM	0	6	54	2	0	62	0	11	4	6	0	21	0	10	95	1	0	106	0	0	1	8	0	9	198
5:45 PM	0	6	55	1	0	62	0	8	6	2	0	16	0	14	81	2	0	97	0	1	3	12	0	16	191
Hourly Total	0	30	263	8	0	301	0	31	16	33	0	80	0	49	379	16	0	444	0	7	5	36	0	48	873
6:00 PM	0	5	46	3	0	54	0	4	1	6	0	11	0	17	71	11	0	99	0	2	3	4	0	9	173
6:15 PM	0	7	54	4	0	65	0	4	5	7	0	16	0	9	53	8	0	70	0	0	3	5	0	8	159
6:30 PM	0	2	38	1	0	41	0	2	3	3	0	8	0	10	36	7	0	53	0	2	1	5	0	8	110
6:45 PM	0	7	33	5	0	45	0	3	1	6	0	10	0	12	46	5	0	63	0	2	0	5	0	7	125
Hourly Total	0	21	171	13	0	205	0	13	10	22	0	45	0	48	206	31	0	285	0	6	7	19	0	32	567
7:00 PM	0	1	23	0	0	24	0	8	2	7	0	17	0	5	23	7	0	35	0	0	2	3	0	5	81
7:15 PM	0	7	29	1	0	37	0	6	5	3	0	14	0	3	29	3	0	35	0	1	0	8	0	9	95
7:30 PM	0	7	12	0	0	19	0	6	0	5	0	11	0	5	32	7	0	44	0	1	0	3	0	4	78
7:45 PM	0	4	13	0	0	17	0	3	1	6	0	10	0	1	34	3	0	38	0	0	0	4	0	4	69
Hourly Total	0	19	77	1	0	97	0	23	8	21	0	52	0	14	118	20	0	152	0	2	2	18	0	22	323
8:00 PM	0	4	26	1	0	31	0	2	0	4	0	6	0	5	27	4	0	36	0	0	1	2	0	3	76
8:15 PM	0	1	19	0	0	20	0	3	2	2	0	7	0	5	31	3	0	39	0	0	2	0	0	2	68
8:30 PM	0	1	34	2	0	37	0	3	1	3	0	7	0	8	30	1	0	39	0	0	0	2	0	2	85
8:45 PM	0	5	23	0	0	28	0	4	2	0	0	6	0	11	27	5	0	43	0	0	0	2	0	2	79
Hourly Total	0	11	102	3	0	116	0	12	5	9	0	26	0	29	115	13	0	157	0	0	3	6	0	9	308
9:00 PM	0	7	19	2	0	28	0	1	1	2	0	4	0	4	25	5	0	34	0	0	2	1	0	3	69
9:15 PM	0	2	11	2	0	15	0	2	0	2	0	4	0	5	15	4	0	24	0	0	0	0	0	0	43
9:30 PM	0	3	8	0	0	11	0	6	3	4	0	13	0	6	15	2	0	23	0	0	0	1	0	1	48
9:45 PM	0	0	10	1	0	11	0	0	1	7	0	8	0	5	20	1	0	26	0	0	0	1	0	1	46
Hourly Total	0	12	48	5	0	65	0	9	5	15	0	29	0	20	75	12	0	107	0	0	2	3	0	5	206
10:00 PM	0	0	5	0	0	5	0	0	0	0	0	0	0	6	13	2	0	21	0	2	0	3	0	5	31
10:15 PM	0	0	5	0	0	5	0	2	0	1	0	3	0	4	9	1	0	14	0	0	0	0	0	0	22
10:30 PM	0	2	4	0	0	6	0	2	0	0	0	2	0	1	13	1	0	15	0	0	0	0	0	0	23
10:45 PM	0	1	9	0	0	10	0	0	0	1	0	1	0	3	10	1	0	14	0	0	0	0	0	0	25
Hourly Total	0	3	23	0	0	26	0	4	0	2	0	6	0	14	45	5	0	64	0	2	0	3	0	5	101
11:00 PM	0	1	5	0	0	6	0	0	0	3	0	3	0	2	8	0	0	10	0	0	0	0	0	0	19
11:15 PM	0	1	1	1	0	3	0	0	0	0	0	0	0	0	3	1	0	4	0	0	0	1	0	1	8
11:30 PM	0	0	1	0	0	1	0	0	0	1	0	1	0	1	6	0	0	7	0	0	0	0	0	0	9
11:45 PM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5
Hourly Total	0	2	9	1	0	12	0	0	0	4	0	4	0	3	20	1	0	24	0	0	0	1	0	1	41
<b>DAILY TOTAL</b>	<b>0</b>	<b>311</b>	<b>3900</b>	<b>79</b>	<b>0</b>	<b>4290</b>	<b>1</b>	<b>304</b>	<b>114</b>	<b>353</b>	<b>0</b>	<b>772</b>	<b>1</b>	<b>410</b>	<b>3668</b>	<b>331</b>	<b>0</b>	<b>4410</b>	<b>0</b>	<b>63</b>	<b>67</b>	<b>460</b>	<b>2</b>	<b>590</b>	<b>10062</b>
<b>Cars</b>	0	301	3716	76	0	4093	1	295	112	347	0	755	1	404	3499	323	0	4227	0	61	67	451	2	579	9654
<b>Heavy Vehicles</b>	0	10	184	3	0	197	0	9	2	6	0	17	0	6	169	8	0	183	0	2	0	9	0	11	408
<b>Heavy Vehicle %</b>	0.00%	3.22%	4.72%	3.80%	0.00%	4.59%	0.00%	2.96%	1.75%	1.70%	0.00%	2.20%	0.00%	1.46%	4.61%	2.42%	0.00%	4.15%	0.00%	3.17%	0.00%	1.96%	0.00%	1.86%	4.05%

**TMC 2389 - CSAH 5 @ 167th Ave  
Ramsey MN**

**Wednesday, November 8, 2023**

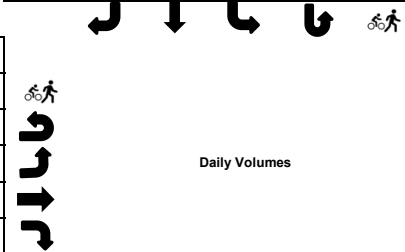
**AM Peak Hour**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
6:45 AM	0	4	141	2	0	147	0	6	1	6	0	13	0	4	38	5	0	47	0	0	2	16	0	18	
7:00 AM	0	7	149	1	0	157	0	10	2	6	0	18	0	3	41	2	0	46	0	4	0	19	0	23	
7:15 AM	0	6	134	0	0	140	0	4	2	7	0	13	0	1	49	1	0	51	0	1	1	20	0	22	
7:30 AM	0	3	122	3	0	128	0	4	1	5	0	10	0	5	46	4	0	55	0	1	2	15	0	18	
Peak Hour Total	0	20	546	6	0	572	0	24	6	24	0	54	0	13	174	12	0	199	0	6	5	70	0	81	
PHF	0.000	0.714	0.916	0.500	0.000	0.911	0.000	0.600	0.750	0.857	0.000	0.750	0.000	0.650	0.888	0.600	0.000	0.905	0.000	0.375	0.625	0.875	0.000	0.880	

**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	20	125	2	0	147	0	4	3	8	0	15	0	15	129	14	0	158	0	1	1	5	0	7	
4:15 PM	0	16	82	3	0	101	0	7	2	7	0	16	0	7	118	14	0	139	0	1	0	15	0	16	
4:30 PM	0	8	60	2	0	70	0	6	5	17	0	28	0	14	178	19	0	211	0	1	4	9	0	14	
4:45 PM	0	8	89	4	0	101	0	9	8	12	0	29	0	14	152	17	0	183	0	1	3	3	0	7	
Peak Hour Total	0	52	356	11	0	419	0	26	18	44	0	88	0	50	577	64	0	691	0	4	8	32	0	44	
PHF	0.000	0.650	0.712	0.688	0.000	0.713	0.000	0.722	0.563	0.647	0.000	0.759	0.000	0.833	0.810	0.842	0.000	0.819	0.000	1.000	0.500	0.533	0.000	0.688	

Total Vehicles On Leg		8374	
Vehicles Entering Intersection	4290	Vehicles Exiting Intersection	4084
<b>Southbound</b>			
Cars	76	3716	301
Heavy	3	184	10
<b>Total</b>	<b>79</b>	<b>3900</b>	<b>311</b>



Total Vehicles on Leg 1193	Vehicles Entering Intersection 590	Eastbound	Cars	Heavy	Total	
			2	0	2	
	0		0	0		
	61		2	63		
	67		0	67		
Vehicles Exiting Intersection 603		451	9	460		

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 772	Total Vehicles on Leg 1482
347	6	353			
112	2	114			
295	9	304			
1	0	1			
0	0	0	Vehicles Exiting Intersection 710		

Cars	0	1	404	3499	323
Heavy	0	0	6	169	8
<b>Total</b>	<b>0</b>	<b>1</b>	<b>410</b>	<b>3668</b>	<b>331</b>
<b>Northbound</b>					
Vehicles Entering Intersection 4410			Vehicles Exiting Intersection 4665		
Total Vehicles On Leg			9075		





# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2389

Study Date : 11/16/2023

## Signal Warrants - Summary

### Major Street Approaches

Northbound: CSAH 5

Number of Lanes : 1

Total Approach Volume: 4,410

Southbound: CSAH 5

Number of Lanes : 1

Total Approach Volume: 4,290

### Minor Street Approaches

Eastbound: 167th Ave

Number of Lanes : 1

Total Approach Volume: 590

Westbound: 167th Ave

Number of Lanes : 1

Total Approach Volume: 772

### 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 5 hours, 8 are needed

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

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

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

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

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

Warrant 3 - Peak Hour.....**Satisfied**

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

Number of one hour periods (1) 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 2389

Study Date : 11/16/2023

## Warrant 1A - Minimum Volumes

#### Description

Intended for sites where the volume of intersecting traffic is the principal reason for consideration of a signal installation.

#### Summary

Only 0 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 NB	+	Major SB	=		Minor EB	Minor WB	
16:00 - 17:00	691	+	419	=	1110	44	88	No
15:45 - 16:45	659	+	384	=	1043	42	73	No
16:15 - 17:15	657	+	370	=	1027	51	96	No
16:30 - 17:30	635	+	348	=	983	44	100	No
15:30 - 16:30	600	+	378	=	978	34	66	No
15:15 - 16:15	601	+	337	=	938	24	58	No
16:45 - 17:45	530	+	340	=	870	39	93	No
15:00 - 16:00	571	+	229	=	800	25	55	No
06:45 - 07:45	199	+	572	=	771	81	54	No
07:00 - 08:00	206	+	547	=	753	81	59	No
06:30 - 07:30	176	+	570	=	746	75	58	No
17:00 - 18:00	444	+	301	=	745	48	80	No
14:45 - 15:45	512	+	218	=	730	28	52	No
07:15 - 08:15	230	+	493	=	723	67	53	No
06:15 - 07:15	148	+	551	=	699	69	52	No
17:15 - 18:15	419	+	257	=	676	43	68	No
14:30 - 15:30	457	+	205	=	662	26	41	No
07:30 - 08:30	228	+	433	=	661	58	46	No
17:30 - 18:30	372	+	243	=	615	42	64	No
07:45 - 08:45	224	+	377	=	601	47	43	No
08:30 - 09:30	232	+	363	=	595	40	45	No
06:00 - 07:00	120	+	475	=	595	54	38	No
08:45 - 09:45	216	+	336	=	552	41	42	No
14:15 - 15:15	375	+	174	=	549	25	48	No
17:45 - 18:45	319		222		541	41	51	No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2389

Study Date : 11/16/2023

## Warrant 1B - Interruption of Continuous Traffic

#### Description

Intended for sites where the volume of the major street is so heavy that traffic on the minor street suffers excessive delay or hazard.

#### Summary

Only 5 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 NB	+	Major SB	=		Minor EB	Minor WB	
	<b>CSAH 5</b>					<b>167th Ave</b>		
15:45 - 16:45	659	+	384	=	1043	42	73	Yes
16:45 - 17:45	530	+	340	=	870	39	93	Yes
07:00 - 08:00	206	+	547	=	753	81	59	Yes
14:45 - 15:45	512	+	218	=	730	28	52	Yes
06:00 - 07:00	120	+	475	=	595	54	38	Yes
14:30 - 15:30	457	+	205	=	662	26	41	No
08:30 - 09:30	232	+	363	=	595	40	45	No
08:45 - 09:45	216	+	336	=	552	41	42	No
14:15 - 15:15	375	+	174	=	549	25	48	No
17:45 - 18:45	319	+	222	=	541	41	51	No
08:00 - 09:00	215	+	326	=	541	37	31	No
08:15 - 09:15	220	+	301	=	521	41	44	No
09:00 - 10:00	200	+	305	=	505	35	40	No
05:45 - 06:45	92	+	410	=	502	47	28	No
14:00 - 15:00	311	+	184	=	495	22	48	No
18:00 - 19:00	285	+	205	=	490	32	45	No
13:45 - 14:45	274	+	172	=	446	24	47	No
09:15 - 10:15	162	+	270	=	432	29	16	No
05:30 - 06:30	80	+	341	=	421	41	19	No
11:45 - 12:45	225	+	188	=	413	31	41	No
12:00 - 13:00	229	+	183	=	412	30	38	No
18:15 - 19:15	221	+	175	=	396	28	51	No
11:15 - 12:15	205	+	188	=	393	37	39	No
13:30 - 14:30	226	+	163	=	389	28	45	No
12:15 - 13:15	219		166		385	25	44	No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2389

Study Date : 11/16/2023

## Warrant 1C Combination of Warrants

#### Description

Intended for sites where the traffic volumes don't meet individual warrants but where Warrants 1A and 1B are both met to 80% of their stated values.

#### Summary

Only 1 hours meet 1A minimums.  
9 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 5

#### Minor Road 167th Ave

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
16:00 - 17:00	691	+	419	=	1110	44	88	Yes
15:45 - 16:45	659	+	384	=	1043	42	73	No
15:30 - 16:30	600	+	378	=	978	34	66	No
15:15 - 16:15	601	+	337	=	938	24	58	No
15:00 - 16:00	571	+	229	=	800	25	55	No
06:45 - 07:45	199	+	572	=	771	81	54	No
07:00 - 08:00	206	+	547	=	753	81	59	No
06:30 - 07:30	176	+	570	=	746	75	58	No
17:00 - 18:00	444	+	301	=	745	48	80	No
14:45 - 15:45	512	+	218	=	730	28	52	No
07:15 - 08:15	230	+	493	=	723	67	53	No
06:15 - 07:15	148	+	551	=	699	69	52	No

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
15:45 - 16:45	659	+	384	=	1043	42	73	Yes
16:45 - 17:45	530	+	340	=	870	39	93	Yes
06:45 - 07:45	199	+	572	=	771	81	54	Yes
14:45 - 15:45	512	+	218	=	730	28	52	Yes
07:45 - 08:45	224	+	377	=	601	47	43	Yes
08:45 - 09:45	216	+	336	=	552	41	42	Yes
17:45 - 18:45	319	+	222	=	541	41	51	Yes
05:45 - 06:45	92	+	410	=	502	47	28	Yes
13:45 - 14:45	274	+	172	=	446	24	47	Yes
05:30 - 06:30	80	+	341	=	421	41	19	No
11:45 - 12:45	225	+	188	=	413	31	41	No
12:00 - 13:00	229	+	183	=	412	30	38	No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2389

Study Date : 11/16/2023

## Warrant 2 - Four Hour Volumes

#### Description

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

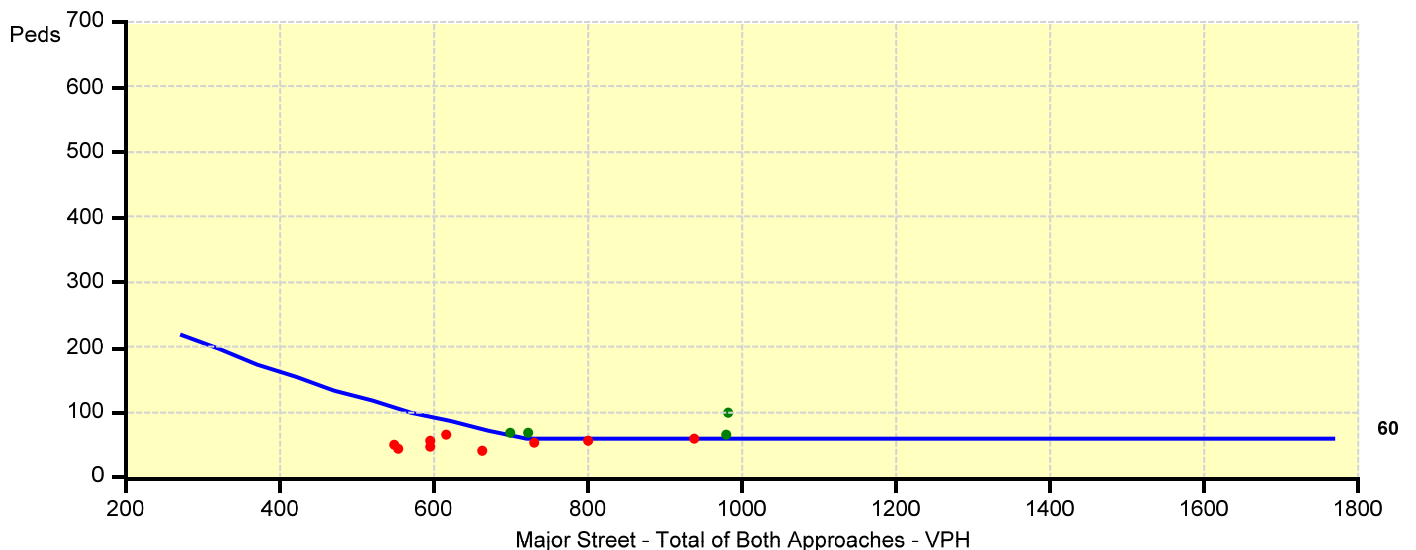
#### Summary

4 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 5				Total	Minor Road 167th Ave		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:30 - 17:30	635	+	348	=	983	44	100	Yes
15:30 - 16:30	600	+	378	=	978	34	66	Yes
07:15 - 08:15	230	+	493	=	723	67	53	Yes
06:15 - 07:15	148	+	551	=	699	69	52	Yes
15:15 - 16:15	601	+	337	=	938	24	58	No
15:00 - 16:00	571	+	229	=	800	25	55	No
14:45 - 15:45	512	+	218	=	730	28	52	No
14:30 - 15:30	457	+	205	=	662	26	41	No
17:30 - 18:30	372	+	243	=	615	42	64	No
08:30 - 09:30	232	+	363	=	595	40	45	No
06:00 - 07:00	120	+	475	=	595	54	38	No
08:45 - 09:45	216	+	336	=	552	41	42	No



# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2389

Study Date : 11/16/2023

## Warrant 3B - Peak Hour Volumes

#### Description

Intended for sites where the volume of intersecting traffic during one hour of the day is the principal reason for consideration of a signal installation.

#### Summary

3 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 5				Total	Minor Road 167th Ave		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:00 - 17:00	691	+	419	=	1110	44	88	Yes
16:15 - 17:15	657	+	370	=	1027	51	96	Yes
16:30 - 17:30	635	+	348	=	983	44	100	Yes
15:45 - 16:45	659	+	384	=	1043	42	73	No
15:30 - 16:30	600	+	378	=	978	34	66	No
15:15 - 16:15	601	+	337	=	938	24	58	No
16:45 - 17:45	530	+	340	=	870	39	93	No
15:00 - 16:00	571	+	229	=	800	25	55	No
06:45 - 07:45	199	+	572	=	771	81	54	No
07:00 - 08:00	206	+	547	=	753	81	59	No
06:30 - 07:30	176	+	570	=	746	75	58	No
17:00 - 18:00	444		301		745	48	80	No

