

Date : 03/07/23

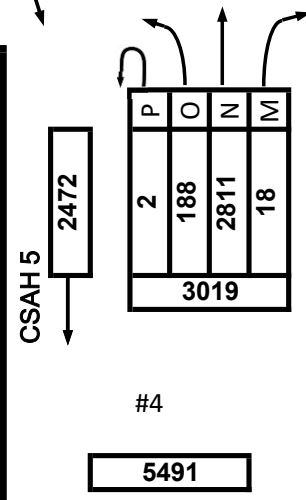
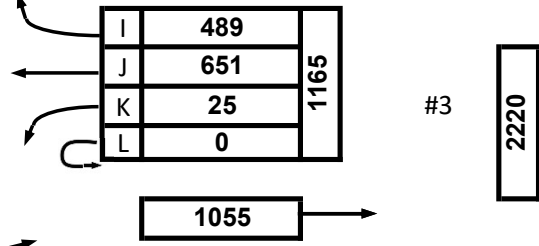
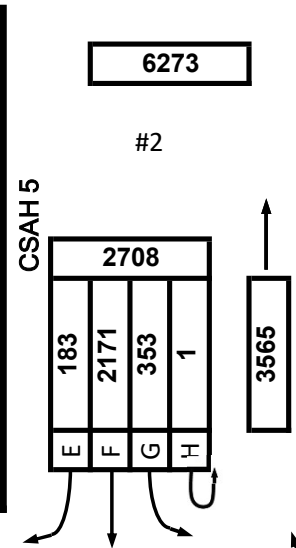
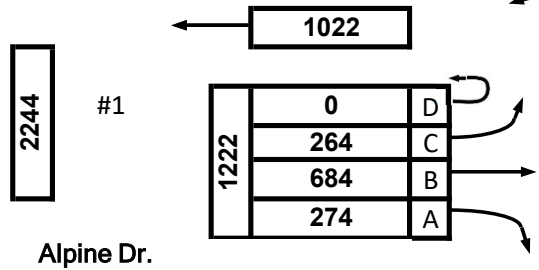
Count Number : TMC 2332

Location : CSAH 5
@ Alpine Dr.

Collection Period : 24 HR



Alpine Dr.



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

Anoka County Highway Department

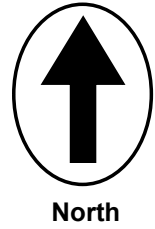
Traffic Volume and Turning Movement Study

Date : 03/07/23

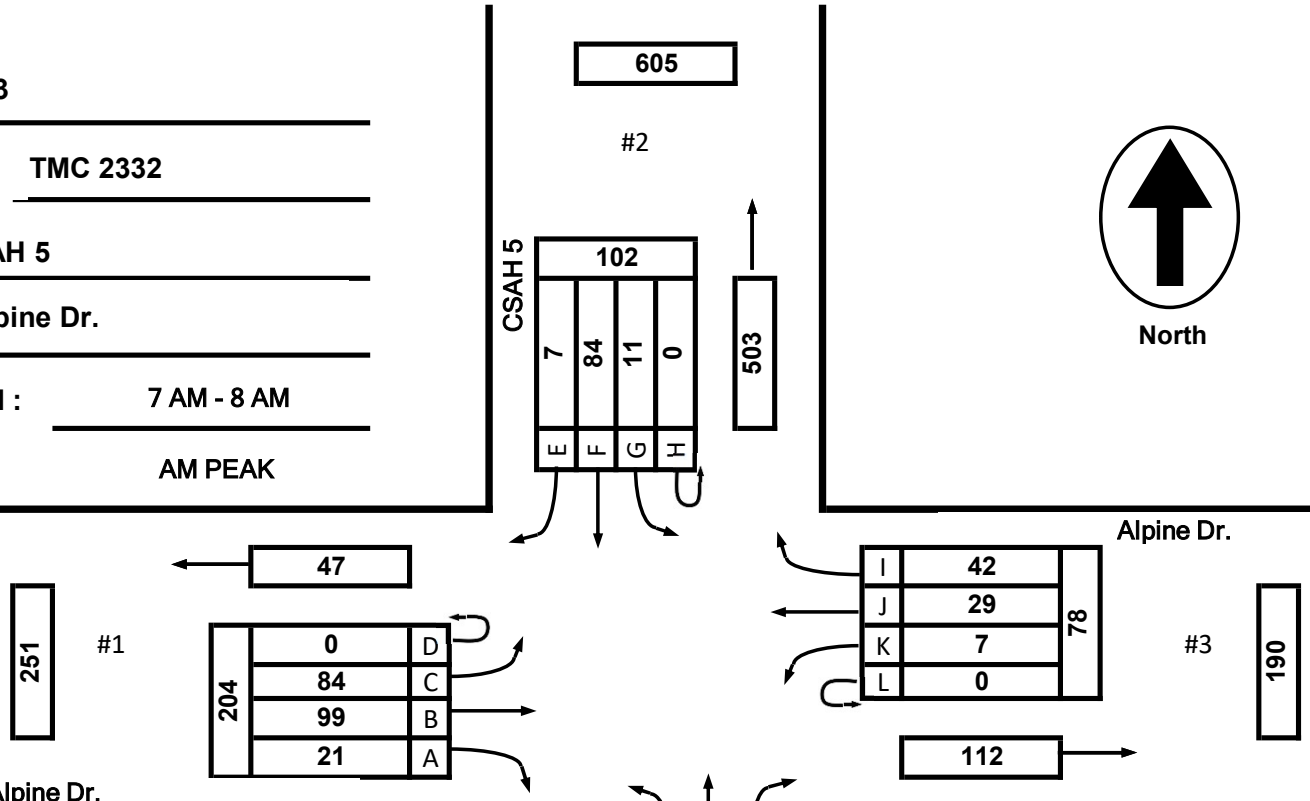
Count Number : TMC 2332

Location : CSAH 5
@ Alpine Dr.

Collection Period : 7 AM - 8 AM
AM PEAK



North



Alpine Dr.

Alpine Dr.

CSAH 5

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

Anoka County Highway Department

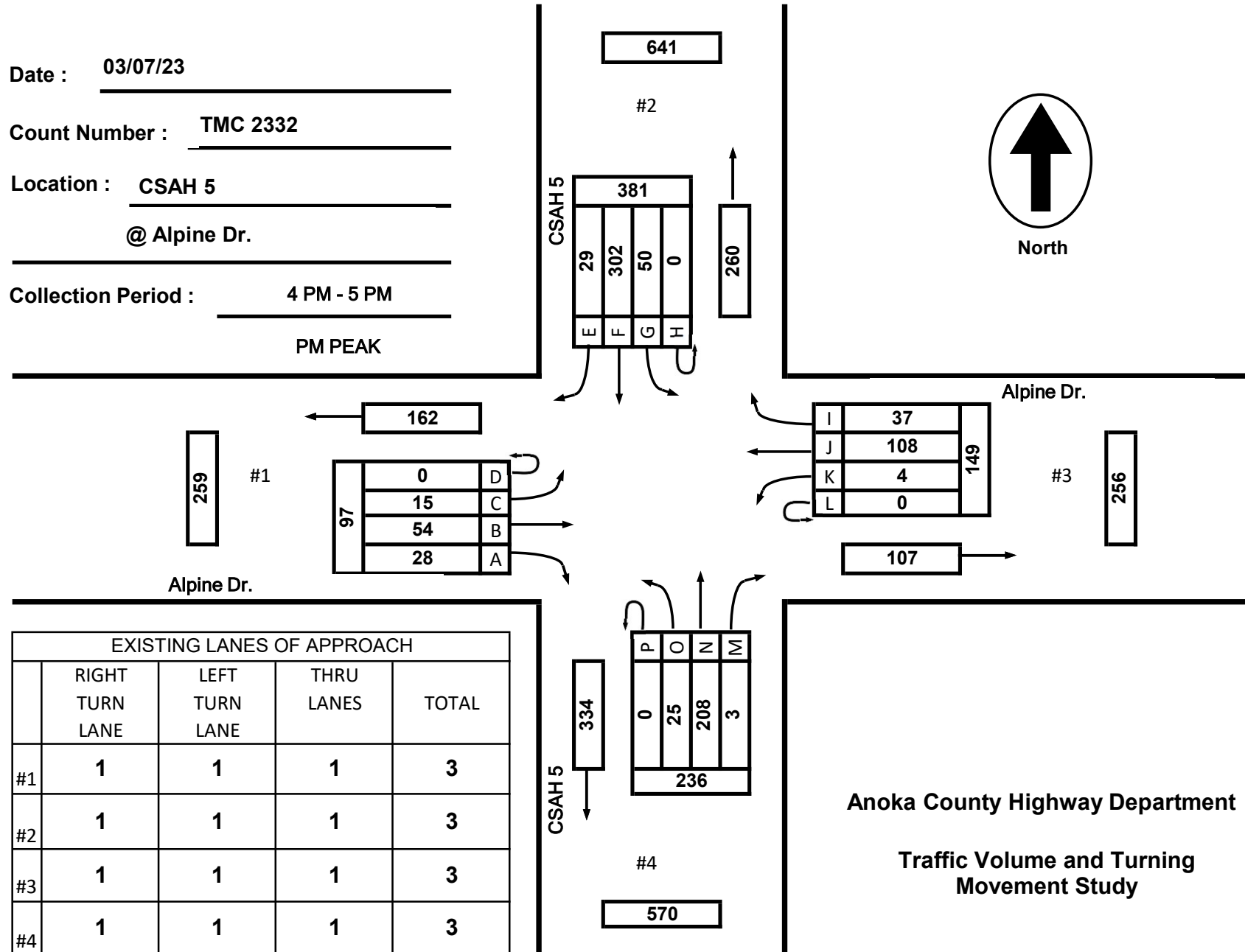
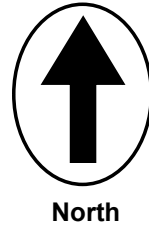
Traffic Volume and Turning Movement Study

Date : 03/07/23

Count Number : TMC 2332

Location : CSAH 5
@ Alpine Dr.

Collection Period : 4 PM - 5 PM
PM PEAK



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

Anoka County Highway Department
 Traffic Volume and Turning Movement Study

**TMC 2332 - CSAH 5 @ Alpine Dr
Ramsey MN
Tuesday, March 7, 2023**

Time	Northbound CSAH 5 (Nowthen Blvd)						Eastbound Alpine Dr						Southbound CSAH 5 (Nowthen Blvd)						Westbound Alpine Dr						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	6	0	0	6	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	1	0	0	1	9
12:15 AM	0	0	1	0	0	1	0	0	2	1	0	3	0	1	2	0	0	3	0	0	1	0	0	1	0	0	0	0	0	1	8
12:30 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
12:45 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	5
Hourly Total	0	0	10	0	0	10	0	0	3	2	0	5	0	1	9	0	0	10	0	0	1	0	0	1	0	0	1	0	0	1	26
1:00 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	0	0	0	0	0	0	1
1:15 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
1:30 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:45 AM	0	1	1	0	0	2	0	0	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	6
Hourly Total	0	1	4	0	0	5	0	0	1	0	0	1	0	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	11
2:00 AM	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3
2:15 AM	0	1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:30 AM	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:45 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	1	0	1	0	0	1	0	1	8	
Hourly Total	0	2	3	0	0	5	0	0	2	0	0	2	0	0	7	0	0	7	0	0	0	1	0	1	0	0	1	0	1	15	
3:00 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3
3:15 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	5
3:30 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	7
3:45 AM	0	0	0	0	1	0	0	0	1	2	1	3	0	0	7	0	0	7	0	0	4	0	0	4	0	0	4	0	4	14	
Hourly Total	0	0	4	0	1	4	0	0	3	2	1	5	0	0	16	0	0	16	0	0	4	0	0	4	0	0	4	0	4	29	
4:00 AM	0	0	2	0	0	2	0	0	0	1	0	1	0	0	6	0	0	6	0	0	2	0	0	2	0	0	2	0	2	11	
4:15 AM	0	0	3	0	0	3	0	0	0	0	0	0	0	1	12	0	0	13	0	0	1	0	0	1	0	0	1	0	1	17	
4:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	18	1	0	19	0	1	5	2	0	8	0	1	5	2	0	8	28
4:45 AM	0	0	0	1	0	1	0	0	1	1	0	2	0	0	23	0	0	23	0	1	7	0	0	8	0	1	7	0	0	8	34
Hourly Total	0	0	5	1	0	6	0	0	2	2	0	4	0	1	59	1	0	61	0	2	15	2	0	19	0	2	15	2	0	19	90
5:00 AM	0	0	3	0	0	3	0	0	1	3	0	4	0	1	24	0	0	25	0	1	8	1	0	10	0	1	8	1	0	10	42
5:15 AM	0	1	6	1	0	8	0	0	0	1	0	1	0	1	37	0	0	38	0	2	10	0	0	12	0	2	10	0	0	12	59
5:30 AM	0	1	4	1	0	6	0	0	0	8	0	8	0	0	47	0	0	47	0	0	7	0	0	7	0	0	7	0	0	7	68
5:45 AM	0	1	3	0	0	4	0	0	1	9	0	10	0	0	32	0	0	32	0	2	16	1	0	19	0	2	16	1	0	19	65
Hourly Total	0	3	16	2	0	21	0	0	2	21	0	23	0	2	140	0	0	142	0	5	41	2	0	48	0	5	41	2	0	48	234
6:00 AM	0	1	11	0	0	12	0	0	1	6	0	7	0	1	67	1	0	69	0	1	10	3	0	14	0	1	10	3	0	14	102
6:15 AM	0	1	5	2	0	8	0	0	1	9	0	10	0	0	63	1	0	64	0	4	7	3	0	14	0	4	7	3	0	14	96
6:30 AM	0	0	10	1	0	11	0	0	3	8	0	11	0	2	77	0	0	79	0	5	20	5	0	30	0	5	20	5	0	30	131
6:45 AM	0	1	12	2	0	15	0	0	7	11	0	18	0	4	94	0	0	98	0	12	13	10	0	35	0	12	13	10	0	35	166
Hourly Total	0	3	38	5	0	46	0	0	12	34	0	46	0	7	301	2	0	310	0	22	50	21	0	93	0	22	50	21	0	93	495
7:00 AM	0	3	11	3	0	17	0	1	5	21	0	27	0	2	105	0	0	107	0	34	22	3	0	59	0	34	22	3	0	59	210
7:15 AM	0	3	28	2	0	33	0	1	4	9	0	14	0	2	101	0	0	103	0	31	22	5	0	58	0	31	22	5	0	58	208
7:30 AM	0	2	22	2	0	26	0	0	9	12	0	21	0	5	87	1	0	93	0	12	30	7	0	49	0	12	30	7	0	49	189
7:45 AM	0	3	23	0	0	26	0	5	11	0	0	16	0	2	84	1	0	87	0	7	25	6	0	38	0	7	25	6	0	38	167
Hourly Total	0	11	84	7	0	102	0	7	29	42	0	78	0	11	377	2	0	390	0	84	99	21	0	204	0	84	99	21	0	204	774

**TMC 2332 - CSAH 5 @ Alpine Dr
Ramsey MN
Tuesday, March 7, 2023**

Time	Southbound CSAH 5 (Nowthen Blvd)						Westbound Alpine Dr						Northbound CSAH 5 (Nowthen Blvd)						Eastbound Alpine Dr						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	2	18	1	0	21	0	0	10	6	0	16	0	5	58	0	0	63	0	8	13	6	0	27	127
8:15 AM	0	1	19	2	0	22	0	0	5	9	0	14	0	3	58	1	0	62	0	11	1	6	0	18	116
8:30 AM	0	0	19	4	0	23	0	0	8	6	0	14	0	1	61	0	0	62	0	4	5	5	0	14	113
8:45 AM	0	2	22	2	0	26	0	1	3	9	0	13	0	0	54	0	0	54	0	4	17	3	0	24	117
Hourly Total	0	5	78	9	0	92	0	1	26	30	0	57	0	9	231	1	0	241	0	27	36	20	0	83	473
9:00 AM	0	4	28	3	0	35	0	0	7	20	0	27	0	2	56	0	0	58	0	7	6	10	0	23	143
9:15 AM	0	5	14	3	0	22	0	0	4	20	0	24	0	4	70	0	0	74	0	3	6	8	0	17	137
9:30 AM	0	3	23	6	0	32	0	0	10	11	0	21	0	5	45	0	0	50	0	0	7	0	0	7	110
9:45 AM	0	2	13	2	0	17	0	0	6	9	0	15	0	1	49	0	0	50	0	2	7	3	0	12	94
Hourly Total	0	14	78	14	0	106	0	0	27	60	0	87	0	12	220	0	0	232	0	12	26	21	0	59	484
10:00 AM	0	6	15	6	0	27	0	0	9	6	0	15	0	3	26	0	0	29	0	1	8	1	0	10	81
10:15 AM	0	4	16	3	0	23	0	0	4	9	0	13	0	4	21	0	0	25	0	0	9	3	0	12	73
10:30 AM	0	1	19	2	0	22	0	0	8	6	0	14	0	1	30	0	0	31	0	1	6	2	0	9	76
10:45 AM	0	6	22	1	0	29	0	0	6	9	0	15	0	1	41	0	0	42	0	1	8	0	0	9	95
Hourly Total	0	17	72	12	0	101	0	0	27	30	0	57	0	9	118	0	0	127	0	3	31	6	0	40	325
11:00 AM	0	4	29	3	0	36	0	0	8	10	0	18	0	0	35	0	0	35	0	1	6	3	0	10	99
11:15 AM	0	6	26	2	0	34	0	0	8	5	0	13	0	1	28	0	0	29	0	0	6	4	0	10	86
11:30 AM	0	4	27	1	1	32	0	1	7	8	1	16	0	2	44	0	0	46	0	3	6	5	0	14	108
11:45 AM	0	6	24	5	0	35	0	0	5	7	3	12	0	1	27	0	0	28	0	2	4	2	0	8	83
Hourly Total	0	20	106	11	1	137	0	1	28	30	4	59	0	4	134	0	0	138	0	6	22	14	0	42	376
12:00 PM	0	12	24	4	0	40	0	0	6	7	0	13	0	2	42	0	0	44	0	3	4	6	0	13	110
12:15 PM	0	6	28	4	0	38	0	0	9	7	0	16	0	2	27	1	0	30	0	4	10	1	0	15	99
12:30 PM	0	3	24	1	0	28	0	0	7	5	0	12	0	1	27	0	0	28	0	2	15	3	0	20	88
12:45 PM	0	0	25	2	0	27	0	0	7	14	0	21	0	4	35	0	0	39	0	3	8	1	0	12	99
Hourly Total	0	21	101	11	0	133	0	0	29	33	0	62	0	9	131	1	0	141	0	12	37	11	0	60	396
1:00 PM	0	8	28	2	0	38	0	0	11	7	0	18	0	1	28	0	0	29	0	1	5	7	0	13	98
1:15 PM	0	4	32	0	0	36	0	0	9	4	0	13	0	2	21	0	0	23	0	2	15	3	0	20	92
1:30 PM	0	4	37	5	0	46	0	2	7	5	0	14	0	1	28	0	0	29	0	1	9	2	0	12	101
1:45 PM	0	3	20	4	0	27	0	0	7	3	1	10	0	1	28	0	0	29	0	1	11	4	0	16	82
Hourly Total	0	19	117	11	0	147	0	2	34	19	1	55	0	5	105	0	0	110	0	5	40	16	0	61	373
2:00 PM	0	0	36	4	0	40	0	0	10	4	0	14	0	2	38	0	0	40	0	0	9	1	0	10	104
2:15 PM	0	8	52	3	0	63	0	0	7	4	0	11	0	4	37	0	0	41	0	1	7	5	0	13	128
2:30 PM	0	10	58	3	0	71	0	0	9	1	0	10	0	3	38	1	0	42	0	4	12	6	0	22	145
2:45 PM	0	5	45	4	0	54	0	0	14	6	0	20	0	6	33	0	0	39	0	3	8	4	0	15	128
Hourly Total	0	23	191	14	0	228	0	0	40	15	0	55	0	15	146	1	0	162	0	8	36	16	0	60	505
3:00 PM	0	11	74	4	0	89	0	1	19	8	0	28	0	2	27	1	2	30	0	5	10	3	2	18	165
3:15 PM	0	8	51	2	0	61	0	0	13	5	0	18	0	4	34	0	2	38	0	0	14	9	2	23	140
3:30 PM	0	8	56	3	0	67	0	0	25	8	0	33	0	3	39	0	0	42	0	8	10	10	0	28	170
3:45 PM	0	10	58	2	0	70	0	0	21	12	0	33	0	2	28	0	0	30	0	9	14	7	0	30	163
Hourly Total	0	37	239	11	0	287	0	1	78	33	0	112	0	11	128	1	4	140	0	22	48	29	4	99	638

**TMC 2332 - CSAH 5 @ Alpine Dr
Ramsey MN
Tuesday, March 7, 2023**

Time	Southbound CSAH 5 (Nowthen Blvd)						Westbound Alpine Dr						Northbound CSAH 5 (Nowthen Blvd)						Eastbound Alpine Dr						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	15	80	13	0	108	0	1	25	11	0	37	0	10	45	2	0	57	0	5	6	5	0	16	218
4:15 PM	0	8	72	5	0	85	0	0	27	4	0	31	0	4	52	1	0	57	0	2	20	9	0	31	204
4:30 PM	0	11	78	7	0	96	0	1	29	14	0	44	0	2	56	0	0	58	0	3	11	11	0	25	223
4:45 PM	0	16	72	4	0	92	0	2	27	8	2	37	0	9	55	0	0	64	0	5	17	3	0	25	218
Hourly Total	0	50	302	29	0	381	0	4	108	37	2	149	0	25	208	3	0	236	0	15	54	28	0	97	863
5:00 PM	0	9	71	6	0	86	0	0	17	6	0	23	1	8	49	0	0	58	0	6	10	3	0	19	186
5:15 PM	0	9	63	6	0	78	0	3	23	16	0	42	0	3	40	0	0	43	0	1	13	6	0	20	183
5:30 PM	0	11	59	6	0	76	0	1	21	9	0	31	0	6	30	0	1	36	0	2	13	6	1	21	164
5:45 PM	0	7	44	3	0	54	0	0	14	8	0	22	0	7	38	1	0	46	0	1	10	5	0	16	138
Hourly Total	0	36	237	21	0	294	0	4	75	39	0	118	1	24	157	1	1	183	0	10	46	20	1	76	671
6:00 PM	0	6	44	5	0	55	0	1	14	9	1	24	0	7	43	0	0	50	0	1	5	1	0	7	136
6:15 PM	1	9	34	5	0	49	0	1	7	7	0	15	0	1	35	1	0	37	0	1	12	7	0	20	121
6:30 PM	0	5	32	1	0	38	0	1	16	9	0	26	0	1	37	0	2	38	0	0	8	3	2	11	113
6:45 PM	0	3	32	1	0	36	0	0	7	9	0	16	0	4	31	0	0	35	0	1	4	6	0	11	98
Hourly Total	1	23	142	12	0	178	0	3	44	34	1	81	0	13	146	1	2	160	0	3	29	17	2	49	468
7:00 PM	0	3	28	1	0	32	0	1	7	3	0	11	0	3	17	0	0	20	0	1	6	4	0	11	74
7:15 PM	0	5	21	3	0	29	0	1	7	2	0	10	0	0	14	0	0	14	0	3	2	2	0	7	60
7:30 PM	0	9	23	0	0	32	0	0	4	1	0	5	0	4	17	2	0	23	0	2	5	4	0	11	71
7:45 PM	0	7	26	3	0	36	0	0	5	2	0	7	1	0	14	0	0	15	0	1	2	1	0	4	62
Hourly Total	0	24	98	7	0	129	0	2	23	8	0	33	1	7	62	2	0	72	0	7	15	11	0	33	267
8:00 PM	0	3	29	1	0	33	0	0	7	2	0	9	0	3	12	0	0	15	0	1	7	0	0	8	65
8:15 PM	0	3	35	3	0	41	0	0	6	4	0	10	0	0	14	0	0	14	0	2	5	1	0	8	73
8:30 PM	0	4	23	2	0	29	0	0	8	3	0	11	0	2	16	0	0	18	0	2	1	3	0	6	64
8:45 PM	0	3	18	1	0	22	0	0	9	0	0	9	0	2	12	0	0	14	0	3	3	2	0	8	53
Hourly Total	0	13	105	7	0	125	0	0	30	9	0	39	0	7	54	0	0	61	0	8	16	6	0	30	255
9:00 PM	0	4	33	0	0	37	0	0	6	1	0	7	0	3	6	0	0	9	0	3	1	4	0	8	61
9:15 PM	0	6	16	1	0	23	0	0	6	2	0	8	0	1	11	0	0	12	0	1	3	1	0	5	48
9:30 PM	0	7	14	0	0	21	0	0	7	3	0	10	0	0	11	1	0	12	0	1	3	1	0	5	48
9:45 PM	0	2	12	2	0	16	0	0	0	0	1	0	0	1	3	0	0	4	0	2	4	1	0	7	27
Hourly Total	0	19	75	3	0	97	0	0	19	6	1	25	0	5	31	1	0	37	0	7	11	7	0	25	184
10:00 PM	0	3	13	3	0	19	0	0	2	2	0	4	0	2	5	1	0	8	0	1	3	4	0	8	39
10:15 PM	0	2	8	0	0	10	0	0	4	0	0	4	0	5	4	0	0	9	0	0	2	1	0	3	26
10:30 PM	0	0	5	0	0	5	0	0	0	0	0	0	0	0	6	0	0	6	0	0	1	0	0	1	12
10:45 PM	0	0	7	0	0	7	0	0	2	1	0	3	0	2	0	0	0	2	0	1	0	0	0	1	13
Hourly Total	0	5	33	3	0	41	0	0	8	3	0	11	0	9	15	1	0	25	0	2	6	5	0	13	90
11:00 PM	0	3	8	1	0	12	0	0	1	0	0	1	0	1	4	0	0	5	0	4	0	0	0	4	22
11:15 PM	0	2	11	0	0	13	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	15
11:30 PM	0	1	9	2	0	12	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	15
11:45 PM	0	1	5	0	0	6	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	10
Hourly Total	0	7	33	3	0	43	0	0	1	0	0	1	0	1	12	0	0	13	0	4	1	0	0	5	62
DAILY TOTAL	1	353	2171	193	2	2718	0	25	651	489	10	1165	2	188	2811	18	7	3019	0	264	664	274	7	1202	8104
Cars	1	345	2126	187	2	2659	0	25	638	471	10	1134	2	187	2727	17	7	2933	0	250	648	263	7	1161	7887
Heavy Vehicles	0	8	45	6	0	59	0	0	13	18	0	31	0	1	84	1	0	86	0	14	16	11	0	41	217
Heavy Vehicle %	0.00%	2.27%	2.07%	3.11%	0.00%	2.17%	0.00%	0.00%	2.00%	3.68%	0.00%	2.66%	0.00%	0.53%	2.99%	5.56%	0.00%	2.85%	0.00%	5.30%	2.41%	4.01%	0.00%	3.41%	2.68%

**TMC 2332 - CSAH 5 @ Alpine Dr
Ramsey MN
Tuesday, March 7, 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	
7:00 AM	0	3	11	3	0	17	0	1	5	21	0	27	0	2	105	0	0	107	0	34	22	3	0	59	210
7:15 AM	0	3	28	2	0	33	0	1	4	9	0	14	0	2	101	0	0	103	0	31	22	5	0	58	208
7:30 AM	0	2	22	2	0	26	0	0	9	12	0	21	0	5	87	1	0	93	0	12	30	7	0	49	189
7:45 AM	0	3	23	0	0	26	0	5	11	0	0	16	0	2	84	1	0	87	0	7	25	6	0	38	167
Peak Hour Total PHF	0	11	84	7	0	102	0	7	29	42	0	78	0	11	377	2	0	390	0	84	99	21	0	204	774
	0.000	0.917	0.750	0.583	0.000	0.773	0.000	0.350	0.659	0.500	0.000	0.722	0.000	0.550	0.898	0.500	0.000	0.911	0.000	0.618	0.825	0.750	0.000	0.864	0.921

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	15	80	13	0	108	0	1	25	11	0	37	0	10	45	2	0	57	0	5	6	5	0	16	218
4:15 PM	0	8	72	5	0	85	0	0	27	4	0	31	0	4	52	1	0	57	0	2	20	9	0	31	204
4:30 PM	0	11	78	7	0	96	0	1	29	14	0	44	0	2	56	0	0	58	0	3	11	11	0	25	223
4:45 PM	0	16	72	4	0	92	0	2	27	8	2	37	0	9	55	0	0	64	0	5	17	3	0	25	218
Peak Hour Total PHF	0	50	302	29	0	381	0	4	108	37	2	149	0	25	208	3	0	236	0	15	54	28	0	97	863
	0.000	0.781	0.944	0.558	0.000	0.882	0.000	0.500	0.931	0.661	0.250	0.847	0.000	0.625	0.929	0.375	0.000	0.922	0.000	0.750	0.675	0.636	0.000	0.782	0.967

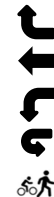
Total Vehicles On Leg				6283	
Vehicles Entering Intersection			2718	Vehicles Exiting Intersection	
				3565	
Southbound					
Cars	187	2126	345	1	2
Heavy	6	45	8	0	0
Total	193	2171	353	1	2



Total Vehicles on Leg 2234	Vehicles Entering Intersection 1202	Eastbound	Cars	Heavy	Total	
			7	0	7	
	0		0	0		
	250		14	264		
	648		16	664		
Vehicles Exiting Intersection 1032			263	11	274	

Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 1165	Total Vehicles on Leg 2200
471	18	489			
638	13	651			
25	0	25			
0	0	0			
10	0	10	Vehicles Exiting Intersection 1035		



Cars	7	2	187	2727	17
Heavy	0	0	1	84	1
Total	7	2	188	2811	18
Northbound					
Vehicles Entering Intersection			3019	Vehicles Exiting Intersection	
				2472	
Total Vehicles On Leg			5491		



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 04/14/2023

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 5

Number of Lanes : 1

Total Approach Volume: 2,718

Southbound: CSAH 5

Number of Lanes : 1

Total Approach Volume: 3,019

Minor Street Approaches

Eastbound: Alpine Dr

Number of Lanes : 1

Total Approach Volume: 1,165

Westbound: Alpine Dr

Number of Lanes : 1

Total Approach Volume: 1,202

Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 5 hours, 8 are needed

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

Required volumes reached for 2 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 5 hours, 8 are needed

Warrant 2 - Four Hour Volumes.....Not Satisfied

Number of hours (3) volumes exceed minimum < minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

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

Number of one hour periods (4) volumes exceed minimum >= required (1). Delay data not evaluated.

Warrant 3B - Peak Hour Volumes.....Not Satisfied

Volumes do not exceed minimums for any 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:

Study Date : 04/14/2023

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 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 = **350**

Veh/Hr Minor = **105**

Time	Major Road				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:00 - 17:00	381	+	236	=	617	149	97	Yes
17:00 - 18:00	294	+	183	=	477	118	76	Yes
07:15 - 08:15	106	+	346	=	452	67	172	Yes
15:00 - 16:00	287	+	140	=	427	112	99	Yes
06:15 - 07:15	51	+	348	=	399	66	138	Yes
14:15 - 15:15	277	+	152	=	429	69	68	No
14:30 - 15:30	275	+	149	=	424	76	78	No
14:45 - 15:45	271	+	149	=	420	99	84	No
14:00 - 15:00	228	+	162	=	390	55	60	No
06:00 - 07:00	46	+	310	=	356	46	93	No
08:30 - 09:30	106	+	248	=	354	78	78	No
13:45 - 14:45	201	+	152	=	353	45	61	No
08:45 - 09:45	115	+	236	=	351	85	71	No
08:15 - 09:15	106	+	236	=	342	68	79	No
18:00 - 19:00	178	+	160	=	338	81	49	No
09:00 - 10:00	106	+	232	=	338	87	59	No
13:30 - 14:30	176	+	139	=	315	49	51	No
09:15 - 10:15	98	+	203	=	301	75	46	No
11:30 - 12:30	145	+	148	=	293	57	50	No
11:15 - 12:15	141	+	147	=	288	54	45	No
18:15 - 19:15	155	+	130	=	285	68	53	No
10:45 - 11:45	131	+	152	=	283	62	43	No
05:45 - 06:45	35	+	244	=	279	38	77	No
11:00 - 12:00	137	+	138	=	275	59	42	No
12:00 - 13:00	133		141		274	62	60	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 04/14/2023

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 2 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	
15:45 - 16:45	359	+	202	=	561	145	102	Yes
16:45 - 17:45	332	+	201	=	533	133	85	Yes
15:30 - 16:30	330	+	186	=	516	134	105	No
07:00 - 08:00	102	+	390	=	492	78	204	No
06:45 - 07:45	91	+	401	=	492	80	201	No
15:15 - 16:15	306	+	167	=	473	121	97	No
06:30 - 07:30	76	+	387	=	463	70	182	No
07:15 - 08:15	106	+	346	=	452	67	172	No
14:15 - 15:15	277	+	152	=	429	69	68	No
15:00 - 16:00	287	+	140	=	427	112	99	No
14:30 - 15:30	275	+	149	=	424	76	78	No
14:45 - 15:45	271	+	149	=	420	99	84	No
07:30 - 08:30	95	+	305	=	400	67	132	No
06:15 - 07:15	51	+	348	=	399	66	138	No
14:00 - 15:00	228	+	162	=	390	55	60	No
17:45 - 18:45	196	+	171	=	367	87	54	No
07:45 - 08:45	92	+	274	=	366	60	97	No
06:00 - 07:00	46	+	310	=	356	46	93	No
08:30 - 09:30	106	+	248	=	354	78	78	No
13:45 - 14:45	201	+	152	=	353	45	61	No
08:45 - 09:45	115	+	236	=	351	85	71	No
08:15 - 09:15	106	+	236	=	342	68	79	No
18:00 - 19:00	178	+	160	=	338	81	49	No
09:00 - 10:00	106	+	232	=	338	87	59	No
08:00 - 09:00	92		241		333	57	83	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 04/14/2023

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 7 hours meet 1A minimums.
Only 5 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 Alpine Dr

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
15:45 - 16:45	359	+	202	=	561	145	102	Yes
16:45 - 17:45	332	+	201	=	533	133	85	Yes
07:00 - 08:00	102	+	390	=	492	78	204	Yes
14:45 - 15:45	271	+	149	=	420	99	84	Yes
17:45 - 18:45	196	+	171	=	367	87	54	Yes
06:00 - 07:00	46	+	310	=	356	46	93	Yes
08:45 - 09:45	115	+	236	=	351	85	71	Yes
14:15 - 15:15	277	+	152	=	429	69	68	No
14:30 - 15:30	275	+	149	=	424	76	78	No
14:00 - 15:00	228	+	162	=	390	55	60	No
08:30 - 09:30	106	+	248	=	354	78	78	No
13:45 - 14:45	201	+	152	=	353	45	61	No

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
16:15 - 17:15	359	+	237	=	596	135	100	Yes
15:15 - 16:15	306	+	167	=	473	121	97	Yes
06:30 - 07:30	76	+	387	=	463	70	182	Yes
17:15 - 18:15	263	+	175	=	438	119	64	Yes
14:15 - 15:15	277	+	152	=	429	69	68	Yes
07:30 - 08:30	95	+	305	=	400	67	132	No
06:15 - 07:15	51	+	348	=	399	66	138	No
14:00 - 15:00	228	+	162	=	390	55	60	No
07:45 - 08:45	92	+	274	=	366	60	97	No
06:00 - 07:00	46	+	310	=	356	46	93	No
08:30 - 09:30	106	+	248	=	354	78	78	No
13:45 - 14:45	201	+	152	=	353	45	61	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 04/14/2023

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.

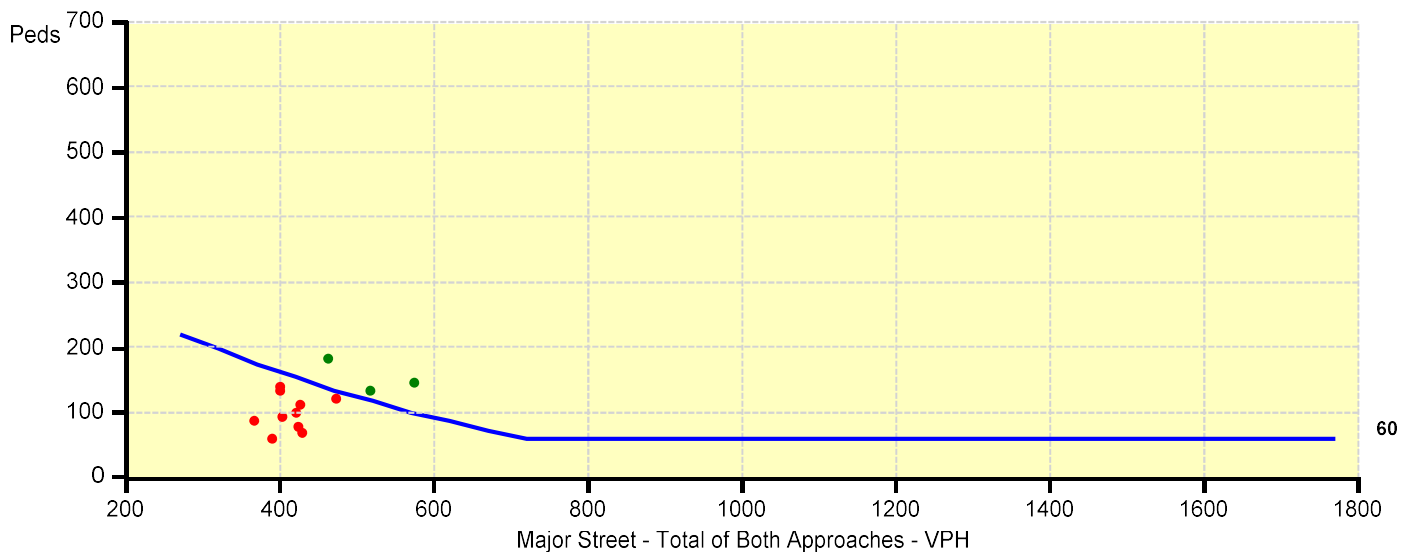
Summary

Only 3 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**

Time	Major Road CSAH 5				Total	Minor Road Alpine Dr		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:30 - 17:30	352	+	223	=	575	146	89	Yes
15:30 - 16:30	330	+	186	=	516	134	105	Yes
06:30 - 07:30	76	+	387	=	463	70	182	Yes
15:15 - 16:15	306	+	167	=	473	121	97	No
14:15 - 15:15	277	+	152	=	429	69	68	No
15:00 - 16:00	287	+	140	=	427	112	99	No
14:30 - 15:30	275	+	149	=	424	76	78	No
14:45 - 15:45	271	+	149	=	420	99	84	No
17:30 - 18:30	234	+	169	=	403	92	64	No
07:30 - 08:30	95	+	305	=	400	67	132	No
06:15 - 07:15	51	+	348	=	399	66	138	No
14:00 - 15:00	228		162		390	55	60	No



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 04/14/2023

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

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**

Time	Major Road CSAH 5				Total	Minor Road Alpine Dr		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:00 - 17:00	381	+	236	=	617	149	97	No
16:15 - 17:15	359	+	237	=	596	135	100	No
16:30 - 17:30	352	+	223	=	575	146	89	No
15:45 - 16:45	359	+	202	=	561	145	102	No
16:45 - 17:45	332	+	201	=	533	133	85	No
15:30 - 16:30	330	+	186	=	516	134	105	No
07:00 - 08:00	102	+	390	=	492	78	204	No
06:45 - 07:45	91	+	401	=	492	80	201	No
17:00 - 18:00	294	+	183	=	477	118	76	No
15:15 - 16:15	306	+	167	=	473	121	97	No
06:30 - 07:30	76	+	387	=	463	70	182	No
07:15 - 08:15	106		346		452	67	172	No

