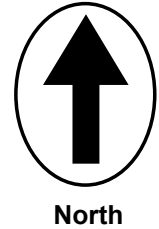


Date : 11/08/23

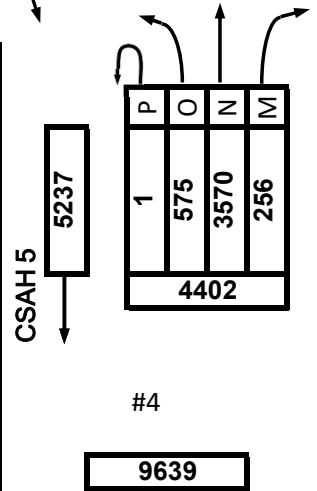
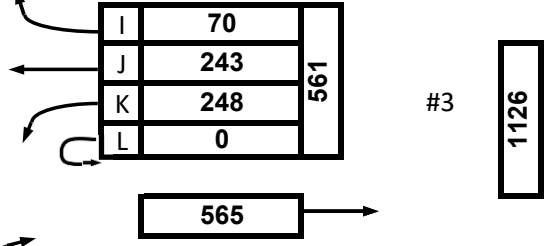
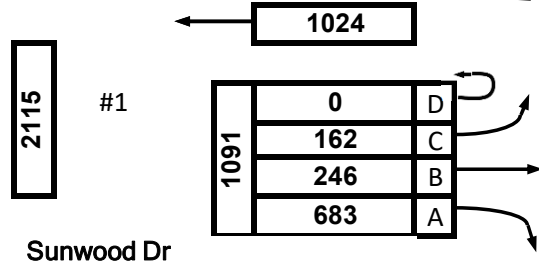
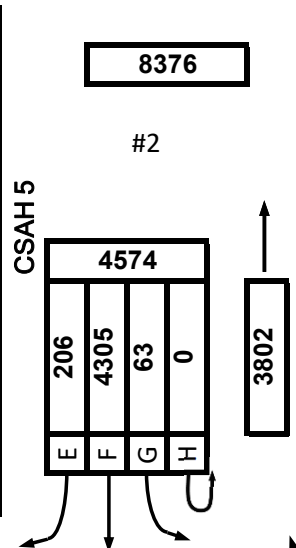
Count Number : TMC 2387

Location : CSAH 5
@ Sunwood Dr

Collection Period : 24 HR



North



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

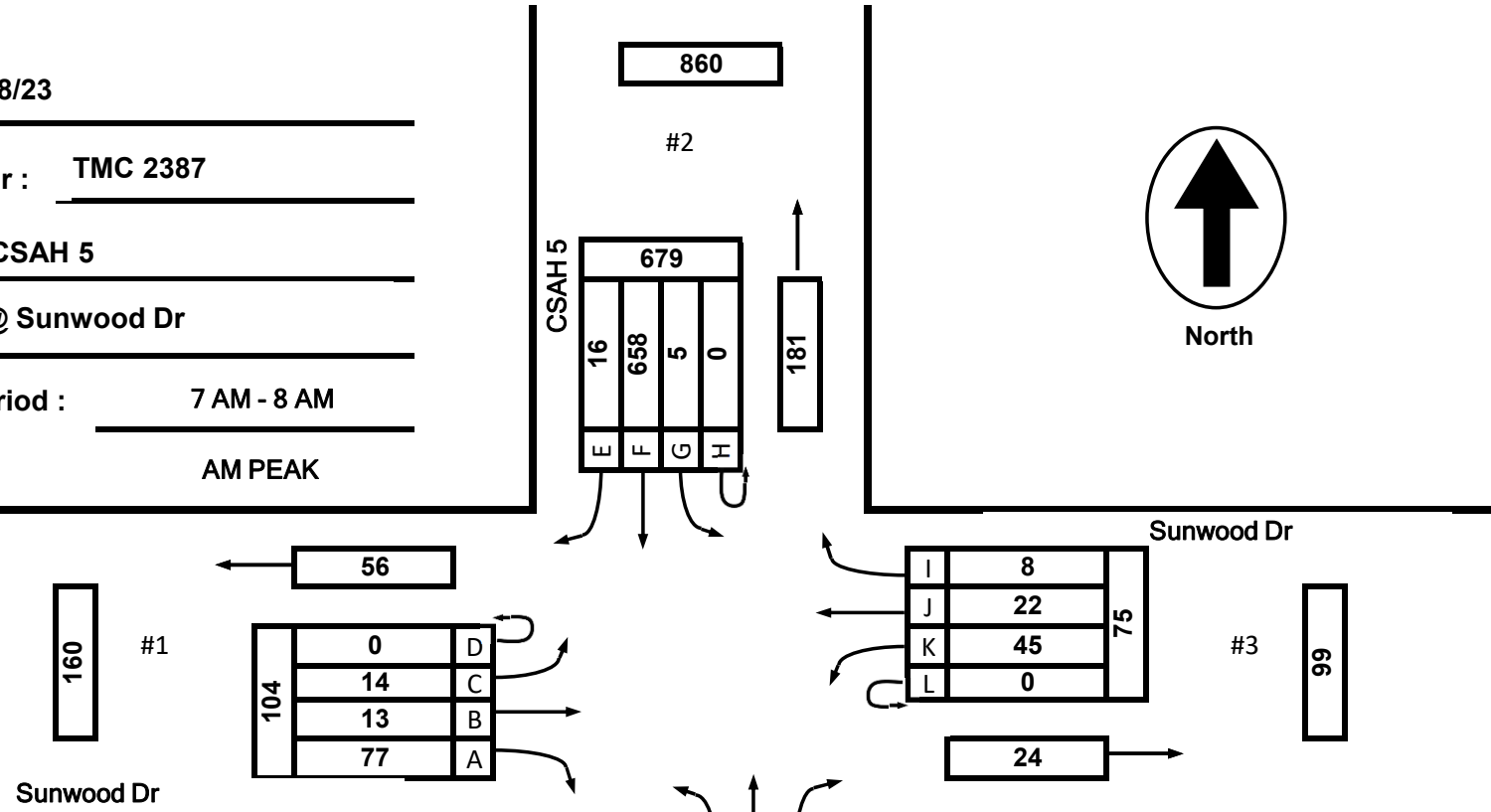
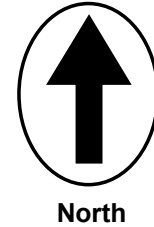
Anoka County Highway Department
 Traffic Volume and Turning Movement Study

Date : 11/08/23

Count Number : TMC 2387

Location : CSAH 5
@ Sunwood Dr

Collection Period : 7 AM - 8 AM
AM PEAK



EXISTING LANES OF APPROACH

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

Anoka County Highway Department

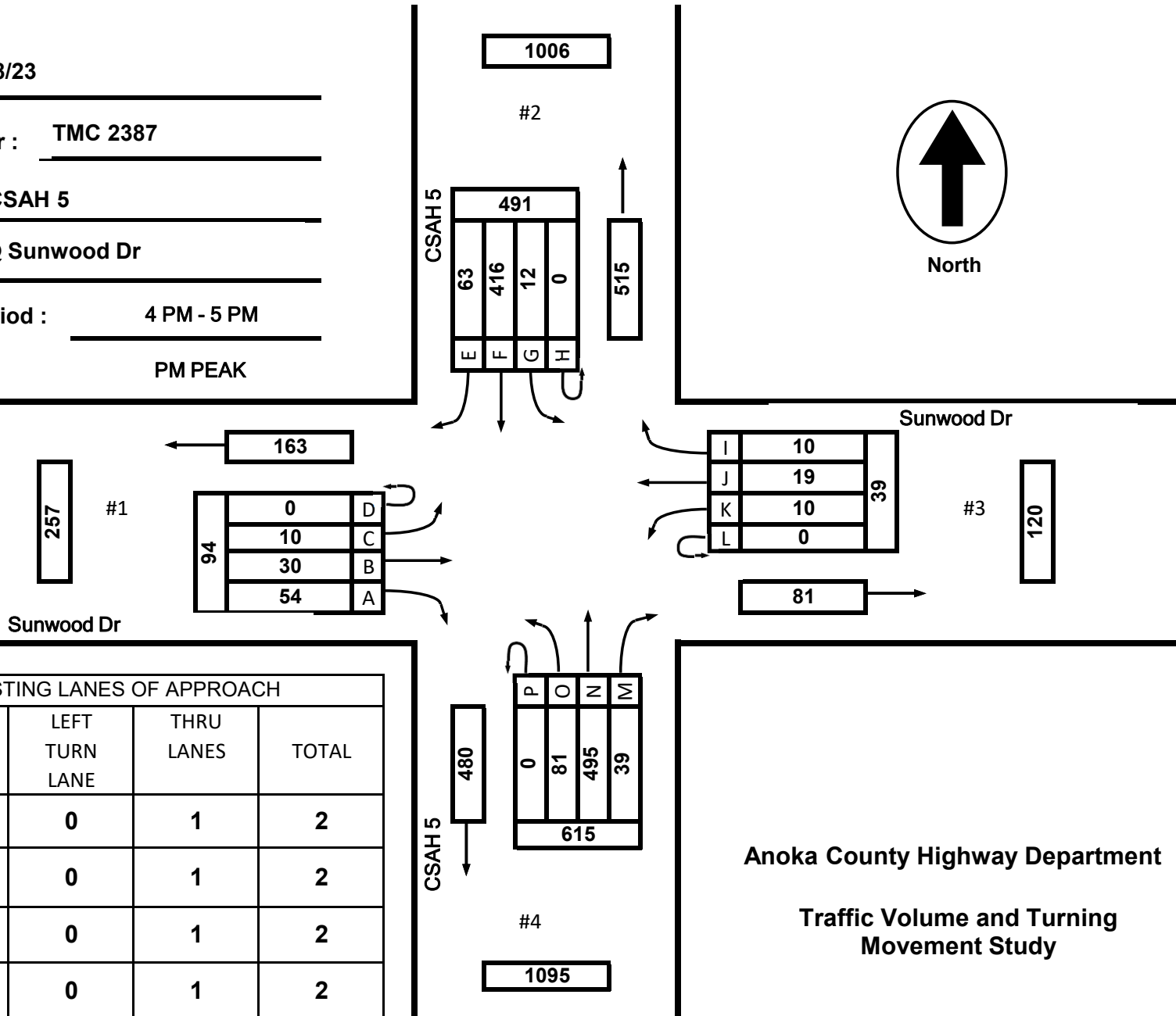
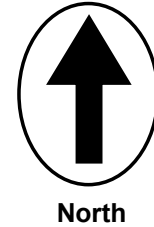
Traffic Volume and Turning Movement Study

Date : 11/08/23

Count Number : TMC 2387

Location : CSAH 5
@ Sunwood Dr

Collection Period : 4 PM - 5 PM
PM PEAK



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

Anoka County Highway Department
 Traffic Volume and Turning Movement Study

**TMC 2387 - CSAH 5 @ Sunwood Dr
Ramsey MN
Wednesday, November 8, 2023**

Time	Southbound CSAH 5						Westbound Sunwood Dr						Northbound CSAH 5						Eastbound Sunwood 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	0	0	0	0	0	1	0	0	0	1	0	3	3	1	0	0	7	0	0	0	0	0	0	8
12:15 AM	0	0	1	0	0	1	0	1	1	0	0	2	0	1	1	2	0	4	0	0	0	0	0	0	7	
12:30 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	3	0	0	0	3	0	0	1	0	0	1	5	
12:45 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	3	
Hourly Total	0	0	3	0	0	3	0	2	1	0	0	3	0	4	8	4	0	16	0	0	1	0	0	1	23	
1:00 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	6	
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	5	0	0	0	0	0	0	5	
1:30 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	3	
1:45 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	
Hourly Total	0	0	3	0	0	3	0	0	0	0	0	0	1	10	0	0	0	11	0	0	0	0	0	0	14	
2:00 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	3	0	0	0	3	0	0	1	0	0	1	5	
2:15 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	1	4	
2:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2	
2:45 AM	0	0	4	0	0	4	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	7	
Hourly Total	0	0	7	0	0	7	0	1	0	0	0	1	0	0	7	0	0	7	0	0	2	1	0	3	18	
3:00 AM	0	0	2	0	0	2	0	1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	4	
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1	2	
3:30 AM	0	0	6	0	0	6	0	1	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	10	
3:45 AM	0	1	6	0	0	7	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	9	
Hourly Total	0	1	14	0	0	15	0	2	0	0	0	2	0	0	2	1	0	3	0	1	1	3	0	5	25	
4:00 AM	0	0	8	0	0	8	0	2	1	0	0	3	0	0	0	0	0	0	0	0	0	1	0	1	12	
4:15 AM	0	0	17	0	0	17	0	2	0	0	0	2	0	0	2	0	0	2	0	0	0	1	0	1	22	
4:30 AM	0	0	20	0	0	20	0	2	0	0	0	2	0	0	1	0	0	1	0	0	0	7	0	7	30	
4:45 AM	0	0	23	3	0	26	0	2	1	0	0	3	0	1	1	0	0	2	0	0	0	4	0	4	35	
Hourly Total	0	0	68	3	0	71	0	8	2	0	0	10	0	1	4	0	0	5	0	0	0	13	0	13	99	
5:00 AM	0	0	27	0	0	27	0	2	1	0	0	3	0	0	0	0	0	0	0	0	0	5	0	5	35	
5:15 AM	0	0	42	0	0	42	0	3	2	0	0	5	0	0	0	0	0	0	0	0	0	7	0	7	54	
5:30 AM	0	0	52	0	0	52	0	3	2	0	0	5	0	0	4	0	0	4	0	2	3	3	0	8	69	
5:45 AM	0	0	65	0	0	65	0	5	11	0	0	16	0	2	4	0	0	6	0	0	0	11	0	11	98	
Hourly Total	0	0	186	0	0	186	0	13	16	0	0	29	0	2	8	0	0	10	0	2	3	26	0	31	256	
6:00 AM	0	0	73	0	0	73	0	4	0	0	0	4	0	2	8	0	0	10	0	4	2	7	0	13	100	
6:15 AM	0	0	127	0	0	127	0	6	1	2	0	9	0	1	13	0	0	14	0	2	1	10	0	13	163	
6:30 AM	0	0	149	1	0	150	0	4	4	0	0	8	0	0	16	0	0	16	0	3	1	13	0	17	191	
6:45 AM	0	0	157	3	0	160	0	13	4	2	0	19	0	0	17	1	0	18	0	3	0	23	0	26	223	
Hourly Total	0	0	506	4	0	510	0	27	9	4	0	40	0	3	54	1	0	58	0	12	4	53	0	69	677	
7:00 AM	0	3	202	3	0	208	0	19	9	4	0	32	0	3	42	2	0	47	0	2	2	20	0	24	311	
7:15 AM	0	1	164	2	0	167	0	16	0	1	0	17	0	2	36	0	0	38	0	4	3	26	0	33	255	
7:30 AM	0	1	157	6	1	164	0	8	3	1	1	12	0	10	36	3	0	49	0	5	2	11	0	18	243	
7:45 AM	0	0	135	5	0	140	0	2	10	2	0	14	0	3	45	1	0	49	0	3	6	20	0	29	232	
Hourly Total	0	5	658	16	1	679	0	45	22	8	1	75	0	18	159	6	0	183	0	14	13	77	0	104	1041	

**TMC 2387 - CSAH 5 @ Sunwood Dr
Ramsey MN
Wednesday, November 8, 2023**

Time	Southbound CSAH 5						Westbound Sunwood Dr						Northbound CSAH 5						Eastbound Sunwood 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	0	113	3	0	116	0	5	3	2	1	10	0	3	45	3	0	51	0	3	3	12	0	18	195
8:15 AM	0	0	95	0	1	96	0	9	1	0	0	10	0	0	40	2	0	42	0	3	2	4	0	9	156
8:30 AM	0	0	63	1	0	64	0	4	1	1	0	6	0	3	35	5	0	43	0	5	7	10	0	22	135
8:45 AM	0	1	69	1	0	71	0	4	2	3	1	9	0	4	38	3	0	45	0	2	2	9	0	13	138
Hourly Total	0	1	340	5	1	346	0	22	7	6	2	35	0	10	158	13	0	181	0	13	14	35	0	62	624
9:00 AM	0	0	65	5	0	70	0	4	3	5	0	12	0	8	52	3	0	63	0	13	2	13	0	28	173
9:15 AM	0	7	149	12	0	168	0	5	5	4	0	14	0	4	38	3	0	45	0	10	2	10	0	22	249
9:30 AM	0	1	79	4	0	84	0	6	1	2	0	9	0	6	28	6	0	40	0	1	5	12	0	18	151
9:45 AM	0	1	53	3	0	57	0	1	4	3	0	8	0	7	27	0	0	34	0	1	3	8	0	12	111
Hourly Total	0	9	346	24	0	379	0	16	13	14	0	43	0	25	145	12	0	182	0	25	12	43	0	80	684
10:00 AM	0	1	50	1	0	52	0	6	1	1	0	8	0	7	31	2	0	40	0	0	3	12	0	15	115
10:15 AM	0	1	46	1	0	48	0	3	1	0	0	4	0	6	35	2	0	43	0	1	1	9	0	11	106
10:30 AM	0	0	59	2	0	61	0	3	2	0	0	5	0	4	30	1	0	35	0	2	1	10	0	13	114
10:45 AM	0	0	50	2	0	52	0	6	3	0	0	9	0	5	21	2	0	28	0	0	1	11	0	12	101
Hourly Total	0	2	205	6	0	213	0	18	7	1	0	26	0	22	117	7	0	146	0	3	6	42	0	51	436
11:00 AM	0	2	35	3	0	40	0	1	5	0	0	6	0	4	42	2	0	48	0	4	6	11	0	21	115
11:15 AM	0	0	35	4	0	39	0	1	1	2	0	4	0	4	43	2	0	49	0	0	6	9	0	15	107
11:30 AM	0	0	61	1	0	62	0	1	3	0	0	4	0	8	33	2	0	43	0	1	3	12	0	16	125
11:45 AM	0	3	55	1	0	59	0	3	9	2	0	14	0	10	35	4	0	49	0	1	2	9	0	12	134
Hourly Total	0	5	186	9	0	200	0	6	18	4	0	28	0	26	153	10	0	189	0	6	17	41	0	64	481
12:00 PM	0	2	44	2	0	48	0	3	1	2	1	6	0	9	48	5	0	62	0	2	5	11	0	18	134
12:15 PM	0	1	51	0	0	52	0	3	3	2	0	8	0	5	40	5	0	50	0	1	3	5	0	9	119
12:30 PM	0	1	49	3	0	53	0	1	4	0	0	5	0	5	48	2	0	55	0	0	2	8	0	10	123
12:45 PM	0	0	31	5	0	36	0	1	6	0	0	7	0	6	35	5	0	46	0	1	2	7	0	10	99
Hourly Total	0	4	175	10	0	189	0	8	14	4	1	26	0	25	171	17	0	213	0	4	12	31	0	47	475
1:00 PM	0	0	31	2	0	33	0	2	3	0	0	5	0	5	40	6	0	51	0	0	2	4	0	6	95
1:15 PM	0	0	27	0	1	27	0	3	3	0	0	6	0	10	43	1	0	54	0	1	8	6	0	15	102
1:30 PM	0	1	47	3	0	51	0	3	3	0	1	6	0	9	39	3	0	51	0	3	2	9	0	14	122
1:45 PM	0	0	43	2	0	45	0	0	6	1	0	7	0	3	45	5	0	53	0	2	1	11	0	14	119
Hourly Total	0	1	148	7	1	156	0	8	15	1	1	24	0	27	167	15	0	209	0	6	13	30	0	49	438
2:00 PM	0	0	57	1	0	58	0	2	3	0	0	5	0	10	55	5	0	70	0	2	2	6	0	10	143
2:15 PM	0	2	38	1	0	41	0	1	3	1	0	5	0	12	76	0	0	88	0	1	4	6	0	11	145
2:30 PM	0	2	48	4	0	54	0	2	0	0	0	2	0	6	72	1	0	79	0	3	7	11	0	21	156
2:45 PM	0	1	42	0	0	43	0	2	3	4	0	9	0	10	79	7	0	96	0	0	4	8	0	12	160
Hourly Total	0	5	185	6	0	196	0	7	9	5	0	21	0	38	282	13	0	333	0	6	17	31	0	54	604
3:00 PM	0	0	36	3	0	39	0	1	3	1	2	5	0	18	95	9	0	122	0	5	3	7	0	15	181
3:15 PM	0	0	34	2	0	36	0	1	5	2	1	8	0	15	105	3	1	123	0	3	4	15	0	22	189
3:30 PM	0	1	57	2	0	60	0	6	1	2	0	9	0	14	118	5	0	137	0	9	11	12	0	32	238
3:45 PM	0	0	46	4	0	50	0	2	2	1	0	5	1	12	142	4	0	159	0	6	2	6	0	14	228
Hourly Total	0	1	173	11	0	185	0	10	11	6	3	27	1	59	460	21	1	541	0	23	20	40	0	83	836

**TMC 2387 - CSAH 5 @ Sunwood Dr
Ramsey MN
Wednesday, November 8, 2023**

Time	Southbound CSAH 5						Westbound Sunwood Dr						Northbound CSAH 5						Eastbound Sunwood 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	10	143	38	0	191	0	0	1	2	2	3	0	20	98	11	0	129	0	3	9	8	0	20	343
4:15 PM	0	1	118	12	0	131	0	3	3	2	0	8	0	18	115	8	0	141	0	2	7	11	0	20	300
4:30 PM	0	1	75	9	0	85	0	2	10	4	1	16	0	29	150	12	0	197	0	2	6	20	0	28	320
4:45 PM	0	0	80	4	1	84	0	5	5	2	0	12	0	14	132	8	0	154	0	3	8	15	0	26	276
Hourly Total	0	12	416	63	1	491	0	10	19	10	3	39	0	81	495	39	0	615	0	10	30	54	0	94	1239
5:00 PM	0	3	76	2	0	81	0	3	10	4	1	17	0	16	125	3	0	144	0	5	6	20	0	31	273
5:15 PM	0	2	66	9	0	77	0	4	7	0	0	11	0	21	107	11	0	139	0	3	4	14	0	21	248
5:30 PM	0	1	65	6	0	72	0	2	2	1	0	5	0	19	107	9	0	135	0	4	4	18	0	26	238
5:45 PM	0	1	57	5	0	63	0	9	7	0	0	16	0	12	97	8	0	117	0	4	8	14	0	26	222
Hourly Total	0	7	264	22	0	293	0	18	26	5	1	49	0	68	436	31	0	535	0	16	22	66	0	104	981
6:00 PM	0	2	63	4	0	69	0	5	4	0	0	9	0	16	78	7	0	101	0	2	3	14	0	19	198
6:15 PM	0	0	47	2	0	49	0	3	2	0	0	5	0	8	73	5	0	86	0	0	8	5	0	13	153
6:30 PM	0	1	30	2	0	33	0	0	11	0	0	11	0	14	61	6	0	81	0	1	5	8	0	14	139
6:45 PM	0	0	35	2	0	37	0	0	6	0	0	6	0	10	47	1	0	58	0	0	4	7	0	11	112
Hourly Total	0	3	175	10	0	188	0	8	23	0	0	31	0	48	259	19	0	326	0	3	20	34	0	57	602
7:00 PM	0	1	27	0	0	28	0	4	0	0	0	4	0	11	38	5	0	54	0	2	5	6	0	13	99
7:15 PM	0	3	36	1	0	40	0	0	5	1	0	6	0	10	38	3	0	51	0	1	4	8	0	13	110
7:30 PM	0	1	22	2	0	25	0	1	1	0	0	2	0	11	55	5	0	71	0	1	1	5	0	7	105
7:45 PM	0	0	20	0	0	20	0	1	2	0	0	3	0	10	24	5	0	39	0	1	4	5	0	10	72
Hourly Total	0	5	105	3	0	113	0	6	8	1	0	15	0	42	155	18	0	215	0	5	14	24	0	43	386
8:00 PM	0	0	18	1	0	19	0	1	5	0	0	6	0	10	36	3	0	49	0	2	2	4	0	8	82
8:15 PM	0	1	9	0	0	10	0	2	4	1	0	7	0	2	30	2	0	34	0	1	1	5	0	7	58
8:30 PM	0	0	23	1	0	24	0	1	3	0	0	4	0	10	37	3	0	50	0	0	5	7	0	12	90
8:45 PM	0	0	17	3	0	20	0	2	1	0	0	3	0	12	38	3	0	53	0	0	3	6	0	9	85
Hourly Total	0	1	67	5	0	73	0	6	13	1	0	20	0	34	141	11	0	186	0	3	11	22	0	36	315
9:00 PM	0	0	15	0	0	15	0	0	0	0	0	0	0	7	24	2	0	33	0	3	1	1	0	5	53
9:15 PM	0	0	8	0	0	8	0	0	3	0	0	3	0	6	28	1	0	35	0	3	4	4	0	11	57
9:30 PM	0	1	9	0	0	10	0	1	1	0	0	2	0	5	29	1	0	35	0	0	2	3	0	5	52
9:45 PM	0	0	8	0	0	8	0	0	4	0	0	4	0	4	24	1	0	29	0	0	2	1	0	3	44
Hourly Total	0	1	40	0	0	41	0	1	8	0	0	9	0	22	105	5	0	132	0	6	9	9	0	24	206
10:00 PM	0	0	10	0	0	10	0	1	0	0	0	1	0	4	19	3	0	26	0	0	0	5	0	5	42
10:15 PM	0	0	7	1	0	8	0	2	0	0	0	2	0	4	14	0	0	18	0	1	1	3	0	5	33
10:30 PM	0	0	3	1	0	4	0	0	0	0	0	0	0	3	14	2	0	19	0	1	0	0	0	1	24
10:45 PM	0	0	8	0	0	8	0	1	1	0	1	2	0	1	12	1	0	14	0	1	0	0	0	1	25
Hourly Total	0	0	28	2	0	30	0	4	1	0	1	5	0	12	59	6	0	77	0	3	1	8	0	12	124
11:00 PM	0	0	3	0	0	3	0	0	0	0	0	0	0	1	5	3	0	9	0	0	1	0	0	1	13
11:15 PM	0	0	2	0	0	2	0	0	1	0	0	1	0	4	4	1	0	9	0	1	1	0	0	2	14
11:30 PM	0	0	2	0	0	2	0	2	0	0	0	2	0	1	5	2	0	8	0	0	0	0	0	0	12
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	3	0	0	2	0	0	2	5
Hourly Total	0	0	7	0	0	7	0	2	1	0	0	3	0	7	15	7	0	29	0	1	4	0	0	5	44
DAILY TOTAL	0	63	4305	206	4	4574	0	248	243	70	13	561	1	575	3570	256	1	4402	0	162	246	683	0	1091	10628
Cars	0	59	4159	200	3	4418	0	240	239	66	9	545	1	574	3486	251	1	4312	0	157	239	671	0	1067	10342
Heavy Vehicles	0	4	146	6	1	156	0	8	4	4	4	16	0	1	84	5	0	90	0	5	7	12	0	24	286
Heavy Vehicle %	0.00%	6.35%	3.39%	2.91%	25.00%	3.41%	0.00%	3.23%	1.65%	5.71%	30.77%	2.85%	0.00%	0.17%	2.35%	1.95%	0.00%	2.04%	0.00%	3.09%	2.85%	1.76%	0.00%	2.20%	2.69%

**TMC 2387 - CSAH 5 @ Sunwood Dr
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							
7:00 AM	0	3	202	3	0	208	0	19	9	4	0	32	0	3	42	2	0	47	0	2	2	20	0	24	0	2	2	20	0	33	311
7:15 AM	0	1	164	2	0	167	0	16	0	1	0	17	0	2	36	0	0	38	0	4	3	26	0	33	0	5	2	11	0	18	243
7:30 AM	0	1	157	6	1	164	0	8	3	1	1	12	0	10	36	3	0	49	0	5	2	11	0	18	0	3	6	20	0	29	232
7:45 AM	0	0	135	5	0	140	0	2	10	2	0	14	0	3	45	1	0	49	0	3	6	20	0	29	0	14	13	77	0	104	1041
Peak Hour Total	0	5	658	16	1	679	0	45	22	8	1	75	0	18	159	6	0	183	0	14	13	77	0	104	0	14	13	77	0	104	1041
PHF	0.000	0.417	0.814	0.667	0.250	0.816	0.000	0.592	0.550	0.500	0.250	0.586	0.000	0.450	0.883	0.500	0.000	0.934	0.000	0.700	0.542	0.740	0.000	0.788	0.000	0.700	0.542	0.740	0.000	0.788	0.837

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	10	143	38	0	191	0	0	1	2	2	3	0	20	98	11	0	129	0	3	9	8	0	20	0	3	9	8	0	20	343
4:15 PM	0	1	118	12	0	131	0	3	3	2	0	8	0	18	115	8	0	141	0	2	7	11	0	20	0	2	7	11	0	20	300
4:30 PM	0	1	75	9	0	85	0	2	10	4	1	16	0	29	150	12	0	191	0	2	6	20	0	28	0	2	6	20	0	28	320
4:45 PM	0	0	80	4	1	84	0	5	5	2	0	12	0	14	132	8	0	154	0	3	8	15	0	26	0	3	8	15	0	26	276
Peak Hour Total	0	12	416	63	1	491	0	10	19	10	3	39	0	81	495	39	0	615	0	10	30	54	0	94	0	10	30	54	0	94	1239
PHF	0.000	0.300	0.727	0.414	0.250	0.643	0.000	0.500	0.475	0.625	0.375	0.609	0.000	0.698	0.825	0.813	0.000	0.805	0.000	0.833	0.833	0.675	0.000	0.839	0.000	0.833	0.833	0.675	0.000	0.839	0.903

Total Vehicles On Leg				8376			
Vehicles Entering Intersection		4574		Vehicles Exiting Intersection		3802	
Southbound							
Cars	200	4159	59	0	3		
Heavy	6	146	4	0	1		
Total	206	4305	63	0	4		



Total Vehicles on Leg 2115	Vehicles Entering Intersection 1091	Eastbound	Cars	Heavy	Total
			0	0	0
	0		0	0	
	157		5	162	
	239		7	246	
Vehicles Exiting Intersection 1024	671	12	683		



Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 561	Total Vehicles on Leg 1126
66	4	70			
239	4	243			
240	8	248			
0	0	0			
9	4	13	Vehicles Exiting Intersection 565		



Cars	1	1	574	3486	251
Heavy	0	0	1	84	5
Total	1	1	575	3570	256
Northbound					
Vehicles Entering Intersection			4402		
Vehicles Exiting Intersection			5237		
Total Vehicles On Leg			9639		



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2387

Study Date : 11/16/2023

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 5

Number of Lanes : 1

Total Approach Volume: 8,804

Southbound: CSAH 5

Number of Lanes : 1

Total Approach Volume: 9,148

Minor Street Approaches

Eastbound: Sunwood Dr

Number of Lanes : 1

Total Approach Volume: 2,182

Westbound: Sunwood Dr

Number of Lanes : 1

Total Approach Volume: 1,122

Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 11 hours, 8 are needed

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

Required volumes reached for 15 hours, 8 are needed

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

Required 1A volumes reached for 14 hours, 8 are needed

Required 1B volumes reached for 16 hours, 8 are needed

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

Number of hours (14) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

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

Number of one hour periods (45) 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 2387

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

11 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**

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	
	CSAH 5					Sunwood Dr		
16:15 - 17:15	1260	+	762	=	2022	210	106	Yes
15:15 - 16:15	1096	+	674	=	1770	176	50	Yes
06:45 - 07:45	304	+	1398	=	1702	202	160	Yes
17:15 - 18:15	984	+	562	=	1546	184	82	Yes
07:45 - 08:45	370	+	830	=	1200	156	80	Yes
08:45 - 09:45	386	+	786	=	1172	162	88	Yes
14:15 - 15:15	770	+	354	=	1124	118	42	Yes
05:45 - 06:45	92	+	830	=	922	108	74	Yes
11:15 - 12:15	406	+	416	=	822	122	56	Yes
13:15 - 14:15	456	+	362	=	818	106	48	Yes
10:15 - 11:15	308	+	402	=	710	114	48	Yes
18:15 - 19:15	558	+	294	=	852	102	52	No
18:30 - 19:30	488	+	276	=	764	102	54	No
12:15 - 13:15	404	+	348	=	752	70	50	No
09:45 - 10:45	304	+	436	=	740	102	50	No
13:00 - 14:00	418	+	312	=	730	98	48	No
18:45 - 19:45	468	+	260	=	728	88	36	No
10:00 - 11:00	292	+	426	=	718	102	52	No
12:30 - 13:30	412	+	298	=	710	82	46	No
05:30 - 06:30	68	+	634	=	702	90	68	No
12:45 - 13:45	404	+	294	=	698	90	48	No
19:00 - 20:00	430	+	226	=	656	86	30	No
19:15 - 20:15	420	+	208	=	628	76	34	No
19:30 - 20:30	386	+	148	=	534	64	36	No
20:00 - 21:00	372		146		518	72	40	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2387

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

15 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**

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	
	CSAH 5					Sunwood Dr		
15:30 - 16:30	1132	+	864	=	1996	172	50	Yes
16:30 - 17:30	1256	+	654	=	1910	212	112	Yes
06:30 - 07:30	238	+	1370	=	1608	200	152	Yes
07:30 - 08:30	382	+	1030	=	1412	148	92	Yes
17:30 - 18:30	878	+	506	=	1384	168	70	Yes
14:30 - 15:30	840	+	344	=	1184	140	48	Yes
08:30 - 09:30	392	+	746	=	1138	170	82	Yes
13:30 - 14:30	524	+	390	=	914	98	46	Yes
11:30 - 12:30	408	+	442	=	850	110	64	Yes
09:30 - 10:30	314	+	482	=	796	112	58	Yes
18:30 - 19:30	488	+	276	=	764	102	54	Yes
12:30 - 13:30	412	+	298	=	710	82	46	Yes
10:30 - 11:30	320	+	384	=	704	122	48	Yes
05:30 - 06:30	68	+	634	=	702	90	68	Yes
19:30 - 20:30	386	+	148	=	534	64	36	Yes
05:15 - 06:15	40	+	464	=	504	78	60	No
20:30 - 21:30	342	+	134	=	476	74	20	No
20:45 - 21:45	312	+	106	=	418	60	16	No
05:00 - 06:00	20	+	372	=	392	62	58	No
21:00 - 22:00	264	+	82	=	346	48	18	No
21:15 - 22:15	250	+	72	=	322	48	20	No
04:45 - 05:45	12	+	294	=	306	48	32	No
21:30 - 22:30	216	+	72	=	288	36	18	No
21:45 - 22:45	184	+	60	=	244	28	14	No
04:30 - 05:30	6		230		236	46	26	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2387

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

14 hours meet 1A minimums.
16 hours meet 1B minimums.
Warrant IS 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 Sunwood Dr

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
15:45 - 16:45	1240	+	914	=	2154	164	64	Yes
16:45 - 17:45	1144	+	628	=	1772	208	90	Yes
06:30 - 07:30	238	+	1370	=	1608	200	152	Yes
07:30 - 08:30	382	+	1030	=	1412	148	92	Yes
14:45 - 15:45	956	+	356	=	1312	162	62	Yes
17:45 - 18:45	770	+	428	=	1198	144	82	Yes
08:30 - 09:30	392	+	746	=	1138	170	82	Yes
13:45 - 14:45	580	+	396	=	976	112	38	Yes
11:30 - 12:30	408	+	442	=	850	110	64	Yes
09:30 - 10:30	314	+	482	=	796	112	58	Yes
18:45 - 19:45	468	+	260	=	728	88	36	Yes
10:30 - 11:30	320	+	384	=	704	122	48	Yes

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
16:15 - 17:15	1260	+	762	=	2022	210	106	Yes
15:15 - 16:15	1096	+	674	=	1770	176	50	Yes
07:15 - 08:15	374	+	1174	=	1548	196	106	Yes
17:15 - 18:15	984	+	562	=	1546	184	82	Yes
06:15 - 07:15	190	+	1290	=	1480	160	136	Yes
14:15 - 15:15	770	+	354	=	1124	118	42	Yes
09:15 - 10:15	318	+	722	=	1040	134	78	Yes
08:15 - 09:15	386	+	600	=	986	144	74	Yes
18:15 - 19:15	558	+	294	=	852	102	52	Yes
11:15 - 12:15	406	+	416	=	822	122	56	Yes
13:15 - 14:15	456	+	362	=	818	106	48	Yes
12:15 - 13:15	404	+	348	=	752	70	50	Yes

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2387

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.

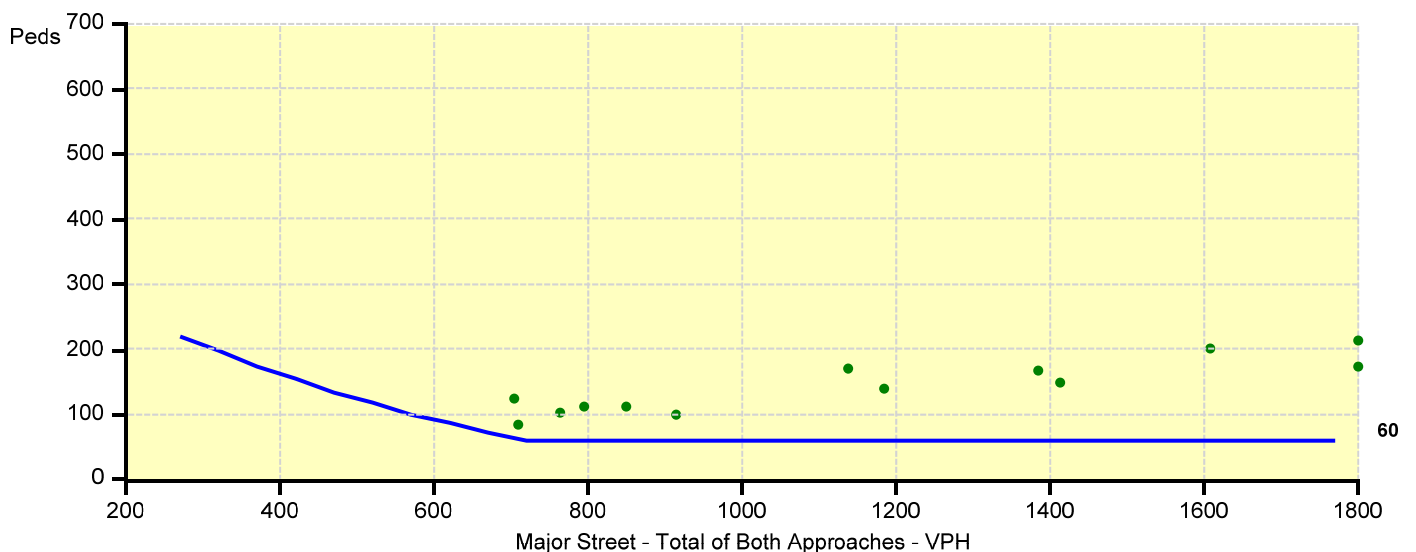
Summary

14 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 Sunwood Dr		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
15:30 - 16:30	1132	+	864	=	1996	172	50	Yes
16:30 - 17:30	1256	+	654	=	1910	212	112	Yes
06:30 - 07:30	238	+	1370	=	1608	200	152	Yes
07:30 - 08:30	382	+	1030	=	1412	148	92	Yes
17:30 - 18:30	878	+	506	=	1384	168	70	Yes
14:30 - 15:30	840	+	344	=	1184	140	48	Yes
08:30 - 09:30	392	+	746	=	1138	170	82	Yes
13:30 - 14:30	524	+	390	=	914	98	46	Yes
11:30 - 12:30	408	+	442	=	850	110	64	Yes
09:30 - 10:30	314	+	482	=	796	112	58	Yes
18:30 - 19:30	488	+	276	=	764	102	54	Yes
12:30 - 13:30	412		298		710	82	46	Yes



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2387

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

37 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 Sunwood Dr		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:00 - 17:00	1230	+	982	=	2212	188	78	Yes
15:45 - 16:45	1240	+	914	=	2154	164	64	Yes
16:15 - 17:15	1260	+	762	=	2022	210	106	Yes
15:30 - 16:30	1132	+	864	=	1996	172	50	Yes
16:30 - 17:30	1256	+	654	=	1910	212	112	Yes
16:45 - 17:45	1144	+	628	=	1772	208	90	Yes
15:15 - 16:15	1096	+	674	=	1770	176	50	Yes
07:00 - 08:00	366	+	1358	=	1724	208	150	Yes
06:45 - 07:45	304	+	1398	=	1702	202	160	Yes
17:00 - 18:00	1070	+	586	=	1656	208	98	Yes
06:30 - 07:30	238	+	1370	=	1608	200	152	Yes
07:15 - 08:15	374	+	1174	=	1548	196	106	Yes

