

Date : 11/04/21

Count Number : TMC 2152

Location : CSAH 116 (Bunker Lake Blvd.)
@ Rose St.

Collection Period : 24 Hours

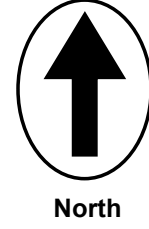
2411

#2

Rose St.

1234			
330	78	826	0
E	F	G	H

1177



CSAH 116

10728

21609

#1

10881	35	D
	640	C
	9643	B
	563	A

I	485	10631
J	9802	
K	258	
L	86	

#3

21344

10713

CSAH 116

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

Rose St.

899

P	O	N	M
0	561	52	158
771			

#4

1670

Anoka County Highway Department

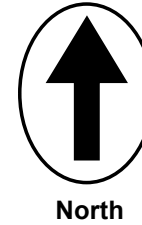
Traffic Volume and Turning Movement Study

Date : 11/04/21

Count Number : TMC 2152

Location : CSAH 116 (Bunker Lake Blvd.)
@ Rose St.

Collection Period : 7 AM - 8 AM
AM PEAK



1451

#1

691	1	D
	26	C
	631	B
	33	A

CSAH 116

104

#2

63			
11	4	48	0
E	F	G	H

Rose St.

41

CSAH 116

I	15	779
J	719	
K	26	
L	19	

#3

1487

708

63

Rose St.

P	O	N	M
0	29	0	10
39			

#4

102

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

Anoka County Highway Department

Traffic Volume and Turning Movement Study

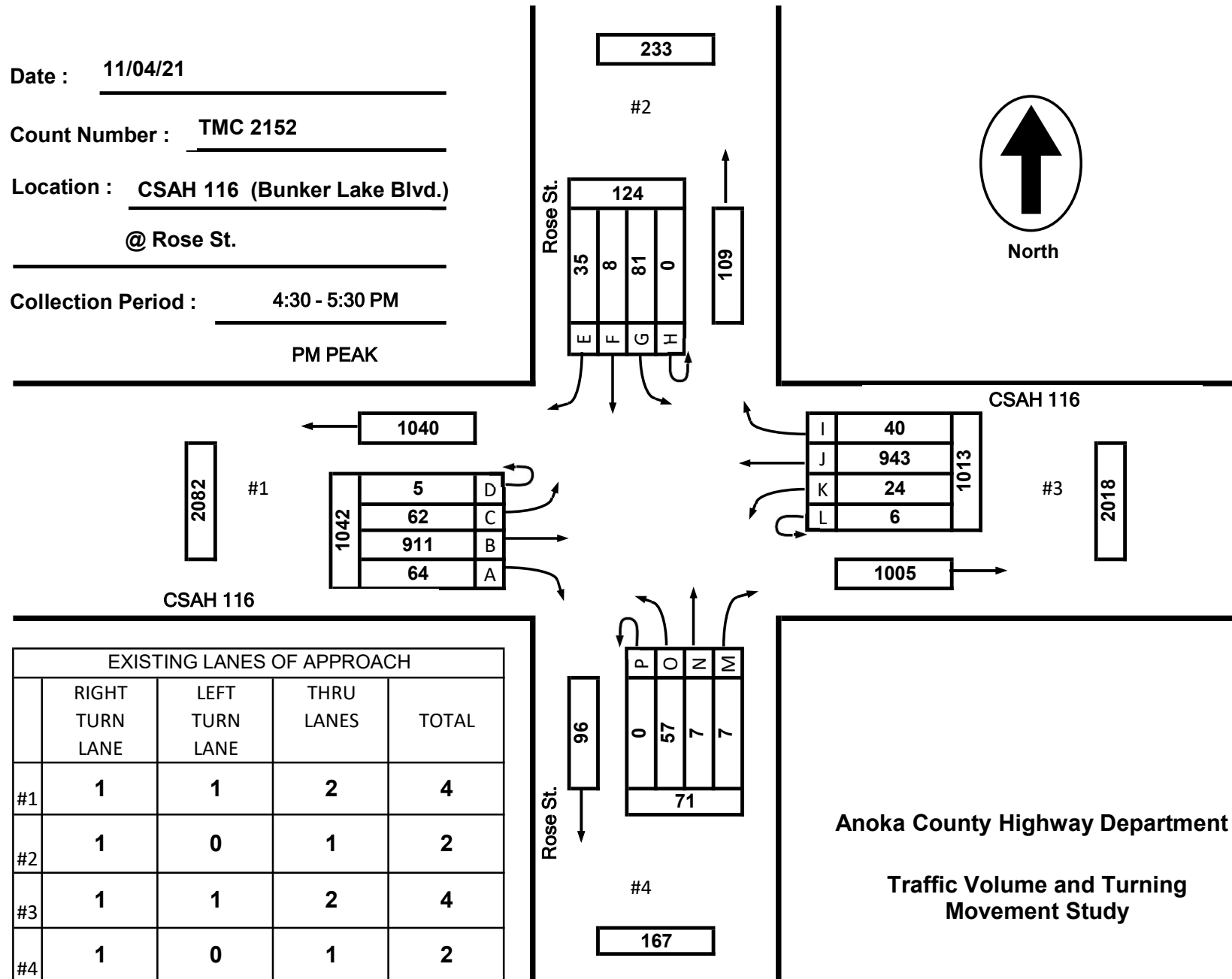
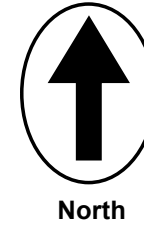
Date : 11/04/21

Count Number : TMC 2152

Location : CSAH 116 (Bunker Lake Blvd.)
@ Rose St.

Collection Period : 4:30 - 5:30 PM

PM PEAK



EXISTING LANES OF APPROACH

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

Anoka County Highway Department

Traffic Volume and Turning Movement Study

**TMC 2152
Andover MN
Thursday, November 4, 2021**

Time	Southbound Rose St.						Westbound CSAH 116						Northbound Rose St.						Eastbound CSAH 116						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	0	3	0	0	3	0	0	0	0	0	0	0	0	5	0	0	5	8
12:15 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	12	0	0	12	14
12:30 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	1	0	0	1	0	7	0	0	7	10
12:45 AM	0	0	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	0	0	0	4	1	0	5	11
Hourly Total	0	0	0	0	0	0	0	0	12	1	0	13	0	0	0	1	0	1	0	0	28	1	0	29	43
1:00 AM	0	0	0	1	0	1	0	0	3	0	0	3	0	0	0	0	0	0	0	0	7	0	0	7	11
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4	4
1:30 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	3	0	0	3	7
1:45 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	4	0	0	4	10
Hourly Total	0	0	0	1	0	1	0	0	13	0	0	13	0	0	0	0	0	0	0	0	17	1	0	18	32
2:00 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	1	0	0	0	0	1	0	0	1	0	2	6
2:15 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	1	0	0	0	0	1	0	0	3	0	3	7
2:30 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	0	0	1	0	0	5	0	5	8
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	6	0	6	7
Hourly Total	0	0	0	0	0	0	0	0	8	0	0	8	0	4	0	0	0	4	0	0	15	1	0	16	28
3:00 AM	0	0	0	0	0	0	0	0	4	1	0	5	0	1	0	0	0	0	1	0	0	4	0	4	10
3:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	1	0	3	4
3:30 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	1	0	0	0	0	1	0	0	4	0	4	9
3:45 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	3	0	0	3	7
Hourly Total	0	0	0	0	0	0	0	0	13	1	0	14	0	2	0	0	0	2	0	0	13	1	0	14	30
4:00 AM	0	0	0	0	0	0	0	2	8	0	0	10	0	1	0	0	0	0	1	0	0	3	1	4	15
4:15 AM	0	0	0	0	0	0	0	0	13	0	0	13	0	2	0	0	0	0	2	0	0	11	0	11	26
4:30 AM	0	0	0	1	0	1	0	0	14	0	0	14	0	0	0	0	0	0	0	2	18	0	0	20	35
4:45 AM	0	0	0	0	0	0	0	1	20	0	0	21	0	1	0	0	0	0	1	0	1	25	1	27	49
Hourly Total	0	0	0	1	0	1	0	3	55	0	0	58	0	4	0	0	0	4	0	3	57	2	0	62	125
5:00 AM	0	1	0	0	0	1	0	0	25	0	0	25	0	3	0	1	0	0	4	0	0	11	0	11	41
5:15 AM	0	1	0	0	0	1	0	0	38	0	0	38	0	0	0	1	0	0	1	0	0	19	1	20	60
5:30 AM	0	2	0	0	0	2	0	0	39	3	0	42	0	3	0	0	0	0	3	0	0	28	0	28	75
5:45 AM	0	0	0	0	2	0	0	1	48	0	0	49	0	3	0	0	0	0	3	0	1	46	1	48	100
Hourly Total	0	4	0	0	2	4	0	1	150	3	0	154	0	9	0	2	0	11	0	1	104	2	0	107	276
6:00 AM	0	4	0	1	0	5	0	3	46	1	0	50	0	3	0	0	0	3	0	3	45	2	0	50	108
6:15 AM	0	5	0	1	0	6	0	1	73	1	0	75	0	1	0	0	0	1	0	2	74	5	0	81	163
6:30 AM	0	2	0	0	0	2	0	3	109	1	0	113	0	12	0	1	0	13	0	1	79	1	0	81	209
6:45 AM	0	5	1	0	0	6	1	0	130	2	0	133	0	4	1	1	0	6	1	6	118	2	0	127	272
Hourly Total	0	16	1	2	0	19	1	7	358	5	0	371	0	20	1	2	0	23	1	12	316	10	0	339	752
7:00 AM	0	7	2	1	0	10	2	6	123	3	0	134	0	3	0	4	0	7	0	7	127	10	0	144	295
7:15 AM	0	14	0	4	0	18	5	3	175	3	0	186	0	7	0	1	0	8	1	11	165	8	0	185	397
7:30 AM	0	19	1	5	0	25	10	13	238	9	0	270	0	13	0	1	0	14	0	5	202	10	0	217	526
7:45 AM	0	8	1	1	0	10	2	4	183	0	0	189	0	6	0	4	0	10	0	3	137	5	0	145	354
Hourly Total	0	48	4	11	0	63	19	26	719	15	0	779	0	29	0	10	0	39	1	26	631	33	0	691	1572

**TMC 2152
Andover MN
Thursday, November 4, 2021**

Time	Southbound Rose St.						Westbound CSAH 116						Northbound Rose St.						Eastbound CSAH 116						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	4	1	2	0	7	0	5	134	0	0	139	0	5	0	0	0	5	0	5	118	6	0	129	280
8:15 AM	0	6	0	0	0	6	0	6	116	5	0	127	0	8	0	1	0	9	0	5	77	5	0	87	229
8:30 AM	0	12	0	6	0	18	1	5	118	3	0	127	0	3	0	0	0	3	0	8	95	7	0	110	258
8:45 AM	0	8	0	2	0	10	2	2	133	5	0	142	0	9	0	3	0	12	1	10	116	10	0	137	301
Hourly Total	0	30	1	10	0	41	3	18	501	13	0	535	0	25	0	4	0	29	1	28	406	28	0	463	1068
9:00 AM	0	3	1	4	0	8	1	3	104	4	0	112	0	8	1	1	0	10	1	6	98	8	0	113	243
9:15 AM	0	4	1	3	0	8	2	7	158	10	0	177	0	9	0	1	0	10	0	6	102	12	0	120	315
9:30 AM	0	9	1	4	0	14	1	5	114	11	0	131	0	5	0	5	0	10	0	11	96	8	0	115	270
9:45 AM	0	12	2	5	0	19	2	4	128	9	0	143	0	8	1	2	0	11	2	5	144	12	0	163	336
Hourly Total	0	28	5	16	0	49	6	19	504	34	0	563	0	30	2	9	0	41	3	28	440	40	0	511	1164
10:00 AM	0	8	3	3	0	14	0	0	115	9	0	124	0	7	0	2	0	9	0	19	112	7	0	138	285
10:15 AM	0	18	1	7	1	26	3	2	115	8	0	128	0	4	1	0	0	5	0	8	111	6	0	125	284
10:30 AM	0	14	0	9	0	23	0	4	127	8	0	139	0	9	1	3	0	13	0	12	124	9	0	145	320
10:45 AM	0	11	1	14	0	26	1	3	150	11	0	165	0	11	2	3	0	16	1	12	139	9	0	161	368
Hourly Total	0	51	5	33	1	89	4	9	507	36	0	556	0	31	4	8	0	43	1	51	486	31	0	569	1257
11:00 AM	0	19	1	8	0	28	0	3	97	12	0	112	0	14	2	4	0	20	0	16	133	5	0	154	314
11:15 AM	0	16	0	6	0	22	1	2	147	7	0	157	0	7	2	2	0	11	1	15	108	14	0	138	328
11:30 AM	0	11	1	7	0	19	0	1	157	13	0	171	0	13	1	3	0	17	2	13	142	6	0	163	370
11:45 AM	0	4	1	8	0	13	1	3	162	16	0	182	0	9	1	0	0	10	2	12	137	11	0	162	367
Hourly Total	0	50	3	29	0	82	2	9	563	48	0	622	0	43	6	9	0	58	5	56	520	36	0	617	1379
12:00 PM	0	17	3	6	0	26	1	3	143	17	0	164	0	3	1	4	0	8	0	13	126	6	0	145	343
12:15 PM	0	17	0	7	0	24	1	6	144	8	1	159	0	9	1	6	0	16	0	13	123	15	0	151	350
12:30 PM	0	15	2	7	0	24	0	4	132	14	0	150	0	14	0	2	0	16	1	13	128	6	0	148	338
12:45 PM	0	15	2	14	0	31	1	4	147	14	0	166	0	5	4	3	0	12	0	11	164	12	0	187	396
Hourly Total	0	64	7	34	0	105	3	17	566	53	1	639	0	31	6	15	0	52	1	50	541	39	0	631	1427
1:00 PM	0	20	0	10	0	30	0	4	125	10	0	139	0	11	0	4	0	15	2	15	155	7	0	179	363
1:15 PM	0	14	3	12	0	29	3	10	147	16	0	176	0	5	1	2	0	8	0	33	163	4	0	200	413
1:30 PM	0	21	0	10	0	31	1	6	160	16	0	183	0	12	0	6	0	18	0	10	192	13	0	215	447
1:45 PM	0	16	3	8	0	27	1	5	178	14	0	198	0	9	3	4	0	16	0	22	186	13	0	221	462
Hourly Total	0	71	6	40	0	117	5	25	610	56	0	696	0	37	4	16	0	57	2	80	696	37	0	815	1685
2:00 PM	0	22	2	10	0	34	6	6	161	9	0	182	0	7	1	4	0	12	0	15	185	14	0	214	442
2:15 PM	0	22	4	12	0	38	3	3	249	16	0	271	0	12	3	4	0	19	1	17	189	6	0	213	541
2:30 PM	0	15	2	7	2	24	4	2	149	11	0	166	0	11	1	4	0	16	0	12	181	11	0	204	410
2:45 PM	0	12	2	6	0	20	1	0	162	7	0	170	0	7	0	1	0	8	2	12	201	12	0	227	425
Hourly Total	0	71	10	35	2	116	14	11	721	43	0	789	0	37	5	13	0	55	3	56	756	43	0	858	1818
3:00 PM	0	19	3	7	0	29	2	6	186	14	0	208	0	7	0	2	1	9	1	12	203	10	0	226	472
3:15 PM	0	17	1	8	0	26	4	7	193	12	0	216	0	7	2	4	0	13	1	15	208	12	0	236	491
3:30 PM	0	18	1	10	0	29	1	3	230	10	0	244	0	8	1	5	0	14	0	17	245	10	0	272	559
3:45 PM	0	13	0	9	0	22	2	8	207	15	0	232	0	9	2	2	0	13	0	15	224	12	0	251	518
Hourly Total	0	67	5	34	0	106	9	24	816	51	0	900	0	31	5	13	1	49	2	59	880	44	0	985	2040

**TMC 2152
Andover MN
Thursday, November 4, 2021**

Time	Southbound Rose St.						Westbound CSAH 116						Northbound Rose St.						Eastbound CSAH 116						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	21	4	8	0	33	2	7	184	12	0	205	0	15	2	3	0	20	1	8	226	11	0	246	504
4:15 PM	0	8	0	3	1	11	1	11	254	12	0	278	0	12	1	5	0	18	2	13	215	16	1	246	553
4:30 PM	0	33	2	11	0	46	2	2	215	13	1	232	0	12	3	1	0	16	0	10	217	14	0	241	535
4:45 PM	0	14	1	5	0	20	2	11	272	6	1	291	0	14	2	4	0	20	3	15	256	18	0	292	623
Hourly Total	0	76	7	27	1	110	7	31	925	43	2	1006	0	53	8	13	0	74	6	46	914	59	1	1025	2215
5:00 PM	0	19	3	9	0	31	1	6	217	9	0	233	0	17	0	1	0	18	1	20	214	17	0	252	534
5:15 PM	0	15	2	10	0	27	1	5	239	12	0	257	0	14	2	1	0	17	1	17	224	15	0	257	558
5:30 PM	0	15	4	9	0	28	0	2	181	5	0	188	0	10	2	0	0	12	0	8	193	11	0	212	440
5:45 PM	0	12	1	5	0	18	1	6	207	3	0	217	0	10	2	2	0	14	0	4	214	11	0	229	478
Hourly Total	0	61	10	33	0	104	3	19	844	29	0	895	0	51	6	4	0	61	2	49	845	54	0	950	2010
6:00 PM	0	26	3	3	0	32	1	5	174	11	2	191	0	14	3	1	0	18	1	13	199	19	0	232	473
6:15 PM	0	11	2	3	0	16	5	3	181	3	0	192	0	13	0	1	0	14	3	13	204	5	0	225	447
6:30 PM	0	14	2	1	0	17	1	2	165	6	0	174	0	11	1	7	0	19	0	6	183	14	0	203	413
6:45 PM	0	11	1	3	0	15	3	3	149	3	0	158	0	10	0	5	0	15	1	10	204	10	0	225	413
Hourly Total	0	62	8	10	0	80	10	13	669	23	2	715	0	48	4	14	0	66	5	42	790	48	0	885	1746
7:00 PM	0	10	0	2	0	12	0	3	119	5	0	127	0	10	0	4	0	14	0	6	144	5	0	155	308
7:15 PM	0	18	1	0	0	19	0	2	109	5	0	116	0	11	0	0	0	11	0	8	119	5	0	132	278
7:30 PM	0	7	2	4	0	13	0	1	105	1	0	107	0	11	1	2	0	14	0	1	115	2	0	118	252
7:45 PM	0	11	0	0	0	11	0	7	102	2	0	111	0	2	0	2	0	4	0	5	89	6	0	100	226
Hourly Total	0	46	3	6	0	55	0	13	435	13	0	461	0	34	1	8	0	43	0	20	467	18	0	505	1064
8:00 PM	0	12	2	2	0	16	0	3	92	6	0	101	0	14	0	8	0	22	1	6	91	7	0	105	244
8:15 PM	0	14	1	1	0	16	0	1	114	5	0	120	0	3	0	3	0	6	0	3	97	4	0	104	246
8:30 PM	0	12	0	1	0	13	0	1	110	4	0	115	0	7	0	2	0	9	0	8	75	10	0	93	230
8:45 PM	0	6	0	1	0	7	0	1	90	1	0	92	0	5	0	1	0	6	0	1	64	1	0	66	171
Hourly Total	0	44	3	5	0	52	0	6	406	16	0	428	0	29	0	14	0	43	1	18	327	22	0	368	891
9:00 PM	0	7	0	1	0	8	0	1	83	1	0	85	0	2	0	1	0	3	0	2	60	3	0	65	161
9:15 PM	0	5	0	0	0	5	0	0	62	1	0	63	0	0	0	0	0	0	1	2	57	1	1	61	129
9:30 PM	0	9	0	0	0	9	0	0	51	0	0	51	0	2	0	1	0	3	0	3	36	0	0	39	102
9:45 PM	0	2	0	1	0	3	0	2	53	0	0	55	0	1	0	0	0	1	0	1	63	2	0	66	125
Hourly Total	0	23	0	2	0	25	0	3	249	2	0	254	0	5	0	2	0	7	1	8	216	6	1	231	517
10:00 PM	0	6	0	0	0	6	0	0	44	0	0	44	0	1	0	0	0	1	0	1	38	0	0	39	90
10:15 PM	0	3	0	0	0	3	0	1	34	0	0	35	0	0	0	0	0	0	0	2	33	1	0	36	74
10:30 PM	0	2	0	1	0	3	0	1	15	0	0	16	0	2	0	0	0	2	0	2	23	2	0	27	48
10:45 PM	0	2	0	0	0	2	0	1	17	0	0	18	0	1	0	0	0	1	0	2	17	1	0	20	41
Hourly Total	0	13	0	1	0	14	0	3	110	0	0	113	0	4	0	0	0	4	0	7	111	4	0	122	253
11:00 PM	0	0	0	0	1	0	0	0	10	0	0	10	0	2	0	0	0	2	0	0	18	0	1	18	30
11:15 PM	0	1	0	0	0	1	0	0	18	0	0	18	0	1	0	0	0	1	0	0	19	0	0	19	39
11:30 PM	0	0	0	0	0	0	0	1	12	0	0	13	0	1	0	1	0	2	0	0	17	1	0	18	33
11:45 PM	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	13	2	0	15	23
Hourly Total	0	1	0	0	1	1	0	1	48	0	0	49	0	4	0	1	0	5	0	0	67	3	1	70	125
DAILY TOTAL	0	826	78	330	7	1234	86	258	9802	485	5	10631	0	561	52	158	1	771	35	640	9643	563	3	10881	23517
Cars	0	804	78	319	3	1201	86	249	9623	470	1	10428	0	554	51	155	1	760	34	609	9458	552	3	10653	23042
Heavy Vehicles	0	22	0	11	4	33	0	9	179	15	4	203	0	7	1	3	0	11	1	31	185	11	0	228	475
Heavy Vehicle %	0.00%	2.66%	0.00%	3.33%	57.14%	2.67%	0.00%	3.49%	1.83%	3.09%	80.00%	1.91%	0.00%	1.25%	1.92%	1.90%	0.00%	1.43%	2.86%	4.84%	1.92%	1.95%	0.00%	2.10%	2.02%

**TMC 2152
Andover MN
Thursday, November 4, 2021
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	7	2	1	0	10	2	6	123	3	0	134	0	3	0	4	0	7	0	7	127	10	0	144	
7:15 AM	0	14	0	4	0	18	5	3	175	3	0	186	0	7	0	1	0	8	1	11	165	8	0	185	
7:30 AM	0	19	1	5	0	25	10	13	238	9	0	270	0	13	0	1	0	14	0	5	202	10	0	217	
7:45 AM	0	8	1	1	0	10	2	4	183	0	0	189	0	6	0	4	0	10	0	3	137	5	0	145	
Peak Hour Total	0	48	4	11	0	63	19	26	719	15	0	779	0	29	0	10	0	39	1	26	631	33	0	691	
PHF	0.000	0.632	0.500	0.550	0.000	0.630	0.475	0.500	0.755	0.417	0.000	0.721	0.000	0.558	0.000	0.625	0.000	0.696	0.250	0.591	0.781	0.825	0.000	0.796	

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	
4:30 PM	0	33	2	11	0	46	2	2	215	13	1	232	0	12	3	1	0	16	0	10	217	14	0	241	
4:45 PM	0	14	1	5	0	20	2	11	272	6	1	291	0	14	2	4	0	20	3	15	256	18	0	292	
5:00 PM	0	19	3	9	0	31	1	6	217	9	0	233	0	17	0	1	0	18	1	20	214	17	0	252	
5:15 PM	0	15	2	10	0	27	1	5	239	12	0	257	0	14	2	1	0	17	1	17	224	15	0	257	
Peak Hour Total	0	81	8	35	0	124	6	24	943	40	2	1013	0	57	7	7	0	71	5	62	911	64	0	1042	
PHF	0.000	0.614	0.667	0.795	0.000	0.674	0.750	0.545	0.867	0.769	0.500	0.870	0.000	0.838	0.583	0.438	0.000	0.888	0.417	0.775	0.890	0.889	0.000	0.892	

Total Vehicles On Leg				2411	
Vehicles Entering Intersection			1234	Vehicles Exiting Intersection	
				1177	
Southbound					
Cars	319	78	804	0	3
Heavy	11	0	22	0	4
Total	330	78	826	0	7



Total Vehicles on Leg 21609	Vehicles Entering Intersection 10881	Eastbound	Cars	Heavy	Total
			3	0	3
			34	1	35
	609		31	640	
	Vehicles Exiting Intersection 10728		9458	185	9643
		552	11	563	



Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 10631	Total Vehicles on Leg 21344
470	15	485			
9623	179	9802			
249	9	258			
86	0	86			
1	4	5	Vehicles Exiting Intersection 10713		



Cars	1	0	554	51	155
Heavy	0	0	7	1	3
Total	1	0	561	52	158
Northbound					
Vehicles Entering Intersection			771		
Vehicles Exiting Intersection			899		
Total Vehicles On Leg			1670		



Heavy Vehicles

Date	Time	Southbound					Westbound					Northbound					Eastbound				
		U Turns	Left Turns	Straight Through	Right Turns	Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	Bicycles in Crosswalk
11/4/2021	0:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
	4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
	5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	6:00	0	1	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0	0
	6:15	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	3	0	0
	6:30	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	2	1	0
	6:45	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	3	0	0
	7:00	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	1	3	0	0
	7:15	0	1	0	0	0	0	1	8	1	0	0	1	0	0	0	0	3	6	0	0
	7:30	0	4	0	2	0	0	4	4	1	0	0	1	0	0	0	0	1	5	1	0
	7:45	0	3	0	0	0	0	0	4	0	0	0	1	0	0	0	0	1	3	0	0
	8:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0
	8:15	0	2	0	0	0	0	0	5	1	0	0	0	0	0	0	0	1	5	0	0
	8:30	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	1	0
	8:45	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	2	6	0	0
	9:00	0	0	0	1	0	0	0	3	1	0	0	0	0	0	0	0	0	6	0	0
	9:15	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	6	0	0
	9:30	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	10	0	0
	9:45	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	1	5	0	0
	10:00	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	2	0	0
	10:15	0	0	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0
	10:30	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	1	4	0	0
	10:45	0	1	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	1	0	0
	11:00	0	1	0	0	0	0	0	3	1	0	0	0	0	1	0	0	1	4	0	0
	11:15	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	2	8	0	0
	11:30	0	1	0	0	0	0	0	6	0	0	0	1	0	0	0	0	1	6	0	0
	11:45	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	4	0	0

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2152

Study Date : 12/09/2021

Signal Warrants - Summary

Major Street Approaches

Eastbound: CSAH 116

Number of Lanes : 2+

Total Approach Volume: 10,881

Westbound: CSAH 116

Number of Lanes :2+

Total Approach Volume: 10,631

Minor Street Approaches

Northbound: Rose St.

Number of Lanes :2+

Total Approach Volume: 771

Southbound: Rose St.

Number of Lanes :1

Total Approach Volume: 1,234

Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 6 hours, 8 are needed

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

Required volumes reached for 12 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 14 hours, 8 are needed

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

Number of hours (11) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

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

Number of one hour periods (21) 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 2152

Study Date : 12/09/2021

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 = **2 or more**
 Number of Minor Lanes = **Mixed**

Volume Requirements

Rural Factor of 70 % applied
 Veh/Hr Major = **420**
 Veh/Hr Minor = **140 105**

Time	Major Road CSAH 116				Total	Minor Road Rose St.		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:00 - 17:00	1025	+	1006	=	2031	74	110	Yes
15:00 - 16:00	985	+	900	=	1885	49	106	Yes
17:15 - 18:15	930	+	853	=	1783	61	105	Yes
14:00 - 15:00	858	+	789	=	1647	55	116	Yes
13:00 - 14:00	815	+	696	=	1511	57	117	Yes
12:00 - 13:00	631	+	639	=	1270	52	105	Yes
17:00 - 18:00	950	+	895	=	1845	61	104	No
07:00 - 08:00	691	+	779	=	1470	39	63	No
07:15 - 08:15	676	+	784	=	1460	37	60	No
18:15 - 19:15	808	+	651	=	1459	62	60	No
06:45 - 07:45	673	+	723	=	1396	35	59	No
07:30 - 08:30	578	+	725	=	1303	38	48	No
11:30 - 12:30	621	+	676	=	1297	51	82	No
18:30 - 19:30	715	+	575	=	1290	59	63	No
11:15 - 12:15	608	+	674	=	1282	46	80	No
11:45 - 12:45	606	+	655	=	1261	50	87	No
11:00 - 12:00	617	+	622	=	1239	58	82	No
10:45 - 11:45	616	+	605	=	1221	64	95	No
10:30 - 11:30	598	+	573	=	1171	60	99	No
18:45 - 19:45	630	+	508	=	1138	54	59	No
10:15 - 11:15	585	+	544	=	1129	54	103	No
10:00 - 11:00	569	+	556	=	1125	43	89	No
09:15 - 10:15	536	+	575	=	1111	40	55	No
09:45 - 10:45	571	+	534	=	1105	38	82	No
06:30 - 07:30	537		566		1103	34	36	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2152

Study Date : 12/09/2021

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

12 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
 Number of Major Lanes = **2 or more**
 Number of Minor Lanes = **Mixed**

Volume Requirements

Rural Factor of 70 % applied
 Veh/Hr Major = **630**

Veh/Hr Minor = **70 52**

Time	Major Road CSAH 116				Total	Minor Road Rose St.		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:15 - 17:15	1031	+	1034	=	2065	72	108	Yes
15:15 - 16:15	1005	+	897	=	1902	60	110	Yes
17:15 - 18:15	930	+	853	=	1783	61	105	Yes
14:15 - 15:15	870	+	815	=	1685	52	111	Yes
13:15 - 14:15	850	+	739	=	1589	54	121	Yes
06:45 - 07:45	673	+	723	=	1396	35	59	Yes
18:30 - 19:30	715	+	575	=	1290	59	63	Yes
11:15 - 12:15	608	+	674	=	1282	46	80	Yes
12:15 - 13:15	665	+	614	=	1279	59	109	Yes
10:15 - 11:15	585	+	544	=	1129	54	103	Yes
09:15 - 10:15	536	+	575	=	1111	40	55	Yes
19:30 - 20:30	427	+	439	=	866	46	56	Yes
18:15 - 19:15	808	+	651	=	1459	62	60	No
06:30 - 07:30	537	+	566	=	1103	34	36	No
09:00 - 10:00	511	+	563	=	1074	41	49	No
07:45 - 08:45	471	+	582	=	1053	27	41	No
08:45 - 09:45	485	+	562	=	1047	42	40	No
08:30 - 09:30	480	+	558	=	1038	35	44	No
08:00 - 09:00	463	+	535	=	998	29	41	No
08:15 - 09:15	447	+	508	=	955	34	42	No
06:15 - 07:15	433	+	455	=	888	27	24	No
06:00 - 07:00	339	+	371	=	710	23	19	No
20:30 - 21:30	285	+	355	=	640	18	33	No
05:45 - 06:45	260	+	287	=	547	20	13	No
20:45 - 21:45	231		291		522	12	29	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2152

Study Date : 12/09/2021

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.
14 hours meet 1B minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **Mixed**

Volume Requirements

Rural Factor of 70% applied
Warrant 1A 1B
Veh/Hr Major = **336 504**
Veh/Hr Minor NB = **112 56**
Veh/Hr Minor SB = **84 42**

Major Road CSAH 116

Minor Road Rose St.

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1A?
16:45 - 17:45	1013	+	969	=	1982	67	106	Yes
15:45 - 16:45	984	+	947	=	1931	67	112	Yes
14:45 - 15:45	961	+	838	=	1799	44	104	Yes
13:45 - 14:45	852	+	817	=	1669	63	123	Yes
12:45 - 13:45	781	+	664	=	1445	53	121	Yes
11:45 - 12:45	606	+	655	=	1261	50	87	Yes
10:00 - 11:00	569	+	556	=	1125	43	89	Yes
17:45 - 18:45	889	+	774	=	1663	65	83	No
18:00 - 19:00	885	+	715	=	1600	66	80	No
07:00 - 08:00	691	+	779	=	1470	39	63	No
07:15 - 08:15	676	+	784	=	1460	37	60	No
18:15 - 19:15	808	+	651	=	1459	62	60	No

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?
16:15 - 17:15	1031	+	1034	=	2065	72	108	Yes
15:15 - 16:15	1005	+	897	=	1902	60	110	Yes
17:15 - 18:15	930	+	853	=	1783	61	105	Yes
14:15 - 15:15	870	+	815	=	1685	52	111	Yes
13:15 - 14:15	850	+	739	=	1589	54	121	Yes
18:15 - 19:15	808	+	651	=	1459	62	60	Yes
06:45 - 07:45	673	+	723	=	1396	35	59	Yes
11:15 - 12:15	608	+	674	=	1282	46	80	Yes
12:15 - 13:15	665	+	614	=	1279	59	109	Yes
10:15 - 11:15	585	+	544	=	1129	54	103	Yes
09:15 - 10:15	536	+	575	=	1111	40	55	Yes
08:15 - 09:15	447	+	508	=	955	34	42	Yes

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2152

Study Date : 12/09/2021

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.

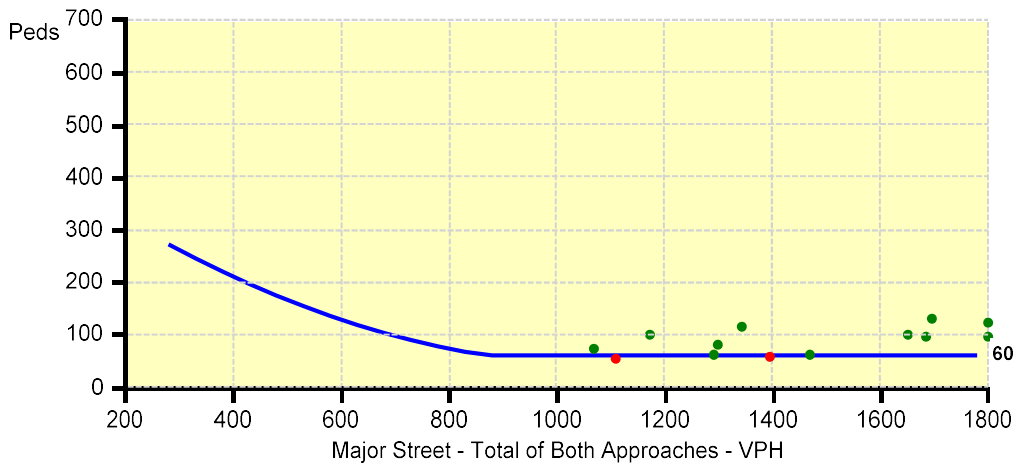
Summary

11 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
 Number of Major Lanes = **2 or more**
 Number of Minor Lanes = **Mixed**

Time	Major Road CSAH 116				=	Total	Minor Road Rose St.		Met?
	Major EB	+	Major WB	Minor NB			Minor SB		
16:30 - 17:30	1042	+	1013		2055	71	124	Yes	
15:30 - 16:30	1015	+	959		1974	65	95	Yes	
13:30 - 14:30	863	+	834		1697	65	130	Yes	
17:30 - 18:30	898	+	788		1686	58	94	Yes	
14:30 - 15:30	893	+	760		1653	46	99	Yes	
07:00 - 08:00	691	+	779		1470	39	63	Yes	
12:30 - 13:30	714	+	631		1345	51	114	Yes	
11:30 - 12:30	621	+	676		1297	51	82	Yes	
18:30 - 19:30	715	+	575		1290	59	63	Yes	
10:30 - 11:30	598	+	573		1171	60	99	Yes	
09:30 - 10:30	541	+	526		1067	35	73	Yes	
							59	No	



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2152

Study Date : 12/09/2021

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

33 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
 Number of Major Lanes = **2 or more**
 Number of Minor Lanes = **Mixed**

Time	Major Road CSAH 116				Total	Minor Road Rose St.		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:15 - 17:15	1031	+	1034	=	2065	72	108	Yes
16:30 - 17:30	1042	+	1013	=	2055	71	124	Yes
16:00 - 17:00	1025	+	1006	=	2031	74	110	Yes
16:45 - 17:45	1013	+	969	=	1982	67	106	Yes
15:30 - 16:30	1015	+	959	=	1974	65	95	Yes
15:45 - 16:45	984	+	947	=	1931	67	112	Yes
15:15 - 16:15	1005	+	897	=	1902	60	110	Yes
15:00 - 16:00	985	+	900	=	1885	49	106	Yes
17:00 - 18:00	950	+	895	=	1845	61	104	Yes
14:45 - 15:45	961	+	838	=	1799	44	104	Yes
17:15 - 18:15	930	+	853	=	1783	61	105	Yes
							130	Yes

