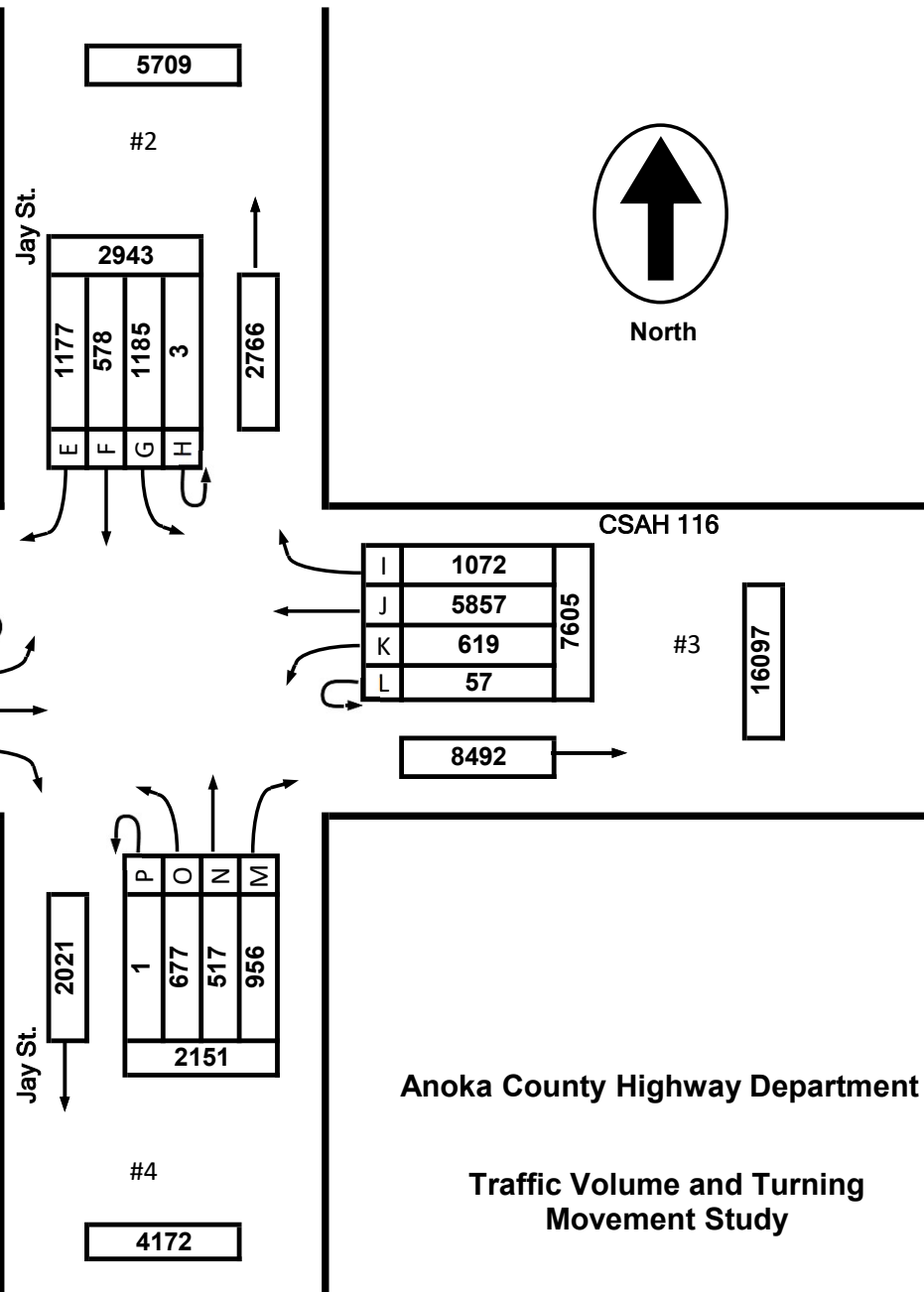


Date : 11/04/21

Count Number : TMC 2155

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

Collection Period : 24 Hours



16148

#1

8364	73	D
	1174	C
	6294	B
	823	A

CSAH 116

5709

#2

Jay St.

1177	578	1185	3	2943			
				E	F	G	H

2766



North

CSAH 116

1072	5857	619	57	7605				
					I	J	K	L

#3

16097

8492

Jay St.

2021

1	677	517	956	2151			
				P	O	N	M

#4

4172

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

Anoka County Highway Department

Traffic Volume and Turning Movement Study

Date : 11/04/21

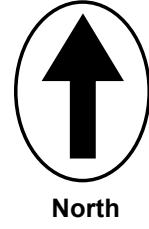
Count Number : TMC 2155

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

Collection Period : 7 AM - 8 AM
AM PEAK

255

#2



Jay St.

140			
73	34	33	0
E	F	G	H

115

1130

#1

592	0	D
	56	C
	483	B
	53	A

CSAH 116

I	32	506
J	428	
K	40	
L	6	

#3

1086

580

CSAH 116

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

Jay St.

127

P	O	N	M
0	37	27	58
122			

#4

249

Anoka County Highway Department

Traffic Volume and Turning Movement Study

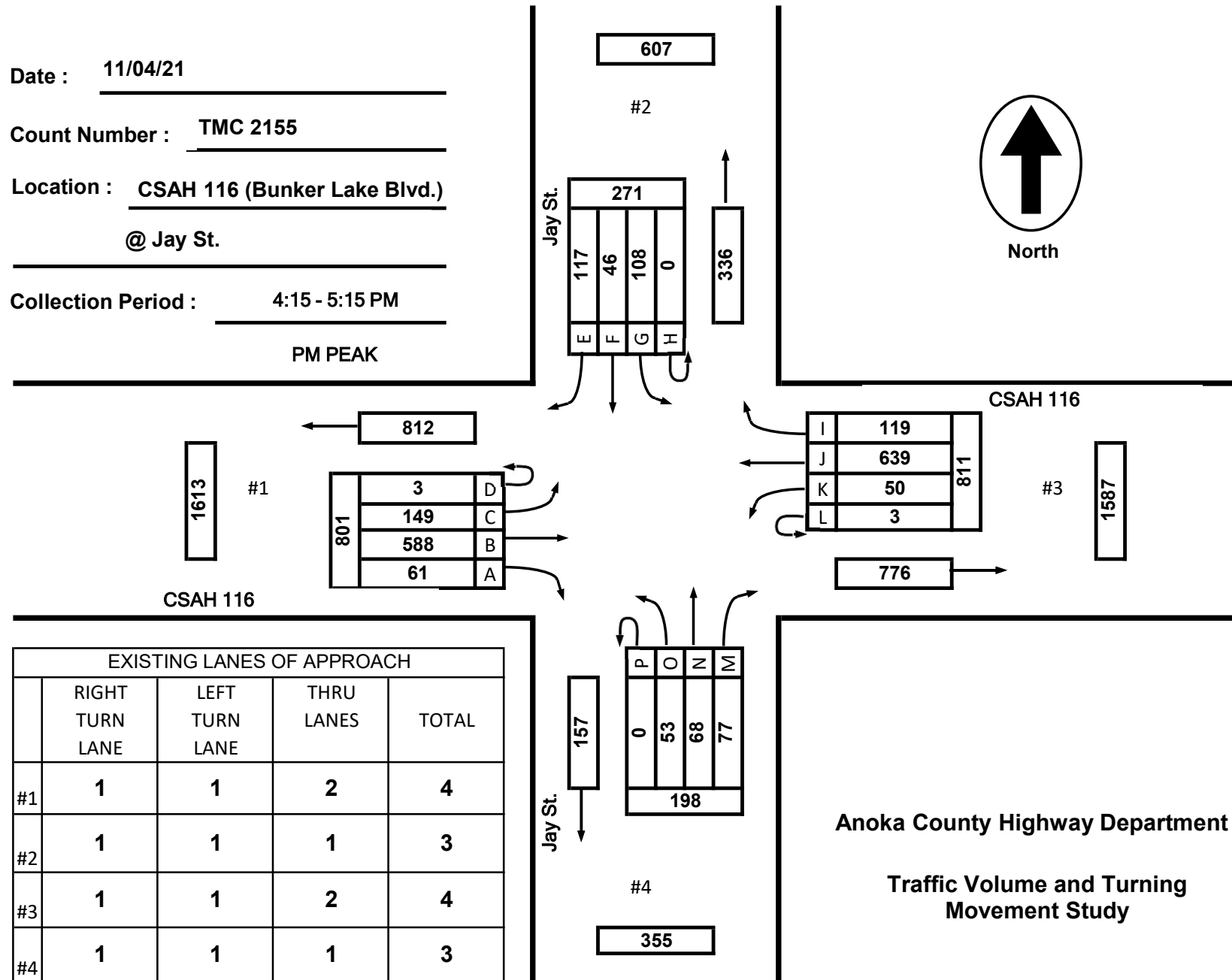
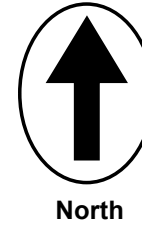
Date : 11/04/21

Count Number : TMC 2155

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

Collection Period : 4:15 - 5:15 PM

PM PEAK



EXISTING LANES OF APPROACH

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

Anoka County Highway Department

Traffic Volume and Turning Movement Study

**TMC 2155
Andover MN
Thursday, November 4, 2021**

Time	Southbound Jay St.						Westbound CSAH 116						Northbound Jay 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	1	0	1	0	0	1	0	0	1	0	0	0	5	0	5	0	0	2	2	0	4	11
12:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	2	7	1	0	11	12
12:30 AM	0	0	0	0	0	0	0	2	4	1	0	7	0	1	0	2	0	3	1	1	3	2	0	7	17
12:45 AM	0	0	0	0	0	0	0	0	1	1	0	2	0	2	0	1	0	3	0	0	6	0	0	6	11
Hourly Total	0	0	0	1	0	1	0	2	7	2	0	11	0	3	0	8	0	11	2	3	18	5	0	28	51
1:00 AM	0	0	0	0	0	0	0	2	1	0	0	3	0	0	0	1	0	1	0	0	5	4	0	9	13
1:15 AM	0	2	0	0	0	2	1	0	0	1	0	2	0	0	1	1	0	2	0	0	0	2	0	2	8
1:30 AM	0	2	0	5	0	7	0	1	2	0	0	3	0	0	0	5	0	5	0	0	2	2	0	4	19
1:45 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	1	0	1	0	0	2	0	0	2	5
Hourly Total	0	4	0	5	0	9	1	3	5	1	0	10	0	0	1	8	0	9	0	0	9	8	0	17	45
2:00 AM	0	0	3	0	0	3	0	1	0	0	0	1	0	1	1	2	0	4	0	0	1	0	0	1	9
2:15 AM	0	0	3	0	0	3	0	1	0	0	0	1	0	0	1	0	0	1	0	1	4	0	0	5	10
2:30 AM	0	1	1	0	0	2	0	1	0	0	0	1	0	1	0	0	0	1	0	1	2	1	0	4	8
2:45 AM	0	0	0	0	0	0	0	1	2	0	0	3	0	1	1	0	0	2	0	0	2	1	0	3	8
Hourly Total	0	1	7	0	0	8	0	4	2	0	0	6	0	3	3	2	0	8	0	2	9	2	0	13	35
3:00 AM	0	0	1	0	0	1	0	0	1	1	0	2	0	1	1	0	0	2	0	0	2	0	0	2	7
3:15 AM	0	0	0	0	0	0	0	1	1	2	0	4	0	0	1	0	0	1	0	0	2	0	0	2	7
3:30 AM	0	0	1	0	0	1	0	1	3	1	0	5	0	0	1	1	0	2	0	0	4	0	0	4	12
3:45 AM	0	0	0	0	0	0	0	1	3	2	0	6	0	0	0	0	0	0	0	0	1	1	0	2	8
Hourly Total	0	0	2	0	0	2	0	3	8	6	0	17	0	1	3	1	0	5	0	0	9	1	0	10	34
4:00 AM	0	0	0	0	0	0	0	2	2	2	0	6	0	0	0	0	0	0	0	1	3	0	0	4	10
4:15 AM	0	1	0	0	0	1	0	0	3	0	0	3	0	0	0	0	0	0	0	2	7	0	0	9	13
4:30 AM	0	1	3	1	0	5	0	4	16	0	0	20	0	0	0	2	0	2	0	2	13	2	0	17	44
4:45 AM	0	0	3	1	0	4	0	4	12	2	0	18	0	1	0	2	0	3	0	5	14	7	0	26	51
Hourly Total	0	2	6	2	0	10	0	10	33	4	0	47	0	1	0	4	0	5	0	10	37	9	0	56	118
5:00 AM	0	3	2	1	0	6	0	4	13	1	0	18	0	0	0	5	0	5	0	2	8	6	0	16	45
5:15 AM	0	3	1	1	0	5	0	11	14	0	0	25	0	2	1	4	0	7	0	1	14	5	0	20	57
5:30 AM	0	3	4	1	0	8	1	4	18	1	0	24	0	4	1	8	0	13	0	2	21	7	0	30	75
5:45 AM	0	1	8	4	0	13	0	10	21	3	0	34	0	4	1	16	0	21	0	6	24	10	0	40	108
Hourly Total	0	10	15	7	0	32	1	29	66	5	0	101	0	10	3	33	0	46	0	11	67	28	0	106	285
6:00 AM	0	4	3	2	0	9	0	12	16	1	0	29	0	4	3	15	0	22	0	5	33	18	0	56	116
6:15 AM	0	5	6	2	0	13	1	9	38	3	0	51	0	14	6	20	0	40	1	4	45	11	0	61	165
6:30 AM	0	2	5	6	0	13	0	11	56	10	0	77	0	8	5	28	0	41	0	5	53	13	0	71	202
6:45 AM	0	9	4	15	0	28	3	10	47	5	0	65	0	19	5	18	0	42	0	10	72	21	0	103	238
Hourly Total	0	20	18	25	0	63	4	42	157	19	0	222	0	45	19	81	0	145	1	24	203	63	0	291	721
7:00 AM	0	11	9	17	0	37	1	15	89	6	0	111	0	12	7	20	0	39	0	6	86	9	0	101	288
7:15 AM	0	11	5	18	0	34	0	7	143	6	0	156	0	7	10	14	0	31	0	15	114	12	0	141	362
7:30 AM	0	7	7	26	0	40	4	11	96	7	0	118	0	7	5	9	0	21	0	18	159	17	0	194	373
7:45 AM	0	4	13	12	0	29	1	7	100	13	0	121	0	11	5	15	0	31	0	17	124	15	0	156	337
Hourly Total	0	33	34	73	0	140	6	40	428	32	0	506	0	37	27	58	0	122	0	56	483	53	0	592	1360

**TMC 2155
Andover MN
Thursday, November 4, 2021**

Time	Southbound Jay St.						Westbound CSAH 116						Northbound Jay 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	3	9	19	0	31	1	4	76	8	0	89	0	8	4	14	0	26	0	9	70	12	0	91	237
8:15 AM	0	6	9	23	0	38	1	11	63	12	0	87	0	7	4	11	0	22	0	7	69	15	0	91	238
8:30 AM	0	7	8	15	0	30	2	6	66	7	0	81	1	4	4	15	0	24	0	7	86	10	0	103	238
8:45 AM	0	7	5	15	0	27	0	10	75	10	0	95	0	5	4	11	0	20	0	6	66	16	0	88	230
Hourly Total	0	23	31	72	0	126	4	31	280	37	0	352	1	24	16	51	0	92	0	29	291	53	0	373	943
9:00 AM	0	13	6	14	0	33	0	8	73	15	0	96	0	8	7	10	1	25	0	12	64	7	0	83	237
9:15 AM	0	12	9	10	0	31	1	10	97	11	0	119	0	9	7	24	0	40	0	8	80	23	0	111	301
9:30 AM	0	10	12	17	0	39	1	13	86	15	0	115	0	21	16	28	0	65	1	6	67	11	0	85	304
9:45 AM	0	20	12	10	0	42	0	9	96	18	0	123	0	8	9	11	0	28	2	16	85	14	0	117	310
Hourly Total	0	55	39	51	0	145	2	40	352	59	0	453	0	46	39	73	1	158	3	42	296	55	0	396	1152
10:00 AM	0	16	6	18	0	40	0	3	68	9	1	80	0	7	8	14	0	29	0	14	87	8	0	109	258
10:15 AM	0	7	6	14	0	27	1	8	89	16	0	114	0	6	3	15	0	24	0	13	87	12	0	112	277
10:30 AM	0	11	6	15	0	32	0	7	87	19	0	113	0	11	4	14	0	29	0	19	90	12	0	121	295
10:45 AM	0	16	10	17	0	43	1	7	74	10	0	92	0	7	10	8	0	25	0	17	95	9	0	121	281
Hourly Total	0	50	28	64	0	142	2	25	318	54	1	399	0	31	25	51	0	107	0	63	359	41	0	463	1111
11:00 AM	0	19	6	12	0	37	0	13	70	11	0	94	0	8	8	15	1	31	0	12	80	10	0	102	264
11:15 AM	0	15	5	13	0	33	2	10	96	22	0	130	0	6	0	11	0	17	0	17	83	4	0	104	284
11:30 AM	0	14	6	19	0	39	1	8	79	18	0	106	0	12	6	11	0	29	0	17	100	10	0	127	301
11:45 AM	0	18	10	26	0	54	2	10	111	23	0	146	0	9	10	11	1	30	2	17	78	15	0	112	342
Hourly Total	0	66	27	70	0	163	5	41	356	74	0	476	0	35	24	48	2	107	2	63	341	39	0	445	1191
12:00 PM	0	20	8	20	0	48	0	10	87	18	0	115	0	9	5	6	0	20	2	23	96	14	0	135	318
12:15 PM	0	26	9	25	0	60	0	19	86	7	0	112	0	10	7	12	1	29	1	19	91	13	0	124	325
12:30 PM	0	20	6	30	0	56	0	10	80	21	0	111	0	11	8	12	0	31	2	19	107	9	2	137	335
12:45 PM	0	19	7	22	0	48	2	12	86	22	0	122	0	6	6	8	1	20	2	13	88	16	0	119	309
Hourly Total	0	85	30	97	0	212	2	51	339	68	0	460	0	36	26	38	2	100	7	74	382	52	2	515	1287
1:00 PM	0	31	11	22	0	64	0	4	87	18	0	109	0	15	6	6	0	27	1	23	95	17	0	136	336
1:15 PM	1	22	12	16	0	51	0	12	90	15	0	117	0	10	5	22	0	37	2	21	86	15	0	124	329
1:30 PM	0	18	9	19	0	46	1	12	108	23	0	144	0	9	6	17	0	32	0	16	107	26	0	149	371
1:45 PM	0	22	15	30	0	67	1	18	115	15	0	149	0	29	12	30	0	71	3	21	89	16	0	129	416
Hourly Total	1	93	47	87	0	228	2	46	400	71	0	519	0	63	29	75	0	167	6	81	377	74	0	538	1452
2:00 PM	0	18	7	21	0	46	0	10	93	20	0	123	0	24	8	22	0	54	0	16	120	12	0	148	371
2:15 PM	0	22	11	14	0	47	2	10	92	20	0	124	0	12	8	19	0	39	0	18	162	12	0	192	402
2:30 PM	0	18	9	17	0	44	0	7	86	18	0	111	0	9	4	12	0	25	4	20	134	11	0	169	349
2:45 PM	0	25	12	17	0	54	0	8	110	26	0	144	0	15	8	16	0	39	0	26	120	10	0	156	393
Hourly Total	0	83	39	69	0	191	2	35	381	84	0	502	0	60	28	69	0	157	4	80	536	45	0	665	1515
3:00 PM	0	25	10	29	0	64	5	9	152	30	0	196	0	9	7	11	0	27	3	23	129	8	0	163	450
3:15 PM	0	21	7	16	0	44	1	10	130	27	0	168	0	10	10	16	0	36	2	23	141	14	0	180	428
3:30 PM	0	24	7	21	0	52	2	11	147	23	0	183	0	10	9	10	0	29	2	26	161	15	0	204	468
3:45 PM	0	26	12	27	0	65	1	10	115	27	0	153	0	15	13	11	0	39	4	22	150	17	0	193	450
Hourly Total	0	96	36	93	0	225	9	40	544	107	0	700	0	44	39	48	0	131	11	94	581	54	0	740	1796

**TMC 2155
Andover MN
Thursday, November 4, 2021**

Time	Southbound Jay St.						Westbound CSAH 116						Northbound Jay 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	36	10	24	0	70	1	6	152	31	0	190	0	14	12	9	0	35	2	31	162	9	0	204	499
4:15 PM	0	34	16	30	0	80	0	12	152	32	0	196	0	10	15	19	0	44	3	33	160	14	0	210	530
4:30 PM	0	23	11	31	0	65	0	15	190	26	0	231	0	7	18	19	0	44	0	44	149	16	0	209	549
4:45 PM	0	22	11	27	0	60	2	13	145	31	0	191	0	19	23	22	0	64	0	33	120	17	1	170	485
Hourly Total	0	115	48	112	0	275	3	46	639	120	0	808	0	50	68	69	0	187	5	141	591	56	1	793	2063
5:00 PM	0	29	8	29	0	66	1	10	152	30	0	193	0	17	12	17	1	46	0	39	159	14	2	212	517
5:15 PM	1	44	14	27	0	86	2	14	136	35	0	187	0	17	15	25	0	57	0	44	131	16	0	191	521
5:30 PM	0	26	19	24	0	69	3	8	133	24	0	168	0	13	19	11	0	43	0	33	141	15	2	189	469
5:45 PM	0	33	20	24	0	77	2	6	115	30	0	153	0	20	13	19	0	52	1	39	107	14	0	161	443
Hourly Total	1	132	61	104	0	298	8	38	536	119	0	701	0	67	59	72	1	198	1	155	538	59	4	753	1950
6:00 PM	0	22	9	35	0	66	0	11	105	31	0	147	0	7	8	17	0	32	2	30	124	10	0	166	411
6:15 PM	0	29	14	25	0	68	0	11	110	26	0	147	0	9	14	9	0	32	0	23	101	12	0	136	383
6:30 PM	1	21	8	19	0	49	1	11	106	17	0	135	0	11	7	17	0	35	2	23	94	8	0	127	346
6:45 PM	0	26	6	17	0	49	1	10	66	14	0	91	0	7	8	7	0	22	1	18	96	16	0	131	293
Hourly Total	1	98	37	96	0	232	2	43	387	88	0	520	0	34	37	50	0	121	5	94	415	46	0	560	1433
7:00 PM	0	24	11	8	0	43	0	8	81	21	0	110	0	8	7	7	0	22	2	22	77	7	0	108	283
7:15 PM	0	30	3	26	0	59	1	7	60	12	0	80	0	5	5	7	0	17	2	16	80	3	0	101	257
7:30 PM	0	19	4	11	0	34	0	2	51	14	0	67	0	2	8	5	0	15	1	17	71	10	0	99	215
7:45 PM	0	16	6	20	0	42	0	2	50	11	0	63	0	3	4	6	1	13	2	9	59	8	0	78	196
Hourly Total	0	89	24	65	0	178	1	19	242	58	0	320	0	18	24	25	1	67	7	64	287	28	0	386	951
8:00 PM	0	19	6	12	0	37	1	5	52	8	0	66	0	7	3	7	0	17	1	13	68	5	0	87	207
8:15 PM	0	29	4	21	0	54	0	5	53	8	0	66	0	10	6	3	0	19	2	11	66	8	0	87	226
8:30 PM	0	10	4	9	0	23	0	4	37	10	0	51	0	4	2	10	0	16	3	10	47	7	0	67	157
8:45 PM	0	10	5	9	0	24	0	1	28	5	0	34	0	13	7	10	0	30	2	12	47	3	0	64	152
Hourly Total	0	68	19	51	0	138	1	15	170	31	0	217	0	34	18	30	0	82	8	46	228	23	0	305	742
9:00 PM	0	8	5	5	0	18	0	1	32	5	0	38	0	5	2	11	0	18	1	8	36	3	0	48	122
9:15 PM	0	11	5	6	0	22	1	1	39	5	0	46	0	7	5	10	0	22	1	6	26	4	0	37	127
9:30 PM	0	7	5	8	0	20	0	3	31	4	0	38	0	2	7	7	0	16	1	6	33	3	0	43	117
9:45 PM	0	7	4	5	0	16	0	1	28	10	0	39	0	3	6	7	0	16	5	14	32	4	0	55	126
Hourly Total	0	33	19	24	0	76	1	6	130	24	0	161	0	17	20	35	0	72	8	34	127	14	0	183	492
10:00 PM	0	8	4	4	0	16	0	2	14	4	0	20	0	1	2	8	0	11	2	2	24	2	0	30	77
10:15 PM	0	7	3	2	0	12	0	0	11	2	0	13	0	8	3	4	0	15	0	1	16	4	0	21	61
10:30 PM	0	3	3	2	0	8	0	0	12	1	0	13	0	1	0	3	0	4	0	1	19	2	0	22	47
10:45 PM	0	2	0	1	0	3	0	1	11	0	0	12	0	3	1	4	0	8	0	2	18	0	0	20	43
Hourly Total	0	20	10	9	0	39	0	3	48	7	0	58	0	13	6	19	0	38	2	6	77	8	0	93	228
11:00 PM	0	2	1	0	0	3	0	2	9	1	0	12	0	1	0	2	0	3	1	0	9	3	0	13	31
11:15 PM	0	6	0	0	0	6	1	5	9	0	0	15	0	3	2	4	0	9	0	1	12	1	0	14	44
11:30 PM	0	1	0	0	0	1	0	0	4	0	0	4	0	1	0	2	0	3	0	1	6	2	0	9	17
11:45 PM	0	0	0	0	0	0	0	0	7	1	0	8	0	0	1	0	0	1	0	0	6	1	0	7	16
Hourly Total	0	9	1	0	0	10	1	7	29	2	0	39	0	5	3	8	0	16	1	2	33	7	0	43	108
DAILY TOTAL Cars	3	1185	578	1177	0	2943	57	619	5857	1072	1	7605	1	677	517	956	7	2151	73	1174	6294	823	7	8364	21063
Heavy Vehicles	3	1169	567	1161	0	2900	57	607	5776	1054	0	7494	0	597	486	832	4	1915	73	1160	6202	778	7	8213	20522
Heavy Vehicle %	0.00%	1.35%	1.90%	1.36%	0.00%	1.46%	0.00%	1.94%	1.38%	1.68%	100.00%	1.46%	100.00%	11.82%	6.00%	12.97%	42.86%	10.97%	0.00%	1.19%	1.46%	5.47%	0.00%	1.81%	2.57%

**TMC 2155
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	11	9	17	0	37	1	15	89	6	0	111	0	12	7	20	0	39	0	6	86	9	0	101	0	288
7:15 AM	0	11	5	18	0	34	0	7	143	6	0	156	0	7	10	14	0	31	0	15	114	12	0	141	0	362
7:30 AM	0	7	7	26	0	40	4	11	96	7	0	118	0	7	5	9	0	21	0	18	159	17	0	194	0	373
7:45 AM	0	4	13	12	0	29	1	7	100	13	0	121	0	11	5	15	0	31	0	17	124	15	0	156	0	337
Peak Hour Total	0	33	34	73	0	140	6	40	428	32	0	506	0	37	27	58	0	122	0	56	483	53	0	592	0	1360
PHF	0.000	0.750	0.654	0.702	0.000	0.875	0.375	0.667	0.748	0.615	0.000	0.811	0.000	0.771	0.675	0.725	0.000	0.782	0.000	0.778	0.759	0.779	0.000	0.763	0	0.912

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		
4:15 PM	0	34	16	30	0	80	0	12	152	32	0	196	0	10	15	19	0	44	3	33	160	14	0	210	0	530
4:30 PM	0	23	11	31	0	65	0	15	190	26	0	231	0	7	18	19	0	44	0	44	149	16	0	209	0	549
4:45 PM	0	22	11	27	0	60	2	13	145	31	0	191	0	19	23	22	0	64	0	33	120	17	1	170	0	485
5:00 PM	0	29	8	29	0	66	1	10	152	30	0	193	0	17	12	17	1	46	0	39	159	14	2	212	0	517
Peak Hour Total	0	108	46	117	0	271	3	50	639	119	0	811	0	53	68	77	1	198	3	149	588	61	3	801	0	2081
PHF	0.000	0.794	0.719	0.944	0.000	0.847	0.375	0.833	0.841	0.930	0.000	0.878	0.000	0.697	0.739	0.875	0.250	0.773	0.250	0.847	0.919	0.897	0.375	0.945	0	0.948

Total Vehicles On Leg		5709	
Vehicles Entering Intersection		2943	
Vehicles Exiting Intersection		2766	
Southbound			
Cars	1161	567	1169
Heavy	16	11	16
Total	1177	578	1185



Total Vehicles on Leg 16148	Vehicles Entering Intersection 8364	Eastbound	Cars	Heavy	Total	
			7	0	7	
			73	0	73	
	1160		14	1174		
	Vehicles Exiting Intersection 7784		6202	92	6294	
778	45	823				

Daily Volumes

Total Vehicles on Leg 16097	Vehicles Entering Intersection 7605	Westbound	Cars	Heavy	Total	
			1054	18	1072	
			5776	81	5857	
	Vehicles Exiting Intersection 8492		607	12	619	
	57		0	57		
0	1	1				

Total Vehicles On Leg		4172	
Vehicles Entering Intersection		2151	
Vehicles Exiting Intersection		2021	
Cars	4	0	597
Heavy	3	1	80
Total	7	1	677
Northbound			
Cars	486	31	124
Heavy	3	1	80
Total	7	1	677

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	1	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	1	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	0	0
	2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
	2:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0
	3:15	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	3:30	0	0	0	0	0	0	0	1	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	1	0	0	0	0	0	0	0	0	0	0	0	0
	4:15	0	1	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00	0	0	0	1	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	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0
	6:00	0	0	0	0	0	0	0	0	0	0	0	1	1	9	0	0	1	0	0	0
	6:15	0	0	0	0	0	0	0	0	0	0	0	6	4	13	0	0	0	0	0	0
	6:30	0	1	0	0	0	0	1	0	0	0	0	7	2	18	0	0	0	0	0	0
	6:45	0	0	0	0	0	0	2	1	0	0	0	10	1	4	0	0	0	0	0	0
	7:00	0	1	0	1	0	0	1	4	1	0	0	2	1	5	0	0	1	0	0	0
	7:15	0	0	1	0	0	0	0	2	1	0	0	0	2	5	0	0	1	2	2	0
	7:30	0	0	0	0	0	0	0	2	0	0	0	2	2	1	0	0	0	5	1	0
	7:45	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	1	4	1	0
	8:00	0	0	0	0	0	0	0	4	0	0	0	1	0	2	0	0	0	1	1	0
	8:15	0	1	1	1	0	0	0	2	0	0	0	1	2	0	0	0	0	4	2	0
	8:30	0	0	2	0	0	0	1	0	1	0	1	1	0	2	0	0	0	2	0	0
	8:45	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	4	1	0
	9:00	0	0	0	1	0	0	0	0	1	0	0	2	1	1	0	0	0	1	1	0
	9:15	0	0	1	0	0	0	1	4	0	0	0	0	0	1	0	0	0	2	8	0
	9:30	0	1	0	1	0	0	2	2	1	0	0	0	0	2	0	0	0	4	3	0
	9:45	0	1	1	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	2	0
	10:00	0	0	0	0	0	0	0	1	0	1	0	0	0	2	0	0	0	4	0	0
	10:15	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0	0	0	1	0	0
	10:30	0	0	0	0	0	0	0	2	1	0	0	0	0	5	0	0	2	1	0	0
	10:45	0	1	0	1	0	0	1	1	0	0	0	0	1	1	0	0	0	2	0	0
	11:00	0	1	0	0	0	0	0	2	0	0	0	0	0	2	0	0	1	2	0	0
	11:15	0	0	0	1	0	0	0	3	1	0	0	0	0	2	0	0	0	4	1	0
	11:30	0	0	0	0	0	0	0	4	0	0	0	2	0	2	0	0	0	7	0	0
	11:45	0	0	0	0	0	0	0	5	0	0	0	2	0	0	0	0	1	1	0	0

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2155

Study Date : 12/14/2021

Signal Warrants - Summary

Major Street Approaches

Eastbound: CSAH 116

Number of Lanes : 2+

Total Approach Volume: 8,364

Westbound: CSAH 116

Number of Lanes :2+

Total Approach Volume: 7,605

Minor Street Approaches

Northbound: Jay St.

Number of Lanes :1

Total Approach Volume: 2,151

Southbound: Jay St.

Number of Lanes :1

Total Approach Volume: 2,943

Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 15 hours, 8 are needed

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

Required volumes reached for 14 hours, 8 are needed

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

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

Required 1B volumes reached for 15 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 (54) 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 2155

Study Date : 12/14/2021

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

15 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 = **1**

Volume Requirements

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

Veh/Hr Minor = **105**

Time	Major Road CSAH 116				Total	Minor Road Jay St.		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:00 - 17:00	793	+	808	=	1601	187	275	Yes
17:00 - 18:00	753	+	701	=	1454	198	298	Yes
15:00 - 16:00	740	+	700	=	1440	131	225	Yes
14:00 - 15:00	665	+	502	=	1167	157	191	Yes
07:00 - 08:00	592	+	506	=	1098	122	140	Yes
18:00 - 19:00	560	+	520	=	1080	121	232	Yes
13:00 - 14:00	538	+	519	=	1057	167	228	Yes
12:00 - 13:00	515	+	460	=	975	100	212	Yes
11:00 - 12:00	445	+	476	=	921	107	163	Yes
10:00 - 11:00	463	+	399	=	862	107	142	Yes
09:00 - 10:00	396	+	453	=	849	158	145	Yes
08:00 - 09:00	373	+	352	=	725	92	126	Yes
19:00 - 20:00	386	+	320	=	706	67	178	Yes
20:00 - 21:00	305	+	217	=	522	82	138	Yes
06:00 - 07:00	291	+	222	=	513	145	63	Yes
05:45 - 06:45	228	+	191	=	419	124	48	No
21:00 - 22:00	183	+	161	=	344	72	76	No
05:30 - 06:30	187	+	138	=	325	96	43	No
21:15 - 22:15	165	+	143	=	308	65	74	No
21:30 - 22:30	149	+	110	=	259	58	64	No
05:15 - 06:15	146	+	112	=	258	63	35	No
21:45 - 22:45	128	+	85	=	213	46	52	No
05:00 - 06:00	106	+	101	=	207	46	32	No
04:45 - 05:45	92	+	85	=	177	28	23	No
04:30 - 05:30	79		81		160	17	20	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2155

Study Date : 12/14/2021

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

14 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 = **1**

Volume Requirements

Rural Factor of 70 % applied
 Veh/Hr Major = **630**
 Veh/Hr Minor = **53**

Time	Major Road CSAH 116				Total	Minor Road Jay St.		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:15 - 17:15	801	+	811	=	1612	198	271	Yes
15:15 - 16:15	781	+	694	=	1475	139	231	Yes
17:15 - 18:15	707	+	655	=	1362	184	298	Yes
14:15 - 15:15	680	+	575	=	1255	130	209	Yes
13:15 - 14:15	550	+	533	=	1083	194	210	Yes
07:15 - 08:15	582	+	484	=	1066	109	134	Yes
18:15 - 19:15	502	+	483	=	985	111	209	Yes
11:15 - 12:15	478	+	497	=	975	96	174	Yes
12:15 - 13:15	516	+	454	=	970	107	228	Yes
10:15 - 11:15	456	+	413	=	869	109	139	Yes
09:15 - 10:15	422	+	437	=	859	162	152	Yes
08:15 - 09:15	365	+	359	=	724	91	128	Yes
19:15 - 20:15	365	+	276	=	641	62	172	Yes
06:15 - 07:15	336	+	304	=	640	162	91	Yes
06:00 - 07:00	291	+	222	=	513	145	63	No
20:15 - 21:15	266	+	189	=	455	83	119	No
05:45 - 06:45	228	+	191	=	419	124	48	No
20:30 - 21:30	216	+	169	=	385	86	87	No
20:45 - 21:45	192	+	156	=	348	86	84	No
21:00 - 22:00	183	+	161	=	344	72	76	No
05:30 - 06:30	187	+	138	=	325	96	43	No
21:15 - 22:15	165	+	143	=	308	65	74	No
21:30 - 22:30	149	+	110	=	259	58	64	No
05:15 - 06:15	146	+	112	=	258	63	35	No
21:45 - 22:45	128		85		213	46	52	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2155

Study Date : 12/14/2021

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

16 hours meet 1A minimums.
15 hours meet 1B minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70% applied
Warrant 1A 1B
Veh/Hr Major = **336 504**

Veh/Hr Minor = **84 42**

Major Road CSAH 116

Minor Road Jay St.

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1A?
15:45 - 16:45	816	+	770	=	1586	162	280	Yes
16:45 - 17:45	762	+	739	=	1501	210	281	Yes
14:45 - 15:45	703	+	691	=	1394	131	214	Yes
17:45 - 18:45	590	+	582	=	1172	151	260	Yes
13:45 - 14:45	638	+	507	=	1145	189	204	Yes
12:45 - 13:45	528	+	492	=	1020	116	209	Yes
11:45 - 12:45	508	+	484	=	992	110	218	Yes
06:45 - 07:45	539	+	450	=	989	133	139	Yes
09:45 - 10:45	459	+	430	=	889	110	141	Yes
10:45 - 11:45	454	+	422	=	876	102	152	Yes
07:45 - 08:45	441	+	378	=	819	103	128	Yes
08:45 - 09:45	367	+	425	=	792	150	130	Yes

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?
16:00 - 17:00	793	+	808	=	1601	187	275	Yes
17:00 - 18:00	753	+	701	=	1454	198	298	Yes
15:00 - 16:00	740	+	700	=	1440	131	225	Yes
14:00 - 15:00	665	+	502	=	1167	157	191	Yes
07:00 - 08:00	592	+	506	=	1098	122	140	Yes
18:00 - 19:00	560	+	520	=	1080	121	232	Yes
13:00 - 14:00	538	+	519	=	1057	167	228	Yes
12:00 - 13:00	515	+	460	=	975	100	212	Yes
11:00 - 12:00	445	+	476	=	921	107	163	Yes
10:00 - 11:00	463	+	399	=	862	107	142	Yes
09:00 - 10:00	396	+	453	=	849	158	145	Yes
08:00 - 09:00	373	+	352	=	725	92	126	Yes

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2155

Study Date : 12/14/2021

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.

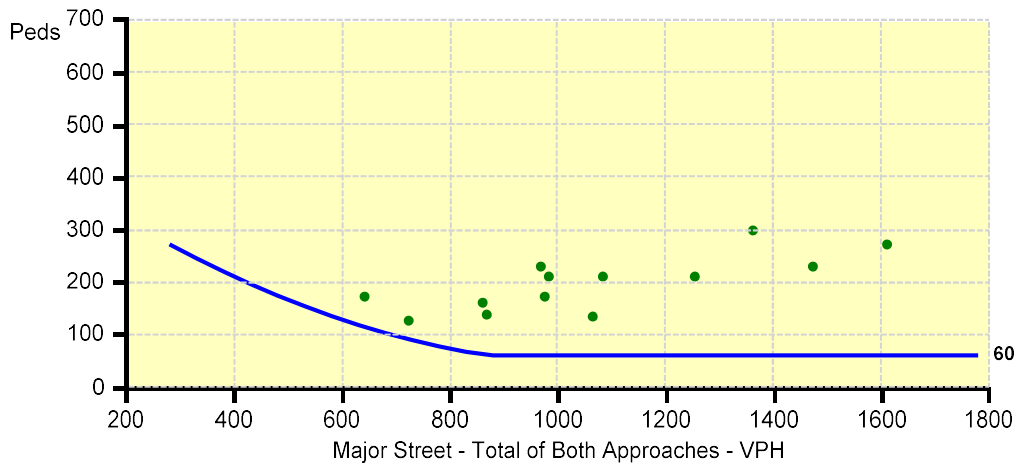
Summary

14 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 = **1**

Time	Major Road CSAH 116				Total	Minor Road Jay St.		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:15 - 17:15	801	+	811	=	1612	198	271	Yes
15:15 - 16:15	781	+	694	=	1475	139	231	Yes
17:15 - 18:15	707	+	655	=	1362	184	298	Yes
14:15 - 15:15	680	+	575	=	1255	130	209	Yes
13:15 - 14:15	550	+	533	=	1083	194	210	Yes
07:15 - 08:15	582	+	484	=	1066	109	134	Yes
18:15 - 19:15	502	+	483	=	985	111	209	Yes
11:15 - 12:15	478	+	497	=	975	96	174	Yes
12:15 - 13:15	516	+	454	=	970	107	228	Yes
10:15 - 11:15	456	+	413	=	869	109	139	Yes
09:15 - 10:15	422	+	437	=	859	162	152	Yes
							128	Yes



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2155

Study Date : 12/14/2021

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

42 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 = **1**

Time	Major Road CSAH 116				Total	Minor Road Jay St.		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:15 - 17:15	801	+	811	=	1612	198	271	Yes
16:00 - 17:00	793	+	808	=	1601	187	275	Yes
15:45 - 16:45	816	+	770	=	1586	162	280	Yes
16:30 - 17:30	782	+	802	=	1584	211	277	Yes
15:30 - 16:30	811	+	722	=	1533	147	267	Yes
16:45 - 17:45	762	+	739	=	1501	210	281	Yes
15:15 - 16:15	781	+	694	=	1475	139	231	Yes
17:00 - 18:00	753	+	701	=	1454	198	298	Yes
15:00 - 16:00	740	+	700	=	1440	131	225	Yes
14:45 - 15:45	703	+	691	=	1394	131	214	Yes
17:15 - 18:15	707	+	655	=	1362	184	298	Yes
							206	Yes

