

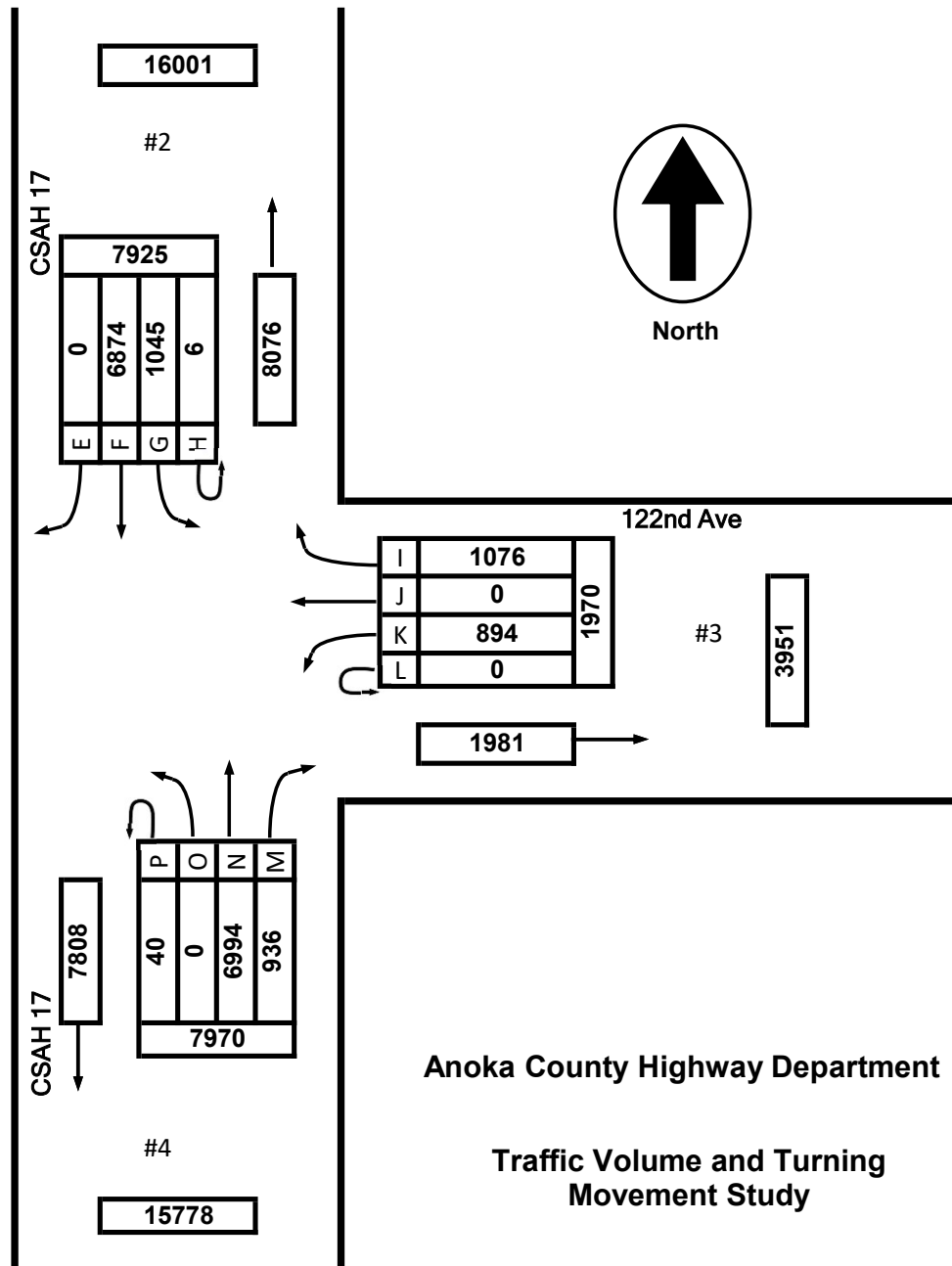
Date : 03/30/23

Count Number : TMC 2335

Location : CSAH 17  
@ 122nd Ave

Collection Period : 24 HR

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



Anoka County Highway Department  
 Traffic Volume and Turning  
 Movement Study

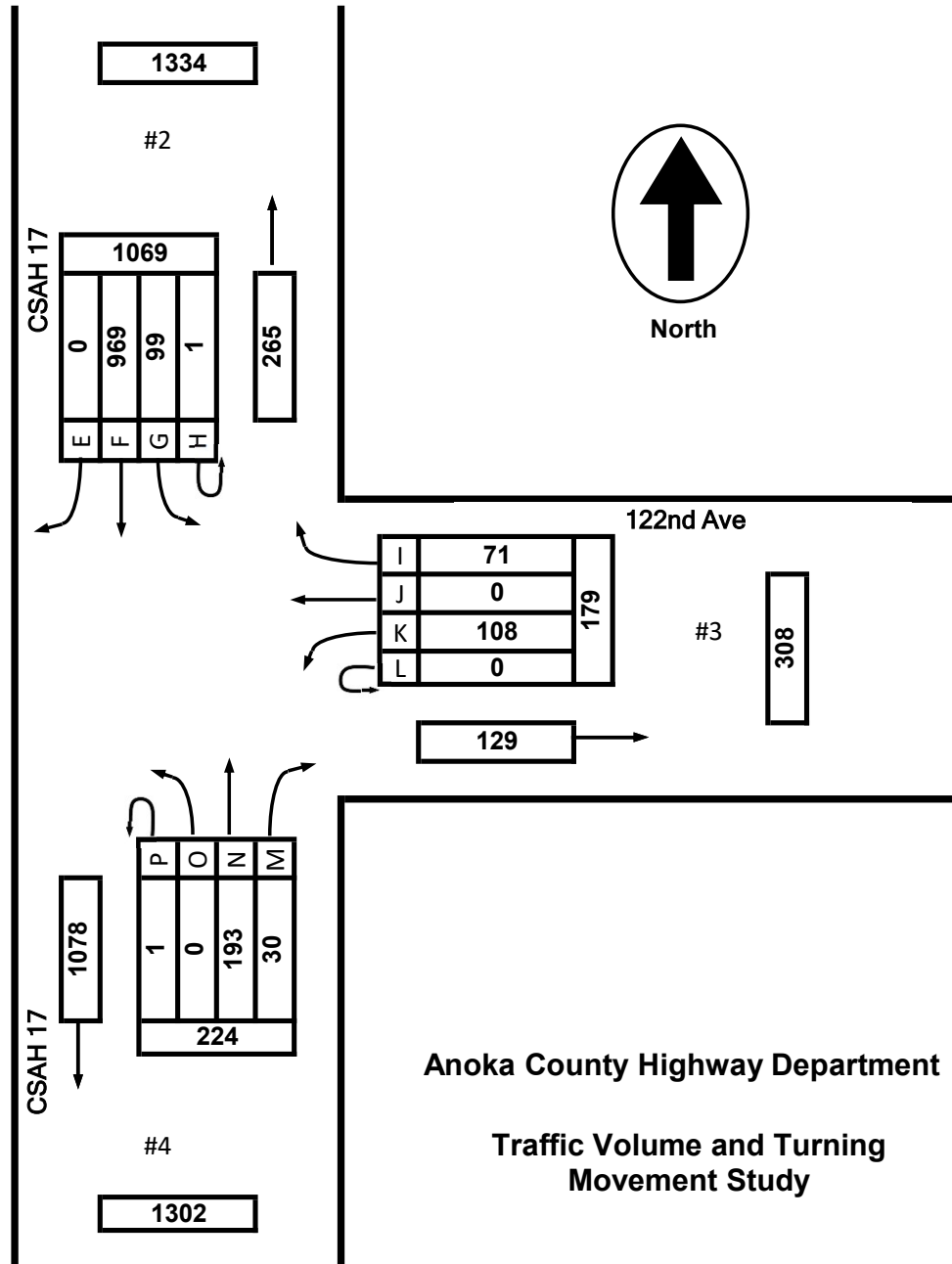
Date : 03/30/23

Count Number : TMC 2335

Location : CSAH 17  
@ 122nd Ave

Collection Period : 7 AM - 8 AM  
AM PEAK

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



Anoka County Highway Department

Traffic Volume and Turning Movement Study

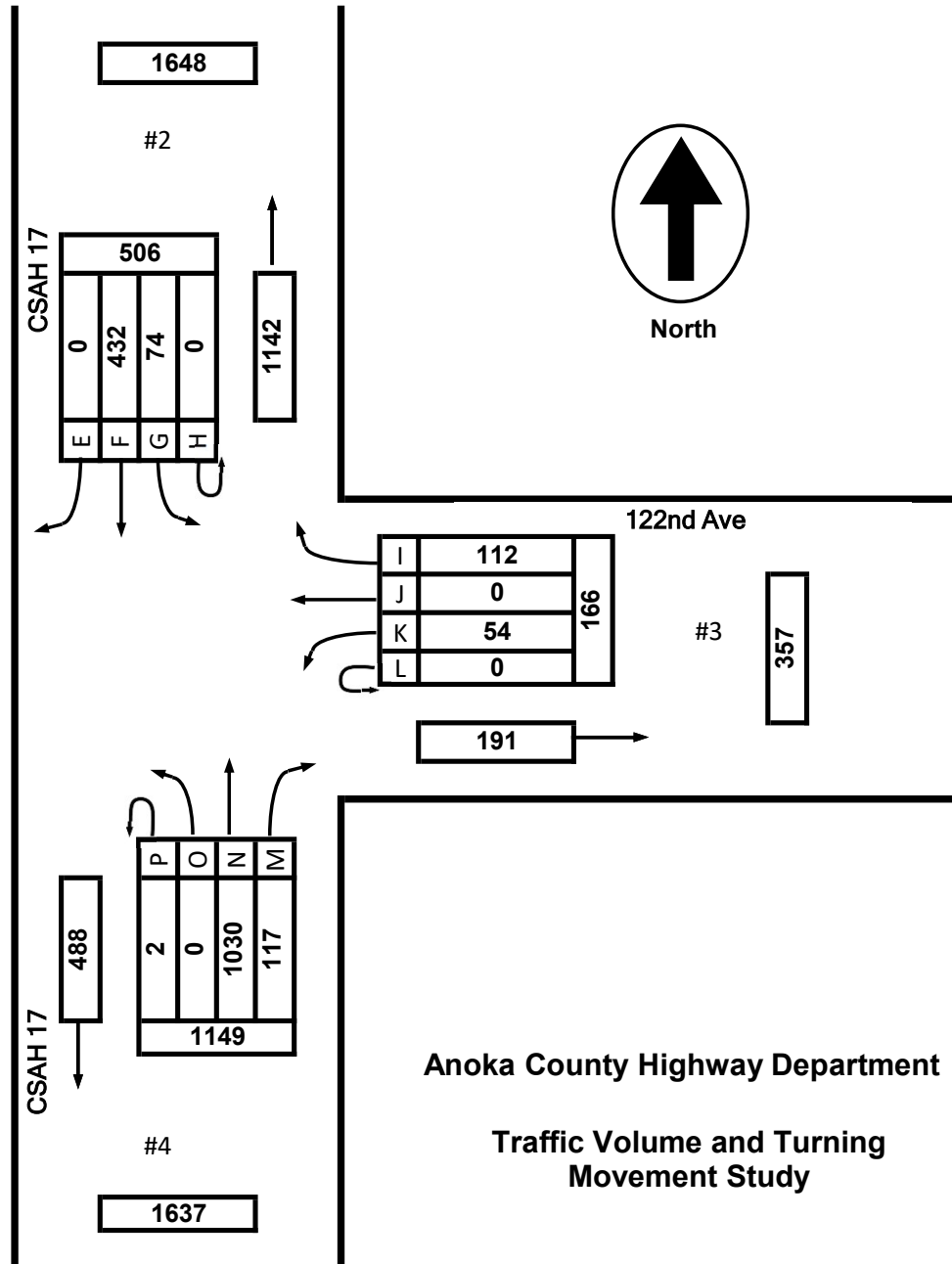
Date : 03/30/23

Count Number : TMC 2335

Location : CSAH 17  
@ 122nd Ave

Collection Period : 4:15 PM - 5:15 PM  
 PM PEAK

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



TMC 2335 - CSAH 17 @ 122nd Ave

0 0

Thursday, March 30, 2023

Time	Southbound 0						Westbound 0						Northbound 0						Eastbound 0						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	1	2	0	0	3	0	0	0	0	0	0	0	0	15	3	0	18	0	0	0	0	0	0	0	0	0	0	0	0	21
12:15 AM	0	2	2	0	0	4	0	0	0	3	0	3	0	0	15	1	0	16	0	0	0	0	0	0	0	0	0	0	0	0	23
12:30 AM	0	3	3	0	0	6	0	4	0	1	0	5	1	0	7	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	19
12:45 AM	0	1	4	0	0	5	0	1	0	0	0	1	0	0	9	1	0	10	0	0	0	0	0	0	0	0	0	0	0	0	16
Hourly Total	0	7	11	0	0	18	0	5	0	4	0	9	1	0	46	5	0	52	0	0	0	0	0	0	0	0	0	0	0	0	79
1:00 AM	0	0	3	0	0	3	0	0	0	1	0	1	0	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	12
1:15 AM	1	0	1	0	0	2	0	1	0	1	0	2	0	0	10	1	0	11	0	0	0	0	0	0	0	0	0	0	0	0	15
1:30 AM	0	0	1	0	0	1	0	0	0	2	0	2	0	0	5	1	0	6	0	0	0	0	0	0	0	0	0	0	0	0	9
1:45 AM	0	1	0	0	0	1	0	1	0	0	0	1	0	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	12
Hourly Total	1	1	5	0	0	7	0	2	0	4	0	6	0	0	33	2	0	35	0	0	0	0	0	0	0	0	0	0	0	0	48
2:00 AM	0	2	2	0	0	4	0	1	0	3	0	4	0	0	3	2	0	5	0	0	0	0	0	0	0	0	0	0	0	0	13
2:15 AM	0	1	4	0	0	5	0	0	0	1	0	1	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	9
2:30 AM	0	0	2	0	0	2	0	2	0	0	0	2	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	8
2:45 AM	0	1	5	0	0	6	0	0	0	0	0	0	0	0	5	3	0	8	0	0	0	0	0	0	0	0	0	0	0	0	14
Hourly Total	0	4	13	0	0	17	0	3	0	4	0	7	0	0	15	5	0	20	0	0	0	0	0	0	0	0	0	0	0	0	44
3:00 AM	0	2	7	0	0	9	0	0	0	4	0	4	0	0	7	2	0	9	0	0	0	0	0	0	0	0	0	0	0	0	22
3:15 AM	0	2	7	0	0	9	0	2	0	1	0	3	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	14
3:30 AM	0	1	6	0	0	7	0	2	0	0	0	2	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	11
3:45 AM	0	2	5	0	0	7	0	2	0	0	0	2	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	11
Hourly Total	0	7	25	0	0	32	0	6	0	5	0	11	0	0	13	2	0	15	0	0	0	0	0	0	0	0	0	0	0	0	58
4:00 AM	0	1	11	0	0	12	0	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
4:15 AM	0	1	19	0	0	20	0	3	0	0	0	3	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	25
4:30 AM	0	5	35	0	0	40	0	6	0	2	0	8	0	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	51
4:45 AM	0	5	41	0	0	46	0	9	0	1	0	10	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	58
Hourly Total	0	12	106	0	0	118	0	20	0	4	0	24	0	0	3	4	0	7	0	0	0	0	0	0	0	0	0	0	0	0	149
5:00 AM	0	13	45	0	0	58	0	10	0	5	0	15	0	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	77
5:15 AM	0	13	77	0	0	90	0	13	0	4	0	17	1	0	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	111
5:30 AM	0	10	85	0	0	95	0	15	0	2	0	17	0	0	9	1	0	10	0	0	0	0	0	0	0	0	0	0	0	0	122
5:45 AM	0	18	119	0	0	137	0	13	0	6	0	19	0	0	9	2	0	11	0	0	0	0	0	0	0	0	0	0	0	0	167
Hourly Total	0	54	326	0	0	380	0	51	0	17	0	68	1	0	24	4	0	29	0	0	0	0	0	0	0	0	0	0	0	0	477
6:00 AM	0	13	113	0	0	126	0	19	0	2	0	21	0	0	12	1	0	13	0	0	0	0	0	0	0	0	0	0	0	0	160
6:15 AM	1	12	148	0	0	161	0	20	0	3	0	23	0	0	23	5	0	28	0	0	0	0	0	0	0	0	0	0	0	0	212
6:30 AM	0	20	198	0	0	218	0	16	0	9	0	25	0	0	27	4	0	31	0	0	0	0	0	0	0	0	0	0	0	0	274
6:45 AM	0	16	192	0	0	208	0	24	0	17	0	41	0	0	24	6	0	30	0	0	0	0	0	0	0	0	0	0	0	0	279
Hourly Total	1	61	651	0	0	713	0	79	0	31	0	110	0	0	86	16	0	102	0	0	0	0	0	0	0	0	0	0	0	0	925
7:00 AM	0	30	210	0	0	240	0	25	0	17	0	42	0	0	36	6	0	42	0	0	0	0	0	0	0	0	0	0	0	0	324
7:15 AM	0	18	260	0	0	278	0	27	0	23	0	50	0	0	32	7	0	39	0	0	0	0	0	0	0	0	0	0	0	0	367
7:30 AM	1	20	255	0	0	276	0	24	0	19	0	43	0	0	46	7	0	53	0	0	0	0	0	0	0	0	0	0	0	0	372
7:45 AM	0	31	244	0	0	275	0	32	0	12	0	44	1	0	79	10	0	90	0	0	0	0	0	0	0	0	0	0	0	0	409
Hourly Total	1	99	969	0	0	1069	0	108	0	71	0	179	1	0	193	30	0	224	0	0	0	0	0	0	0	0	0	0	0	0	1472

TMC 2335 - CSAH 17 @ 122nd Ave

0 0

Thursday, March 30, 2023

Time	Southbound 0						Westbound 0						Northbound 0						Eastbound 0						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	27	163	0	0	190	0	21	0	25	0	46	0	0	69	11	0	80	0	0	0	0	0	0	316
8:15 AM	0	18	150	0	0	168	0	16	0	13	0	29	0	0	65	11	0	76	0	0	0	0	0	0	273
8:30 AM	0	19	144	0	0	163	0	13	0	16	0	29	0	0	74	12	0	86	0	0	0	0	0	0	278
8:45 AM	0	21	125	0	0	146	0	22	0	22	0	44	0	0	46	14	0	60	0	0	0	0	0	0	250
Hourly Total	0	85	582	0	0	667	0	72	0	76	0	148	0	0	254	48	0	302	0	0	0	0	0	0	1117
9:00 AM	0	16	132	0	0	148	0	14	0	16	0	30	1	0	65	12	0	78	0	0	0	0	0	0	256
9:15 AM	1	23	156	0	0	180	0	13	0	11	0	24	0	0	61	10	0	71	0	0	0	0	0	0	275
9:30 AM	0	15	128	0	0	143	0	18	0	13	0	31	1	0	61	7	0	69	0	0	0	0	0	0	243
9:45 AM	0	22	88	0	0	110	0	19	0	9	0	28	0	0	53	8	0	61	0	0	0	0	0	0	199
Hourly Total	1	76	504	0	0	581	0	64	0	49	0	113	2	0	240	37	0	279	0	0	0	0	0	0	973
10:00 AM	0	10	80	0	0	90	0	19	0	16	0	35	0	0	74	10	0	84	0	0	0	0	0	0	209
10:15 AM	0	13	95	0	0	108	0	7	0	10	0	17	0	0	49	7	0	56	0	0	0	0	0	0	181
10:30 AM	0	13	84	0	0	97	0	5	0	11	0	16	1	0	67	11	0	79	0	0	0	0	0	0	192
10:45 AM	0	10	86	0	0	96	0	15	0	13	0	28	1	0	59	11	0	71	0	0	0	0	0	0	195
Hourly Total	0	46	345	0	0	391	0	46	0	50	0	96	2	0	249	39	0	290	0	0	0	0	0	0	777
11:00 AM	0	19	84	0	0	103	0	12	0	13	0	25	3	0	73	10	0	86	0	0	0	0	0	0	214
11:15 AM	0	17	67	0	0	84	0	11	0	19	0	30	0	0	80	11	0	91	0	0	0	0	0	0	205
11:30 AM	0	14	108	0	0	122	0	19	0	12	0	31	1	0	74	7	0	82	0	0	0	0	0	0	235
11:45 AM	0	4	76	0	0	80	0	12	0	11	0	23	2	0	69	10	0	81	0	0	0	0	0	0	184
Hourly Total	0	54	335	0	0	389	0	54	0	55	0	109	6	0	296	38	0	340	0	0	0	0	0	0	838
12:00 PM	0	15	90	0	0	105	0	7	0	15	0	22	0	0	66	15	0	81	0	0	0	0	0	0	208
12:15 PM	0	9	95	0	0	104	0	11	0	12	0	23	2	0	106	12	0	120	0	0	0	0	0	0	247
12:30 PM	0	12	68	0	0	80	0	14	0	10	0	24	1	0	82	18	0	101	0	0	0	0	0	0	205
12:45 PM	0	21	80	0	0	101	0	11	0	19	0	30	0	0	77	16	0	93	0	0	0	0	0	0	224
Hourly Total	0	57	333	0	0	390	0	43	0	56	0	99	3	0	331	61	0	395	0	0	0	0	0	0	884
1:00 PM	0	16	64	0	0	80	0	12	0	19	0	31	1	0	87	15	0	103	0	0	0	0	0	0	214
1:15 PM	0	11	103	0	0	114	0	9	0	17	0	26	0	0	92	10	0	102	0	0	0	0	0	0	242
1:30 PM	0	9	60	0	0	69	0	15	0	15	0	30	0	0	100	10	0	110	0	0	0	0	0	0	209
1:45 PM	0	12	79	0	0	91	0	6	0	23	0	29	0	0	103	21	0	124	0	0	0	0	0	0	244
Hourly Total	0	48	306	0	0	354	0	42	0	74	0	116	1	0	382	56	0	439	0	0	0	0	0	0	909
2:00 PM	0	9	88	0	0	97	0	9	0	14	0	23	0	0	120	10	0	130	0	0	0	0	0	0	250
2:15 PM	0	9	81	0	0	90	0	15	0	8	0	23	0	0	136	14	0	150	0	0	0	0	0	0	263
2:30 PM	0	15	107	0	0	122	0	7	0	12	0	19	0	0	120	15	0	135	0	0	0	0	0	0	276
2:45 PM	0	16	74	0	0	90	0	13	0	24	0	37	1	0	152	23	0	176	0	0	0	0	0	0	303
Hourly Total	0	49	350	0	0	399	0	44	0	58	0	102	1	0	528	62	0	591	0	0	0	0	0	0	1092
3:00 PM	0	11	79	0	0	90	0	12	0	21	0	33	4	0	194	20	0	218	0	0	0	0	0	0	341
3:15 PM	0	17	73	0	0	90	0	10	0	22	0	32	2	0	201	25	0	228	0	0	0	0	0	0	350
3:30 PM	0	14	87	0	0	101	0	8	0	27	0	35	0	0	211	29	0	240	0	0	0	0	0	0	376
3:45 PM	0	15	83	0	0	98	0	7	0	33	0	40	2	0	242	21	0	265	0	0	0	0	0	0	403
Hourly Total	0	57	322	0	0	379	0	37	0	103	0	140	8	0	848	95	0	951	0	0	0	0	0	0	1470



# TMC 2335 - CSAH 17 @ 122nd Ave

0 0

Thursday, March 30, 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	30	210	0	0	240	0	25	0	17	0	42	0	0	36	6	0	42	0	0	0	0	0	0	0	0	0	0	0	0	324
7:15 AM	0	18	260	0	0	278	0	27	0	23	0	50	0	0	32	7	0	39	0	0	0	0	0	0	0	0	0	0	0	0	367
7:30 AM	1	20	255	0	0	276	0	24	0	19	0	43	0	0	46	7	0	53	0	0	0	0	0	0	0	0	0	0	0	0	372
7:45 AM	0	31	244	0	0	275	0	32	0	12	0	44	1	0	79	10	0	90	0	0	0	0	0	0	0	0	0	0	0	0	409
Peak Hour Total	1	99	969	0	0	1069	0	108	0	71	0	179	1	0	193	30	0	224	0	0	0	0	0	0	0	0	0	0	0	0	1472
PHF	0.250	0.798	0.932	0.000	0.000	0.961	0.000	0.844	0.000	0.772	0.000	0.895	0.250	0.000	0.611	0.750	0.000	0.622	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.900

## 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	13	123	0	0	136	0	11	0	36	0	47	0	0	236	30	0	266	0	0	0	0	0	0	0	0	0	0	0	0	449
4:30 PM	0	28	111	0	0	139	0	14	0	26	0	40	1	0	252	26	0	279	0	0	0	0	0	0	0	0	0	0	0	0	458
4:45 PM	0	17	107	0	0	124	0	14	0	27	0	41	1	0	262	35	0	298	0	0	0	0	0	0	0	0	0	0	0	0	463
5:00 PM	0	16	91	0	0	107	0	15	0	23	0	38	0	0	280	26	0	306	0	0	0	0	0	0	0	0	0	0	0	0	451
Peak Hour Total	0	74	432	0	0	506	0	54	0	112	0	166	2	0	1030	117	0	1149	0	0	0	0	0	0	0	0	0	0	0	0	1821
PHF	0.000	0.661	0.878	0.000	0.000	0.910	0.000	0.900	0.000	0.778	0.000	0.883	0.500	0.000	0.920	0.836	0.000	0.939	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.983

Total Vehicles On Leg				16001	
Vehicles Entering Intersection		7925	Vehicles Exiting Intersection		8076
<b>Southbound</b>					
Cars	0	6762	1023	6	0
Heavy	0	112	22	0	0
<b>Total</b>	<b>0</b>	<b>6874</b>	<b>1045</b>	<b>6</b>	<b>0</b>

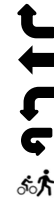


Total Vehicles on Leg 0	Vehicles Entering Intersection 0	Eastbound	Cars	0	0	0
			Heavy	0	0	0
			<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>
	Vehicles Exiting Intersection 0		Cars	0	0	0
			Heavy	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>			



Daily Volumes

Cars	1053	23	1076
Heavy	0	0	0
<b>Total</b>	<b>888</b>	<b>6</b>	<b>894</b>
Cars	0	0	0
Heavy	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>



Vehicles Entering Intersection  
1970

Vehicles Exiting Intersection  
1981

Total Vehicles on Leg  
3951



Cars	0	40	0	6890	925	
Heavy	0	0	0	104	11	
<b>Total</b>	<b>0</b>	<b>40</b>	<b>0</b>	<b>6994</b>	<b>936</b>	
<b>Northbound</b>						
Vehicles Entering Intersection			7970	Vehicles Exiting Intersection		7808
Total Vehicles On Leg			15778			







# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2335

Study Date : 04/24/2023

## Signal Warrants - Summary

### Major Street Approaches

Northbound: CSAH 17

Number of Lanes : 2+

Total Approach Volume: 7,970

Southbound: CSAH 17

Number of Lanes :2+

Total Approach Volume: 7,925

### Minor Street Approaches

Westbound: 122nd Ave

Number of Lanes :1

Total Approach Volume: 1,970

### 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 14 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 15 hours, 8 are needed

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

Number of hours (13) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

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

Number of one hour periods (39) 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 2335

Study Date : 04/24/2023

## 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 = **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 17				Total	Minor EB	Minor Road 122nd Ave		Met?
	Major NB	+	Major SB	=			Minor WB		
16:15 - 17:15	1149	+	506	=	1655	0	166		Yes
15:15 - 16:15	981	+	392	=	1373	0	136		Yes
07:00 - 08:00	224	+	1069	=	1293	0	179		Yes
17:15 - 18:15	818	+	474	=	1292	0	124		Yes
14:15 - 15:15	679	+	392	=	1071	0	112		Yes
08:00 - 09:00	302	+	667	=	969	0	148		Yes
09:00 - 10:00	279	+	581	=	860	0	113		Yes
13:15 - 14:15	466	+	371	=	837	0	108		Yes
06:00 - 07:00	102	+	713	=	815	0	110		Yes
12:15 - 13:15	417	+	365	=	782	0	108		Yes
10:45 - 11:45	330	+	405	=	735	0	114		Yes
18:15 - 19:15	545	+	352	=	897	0	90		No
18:30 - 19:30	476	+	333	=	809	0	91		No
12:00 - 13:00	395	+	390	=	785	0	99		No
11:45 - 12:45	383	+	369	=	752	0	92		No
18:45 - 19:45	449	+	301	=	750	0	98		No
05:45 - 06:45	83	+	642	=	725	0	88		No
10:30 - 11:30	327	+	380	=	707	0	99		No
10:15 - 11:15	292	+	404	=	696	0	86		No
10:00 - 11:00	290	+	391	=	681	0	96		No
19:00 - 20:00	413	+	256	=	669	0	86		No
19:15 - 20:15	401	+	225	=	626	0	78		No
19:30 - 20:30	405	+	195	=	600	0	64		No
05:30 - 06:30	62	+	519	=	581	0	80		No
19:45 - 20:45	374		183		557	0	59		No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2335

Study Date : 04/24/2023

## 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

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				Total	Minor EB	Minor Road		Met?
	Major NB	+	Major SB	=			Minor WB		
								<b>CSAH 17</b>	<b>122nd Ave</b>
16:45 - 17:45	1091	+	474	=	1565	0	148		Yes
15:45 - 16:45	1058	+	476	=	1534	0	156		Yes
14:45 - 15:45	862	+	371	=	1233	0	137		Yes
06:45 - 07:45	164	+	1002	=	1166	0	176		Yes
07:45 - 08:45	332	+	796	=	1128	0	148		Yes
17:45 - 18:45	632	+	405	=	1037	0	94		Yes
13:45 - 14:45	539	+	400	=	939	0	94		Yes
08:45 - 09:45	278	+	617	=	895	0	129		Yes
12:45 - 13:45	408	+	364	=	772	0	117		Yes
11:45 - 12:45	383	+	369	=	752	0	92		Yes
18:45 - 19:45	449	+	301	=	750	0	98		Yes
10:45 - 11:45	330	+	405	=	735	0	114		Yes
05:45 - 06:45	83	+	642	=	725	0	88		Yes
09:45 - 10:45	280	+	405	=	685	0	96		Yes
05:30 - 06:30	62	+	519	=	581	0	80		No
19:45 - 20:45	374	+	183	=	557	0	59		No
20:00 - 21:00	366	+	171	=	537	0	66		No
05:15 - 06:15	38	+	448	=	486	0	74		No
20:15 - 21:15	327	+	144	=	471	0	75		No
20:30 - 21:30	300	+	149	=	449	0	70		No
20:45 - 21:45	291	+	137	=	428	0	70		No
05:00 - 06:00	29	+	380	=	409	0	68		No
21:00 - 22:00	245	+	127	=	372	0	48		No
21:15 - 22:15	226	+	118	=	344	0	38		No
04:45 - 05:45	20		289		309	0	59		No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2335

Study Date : 04/24/2023

## 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.  
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 17

#### Minor Road 122nd Ave

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
16:45 - 17:45	1091	+	474	=	1565	0	148	Yes
15:45 - 16:45	1058	+	476	=	1534	0	156	Yes
14:45 - 15:45	862	+	371	=	1233	0	137	Yes
06:45 - 07:45	164	+	1002	=	1166	0	176	Yes
07:45 - 08:45	332	+	796	=	1128	0	148	Yes
17:45 - 18:45	632	+	405	=	1037	0	94	Yes
13:45 - 14:45	539	+	400	=	939	0	94	Yes
08:45 - 09:45	278	+	617	=	895	0	129	Yes
12:45 - 13:45	408	+	364	=	772	0	117	Yes
11:45 - 12:45	383	+	369	=	752	0	92	Yes
18:45 - 19:45	449	+	301	=	750	0	98	Yes
10:45 - 11:45	330	+	405	=	735	0	114	Yes

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
16:30 - 17:30	1148	+	493	=	1641	0	163	Yes
15:30 - 16:30	1019	+	438	=	1457	0	151	Yes
07:30 - 08:30	299	+	909	=	1208	0	162	Yes
14:30 - 15:30	757	+	392	=	1149	0	121	Yes
17:30 - 18:30	706	+	443	=	1149	0	107	Yes
06:30 - 07:30	142	+	944	=	1086	0	158	Yes
08:30 - 09:30	295	+	637	=	932	0	127	Yes
13:30 - 14:30	514	+	347	=	861	0	105	Yes
18:30 - 19:30	476	+	333	=	809	0	91	Yes
11:30 - 12:30	364	+	411	=	775	0	99	Yes
12:30 - 13:30	399	+	375	=	774	0	111	Yes
09:30 - 10:30	270	+	451	=	721	0	111	Yes

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2335

Study Date : 04/24/2023

## 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.

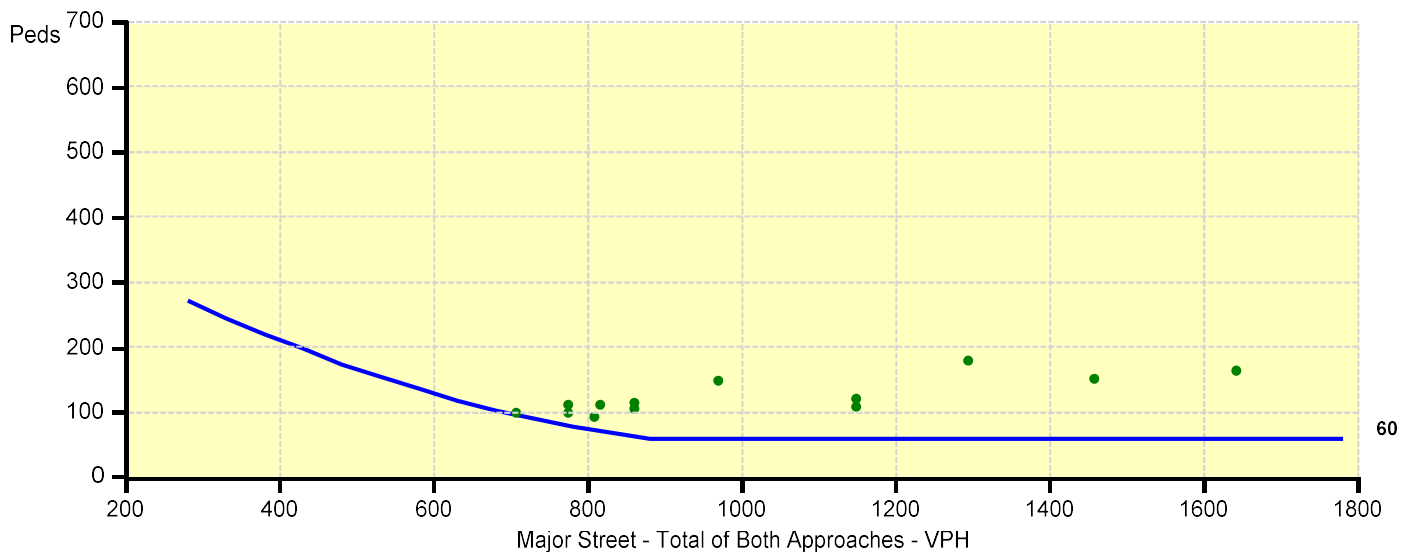
### Summary

13 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 17				Total	Minor Road 122nd Ave		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:30 - 17:30	1148	+	493	=	1641	0	163	Yes
15:30 - 16:30	1019	+	438	=	1457	0	151	Yes
07:00 - 08:00	224	+	1069	=	1293	0	179	Yes
14:30 - 15:30	757	+	392	=	1149	0	121	Yes
17:30 - 18:30	706	+	443	=	1149	0	107	Yes
08:00 - 09:00	302	+	667	=	969	0	148	Yes
13:30 - 14:30	514	+	347	=	861	0	105	Yes
09:00 - 10:00	279	+	581	=	860	0	113	Yes
06:00 - 07:00	102	+	713	=	815	0	110	Yes
18:30 - 19:30	476	+	333	=	809	0	91	Yes
11:30 - 12:30	364	+	411	=	775	0	99	Yes
12:30 - 13:30	399		375		774	0	111	Yes



# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2335

Study Date : 04/24/2023

## 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

24 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 17				Total	Minor Road 122nd Ave		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:15 - 17:15	1149	+	506	=	1655	0	166	Yes
16:30 - 17:30	1148	+	493	=	1641	0	163	Yes
16:00 - 17:00	1091	+	502	=	1593	0	157	Yes
16:45 - 17:45	1091	+	474	=	1565	0	148	Yes
15:45 - 16:45	1058	+	476	=	1534	0	156	Yes
15:30 - 16:30	1019	+	438	=	1457	0	151	Yes
17:00 - 18:00	965	+	469	=	1434	0	136	Yes
15:15 - 16:15	981	+	392	=	1373	0	136	Yes
15:00 - 16:00	951	+	379	=	1330	0	140	Yes
07:00 - 08:00	224	+	1069	=	1293	0	179	Yes
17:15 - 18:15	818	+	474	=	1292	0	124	Yes
07:15 - 08:15	262		1019		1281	0	183	Yes

