

Date: 09/04/24

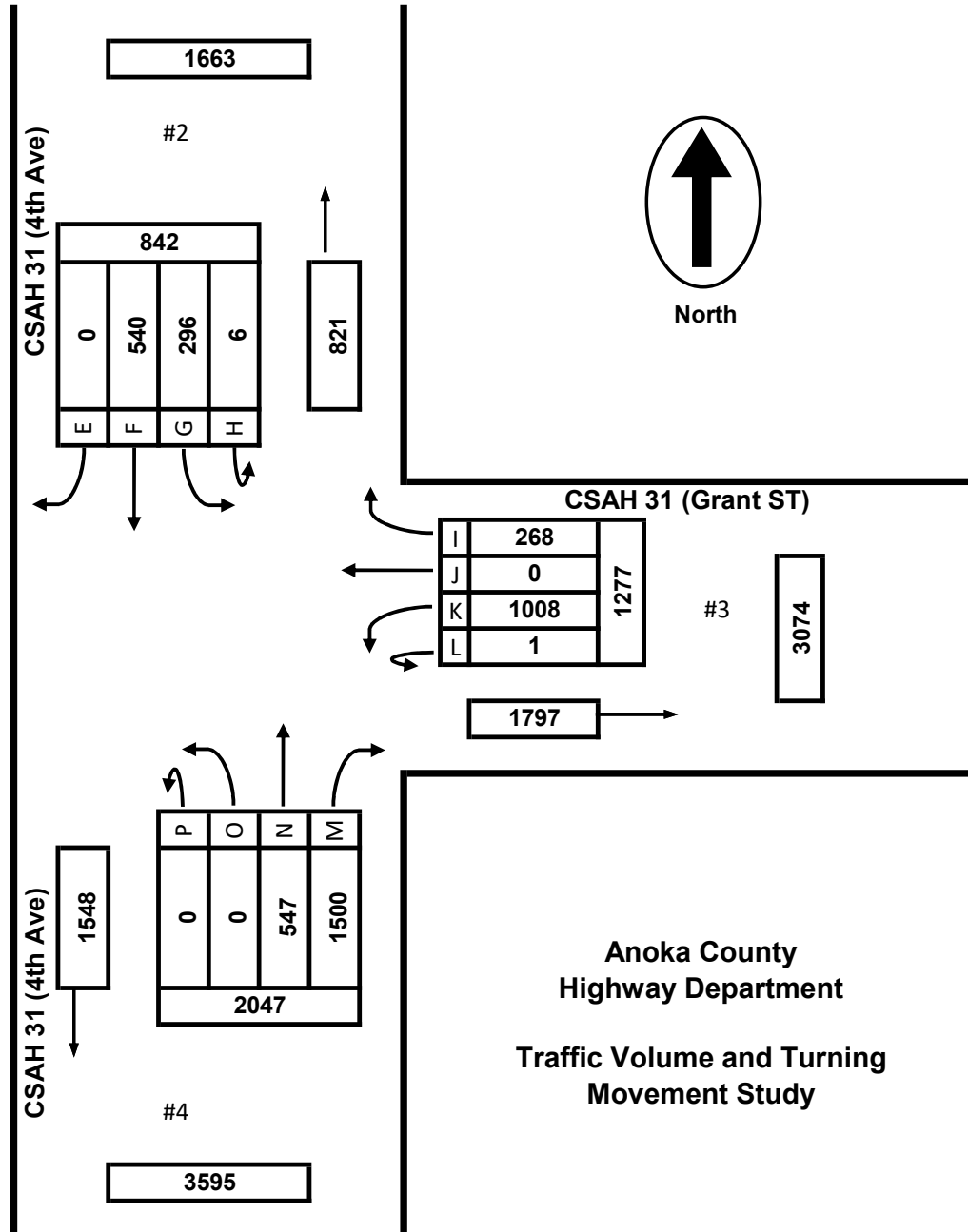
Count Number: TMC 2476

Location: CSAH 31 (4th Ave)

@ CSAH 31 (Grant St)

Collection Period: 24 HR

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



TMC 2476 - CSAH 31 (4th Ave) @ CSAH 31 (Grant St)
Anoka MN
Wednesday, September 4, 2024

Time	Southbound CSAH 31 (4th Ave)						Westbound CSAH 31 (Grant St)						Northbound CSAH 31 (4th Ave)						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	4	0	1	0	0	5	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	6
12:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	4	0	0	4	0	0	0	0	0	5
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Hourly Total	4	0	1	0	0	5	0	0	0	1	0	1	0	0	0	8	0	0	8	0	0	0	0	0	14
1:00 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
1:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	3
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	2
1:45 AM	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0	3
Hourly Total	0	1	1	0	0	2	0	0	0	1	0	1	0	0	2	3	0	5	0	0	0	0	0	0	8
2:00 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
2:30 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
2:45 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	3
3:00 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
3:15 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
3:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2
4:15 AM	0	0	1	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
4:30 AM	0	1	1	0	0	2	0	2	0	0	0	2	0	0	1	1	0	2	0	0	0	0	0	0	6
4:45 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
Hourly Total	0	1	3	0	0	4	0	3	0	0	0	3	0	0	2	3	0	5	0	0	0	0	0	0	12
5:00 AM	0	0	1	0	0	1	0	1	0	0	0	1	0	0	1	3	0	4	0	0	0	0	0	0	6
5:15 AM	0	2	2	0	0	4	0	9	0	0	0	9	0	0	1	2	0	3	0	0	0	0	0	0	16
5:30 AM	0	0	2	0	0	2	0	10	0	0	0	10	0	0	0	3	0	3	0	0	0	0	0	0	15
5:45 AM	0	0	2	0	0	2	0	7	0	2	0	9	0	0	3	3	0	6	0	0	0	0	0	0	17
Hourly Total	0	2	7	0	0	9	0	27	0	2	0	29	0	0	5	11	0	16	0	0	0	0	0	0	54
6:00 AM	0	0	1	0	0	1	0	7	0	0	0	7	0	0	5	5	0	10	0	0	0	0	0	0	18
6:15 AM	0	0	4	0	0	4	0	14	0	1	1	15	0	0	3	5	0	8	0	0	0	0	0	0	27
6:30 AM	2	6	4	0	0	12	0	22	0	2	0	24	0	0	7	10	0	17	0	0	0	0	0	0	53
6:45 AM	0	2	4	0	0	6	0	34	0	4	0	38	0	0	10	6	0	16	0	0	0	0	0	0	60
Hourly Total	2	8	13	0	0	23	0	77	0	7	1	84	0	0	25	26	0	51	0	0	0	0	0	0	158
7:00 AM	0	6	7	0	0	13	0	31	0	4	7	35	0	0	3	14	0	17	0	0	0	0	0	0	65
7:15 AM	0	8	3	0	0	11	0	35	0	1	1	36	0	0	11	13	0	24	0	0	0	0	0	0	71
7:30 AM	0	3	10	0	0	13	0	55	0	5	1	60	0	0	11	22	0	33	0	0	0	0	0	0	106
7:45 AM	0	4	12	0	0	16	0	50	0	15	0	65	0	0	14	12	0	26	0	0	0	0	0	0	107
Hourly Total	0	21	32	0	0	53	0	171	0	25	9	196	0	0	39	61	0	100	0	0	0	0	0	0	349

**TMC 2476 - CSAH 31 (4th Ave) @ CSAH 31 (Grant St)
Anoka MN
Wednesday, September 4, 2024**

Time	Southbound CSAH 31 (4th Ave)						Westbound CSAH 31 (Grant St)						Northbound CSAH 31 (4th Ave)						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	4	4	0	1	8	0	25	0	1	0	26	0	0	15	13	1	28	0	0	0	0	0	0	62
8:15 AM	0	3	3	0	0	6	0	22	0	3	1	25	0	0	2	17	0	19	0	0	0	0	0	0	50
8:30 AM	0	1	9	0	0	10	0	13	0	2	0	15	0	0	11	19	0	30	0	0	0	0	0	0	55
8:45 AM	0	3	6	0	0	9	0	15	0	4	0	19	0	0	8	11	0	19	0	0	0	0	0	0	47
Hourly Total	0	11	22	0	1	33	0	75	0	10	1	85	0	0	36	60	1	96	0	0	0	0	0	0	214
9:00 AM	0	1	11	0	0	12	0	13	0	5	2	18	0	0	7	14	0	21	0	0	0	0	0	0	51
9:15 AM	0	7	15	0	0	22	0	20	0	10	0	30	0	0	5	15	0	20	0	0	0	0	0	0	72
9:30 AM	0	5	8	0	0	13	0	12	0	3	1	15	0	0	9	8	0	17	0	0	0	0	0	0	45
9:45 AM	0	6	13	0	0	19	0	9	0	7	0	16	0	0	17	17	0	34	0	0	0	0	0	0	69
Hourly Total	0	19	47	0	0	66	0	54	0	25	3	79	0	0	38	54	0	92	0	0	0	0	0	0	237
10:00 AM	0	5	8	0	0	13	0	12	0	4	0	16	0	0	16	20	0	36	0	0	0	0	0	0	65
10:15 AM	0	5	11	0	0	16	0	12	0	3	0	15	0	0	7	12	0	19	0	0	0	0	0	0	50
10:30 AM	0	3	5	0	0	8	0	17	0	6	0	23	0	0	6	15	0	21	0	0	0	0	0	0	52
10:45 AM	0	6	5	0	0	11	0	20	0	5	0	25	0	0	7	14	0	21	0	0	0	0	0	0	57
Hourly Total	0	19	29	0	0	48	0	61	0	18	0	79	0	0	36	61	0	97	0	0	0	0	0	0	224
11:00 AM	0	5	9	0	0	14	0	7	0	6	0	13	0	0	8	13	0	21	0	0	0	0	0	0	48
11:15 AM	0	8	12	0	0	20	0	3	0	4	0	7	0	0	10	16	0	26	0	0	0	0	0	0	53
11:30 AM	0	8	19	0	0	27	0	10	0	4	0	14	0	0	16	19	0	35	0	0	0	0	0	0	76
11:45 AM	0	5	14	0	0	19	0	8	0	6	0	14	0	0	10	25	0	35	0	0	0	0	0	0	68
Hourly Total	0	26	54	0	0	80	0	28	0	20	0	48	0	0	44	73	0	117	0	0	0	0	0	0	245
12:00 PM	0	7	13	0	0	20	0	15	0	6	1	21	0	0	5	11	0	16	0	0	0	0	0	0	57
12:15 PM	0	7	8	0	0	15	1	15	0	6	2	22	0	0	5	16	0	21	0	0	0	0	0	0	58
12:30 PM	0	6	8	0	0	14	0	16	0	6	1	22	0	0	5	20	0	25	0	0	0	0	0	0	61
12:45 PM	0	1	5	0	0	6	0	12	0	8	1	20	0	0	12	14	0	26	0	0	0	0	0	0	52
Hourly Total	0	21	34	0	0	55	1	58	0	26	5	85	0	0	27	61	0	88	0	0	0	0	0	0	228
1:00 PM	0	7	11	0	0	18	0	17	0	13	2	30	0	0	7	29	0	36	0	0	0	0	0	0	84
1:15 PM	0	7	10	0	0	17	0	15	0	3	1	18	0	0	11	26	0	37	0	0	0	0	0	0	72
1:30 PM	0	3	5	0	1	8	0	14	0	4	2	18	0	0	9	26	1	35	0	0	0	0	0	0	61
1:45 PM	0	4	9	0	0	13	0	17	0	4	0	21	0	0	10	16	0	26	0	0	0	0	0	0	60
Hourly Total	0	21	35	0	1	56	0	63	0	24	5	87	0	0	37	97	1	134	0	0	0	0	0	0	277
2:00 PM	0	5	13	0	0	18	0	11	0	3	2	14	0	0	4	28	0	32	0	0	0	0	0	0	64
2:15 PM	0	6	12	0	0	18	0	15	0	5	1	20	0	0	13	32	0	45	0	0	0	0	0	0	83
2:30 PM	0	8	14	0	1	22	0	27	0	8	4	35	0	0	8	37	1	45	0	0	0	0	0	0	102
2:45 PM	0	7	7	0	0	14	0	17	0	5	1	22	0	0	13	30	0	43	0	0	0	0	0	0	79
Hourly Total	0	26	46	0	1	72	0	70	0	21	8	91	0	0	38	127	1	165	0	0	0	0	0	0	328
3:00 PM	0	6	13	0	0	19	0	20	0	5	1	25	0	0	18	56	0	74	0	0	0	0	0	0	118
3:15 PM	0	4	12	0	0	16	0	15	0	4	1	19	0	0	9	47	0	56	0	0	0	0	0	0	91
3:30 PM	0	3	7	0	0	10	0	16	0	6	2	22	0	0	14	52	0	66	0	0	0	0	0	0	98
3:45 PM	0	5	19	0	1	24	0	14	0	6	1	20	0	0	9	47	1	56	0	0	0	0	0	0	100
Hourly Total	0	18	51	0	1	69	0	65	0	21	5	86	0	0	50	202	1	252	0	0	0	0	0	0	407

**TMC 2476 - CSAH 31 (4th Ave) @ CSAH 31 (Grant St)
Anoka MN
Wednesday, September 4, 2024**

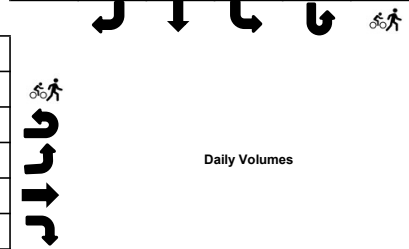
AM Peak Hour

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	6	7	0	0	13	0	31	0	4	7	35	0	0	3	14	0	17	0	0	0	0	0	0	0	0	0	0	0	0	65
7:15 AM	0	8	3	0	0	11	0	35	0	1	1	36	0	0	11	13	0	24	0	0	0	0	0	0	0	0	0	0	0	0	71
7:30 AM	0	3	10	0	0	13	0	55	0	5	1	60	0	0	11	22	0	33	0	0	0	0	0	0	0	0	0	0	0	0	106
7:45 AM	0	4	12	0	0	16	0	50	0	15	0	65	0	0	14	12	0	26	0	0	0	0	0	0	0	0	0	0	0	0	107
Peak Hour Total	0	21	32	0	0	53	0	171	0	25	9	196	0	0	39	61	0	100	0	0	0	0	0	0	0	0	0	0	0	0	349
PHF	0.000	0.656	0.667	0.000	0.000	0.828	0.000	0.777	0.000	0.417	0.321	0.754	0.000	0.000	0.696	0.693	0.000	0.758	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.815

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	12	9	0	1	21	0	16	0	3	3	19	0	0	9	60	1	69	0	0	0	0	0	0	0	0	0	0	0	0	109
4:15 PM	0	5	14	0	2	19	0	23	0	2	0	25	0	0	13	43	2	56	0	0	0	0	0	0	0	0	0	0	0	0	100
4:30 PM	0	10	25	0	2	35	0	19	0	5	2	24	0	0	10	70	2	80	0	0	0	0	0	0	0	0	0	0	0	0	139
4:45 PM	0	13	8	0	1	21	0	22	0	6	1	28	0	0	10	45	0	55	0	0	0	0	0	0	0	0	0	0	0	0	104
Peak Hour Total	0	40	56	0	6	96	0	80	0	16	6	96	0	0	42	218	5	260	0	0	0	0	0	0	0	0	0	0	0	0	452
PHF	0.000	0.769	0.560	0.000	0.750	0.686	0.000	0.870	0.000	0.667	0.500	0.857	0.000	0.000	0.808	0.779	0.625	0.813	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.813

Total Vehicles On Leg		1663	
Vehicles Entering Intersection	842	Vehicles Exiting Intersection	821
Southbound			
Cars	0	493	290
Heavy	0	47	6
Total	0	540	296



Total Vehicles on Leg 0	Vehicles Entering Intersection 0	Eastbound	Cars	Heavy	Total	
			0	0	0	
			0	0	0	
			0	0	0	
			0	0	0	
Total Vehicles on Leg 0	Vehicles Exiting Intersection 0	Eastbound	Cars	Heavy	Total	
			0	0	0	
			0	0	0	
			0	0	0	
			0	0	0	

Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 1277	Total Vehicles on Leg 3074
240	28	268			
0	0	0			
975	33	1008			
1	0	1			
42	13	55	Westbound	Vehicles Exiting Intersection 1797	
0	0	0			
0	0	0			
0	0	0			
0	0	0			

Cars	10	0	0	519	1443
Heavy	5	0	0	28	57
Total	15	0	0	547	1500
Northbound					
Vehicles Entering Intersection	2047		Vehicles Exiting Intersection	1548	
Total Vehicles On Leg	3595				

ANOKA COUNTY HIGHWAY

PC - WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2476

Study Date : 09/06/2024

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 31 (4th Ave)

Number of Lanes : 1

Total Approach Volume: 2,047

Southbound: CSAH 31 (4th Ave)

Number of Lanes : 1

Total Approach Volume: 842

Minor Street Approaches

Westbound: CSAh 31 (Grant St)

Number of Lanes : 1

Total Approach Volume: 1,277

Warrant Summary (Urban Values Apply)

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

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

Required volumes reached for 0 hours, 8 are needed

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

Required volumes reached for 0 hours, 8 are needed

Warrant 1C - Combination of Warrants.....Not Satisfied

Required 1A volumes reached for 0 hours, 8 are needed

Required 1B volumes reached for 0 hours, 8 are needed

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

Number of hours (0) volumes exceed minimum < minimum required (4).

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

Warrant 3A - Peak Hour Delay.....Not Satisfied

Approach volumes on minor street don't exceed minimums for any one hour period. Delay data not evaluated.

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

Volumes do not exceed minimums for any one hour period.

Warrant 4 - Pedestrian Volumes.....Not Evaluated

Warrant 5 - School Crossing.....Not Evaluated

Warrant 6 - Coordinated Signal System.....Not Evaluated

Warrant 7 - Crash Experience.....Not Evaluated

Warrant 8 - Roadway Network.....Not Evaluated

Warrant 9 - Intersection Near a Grade Crossing.....Not Evaluated

ANOKA COUNTY HIGHWAY

PC - WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2476

Study Date : 09/06/2024

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 0 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **False**
 Number of Major Lanes = **1**
 Number of Minor Lanes = **1**

Volume Requirements

Veh/Hr Major = **500**

Veh/Hr Minor = **150**

Time	Major Road				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
	CSAH 31 (4th Ave)					CSAh 31 (Grant St)		
15:45 - 16:45	261	+	99	=	360	0	88	No
16:00 - 17:00	260	+	96	=	356	0	96	No
16:15 - 17:15	252	+	90	=	342	0	97	No
15:00 - 16:00	252	+	69	=	321	0	86	No
15:30 - 16:30	247	+	74	=	321	0	86	No
16:30 - 17:30	240	+	81	=	321	0	92	No
15:15 - 16:15	247	+	71	=	318	0	80	No
14:45 - 15:45	239	+	59	=	298	0	88	No
14:30 - 15:30	218	+	71	=	289	0	101	No
14:15 - 15:15	207	+	73	=	280	0	102	No
16:45 - 17:45	205	+	63	=	268	0	85	No
17:00 - 18:00	192	+	64	=	256	0	72	No
14:00 - 15:00	165	+	72	=	237	0	91	No
17:15 - 18:15	164	+	56	=	220	0	68	No
13:45 - 14:45	148	+	71	=	219	0	90	No
11:15 - 12:15	112	+	86	=	198	0	56	No
11:00 - 12:00	117	+	80	=	197	0	48	No
17:30 - 18:30	140	+	56	=	196	0	71	No
13:30 - 14:30	138	+	57	=	195	0	73	No
13:00 - 14:00	134	+	56	=	190	0	87	No
11:30 - 12:30	107	+	81	=	188	0	71	No
13:15 - 14:15	130	+	56	=	186	0	71	No
12:45 - 13:45	134	+	49	=	183	0	86	No
17:45 - 18:45	130	+	50	=	180	0	68	No
12:30 - 13:30	124		55		179	0	90	No

ANOKA COUNTY HIGHWAY

PC - WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2476

Study Date : 09/06/2024

Warrant 1B - Interruption of Continuous Traffic

Description

Intended for sites where the volume of the major street is so heavy that traffic on the minor street suffers excessive delay or hazard.

Summary

Only 0 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **False**
 Number of Major Lanes = **1**
 Number of Minor Lanes = **1**

Volume Requirements

Veh/Hr Major = **750**

Veh/Hr Minor = **75**

Time	Major Road				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
	CSAH 31 (4th Ave)					CSAh 31 (Grant St)		
15:45 - 16:45	261	+	99	=	360	0	88	No
16:00 - 17:00	260	+	96	=	356	0	96	No
16:15 - 17:15	252	+	90	=	342	0	97	No
15:00 - 16:00	252	+	69	=	321	0	86	No
15:30 - 16:30	247	+	74	=	321	0	86	No
16:30 - 17:30	240	+	81	=	321	0	92	No
15:15 - 16:15	247	+	71	=	318	0	80	No
14:45 - 15:45	239	+	59	=	298	0	88	No
14:30 - 15:30	218	+	71	=	289	0	101	No
14:15 - 15:15	207	+	73	=	280	0	102	No
16:45 - 17:45	205	+	63	=	268	0	85	No
17:00 - 18:00	192	+	64	=	256	0	72	No
14:00 - 15:00	165	+	72	=	237	0	91	No
17:15 - 18:15	164	+	56	=	220	0	68	No
13:45 - 14:45	148	+	71	=	219	0	90	No
11:15 - 12:15	112	+	86	=	198	0	56	No
11:00 - 12:00	117	+	80	=	197	0	48	No
17:30 - 18:30	140	+	56	=	196	0	71	No
13:30 - 14:30	138	+	57	=	195	0	73	No
13:00 - 14:00	134	+	56	=	190	0	87	No
11:30 - 12:30	107	+	81	=	188	0	71	No
13:15 - 14:15	130	+	56	=	186	0	71	No
12:45 - 13:45	134	+	49	=	183	0	86	No
17:45 - 18:45	130	+	50	=	180	0	68	No
12:30 - 13:30	124		55		179	0	90	No

ANOKA COUNTY HIGHWAY

PC - WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2476

Study Date : 09/06/2024

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 0 hours meet 1A minimums.
Only 0 hours meet 1B minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **False**
Number of Major Lanes = **1**
Number of Minor Lanes = **1**

Volume Requirements

Warrant 1A 1B
Veh/Hr Major = **400 600**

Veh/Hr Minor = **120 60**

Major Road CSAH 31 (4th Ave)

Minor Road CSAh 31 (Grant St)

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
15:45 - 16:45	261	+	99	=	360	0	88	No
16:00 - 17:00	260	+	96	=	356	0	96	No
16:15 - 17:15	252	+	90	=	342	0	97	No
15:00 - 16:00	252	+	69	=	321	0	86	No
15:30 - 16:30	247	+	74	=	321	0	86	No
16:30 - 17:30	240	+	81	=	321	0	92	No
15:15 - 16:15	247	+	71	=	318	0	80	No
14:45 - 15:45	239	+	59	=	298	0	88	No
14:30 - 15:30	218	+	71	=	289	0	101	No
14:15 - 15:15	207	+	73	=	280	0	102	No
16:45 - 17:45	205	+	63	=	268	0	85	No
17:00 - 18:00	192		64		256	0	72	No

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
15:45 - 16:45	261	+	99	=	360	0	88	No
16:00 - 17:00	260	+	96	=	356	0	96	No
16:15 - 17:15	252	+	90	=	342	0	97	No
15:30 - 16:30	247	+	74	=	321	0	86	No
16:30 - 17:30	240	+	81	=	321	0	92	No
15:00 - 16:00	252	+	69	=	321	0	86	No
15:15 - 16:15	247	+	71	=	318	0	80	No
14:45 - 15:45	239	+	59	=	298	0	88	No
14:30 - 15:30	218	+	71	=	289	0	101	No
14:15 - 15:15	207	+	73	=	280	0	102	No
16:45 - 17:45	205	+	63	=	268	0	85	No
17:00 - 18:00	192		64		256	0	72	No

ANOKA COUNTY HIGHWAY

PC - WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2476

Study Date : 09/06/2024

Warrant 2 - Four Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during any four hours of the day is the principal reason for consideration of a signal installation.

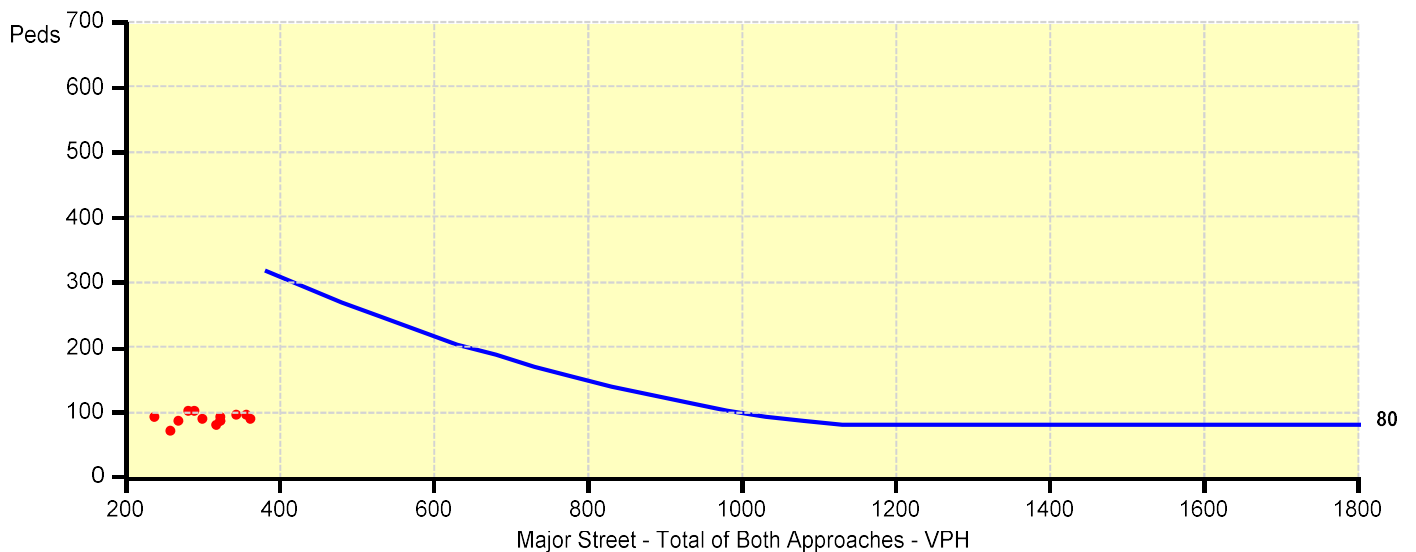
Summary

Only 0 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **False**
 Number of Major Lanes = **1**
 Number of Minor Lanes = **1**

Time	Major Road CSAH 31 (4th Ave)				Total	Minor Road CSAh 31 (Grant St)		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
15:45 - 16:45	261	+	99	=	360	0	88	No
16:00 - 17:00	260	+	96	=	356	0	96	No
16:15 - 17:15	252	+	90	=	342	0	97	No
15:00 - 16:00	252	+	69	=	321	0	86	No
15:30 - 16:30	247	+	74	=	321	0	86	No
16:30 - 17:30	240	+	81	=	321	0	92	No
15:15 - 16:15	247	+	71	=	318	0	80	No
14:45 - 15:45	239	+	59	=	298	0	88	No
14:30 - 15:30	218	+	71	=	289	0	101	No
14:15 - 15:15	207	+	73	=	280	0	102	No
16:45 - 17:45	205	+	63	=	268	0	85	No
17:00 - 18:00	192		64		256	0	72	No



ANOKA COUNTY HIGHWAY

PC - WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2476

Study Date : 09/06/2024

Warrant 3B - Peak Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during one hour of the day is the principal reason for consideration of a signal installation.

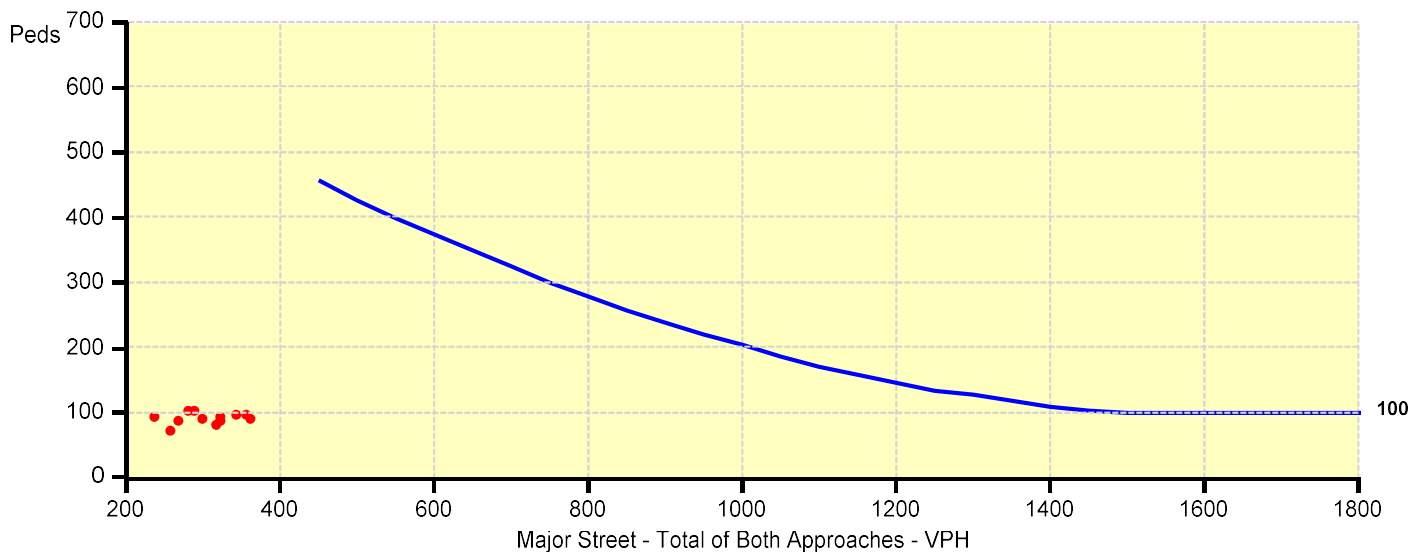
Summary

Only 0 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **False**
 Number of Major Lanes = **1**
 Number of Minor Lanes = **1**

Time	Major Road CSAH 31 (4th Ave)					Minor Road CSAh 31 (Grant St)		Met?
	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	
15:45 - 16:45	261	+	99	=	360	0	88	No
16:00 - 17:00	260	+	96	=	356	0	96	No
16:15 - 17:15	252	+	90	=	342	0	97	No
15:00 - 16:00	252	+	69	=	321	0	86	No
15:30 - 16:30	247	+	74	=	321	0	86	No
16:30 - 17:30	240	+	81	=	321	0	92	No
15:15 - 16:15	247	+	71	=	318	0	80	No
14:45 - 15:45	239	+	59	=	298	0	88	No
14:30 - 15:30	218	+	71	=	289	0	101	No
14:15 - 15:15	207	+	73	=	280	0	102	No
16:45 - 17:45	205	+	63	=	268	0	85	No
17:00 - 18:00	192		64		256	0	72	No



ANOKA COUNTY HIGHWAY

PC - WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2476

Study Date : 09/06/2024

Multiway Stop Warrants - Summary

Major Street Approaches

Northbound: CSAH 31 (4th Ave)

Number of Lanes : 1
Total Approach Volume: 2,047

Southbound: CSAH 31 (4th Ave)

Number of Lanes : 1
Total Approach Volume: 842

Minor Street Approaches

Eastbound:

Number of Lanes :2+
Total Approach Volume: 0

Westbound: CSAH 31 (Grant St)

Number of Lanes :1
Total Approach Volume: 1,277

Warrant Summary (Urban Values Apply)

Criteria A - Interim Measure	Not Evaluated
If traffic signals are justified, stop signs can be installed as an interim measure.	
Criteria B - Crash Experience	Not Satisfied
Number of crashes (-1) is less than minimum required (5).	
Criteria C - Minimum Volumes and Delays	Not Satisfied
Average of 8 highest hours is less than volume criteria.	
Criteria D - 80% of Volumes, Delays, and Crashes	Not Satisfied
Number of crashes (-1) is less than minimum required (4). Average of 8 highest hours is less than volume criteria.	

Criteria C Volume Summary

Time	Major Total	Major Avg	Minor Total	Minor Avg	Major Crit	Minor Crit	Meets?
16:00 - 17:00	356	234.4	127	114.8	300	200	No
15:00 - 16:00	321		118				
17:00 - 18:00	256		79				
14:00 - 15:00	237		119				
13:00 - 14:00	190		104				
11:30 - 12:30	188		84				
09:15 - 10:15	174		79				
07:00 - 08:00	153		208				
18:00 - 19:00	149		75				
10:30 - 11:30	142		68				
08:00 - 09:00	129		93				
19:30 - 20:30	122		47				

Criteria D Volume Summary

Time	Major Total	Major Avg	Minor Total	Minor Avg	Major Crit	Minor Crit	Meets?
16:00 - 17:00	356	234.4	127	114.8	240	160	No
15:00 - 16:00	321		118				
17:00 - 18:00	256		79				
14:00 - 15:00	237		119				
13:00 - 14:00	190		104				
11:30 - 12:30	188		84				
09:15 - 10:15	174		79				
07:00 - 08:00	153		208				
18:00 - 19:00	149		75				
10:30 - 11:30	142		68				
08:00 - 09:00	129		93				
19:30 - 20:30	122		47				