

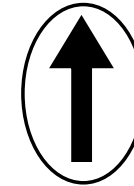
Date: 08/13/24

Count Number: TMC 2468

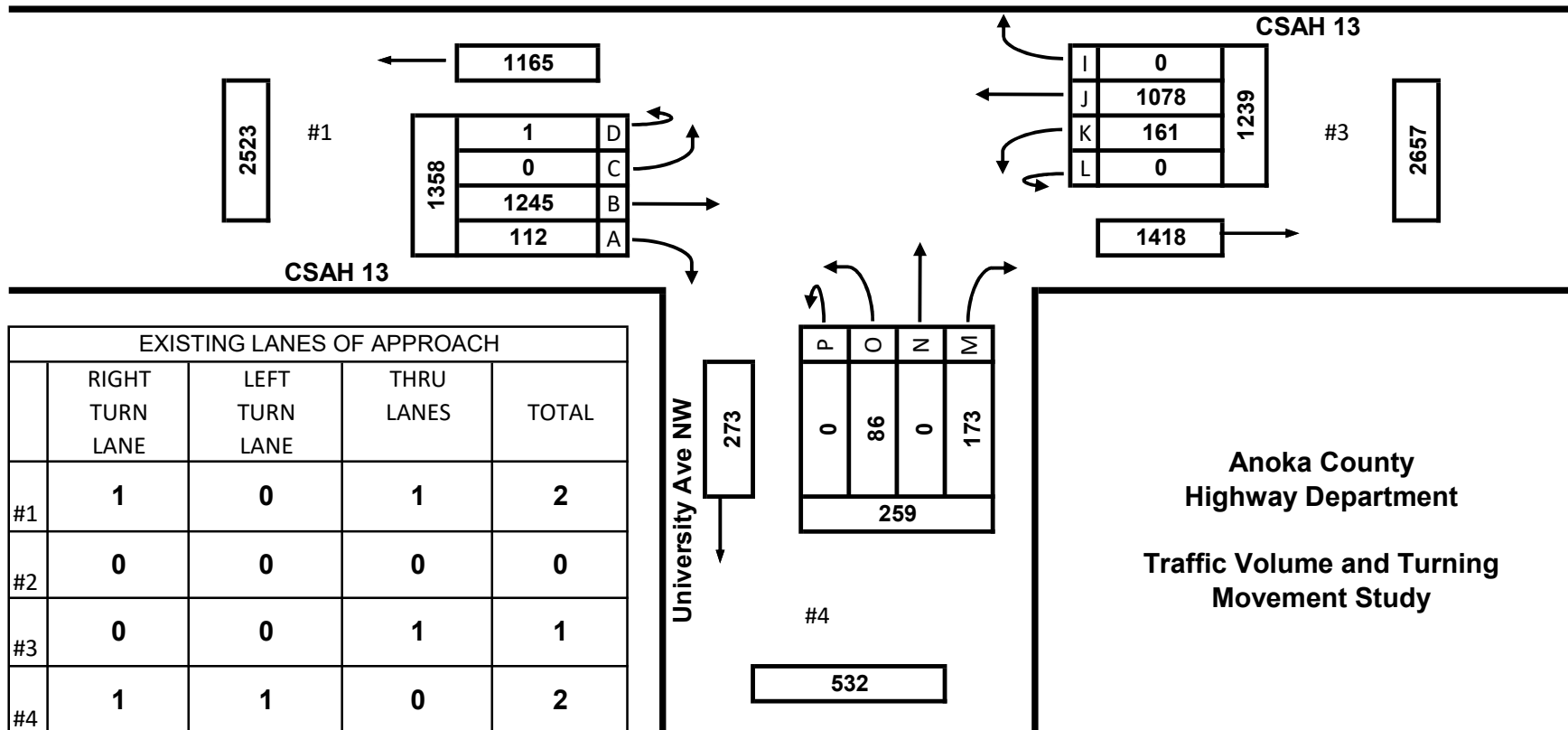
Location: CSAH 13

@ University Ave NW

Collection Period: 24 HR



North



Anoka County  
Highway Department  
Traffic Volume and Turning  
Movement Study

Date: 08/13/24

Count Number: TMC 2468

Location: CSAH 13

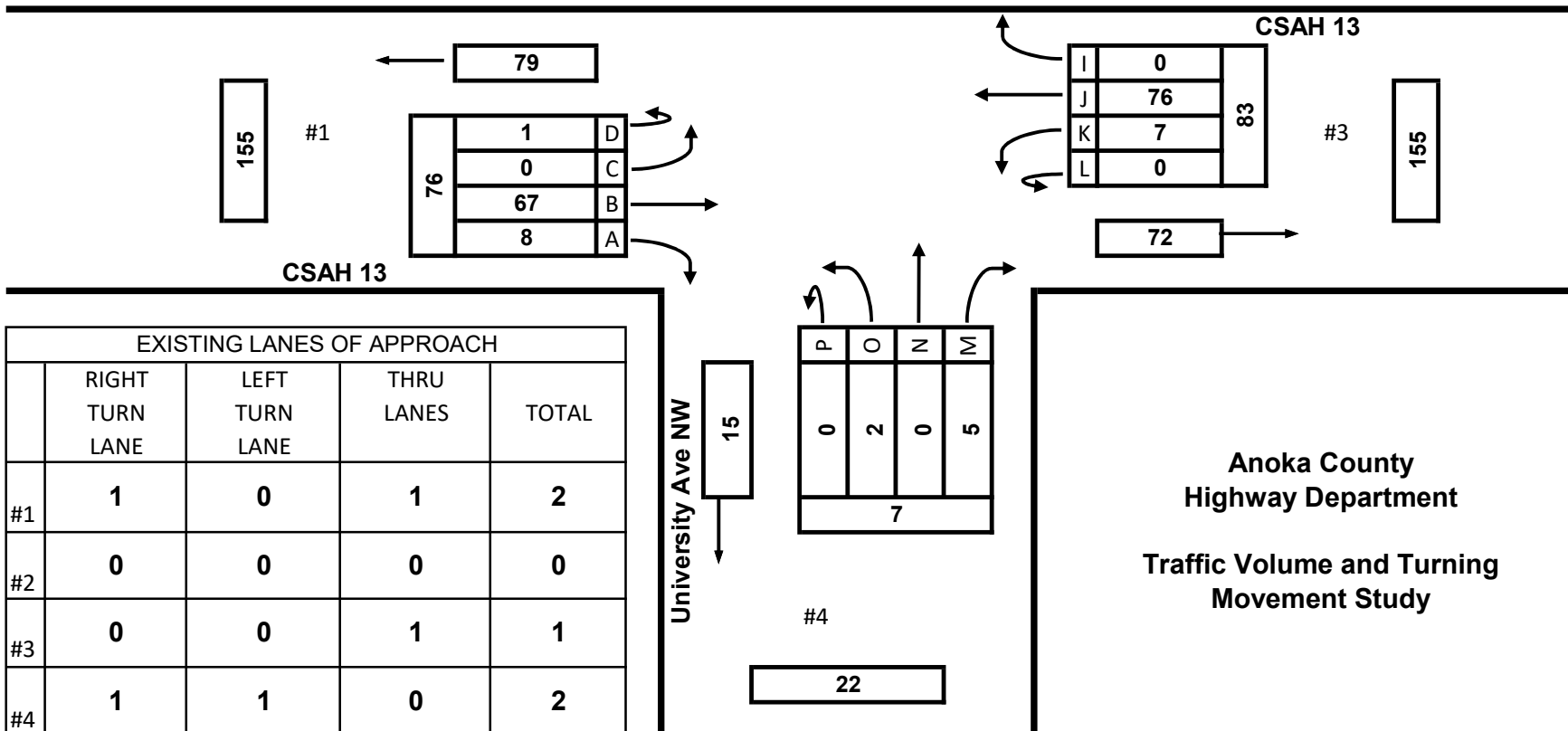
@ University Ave NW

Collection Period: 24 HR

Peak Hour: 7:00 - 8:00 AM



North



Anoka County  
Highway Department  
Traffic Volume and Turning  
Movement Study

Date: 08/13/24

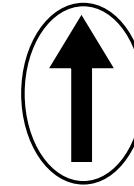
Count Number: TMC 2468

Location: CSAH 13

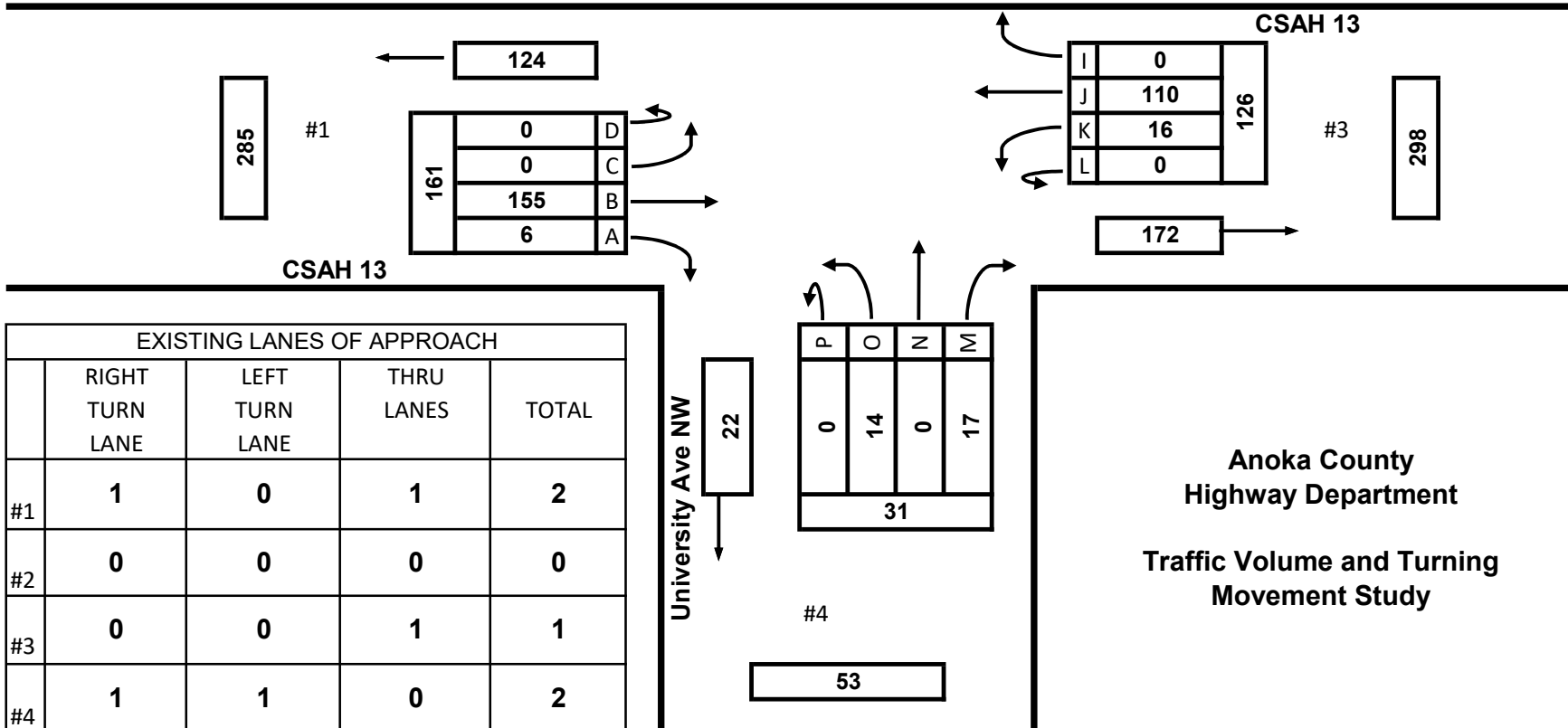
@ University Ave NW

Collection Period: 24 HR

Peak Hour: 4:00 - 5:00 PM



North



Anoka County  
Highway Department  
Traffic Volume and Turning  
Movement Study

**TMC 2468 - CSAH 13 @ University Ave NW**  
**Oak Grove MN**  
**Tuesday, August 13, 2024**

Time	Southbound 0						Westbound CSAH 13						Northbound University Ave NW						Eastbound CSAH 13						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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	2
12:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Hourly Total	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	2	0	0	2	2	4
1:00 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:15 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	0
1:30 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	0
1:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
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	0	1
2:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	1	0	0	1	0	0	1	3
2:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	1	0	2	3	
2:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	1	0	0	2	1	0	3	5	
Hourly Total	0	0	0	0	0	0	0	2	2	0	0	4	0	0	0	2	0	2	0	4	2	0	6	6	12	
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	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	4	
3:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2	
3:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2	
Hourly Total	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	4	2	0	6	6	8	
4:00 AM	0	0	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	0	0	1	0	0	1	5	
4:15 AM	0	0	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	0	0	2	2	0	4	9		
4:30 AM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6	
4:45 AM	0	0	0	0	0	0	0	2	8	0	0	10	0	0	0	0	0	0	0	2	0	0	2	12	12	
Hourly Total	0	0	0	0	0	0	0	4	21	0	0	25	0	0	0	0	0	0	0	5	2	0	7	7	32	
5:00 AM	0	0	0	0	0	0	0	0	10	0	0	10	0	2	0	0	0	2	0	4	1	0	5	17	17	
5:15 AM	0	0	0	0	0	0	0	1	16	0	0	17	0	0	0	1	0	1	0	5	2	0	7	25		
5:30 AM	0	0	0	0	0	0	0	1	22	0	0	23	0	0	0	0	0	0	0	9	2	0	11	34		
5:45 AM	0	0	0	0	0	0	0	1	20	0	0	21	0	1	0	2	0	3	0	8	1	0	9	33		
Hourly Total	0	0	0	0	0	0	0	3	68	0	0	71	0	3	0	3	0	6	0	0	26	6	0	32	109	
6:00 AM	0	0	0	0	0	0	0	3	18	0	0	21	0	2	0	1	0	3	0	8	1	0	9	33		
6:15 AM	0	0	0	0	0	0	0	3	25	0	0	28	0	0	0	0	0	0	0	9	2	0	11	39		
6:30 AM	0	0	0	0	0	0	0	5	17	0	0	22	0	1	0	2	0	3	0	0	14	1	0	15	40	
6:45 AM	0	0	0	0	0	0	0	1	25	0	0	26	0	3	0	0	0	3	0	0	12	2	0	14	43	
Hourly Total	0	0	0	0	0	0	0	12	85	0	0	97	0	6	0	3	0	9	0	0	43	6	0	49	155	
7:00 AM	0	0	0	0	0	0	0	2	19	0	0	21	0	1	0	1	0	2	0	0	16	4	0	20	43	
7:15 AM	0	0	0	0	0	0	0	1	20	0	0	21	0	0	0	1	0	1	0	0	15	1	0	16	38	
7:30 AM	0	0	0	0	0	0	0	2	22	0	0	24	0	0	0	1	0	1	1	0	13	0	0	14	39	
7:45 AM	0	0	0	0	0	0	0	2	15	0	0	17	0	1	0	2	0	3	0	0	23	3	0	26	46	
Hourly Total	0	0	0	0	0	0	0	7	76	0	0	83	0	2	0	5	0	7	1	0	67	8	0	76	166	

**TMC 2468 - CSAH 13 @ University Ave NW  
Oak Grove MN  
Tuesday, August 13, 2024**

Time	Southbound 0						Westbound CSAH 13						Northbound University Ave NW						Eastbound CSAH 13						VEHICLE TOTAL	
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total		
8:00 AM	0	0	0	0	0	0	0	1	17	0	0	18	0	1	0	2	0	0	3	0	0	19	2	0	21	42
8:15 AM	0	0	0	0	0	0	0	0	13	0	0	13	0	2	0	0	0	2	0	0	13	2	0	15	30	
8:30 AM	0	0	0	0	0	0	0	5	19	0	0	24	0	1	0	3	0	4	0	0	16	1	0	17	45	
8:45 AM	0	0	0	0	0	0	0	2	20	0	0	22	0	1	0	1	0	2	0	0	8	3	0	11	35	
Hourly Total	0	0	0	0	0	0	0	8	69	0	0	77	0	5	0	6	0	11	0	0	56	8	0	64	152	
9:00 AM	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	2	0	2	0	0	10	1	0	11	25	
9:15 AM	0	0	0	0	0	0	0	2	13	0	0	15	0	1	0	0	0	1	0	0	21	1	0	22	38	
9:30 AM	0	0	0	0	0	0	0	1	9	0	0	10	0	1	0	1	0	2	0	0	14	2	0	16	28	
9:45 AM	0	0	0	0	0	0	0	0	9	0	0	9	0	3	0	3	0	6	0	0	13	3	0	16	31	
Hourly Total	0	0	0	0	0	0	0	3	43	0	0	46	0	5	0	6	0	11	0	0	58	7	0	65	122	
10:00 AM	0	0	0	0	0	0	0	1	10	0	0	11	0	3	0	5	0	8	0	0	17	1	0	18	37	
10:15 AM	0	0	0	0	0	0	0	1	15	0	0	16	0	0	0	0	0	0	0	0	16	1	0	17	33	
10:30 AM	0	0	0	0	0	0	0	1	9	0	0	10	0	2	0	2	0	4	0	0	11	0	0	11	25	
10:45 AM	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	1	0	1	0	0	10	1	0	11	19	
Hourly Total	0	0	0	0	0	0	0	3	41	0	0	44	0	5	0	8	0	13	0	0	54	3	0	57	114	
11:00 AM	0	0	0	0	0	0	0	0	17	0	0	17	0	1	0	1	0	2	0	0	12	1	0	13	32	
11:15 AM	0	0	0	0	0	0	0	1	12	0	0	13	0	1	0	1	0	2	0	0	14	2	0	16	31	
11:30 AM	0	0	0	0	0	0	0	6	15	0	0	21	0	0	0	2	0	2	0	0	15	0	0	15	38	
11:45 AM	0	0	0	0	0	0	0	2	15	0	0	17	0	2	0	2	0	4	0	0	11	1	0	12	33	
Hourly Total	0	0	0	0	0	0	0	9	59	0	0	68	0	4	0	6	0	10	0	0	52	4	0	56	134	
12:00 PM	0	0	0	0	0	0	0	4	9	0	0	13	0	1	0	0	0	1	0	0	19	4	0	23	37	
12:15 PM	0	0	0	0	0	0	0	2	7	0	0	9	0	0	0	3	0	3	0	0	13	0	0	13	25	
12:30 PM	0	0	0	0	0	0	0	1	14	0	0	15	0	0	0	3	0	3	0	0	15	0	0	15	33	
12:45 PM	0	0	0	0	0	0	0	4	19	0	0	23	0	1	0	3	0	4	0	0	13	1	0	14	41	
Hourly Total	0	0	0	0	0	0	0	11	49	0	0	60	0	2	0	9	0	11	0	0	60	5	0	65	136	
1:00 PM	0	0	0	0	0	0	0	2	12	0	0	14	0	2	0	2	0	4	0	0	15	1	0	16	34	
1:15 PM	0	0	0	0	0	0	0	1	13	0	0	14	0	1	0	2	0	3	0	0	20	0	0	20	37	
1:30 PM	0	0	0	0	0	0	0	4	17	0	0	21	0	3	0	3	0	6	0	0	17	1	0	18	45	
1:45 PM	0	0	0	0	0	0	0	4	15	0	0	19	0	1	0	6	0	7	0	0	22	3	0	25	51	
Hourly Total	0	0	0	0	0	0	0	11	57	0	0	68	0	7	0	13	0	20	0	0	74	5	0	79	167	
2:00 PM	0	0	0	0	0	0	0	3	14	0	0	17	0	0	0	2	0	2	0	0	22	0	0	22	41	
2:15 PM	0	0	0	0	0	0	0	3	19	0	0	22	0	2	0	4	0	6	0	0	25	3	0	28	56	
2:30 PM	0	0	0	0	0	0	0	4	24	0	0	28	0	0	0	3	0	3	0	0	31	1	0	32	63	
2:45 PM	0	0	0	0	0	0	0	3	22	0	0	25	0	0	0	2	0	2	0	0	20	3	0	23	50	
Hourly Total	0	0	0	0	0	0	0	13	79	0	0	92	0	2	0	11	0	13	0	0	98	7	0	105	210	
3:00 PM	0	0	0	0	0	0	0	2	12	0	0	14	0	0	0	2	0	2	0	0	30	3	0	33	49	
3:15 PM	0	0	0	0	0	0	0	4	15	0	0	19	0	1	0	3	0	4	0	0	31	3	0	34	57	
3:30 PM	0	0	0	0	0	0	0	1	23	0	0	24	0	1	0	3	0	4	0	0	38	2	0	40	68	
3:45 PM	0	0	0	0	0	0	0	1	16	0	0	17	0	2	0	5	0	7	0	0	42	2	0	44	68	
Hourly Total	0	0	0	0	0	0	0	8	66	0	0	74	0	4	0	13	0	17	0	0	141	10	0	151	242	

**TMC 2468 - CSAH 13 @ University Ave NW  
Oak Grove MN  
Tuesday, August 13, 2024**

Time	Southbound 0						Westbound CSAH 13						Northbound University Ave NW						Eastbound CSAH 13						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	0	0	0	0	0	0	2	35	0	0	37	0	3	0	6	0	9	0	0	36	1	0	37	83
4:15 PM	0	0	0	0	0	0	0	7	23	0	0	30	0	1	0	8	0	9	0	0	38	2	0	40	79
4:30 PM	0	0	0	0	0	0	0	4	22	0	0	26	0	5	0	1	0	6	0	0	32	2	0	34	66
4:45 PM	0	0	0	0	0	0	0	3	30	0	0	33	0	5	0	2	0	7	0	0	49	1	0	50	90
Hourly Total	0	0	0	0	0	0	0	16	110	0	0	126	0	14	0	17	0	31	0	0	155	6	0	161	318
5:00 PM	0	0	0	0	0	0	0	4	22	0	0	26	0	2	0	11	0	13	0	0	28	3	0	31	70
5:15 PM	0	0	0	0	0	0	0	3	24	0	0	27	0	2	0	5	0	7	0	0	24	3	0	27	61
5:30 PM	0	0	0	0	0	0	0	2	18	0	0	20	0	2	0	1	0	3	0	0	37	5	0	42	65
5:45 PM	0	0	0	0	0	0	0	6	17	0	0	23	0	0	0	6	0	6	0	0	26	0	0	26	55
Hourly Total	0	0	0	0	0	0	0	15	81	0	0	96	0	6	0	23	0	29	0	0	115	11	0	126	251
6:00 PM	0	0	0	0	0	0	0	6	15	0	0	21	0	2	0	4	0	6	0	0	23	1	0	24	51
6:15 PM	0	0	0	0	0	0	0	1	16	0	0	17	0	0	0	4	0	4	0	0	20	0	0	20	41
6:30 PM	0	0	0	0	0	0	0	2	12	0	0	14	0	3	0	3	0	6	0	0	19	1	0	20	40
6:45 PM	0	0	0	0	0	0	0	0	8	0	0	8	0	1	0	1	0	2	0	0	13	0	0	13	23
Hourly Total	0	0	0	0	0	0	0	9	51	0	0	60	0	6	0	12	0	18	0	0	75	2	0	77	155
7:00 PM	0	0	0	0	0	0	0	2	13	0	0	15	0	1	0	1	0	2	0	0	18	2	0	20	37
7:15 PM	0	0	0	0	0	0	0	5	10	0	0	15	0	2	0	0	0	2	0	0	16	2	0	18	35
7:30 PM	0	0	0	0	0	0	0	3	15	0	0	18	0	3	0	3	0	6	0	0	18	2	0	20	44
7:45 PM	0	0	0	0	0	0	0	2	10	0	0	12	0	1	0	4	0	5	0	0	11	4	0	15	32
Hourly Total	0	0	0	0	0	0	0	12	48	0	0	60	0	7	0	8	0	15	0	0	63	10	0	73	148
8:00 PM	0	0	0	0	0	0	0	0	12	0	0	12	0	1	0	6	0	7	0	0	11	1	0	12	31
8:15 PM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	2	0	2	0	0	14	2	0	16	23
8:30 PM	0	0	0	0	0	0	0	0	8	0	0	8	0	1	0	3	0	4	0	0	14	0	0	14	26
8:45 PM	0	0	0	0	0	0	0	2	3	0	0	5	0	0	0	2	0	2	0	0	11	1	0	12	19
Hourly Total	0	0	0	0	0	0	0	2	28	0	0	30	0	2	0	13	0	15	0	0	50	4	0	54	99
9:00 PM	0	0	0	0	0	0	0	3	4	0	0	7	0	2	0	2	0	4	0	0	8	0	0	8	19
9:15 PM	0	0	0	0	0	0	0	4	7	0	0	11	0	0	0	1	0	1	0	0	7	2	0	9	21
9:30 PM	0	0	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	0	0	0	7	0	0	7	16
9:45 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	1	0	3	0	4	0	0	6	1	0	7	14
Hourly Total	0	0	0	0	0	0	0	8	22	0	0	30	0	3	0	6	0	9	0	0	28	3	0	31	70
10:00 PM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	1	0	1	0	0	1	0	0	1	7
10:15 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	1	0	4	0	5	0	0	3	0	0	3	10
10:30 PM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	2	0	2	0	0	5	0	0	5	12
10:45 PM	0	0	0	0	0	0	0	1	2	0	0	3	0	2	0	0	0	2	0	0	2	0	0	2	7
Hourly Total	0	0	0	0	0	0	0	3	12	0	0	15	0	3	0	7	0	10	0	0	11	0	0	11	36
11:00 PM	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	1	0	1	0	0	0	0	0	0	3
11:15 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2	0	0	2	4
11:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	1	0	2	3
11:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	1	0	0	1	0	0	1	3
Hourly Total	0	0	0	0	0	0	0	1	5	0	0	6	0	0	0	2	0	2	0	0	4	1	0	5	13
<b>DAILY TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>161</b>	<b>1078</b>	<b>0</b>	<b>0</b>	<b>1239</b>	<b>0</b>	<b>86</b>	<b>0</b>	<b>173</b>	<b>0</b>	<b>259</b>	<b>1</b>	<b>0</b>	<b>1245</b>	<b>112</b>	<b>0</b>	<b>1358</b>	<b>2856</b>
<b>Cars</b>	0	0	0	0	0	0	0	155	1029	0	0	1184	0	86	0	169	0	255	1	0	1203	111	0	1315	2754
<b>Heavy Vehicles</b>	0	0	0	0	0	0	0	6	49	0	0	55	0	0	0	4	0	4	0	0	42	1	0	43	102
<b>Heavy Vehicle %</b>	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.73%	4.55%	0.00%	0.00%	4.44%	0.00%	0.00%	0.00%	2.31%	0.00%	1.54%	0.00%	0.00%	3.37%	0.89%	0.00%	3.17%	3.57%

**TMC 2468 - CSAH 13 @ University Ave NW  
Oak Grove MN  
Tuesday, August 13, 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	0	0	0	0	0	0	2	19	0	0	21	0	1	0	1	0	2	0	0	16	4	0	20	0	0	0	0	0	0	43
7:15 AM	0	0	0	0	0	0	0	1	20	0	0	21	0	0	0	1	0	1	0	0	15	1	0	16	0	0	0	0	0	0	38
7:30 AM	0	0	0	0	0	0	0	2	22	0	0	24	0	0	0	1	0	1	1	0	13	0	0	14	0	0	0	0	0	0	39
7:45 AM	0	0	0	0	0	0	0	2	15	0	0	17	0	1	0	2	0	3	0	0	23	3	0	26	0	0	0	0	0	0	46
Peak Hour Total PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.875	0.864	0.000	0.000	0.865	0.000	0.500	0.000	0.625	0.000	0.583	0.250	0.000	0.728	0.500	0.000	0.731	0.000	0.000	0.000	0.000	0.000	0.000	0.902

**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	0	0	0	0	0	0	2	35	0	0	37	0	3	0	6	0	9	0	0	36	1	0	37	0	0	0	0	0	0	83
4:15 PM	0	0	0	0	0	0	0	7	23	0	0	30	0	1	0	8	0	9	0	0	38	2	0	40	0	0	0	0	0	0	79
4:30 PM	0	0	0	0	0	0	0	4	22	0	0	26	0	5	0	1	0	6	0	0	32	2	0	34	0	0	0	0	0	0	66
4:45 PM	0	0	0	0	0	0	0	3	30	0	0	33	0	5	0	2	0	7	0	0	49	1	0	50	0	0	0	0	0	0	90
Peak Hour Total PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.571	0.786	0.000	0.000	0.851	0.000	0.700	0.000	0.531	0.000	0.861	0.000	0.000	0.791	0.750	0.000	0.805	0.000	0.000	0.000	0.000	0.000	0.000	0.883

Total Vehicles On Leg				0			
Vehicles Entering Intersection				0			
Vehicles Exiting Intersection				0			
<b>Southbound</b>							
Cars	0	0	0	0	0	0	0
Heavy	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Total Vehicles on Leg 2523	Vehicles Entering Intersection 1358	Eastbound	Cars	0	0	0
			Heavy	0	0	0
			<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>
			Vehicles Exiting Intersection	1203	42	1245
			<b>Total</b>	<b>111</b>	<b>1</b>	<b>112</b>

Total Vehicles on Leg 2657	Vehicles Entering Intersection 1239	Westbound	Cars	1029	49	1078
			Heavy	155	6	161
			<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>
			Vehicles Exiting Intersection	0	0	0
			<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>

Daily Volumes

Cars	0	0	86	0	169
Heavy	0	0	0	0	4
<b>Total</b>	<b>0</b>	<b>0</b>	<b>86</b>	<b>0</b>	<b>173</b>
<b>Northbound</b>					
Vehicles Entering Intersection			259		
Vehicles Exiting Intersection			273		
Total Vehicles On Leg			532		





# ANOKA COUNTY HIGHWAY

## PC - WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 08/15/2024

## Signal Warrants - Summary

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### Major Street Approaches

Eastbound: CSAH 13

Number of Lanes : 1

Total Approach Volume: 1,358

Westbound: CSAH 13

Number of Lanes : 1

Total Approach Volume: 1,239

### Minor Street Approaches

Northbound: University Ave NW

Number of Lanes : 1

Total Approach Volume: 86

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### Warrant Summary (Rural 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:

Study Date : 08/15/2024

## 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 = **True**  
Number of Major Lanes = **1**  
Number of Minor Lanes = **1**

#### Volume Requirements

Rural Factor of 70 % applied  
Veh/Hr Major = **350**  
  
Veh/Hr Minor = **105**

Time	Major Road				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
	<b>CSAH 13</b>					<b>University Ave NW</b>		
16:00 - 17:00	161	+	126	=	287	14	0	No
16:15 - 17:15	155	+	115	=	270	13	0	No
15:30 - 16:30	161	+	108	=	269	7	0	No
15:45 - 16:45	155	+	110	=	265	11	0	No
16:45 - 17:45	150	+	106	=	256	11	0	No
16:30 - 17:30	142	+	112	=	254	14	0	No
15:15 - 16:15	155	+	97	=	252	7	0	No
15:00 - 16:00	151	+	74	=	225	4	0	No
17:00 - 18:00	126	+	96	=	222	6	0	No
14:45 - 15:45	130	+	82	=	212	2	0	No
17:15 - 18:15	119	+	91	=	210	6	0	No
14:30 - 15:30	122	+	86	=	208	1	0	No
14:15 - 15:15	116	+	89	=	205	2	0	No
14:00 - 15:00	105	+	92	=	197	2	0	No
17:30 - 18:30	112	+	81	=	193	4	0	No
13:45 - 14:45	107	+	86	=	193	3	0	No
13:30 - 14:30	93	+	79	=	172	6	0	No
17:45 - 18:45	90	+	75	=	165	5	0	No
07:00 - 08:00	76	+	83	=	159	2	0	No
07:15 - 08:15	77	+	80	=	157	2	0	No
06:15 - 07:15	60	+	97	=	157	5	0	No
13:15 - 14:15	85	+	71	=	156	5	0	No
06:45 - 07:45	64	+	92	=	156	4	0	No
06:30 - 07:30	65	+	90	=	155	5	0	No
07:45 - 08:45	79		72		151	5	0	No

# ANOKA COUNTY HIGHWAY

## PC - WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 08/15/2024

## 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 = **True**  
Number of Major Lanes = **1**  
Number of Minor Lanes = **1**

#### Volume Requirements

Rural Factor of 70 % applied  
Veh/Hr Major = **525**  
  
Veh/Hr Minor = **52**

Time	Major Road				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:00 - 17:00	161	+	126	=	287	14	0	No
16:15 - 17:15	155	+	115	=	270	13	0	No
15:30 - 16:30	161	+	108	=	269	7	0	No
15:45 - 16:45	155	+	110	=	265	11	0	No
16:45 - 17:45	150	+	106	=	256	11	0	No
16:30 - 17:30	142	+	112	=	254	14	0	No
15:15 - 16:15	155	+	97	=	252	7	0	No
15:00 - 16:00	151	+	74	=	225	4	0	No
17:00 - 18:00	126	+	96	=	222	6	0	No
14:45 - 15:45	130	+	82	=	212	2	0	No
17:15 - 18:15	119	+	91	=	210	6	0	No
14:30 - 15:30	122	+	86	=	208	1	0	No
14:15 - 15:15	116	+	89	=	205	2	0	No
14:00 - 15:00	105	+	92	=	197	2	0	No
17:30 - 18:30	112	+	81	=	193	4	0	No
13:45 - 14:45	107	+	86	=	193	3	0	No
13:30 - 14:30	93	+	79	=	172	6	0	No
17:45 - 18:45	90	+	75	=	165	5	0	No
07:00 - 08:00	76	+	83	=	159	2	0	No
07:15 - 08:15	77	+	80	=	157	2	0	No
06:15 - 07:15	60	+	97	=	157	5	0	No
13:15 - 14:15	85	+	71	=	156	5	0	No
06:45 - 07:45	64	+	92	=	156	4	0	No
06:30 - 07:30	65	+	90	=	155	5	0	No
07:45 - 08:45	79		72		151	5	0	No

# ANOKA COUNTY HIGHWAY

## PC - WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 08/15/2024

## 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 = **True**  
Number of Major Lanes = **1**  
Number of Minor Lanes = **1**

#### Volume Requirements

Rural Factor of 70% applied  
Warrant 1A 1B  
Veh/Hr Major = **280 420**

Veh/Hr Minor = **84 42**

#### Major Road CSAH 13

#### Minor Road University Ave NW

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1A?
16:00 - 17:00	161	+	126	=	287	14	0	No
16:15 - 17:15	155	+	115	=	270	13	0	No
15:30 - 16:30	161	+	108	=	269	7	0	No
15:45 - 16:45	155	+	110	=	265	11	0	No
16:45 - 17:45	150	+	106	=	256	11	0	No
16:30 - 17:30	142	+	112	=	254	14	0	No
15:15 - 16:15	155	+	97	=	252	7	0	No
15:00 - 16:00	151	+	74	=	225	4	0	No
17:00 - 18:00	126	+	96	=	222	6	0	No
14:45 - 15:45	130	+	82	=	212	2	0	No
17:15 - 18:15	119	+	91	=	210	6	0	No
14:30 - 15:30	122	+	86	=	208	1	0	No

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?
16:00 - 17:00	161	+	126	=	287	14	0	No
16:15 - 17:15	155	+	115	=	270	13	0	No
15:30 - 16:30	161	+	108	=	269	7	0	No
15:45 - 16:45	155	+	110	=	265	11	0	No
16:45 - 17:45	150	+	106	=	256	11	0	No
16:30 - 17:30	142	+	112	=	254	14	0	No
15:15 - 16:15	155	+	97	=	252	7	0	No
15:00 - 16:00	151	+	74	=	225	4	0	No
17:00 - 18:00	126	+	96	=	222	6	0	No
14:45 - 15:45	130	+	82	=	212	2	0	No
17:15 - 18:15	119	+	91	=	210	6	0	No
14:30 - 15:30	122	+	86	=	208	1	0	No

# ANOKA COUNTY HIGHWAY

## PC - WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 08/15/2024

## 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.

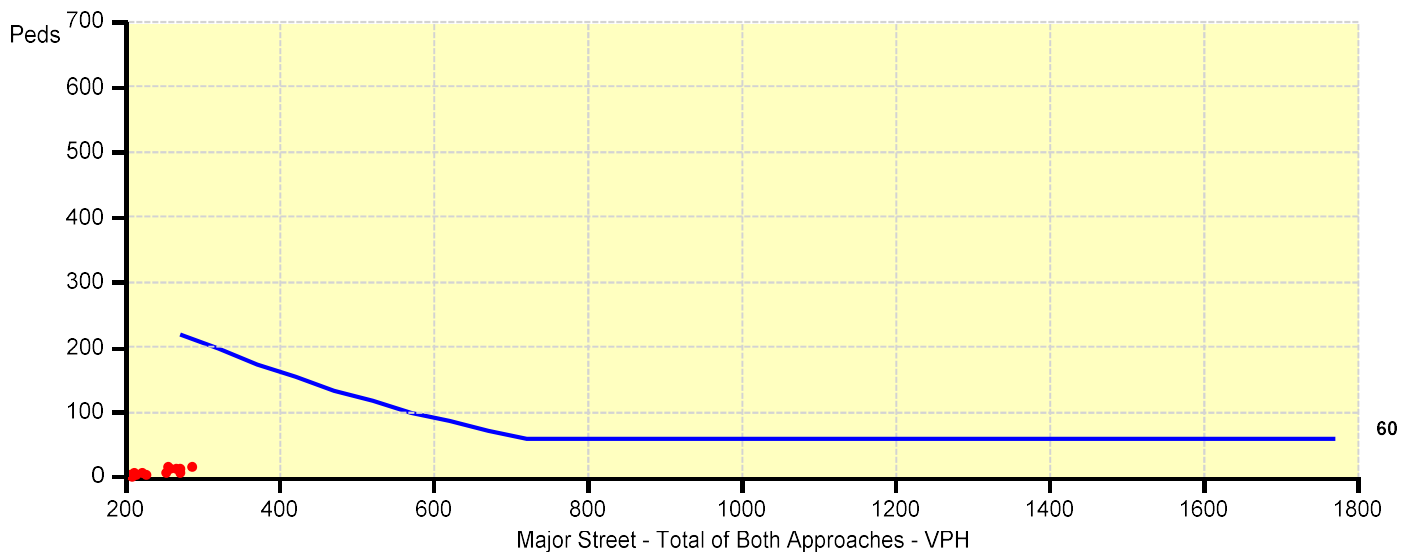
#### Summary

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

#### Site Data Required

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

Time	Major Road CSAH 13				Total	Minor Road University Ave NW		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:00 - 17:00	161	+	126	=	287	14	0	No
16:15 - 17:15	155	+	115	=	270	13	0	No
15:30 - 16:30	161	+	108	=	269	7	0	No
15:45 - 16:45	155	+	110	=	265	11	0	No
16:45 - 17:45	150	+	106	=	256	11	0	No
16:30 - 17:30	142	+	112	=	254	14	0	No
15:15 - 16:15	155	+	97	=	252	7	0	No
15:00 - 16:00	151	+	74	=	225	4	0	No
17:00 - 18:00	126	+	96	=	222	6	0	No
14:45 - 15:45	130	+	82	=	212	2	0	No
17:15 - 18:15	119	+	91	=	210	6	0	No
14:30 - 15:30	122		86		208	1	0	No



# ANOKA COUNTY HIGHWAY

## PC - WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 08/15/2024

## 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.

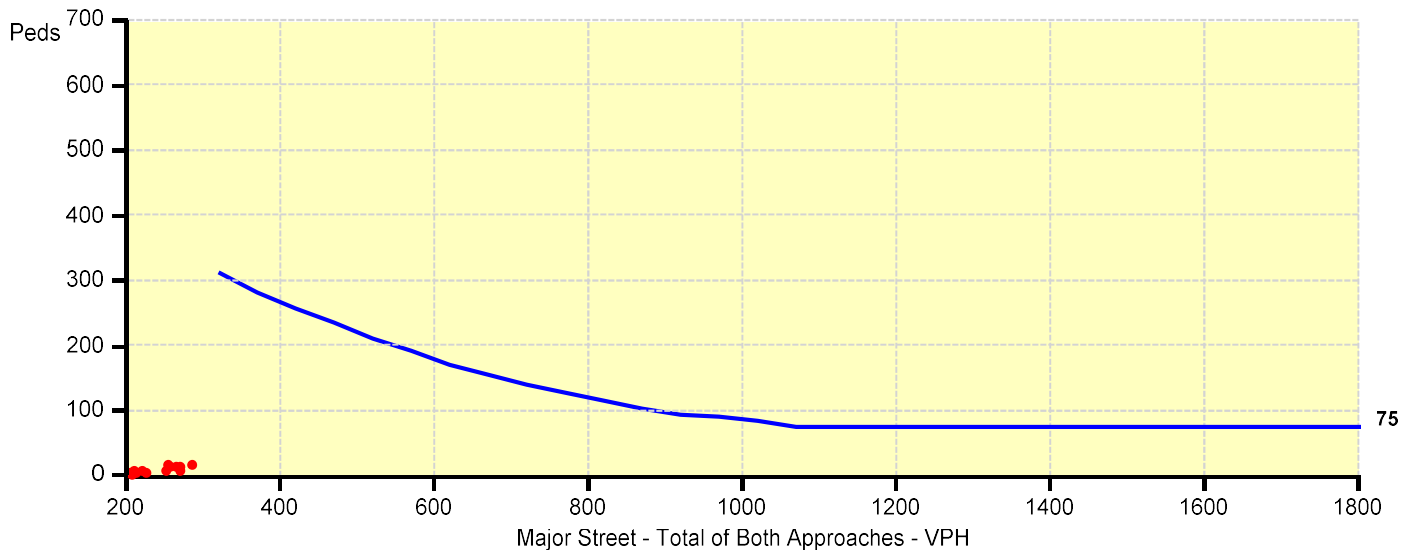
#### Summary

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

#### Site Data Required

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

Time	Major Road CSAH 13					Minor Road University Ave NW		Met?
	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	
16:00 - 17:00	161	+	126	=	287	14	0	No
16:15 - 17:15	155	+	115	=	270	13	0	No
15:30 - 16:30	161	+	108	=	269	7	0	No
15:45 - 16:45	155	+	110	=	265	11	0	No
16:45 - 17:45	150	+	106	=	256	11	0	No
16:30 - 17:30	142	+	112	=	254	14	0	No
15:15 - 16:15	155	+	97	=	252	7	0	No
15:00 - 16:00	151	+	74	=	225	4	0	No
17:00 - 18:00	126	+	96	=	222	6	0	No
14:45 - 15:45	130	+	82	=	212	2	0	No
17:15 - 18:15	119	+	91	=	210	6	0	No
14:30 - 15:30	122	+	86	=	208	1	0	No



# ANOKA COUNTY HIGHWAY

## PC - WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2468

Study Date : 08/15/2024

## Multiway Stop Warrants - Summary

### Major Street Approaches

**Eastbound: CSAH 13**  
 Number of Lanes : 1  
 Total Approach Volume: 1,358

**Westbound: CSAH 13**  
 Number of Lanes : 1  
 Total Approach Volume: 1,239

### Minor Street Approaches

**Northbound: University Ave NW**  
 Number of Lanes : 1  
 Total Approach Volume: 86

**Southbound:**  
 Number of Lanes : 2+  
 Total Approach Volume: 0

### Warrant Summary (Rural Values Apply)

<b>Criteria A - Interim Measure</b> .....	<b>Not Evaluated</b>
If traffic signals are justified, stop signs can be installed as an interim measure.	
<b>Criteria B - Crash Experience</b> .....	<b>Not Satisfied</b>
Number of crashes (-1) is less than minimum required (5).	
<b>Criteria C - Minimum Volumes and Delays</b> .....	<b>Not Satisfied</b>
Average of 8 highest hours is less than volume criteria.	
<b>Criteria D - 80% of Volumes, Delays, and Crashes</b> .....	<b>Not Satisfied</b>
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	287	191.1	14	05.8	210	140	No
15:00 - 16:00	225		4				
17:00 - 18:00	222		6				
14:00 - 15:00	197		2				
06:15 - 07:15	157		5				
07:15 - 08:15	157		2				
13:00 - 14:00	147		7				
18:00 - 19:00	137		6				
08:30 - 09:30	134		3				
19:00 - 20:00	133		7				
11:15 - 12:15	130		4				
05:15 - 06:15	118		3				

### Criteria D Volume Summary

Time	Major Total	Major Avg	Minor Total	Minor Avg	Major Crit	Minor Crit	Meets?
16:00 - 17:00	287	191.1	14	05.8	240	160	No
15:00 - 16:00	225		4				
17:00 - 18:00	222		6				
14:00 - 15:00	197		2				
06:15 - 07:15	157		5				
07:15 - 08:15	157		2				
13:00 - 14:00	147		7				
18:00 - 19:00	137		6				
08:30 - 09:30	134		3				
19:00 - 20:00	133		7				
11:15 - 12:15	130		4				
05:15 - 06:15	118		3				