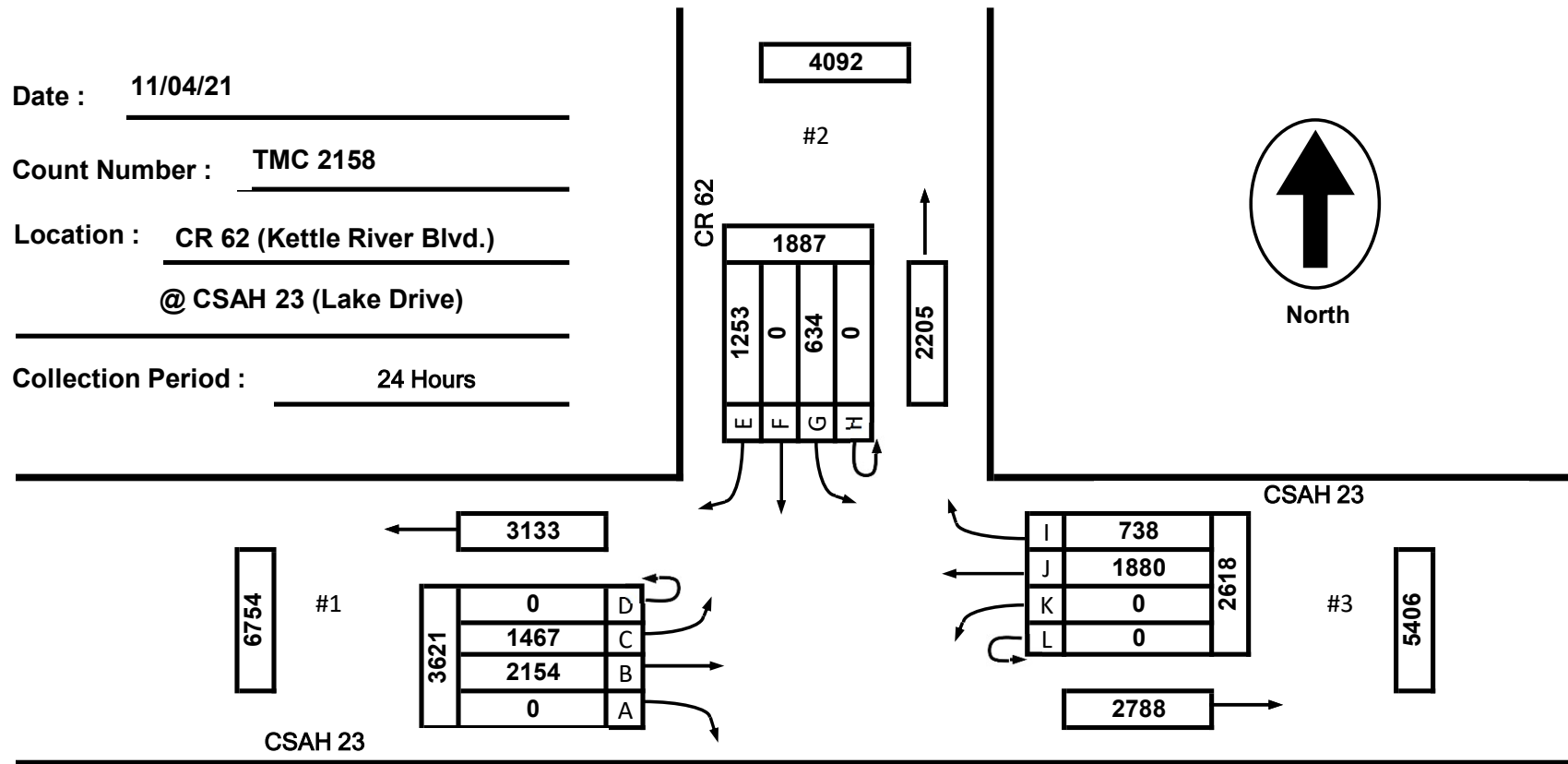


Date : 11/04/21

Count Number : TMC 2158

Location : CR 62 (Kettle River Blvd.)  
@ CSAH 23 (Lake Drive)

Collection Period : 24 Hours



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

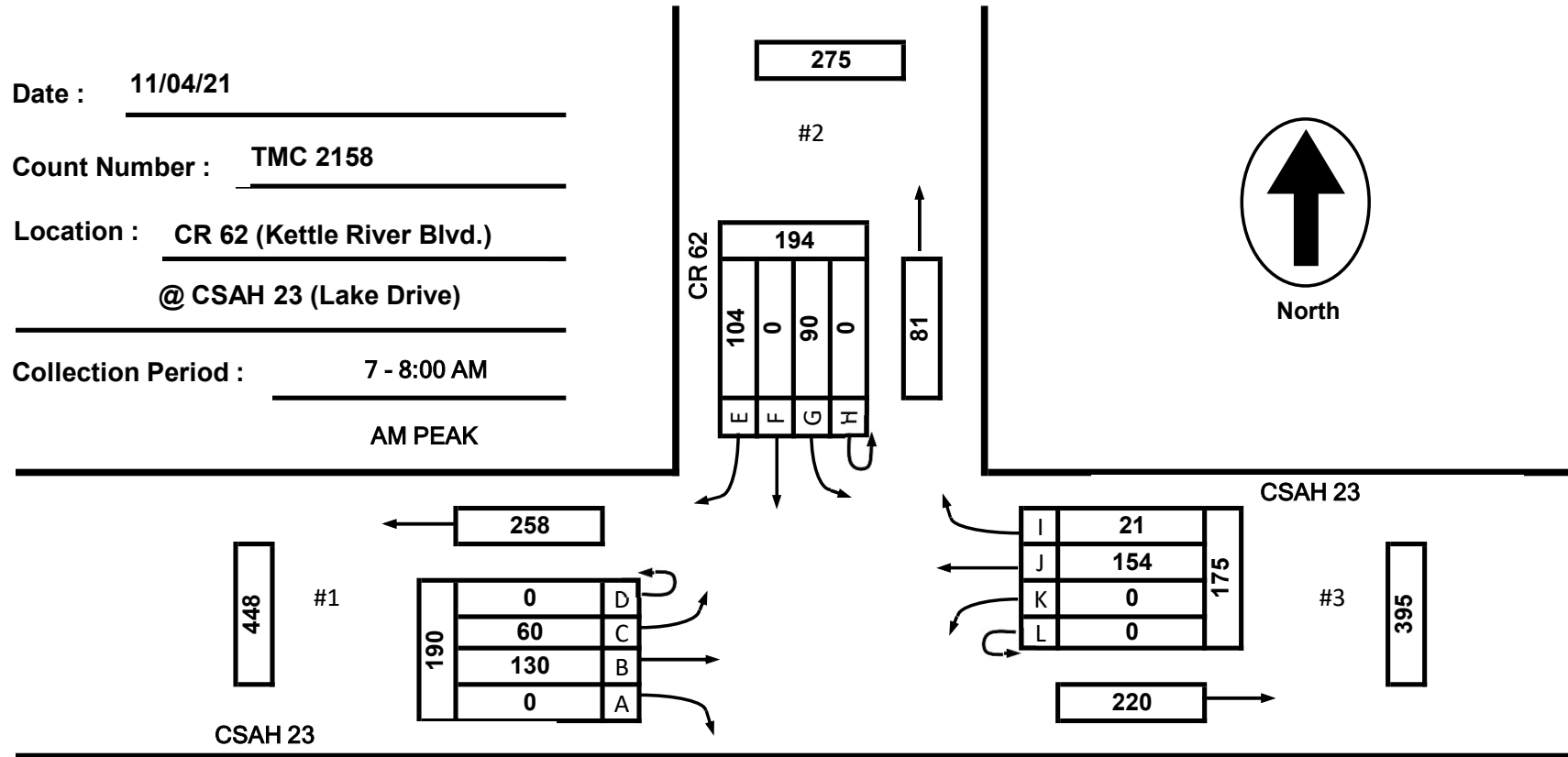
Anoka County Highway Department  
 Traffic Volume and Turning Movement Study

Date : 11/04/21

Count Number : TMC 2158

Location : CR 62 (Kettle River Blvd.)  
@ CSAH 23 (Lake Drive)

Collection Period : 7 - 8:00 AM  
**AM PEAK**



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

**Anoka County Highway Department**  
**Traffic Volume and Turning**  
**Movement Study**

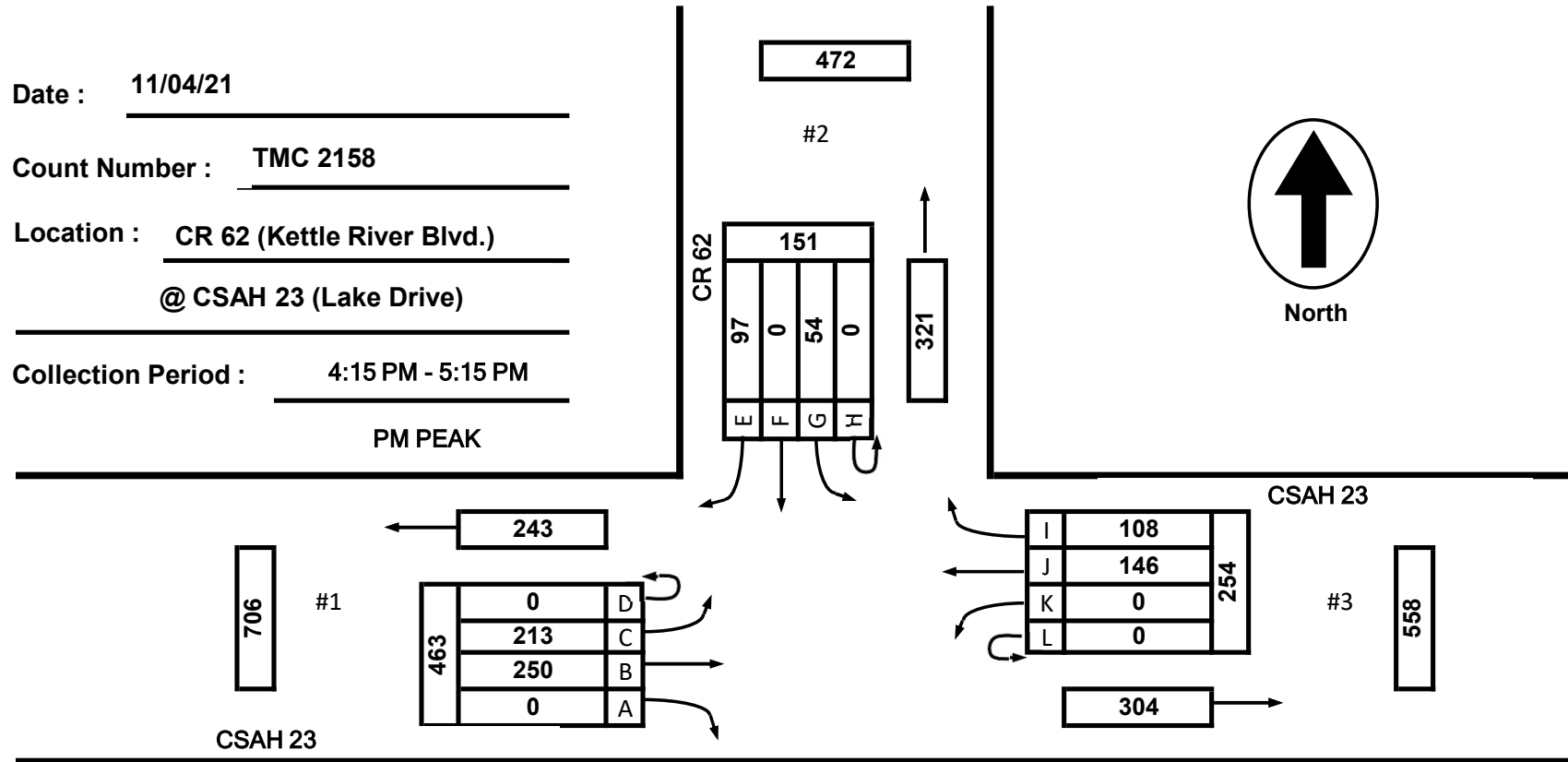
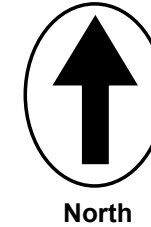
Date : 11/04/21

Count Number : TMC 2158

Location : CR 62 (Kettle River Blvd.)  
@ CSAH 23 (Lake Drive)

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	1	1
#2	1	1	0	2
#3	1	0	1	2
#4	0	0	0	0

Anoka County Highway Department

Traffic Volume and Turning  
Movement Study

**TMC 2158 - CSAH 23 @ CR 62  
Columbus MN  
Thursday, November 4, 2021**

Time	Southbound CR 62						Westbound CSAH 23						Northbound NONE						Eastbound CSAH 23						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	3	0	3	0	0	3	1	0	4	0	0	0	0	0	0	0	0	1	0	0	1	8
12:15 AM	0	1	0	0	0	1	0	0	1	3	0	4	0	0	0	0	0	0	0	3	1	0	0	4	9
12:30 AM	0	2	0	0	0	2	0	0	2	1	0	3	0	0	0	0	0	0	0	2	1	0	0	3	8
12:45 AM	0	0	0	1	0	1	0	0	3	0	0	3	0	0	0	0	0	0	0	0	2	0	0	2	6
Hourly Total	0	3	0	4	0	7	0	0	9	5	0	14	0	0	0	0	0	0	0	5	5	0	0	10	31
1:00 AM	0	0	0	0	0	0	0	0	1	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
1:15 AM	0	0	0	1	0	1	0	0	2	1	0	3	0	0	0	0	0	0	0	2	0	0	0	2	6
1:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	1	0	0	3	4
1:45 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
Hourly Total	0	0	0	1	0	1	0	0	3	5	0	8	0	0	0	0	0	0	0	4	1	0	0	5	14
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
2:15 AM	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	0	1	2	0	0	3	6
2:30 AM	0	0	0	1	0	1	0	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	4
2:45 AM	0	0	0	1	0	1	0	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	5
Hourly Total	0	0	0	2	0	2	0	0	6	4	0	10	0	0	0	0	0	0	0	1	3	0	0	4	16
3:00 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:15 AM	0	0	0	2	0	2	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	4
3:30 AM	0	0	0	1	0	1	0	0	4	0	0	4	0	0	0	0	0	0	0	1	3	0	0	4	9
3:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	4	0	0	4	6
Hourly Total	0	0	0	5	0	5	0	0	6	1	0	7	0	0	0	0	0	0	0	1	7	0	0	8	20
4:00 AM	0	0	0	4	0	4	0	0	7	0	0	7	0	0	0	0	0	0	0	1	2	0	0	3	14
4:15 AM	0	3	0	5	0	8	0	0	5	0	0	5	0	0	0	0	0	0	0	0	3	0	0	3	16
4:30 AM	0	2	0	5	0	7	0	0	15	0	0	15	0	0	0	0	0	0	0	2	6	0	0	8	30
4:45 AM	0	2	0	8	0	10	0	0	19	1	0	20	0	0	0	0	0	0	0	0	2	0	0	2	32
Hourly Total	0	7	0	22	0	29	0	0	46	1	0	47	0	0	0	0	0	0	0	3	13	0	0	16	92
5:00 AM	0	6	0	10	0	16	0	0	8	1	0	9	0	0	0	0	0	0	0	0	3	0	0	3	28
5:15 AM	0	10	0	10	0	20	0	0	10	1	0	11	0	0	0	0	0	0	0	2	7	0	0	9	40
5:30 AM	0	6	0	18	0	24	0	0	21	1	0	22	0	0	0	0	0	0	0	4	7	0	0	11	57
5:45 AM	0	13	0	22	0	35	0	0	26	1	0	27	0	0	0	0	0	0	0	4	12	0	0	16	78
Hourly Total	0	35	0	60	0	95	0	0	65	4	0	69	0	0	0	0	0	0	0	10	29	0	0	39	203
6:00 AM	0	13	0	28	0	41	0	0	25	1	0	26	0	0	0	0	0	0	0	4	19	0	0	23	90
6:15 AM	0	8	0	29	0	37	0	0	29	0	0	29	0	0	0	0	0	0	0	5	24	0	0	29	95
6:30 AM	0	12	0	26	0	38	0	0	35	1	0	36	0	0	0	0	0	0	0	6	29	0	0	35	109
6:45 AM	0	22	0	23	0	45	0	0	50	6	0	56	0	0	0	0	0	0	0	9	27	0	0	36	137
Hourly Total	0	55	0	106	0	161	0	0	139	8	0	147	0	0	0	0	0	0	0	24	99	0	0	123	431
7:00 AM	0	19	0	31	0	50	0	0	19	5	0	24	0	0	0	0	0	0	0	9	32	0	0	41	115
7:15 AM	0	25	0	29	0	54	0	0	38	4	0	42	0	0	0	0	0	0	0	20	26	0	0	46	142
7:30 AM	0	25	0	10	0	35	0	0	43	10	0	53	0	0	0	0	0	0	0	18	34	0	0	52	140
7:45 AM	0	21	0	34	0	55	0	0	54	2	0	56	0	0	0	0	0	0	0	13	38	0	0	51	162
Hourly Total	0	90	0	104	0	194	0	0	154	21	0	175	0	0	0	0	0	0	0	60	130	0	0	190	559

**TMC 2158 - CSAH 23 @ CR 62  
Columbus MN  
Thursday, November 4, 2021**

Time	Southbound CR 62						Westbound CSAH 23						Northbound NONE						Eastbound CSAH 23						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	12	0	25	0	37	0	0	33	6	0	39	0	0	0	0	0	0	0	8	27	0	0	35	111
8:15 AM	0	13	0	26	0	39	0	0	23	7	0	30	0	0	0	0	0	0	0	10	31	0	0	41	110
8:30 AM	0	4	0	22	0	26	0	0	29	10	0	39	0	0	0	0	0	0	0	10	21	0	0	31	96
8:45 AM	0	10	0	27	0	37	0	0	33	11	0	44	0	0	0	0	0	0	0	16	21	0	0	37	118
Hourly Total	0	39	0	100	0	139	0	0	118	34	0	152	0	0	0	0	0	0	0	44	100	0	0	144	435
9:00 AM	0	11	0	23	0	34	0	0	24	9	0	33	0	0	0	0	0	0	0	34	17	0	0	51	118
9:15 AM	0	13	0	9	0	22	0	0	15	10	0	25	0	0	0	0	0	0	0	19	30	0	0	49	96
9:30 AM	0	3	0	14	0	17	0	0	26	3	0	29	0	0	0	0	0	0	0	12	34	0	0	46	92
9:45 AM	0	6	0	18	0	24	0	0	27	5	0	32	0	0	0	0	0	0	0	14	19	0	0	33	89
Hourly Total	0	33	0	64	0	97	0	0	92	27	0	119	0	0	0	0	0	0	0	79	100	0	0	179	395
10:00 AM	0	2	0	11	0	13	0	0	14	7	0	21	0	0	0	0	0	0	0	17	34	0	0	51	85
10:15 AM	0	9	0	17	0	26	0	0	25	7	0	32	0	0	0	0	0	0	0	20	28	0	0	48	106
10:30 AM	0	9	0	17	0	26	0	0	24	1	0	25	0	0	0	0	0	0	0	17	30	0	0	47	98
10:45 AM	0	6	0	13	0	19	0	0	27	14	0	41	0	0	0	0	0	0	0	21	26	0	0	47	107
Hourly Total	0	26	0	58	0	84	0	0	90	29	0	119	0	0	0	0	0	0	0	75	118	0	0	193	396
11:00 AM	0	9	0	17	0	26	0	0	25	3	0	28	0	0	0	0	0	0	0	22	25	0	0	47	101
11:15 AM	0	10	0	13	0	23	0	0	23	10	0	33	0	0	0	0	0	0	0	22	27	0	0	49	105
11:30 AM	0	10	0	12	0	22	0	0	22	5	0	27	0	0	0	0	0	0	0	24	27	0	0	51	100
11:45 AM	0	9	0	18	0	27	0	0	35	4	0	39	0	0	0	0	0	0	0	22	22	0	0	44	110
Hourly Total	0	38	0	60	0	98	0	0	105	22	0	127	0	0	0	0	0	0	0	90	101	0	0	191	416
12:00 PM	0	8	0	20	0	28	0	0	23	9	0	32	0	0	0	0	0	0	0	20	26	0	0	46	106
12:15 PM	0	6	0	10	0	16	0	0	27	8	0	35	0	0	0	0	0	0	0	17	19	0	0	36	87
12:30 PM	0	7	0	23	0	30	0	0	25	6	0	31	0	0	0	0	0	0	0	18	37	0	0	55	116
12:45 PM	0	9	0	18	0	27	0	0	25	12	0	37	0	0	0	0	0	0	0	17	34	0	0	51	115
Hourly Total	0	30	0	71	0	101	0	0	100	35	0	135	0	0	0	0	0	0	0	72	116	0	0	188	424
1:00 PM	0	6	0	34	0	40	0	0	29	10	0	39	0	0	0	0	0	0	0	34	45	0	0	79	158
1:15 PM	0	4	0	27	0	31	0	0	25	6	0	31	0	0	0	0	0	0	0	31	46	0	0	77	139
1:30 PM	0	5	0	19	0	24	0	0	36	12	0	48	0	0	0	0	0	0	0	23	27	0	0	50	122
1:45 PM	0	12	0	19	0	31	0	0	21	14	0	35	0	0	0	0	0	0	0	20	27	0	0	47	113
Hourly Total	0	27	0	99	0	126	0	0	111	42	0	153	0	0	0	0	0	0	0	108	145	0	0	253	532
2:00 PM	0	10	0	15	0	25	0	0	29	12	0	41	0	0	0	0	0	0	0	19	44	0	0	63	129
2:15 PM	0	9	0	25	0	34	0	0	27	14	0	41	0	0	0	0	0	0	0	22	41	0	0	63	138
2:30 PM	0	3	0	25	0	28	0	0	38	15	0	53	0	0	0	0	0	0	0	30	35	0	0	65	146
2:45 PM	0	8	0	23	0	31	0	0	26	18	0	44	0	0	0	0	0	0	0	36	38	0	0	74	149
Hourly Total	0	30	0	88	0	118	0	0	120	59	0	179	0	0	0	0	0	0	0	107	158	0	0	265	562
3:00 PM	0	12	0	17	0	29	0	0	38	19	0	57	0	0	0	0	0	0	0	28	38	0	0	66	152
3:15 PM	0	10	0	24	0	34	0	0	32	13	0	45	0	0	0	0	0	0	0	39	38	0	0	77	156
3:30 PM	0	7	0	18	0	25	0	0	41	17	0	58	0	0	0	0	0	0	0	56	55	0	0	111	194
3:45 PM	0	11	0	26	0	37	0	0	28	22	0	50	0	0	0	0	0	0	0	62	68	0	0	130	217
Hourly Total	0	40	0	85	0	125	0	0	139	71	0	210	0	0	0	0	0	0	0	185	199	0	0	384	719

**TMC 2158 - CSAH 23 @ CR 62**  
**Columbus MN**  
**Thursday, November 4, 2021**

Time	Southbound CR 62						Westbound CSAH 23						Northbound NONE						Eastbound CSAH 23						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	10	0	22	0	32	0	0	38	19	0	57	0	0	0	0	0	0	0	51	56	0	0	107	196
4:15 PM	0	8	0	21	0	29	0	0	28	26	0	54	0	0	0	0	0	0	0	51	57	0	0	108	191
4:30 PM	0	14	0	28	0	42	0	0	38	18	0	56	0	0	0	0	0	0	0	63	68	0	0	131	229
4:45 PM	0	20	0	31	0	51	0	0	38	33	0	71	0	0	0	0	0	0	0	56	56	0	0	112	234
Hourly Total	0	52	0	102	0	154	0	0	142	96	0	238	0	0	0	0	0	0	0	221	237	0	0	458	850
5:00 PM	0	12	0	17	0	29	0	0	42	31	0	73	0	0	0	0	0	0	0	43	69	0	0	112	214
5:15 PM	0	9	0	15	0	24	0	0	41	30	0	71	0	0	0	0	0	0	0	40	47	0	0	87	182
5:30 PM	0	16	0	18	0	34	0	0	28	22	0	50	0	0	0	0	0	0	0	30	54	0	0	84	168
5:45 PM	0	9	0	13	0	22	0	0	30	15	0	45	0	0	0	0	0	0	0	25	52	0	0	77	144
Hourly Total	0	46	0	63	0	109	0	0	141	98	0	239	0	0	0	0	0	0	0	138	222	0	0	360	708
6:00 PM	0	7	0	28	0	35	0	0	32	16	0	48	0	0	0	0	0	0	0	37	43	0	0	80	163
6:15 PM	0	5	0	12	0	17	0	0	14	16	0	30	0	0	0	0	0	0	0	24	38	0	0	62	109
6:30 PM	0	5	0	16	0	21	0	0	22	11	0	33	0	0	0	0	0	0	0	25	26	0	0	51	105
6:45 PM	0	5	0	14	0	19	0	0	24	17	0	41	0	0	0	0	0	0	0	14	33	0	0	47	107
Hourly Total	0	22	0	70	0	92	0	0	92	60	0	152	0	0	0	0	0	0	0	100	140	0	0	240	484
7:00 PM	0	13	0	14	0	27	0	0	23	16	0	39	0	0	0	0	0	0	0	33	53	0	0	86	152
7:15 PM	0	7	0	10	0	17	0	0	20	10	0	30	0	0	0	0	0	0	0	9	17	0	0	26	73
7:30 PM	0	5	0	5	0	10	0	0	18	8	0	26	0	0	0	0	0	0	0	8	12	0	0	20	56
7:45 PM	0	3	0	5	0	8	0	0	18	5	0	23	0	0	0	0	0	0	0	10	13	0	0	23	54
Hourly Total	0	28	0	34	0	62	0	0	79	39	0	118	0	0	0	0	0	0	0	60	95	0	0	155	335
8:00 PM	0	3	0	5	0	8	0	0	14	8	0	22	0	0	0	0	0	0	0	11	15	0	0	26	56
8:15 PM	0	7	0	11	0	18	0	0	9	8	0	17	0	0	0	0	0	0	0	8	15	0	0	23	58
8:30 PM	0	1	0	5	0	6	0	0	5	3	0	8	0	0	0	0	0	0	0	8	11	0	0	19	33
8:45 PM	0	3	0	2	0	5	0	0	9	4	0	13	0	0	0	0	0	0	0	6	20	0	0	26	44
Hourly Total	0	14	0	23	0	37	0	0	37	23	0	60	0	0	0	0	0	0	0	33	61	0	0	94	191
9:00 PM	0	5	0	4	0	9	0	0	9	6	0	15	0	0	0	0	0	0	0	7	9	0	0	16	40
9:15 PM	0	2	0	5	0	7	0	0	10	7	0	17	0	0	0	0	0	0	0	5	10	0	0	15	39
9:30 PM	0	3	0	3	0	6	0	0	11	7	0	18	0	0	0	0	0	0	0	5	9	0	0	14	38
9:45 PM	0	2	0	1	0	3	0	0	7	4	0	11	0	0	0	0	0	0	0	3	8	0	0	11	25
Hourly Total	0	12	0	13	0	25	0	0	37	24	0	61	0	0	0	0	0	0	0	20	36	0	0	56	142
10:00 PM	0	1	0	5	0	6	0	0	8	7	0	15	0	0	0	0	0	0	0	5	8	0	0	13	34
10:15 PM	0	2	0	6	0	8	0	0	10	7	0	17	0	0	0	0	0	0	0	8	2	0	0	10	35
10:30 PM	0	1	0	2	0	3	0	0	11	6	0	17	0	0	0	0	0	0	0	3	4	0	0	7	27
10:45 PM	0	1	0	2	0	3	0	0	6	4	0	10	0	0	0	0	0	0	0	3	13	0	0	16	29
Hourly Total	0	5	0	15	0	20	0	0	35	24	0	59	0	0	0	0	0	0	0	19	27	0	0	46	125
11:00 PM	0	1	0	1	0	2	0	0	6	3	0	9	0	0	0	0	0	0	0	4	4	0	0	8	19
11:15 PM	0	0	0	1	0	1	0	0	2	1	0	3	0	0	0	0	0	0	0	0	2	0	0	2	6
11:30 PM	0	0	0	1	0	1	0	0	4	1	0	5	0	0	0	0	0	0	0	3	4	0	0	7	13
11:45 PM	0	1	0	1	0	2	0	0	2	1	0	3	0	0	0	0	0	0	0	1	2	0	0	3	8
Hourly Total	0	2	0	4	0	6	0	0	14	6	0	20	0	0	0	0	0	0	0	8	12	0	0	20	46
<b>DAILY TOTAL</b>	<b>0</b>	<b>634</b>	<b>0</b>	<b>1253</b>	<b>0</b>	<b>1887</b>	<b>0</b>	<b>0</b>	<b>1880</b>	<b>738</b>	<b>0</b>	<b>2618</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1467</b>	<b>2154</b>	<b>0</b>	<b>0</b>	<b>3621</b>	<b>8126</b>
<b>Cars</b>	0	626	0	1210	0	1836	0	0	1696	726	0	2422	0	0	0	0	0	0	0	1420	2010	0	0	3430	7688
<b>Heavy Vehicles</b>	0	8	0	43	0	51	0	0	184	12	0	196	0	0	0	0	0	0	0	47	144	0	0	191	438
<b>Heavy Vehicle %</b>	0.00%	1.26%	0.00%	3.43%	0.00%	2.70%	0.00%	0.00%	9.79%	1.63%	0.00%	7.49%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.20%	6.69%	0.00%	0.00%	5.27%	5.39%

**TMC 2158 - CSAH 23 @ CR 62**  
**Columbus MN**  
**Thursday, November 4, 2021**  
**AM Peak Hour**

Time	Southbound					Vehicle Approach Total	Westbound					Vehicle Approach Total	Northbound					Vehicle Approach Total	Eastbound					VEHICLE TOTAL						
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings		U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings		U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings		U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings							
7:00 AM	0	19	0	31	0	50	0	0	19	5	0	24	0	0	0	0	0	0	0	0	0	0	0	0	9	32	0	0	41	115
7:15 AM	0	25	0	29	0	54	0	0	38	4	0	42	0	0	0	0	0	0	0	0	0	0	0	0	20	26	0	0	46	142
7:30 AM	0	25	0	10	0	35	0	0	43	10	0	53	0	0	0	0	0	0	0	0	0	0	0	0	18	34	0	0	52	140
7:45 AM	0	21	0	34	0	55	0	0	54	2	0	56	0	0	0	0	0	0	0	0	0	0	0	0	13	38	0	0	51	162
Peak Hour Total	0	90	0	104	0	194	0	0	154	21	0	175	0	0	0	0	0	0	0	0	0	0	0	0	60	130	0	0	190	559
PHF	0.000	0.900	0.000	0.765	0.000	0.882	0.000	0.000	0.713	0.525	0.000	0.781	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.855	0.000	0.000	0.913	0.863

**PM Peak Hour**

Time	Southbound					Vehicle Approach Total	Westbound					Vehicle Approach Total	Northbound					Vehicle Approach Total	Eastbound					VEHICLE TOTAL					
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings		U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings		U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings		U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings						
4:15 PM	0	8	0	21	0	29	0	0	28	26	0	54	0	0	0	0	0	0	0	0	0	0	0	51	57	0	0	108	191
4:30 PM	0	14	0	28	0	42	0	0	38	18	0	56	0	0	0	0	0	0	0	0	0	0	0	63	68	0	0	131	229
4:45 PM	0	20	0	31	0	51	0	0	38	33	0	71	0	0	0	0	0	0	0	0	0	0	0	56	56	0	0	112	234
5:00 PM	0	12	0	17	0	29	0	0	42	31	0	73	0	0	0	0	0	0	0	0	0	0	0	43	69	0	0	112	214
Peak Hour Total	0	54	0	97	0	151	0	0	146	108	0	254	0	0	0	0	0	0	0	0	0	0	0	213	250	0	0	463	868
PHF	0.000	0.675	0.000	0.782	0.000	0.740	0.000	0.000	0.869	0.818	0.000	0.870	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.845	0.906	0.000	0.000	0.884	0.927

Total Vehicles On Leg		4092	
Vehicles Entering Intersection		1887	Vehicles Exiting Intersection 2205
<b>Southbound</b>			
Cars	1210	0	626
Heavy	43	0	8
<b>Total</b>	<b>1253</b>	<b>0</b>	<b>634</b>

Total Vehicles on Leg 6754	Vehicles Entering Intersection 3621	Eastbound	Cars	Heavy	Total
			0	0	0
	0		0	0	
	1420		47	1467	
	2010		144	2154	
Vehicles Exiting Intersection 3133	0	0	0		

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 2618	Total Vehicles on Leg 5406
726	12	738			
1696	184	1880			
0	0	0			
0	0	0			
0	0	0	Vehicles Exiting Intersection 2788		

Daily Volumes

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

# Heavy Vehicles

Date	Time	Southbound					Westbound					Northbound					Eastbound				
		U Turns	Left Turns	Straight Through	Right Turns	Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	Bicycles in Crosswalk
11/4/2021	0:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:30	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	5:30	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	5:45	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:00	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
	6:15	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0
	6:30	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0	0
	6:45	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
	7:00	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0
	7:15	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0	0
	7:30	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	7	0	0
	7:45	0	1	0	1	0	0	0	8	0	0	0	0	0	0	0	0	2	2	0	0
	8:00	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0	0
	8:15	0	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	1	0	0	0
	8:30	0	0	0	1	0	0	0	5	0	0	0	0	0	0	0	0	2	4	0	0
	8:45	0	1	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	2	0	0
	9:00	0	0	0	2	0	0	0	6	1	0	0	0	0	0	0	0	12	3	0	0
	9:15	0	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	2	8	0	0
	9:30	0	1	0	0	0	0	0	4	1	0	0	0	0	0	0	0	1	7	0	0
	9:45	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	1	2	0	0
	10:00	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	2	6	0	0
	10:15	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4	0	0
	10:30	0	2	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	5	0	0
	10:45	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	5	2	0	0
	11:00	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0
	11:15	0	0	0	2	0	0	0	7	0	0	0	0	0	0	0	0	1	4	0	0
	11:30	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	6	0	0
	11:45	0	0	0	1	0	0	0	8	0	0	0	0	0	0	0	0	1	3	0	0





# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2158

Study Date : 12/01/2021

## Signal Warrants - Summary

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### Major Street Approaches

#### Eastbound: CSAH 23

Number of Lanes : 1

Total Approach Volume: 3,621

#### Westbound: CSAH 23

Number of Lanes : 1

Total Approach Volume: 2,618

### Minor Street Approaches

#### Southbound: CR 62

Number of Lanes : 1

Total Approach Volume: 1,887

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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 7 hours, 8 are needed

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

Required volumes reached for 3 hours, 8 are needed

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

Required 1A volumes reached for 12 hours, 8 are needed

Required 1B volumes reached for 4 hours, 8 are needed

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

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

**Warrant 3 - Peak Hour.....Satisfied**

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

Number of one hour periods (11) 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 2158

Study Date : 12/01/2021

## Warrant 1A - Minimum Volumes

#### Description

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

#### Summary

Only 7 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 23</b>					<b>CR 62</b>		
16:15 - 17:15	463	+	254	=	717	0	151	Yes
15:15 - 16:15	425	+	210	=	635	0	128	Yes
17:15 - 18:15	328	+	214	=	542	0	115	Yes
14:15 - 15:15	268	+	195	=	463	0	122	Yes
13:15 - 14:15	237	+	155	=	392	0	111	Yes
12:15 - 13:15	221	+	142	=	363	0	113	Yes
06:45 - 07:45	175	+	175	=	350	0	184	Yes
18:15 - 19:15	246	+	143	=	389	0	84	No
18:30 - 19:30	210	+	143	=	353	0	84	No
10:45 - 11:45	194	+	129	=	323	0	90	No
12:00 - 13:00	188	+	135	=	323	0	101	No
07:45 - 08:45	158	+	164	=	322	0	157	No
11:15 - 12:15	190	+	131	=	321	0	100	No
11:00 - 12:00	191	+	127	=	318	0	98	No
11:45 - 12:45	181	+	137	=	318	0	101	No
10:30 - 11:30	190	+	127	=	317	0	94	No
06:30 - 07:30	158	+	158	=	316	0	187	No
10:15 - 11:15	189	+	126	=	315	0	97	No
18:45 - 19:45	179	+	136	=	315	0	73	No
08:45 - 09:45	183	+	131	=	314	0	110	No
10:00 - 11:00	193	+	119	=	312	0	84	No
11:30 - 12:30	177	+	133	=	310	0	93	No
08:30 - 09:30	168	+	141	=	309	0	119	No
08:15 - 09:15	160	+	146	=	306	0	136	No
09:00 - 10:00	179		119		298	0	97	No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2158

Study Date : 12/01/2021

## 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

Only 3 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	
15:45 - 16:45	476	+	217	=	693	0	140	Yes
16:45 - 17:45	395	+	265	=	660	0	138	Yes
14:45 - 15:45	328	+	204	=	532	0	119	Yes
14:30 - 15:30	282	+	199	=	481	0	122	No
14:15 - 15:15	268	+	195	=	463	0	122	No
14:00 - 15:00	265	+	179	=	444	0	118	No
17:45 - 18:45	270	+	156	=	426	0	95	No
12:45 - 13:45	257	+	155	=	412	0	122	No
13:45 - 14:45	238	+	170	=	408	0	118	No
13:00 - 14:00	253	+	153	=	406	0	126	No
12:30 - 13:30	262	+	138	=	400	0	128	No
18:00 - 19:00	240	+	152	=	392	0	92	No
13:15 - 14:15	237	+	155	=	392	0	111	No
18:15 - 19:15	246	+	143	=	389	0	84	No
13:30 - 14:30	223	+	165	=	388	0	114	No
07:15 - 08:15	184	+	190	=	374	0	181	No
07:00 - 08:00	190	+	175	=	365	0	194	No
12:15 - 13:15	221	+	142	=	363	0	113	No
07:30 - 08:30	179	+	178	=	357	0	166	No
18:30 - 19:30	210	+	143	=	353	0	84	No
06:45 - 07:45	175	+	175	=	350	0	184	No
10:45 - 11:45	194	+	129	=	323	0	90	No
12:00 - 13:00	188	+	135	=	323	0	101	No
07:45 - 08:45	158	+	164	=	322	0	157	No
11:15 - 12:15	190		131		321	0	100	No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2158

Study Date : 12/01/2021

## 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

12 hours meet 1A minimums.  
Only 4 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 23

#### Minor Road CR 62

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1A?
15:45 - 16:45	476	+	217	=	693	0	140	Yes
16:45 - 17:45	395	+	265	=	660	0	138	Yes
14:45 - 15:45	328	+	204	=	532	0	119	Yes
17:45 - 18:45	270	+	156	=	426	0	95	Yes
12:45 - 13:45	257	+	155	=	412	0	122	Yes
13:45 - 14:45	238	+	170	=	408	0	118	Yes
07:15 - 08:15	184	+	190	=	374	0	181	Yes
10:45 - 11:45	194	+	129	=	323	0	90	Yes
11:45 - 12:45	181	+	137	=	318	0	101	Yes
08:15 - 09:15	160	+	146	=	306	0	136	Yes
09:45 - 10:45	179	+	110	=	289	0	89	Yes
06:15 - 07:15	141	+	145	=	286	0	170	Yes

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?
16:00 - 17:00	458	+	238	=	696	0	154	Yes
17:00 - 18:00	360	+	239	=	599	0	109	Yes
15:00 - 16:00	384	+	210	=	594	0	125	Yes
14:00 - 15:00	265	+	179	=	444	0	118	Yes
12:45 - 13:45	257	+	155	=	412	0	122	No
13:45 - 14:45	238	+	170	=	408	0	118	No
13:00 - 14:00	253	+	153	=	406	0	126	No
12:30 - 13:30	262	+	138	=	400	0	128	No
13:15 - 14:15	237	+	155	=	392	0	111	No
18:00 - 19:00	240	+	152	=	392	0	92	No
18:15 - 19:15	246	+	143	=	389	0	84	No
13:30 - 14:30	223	+	165	=	388	0	114	No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2158

Study Date : 12/01/2021

## 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.

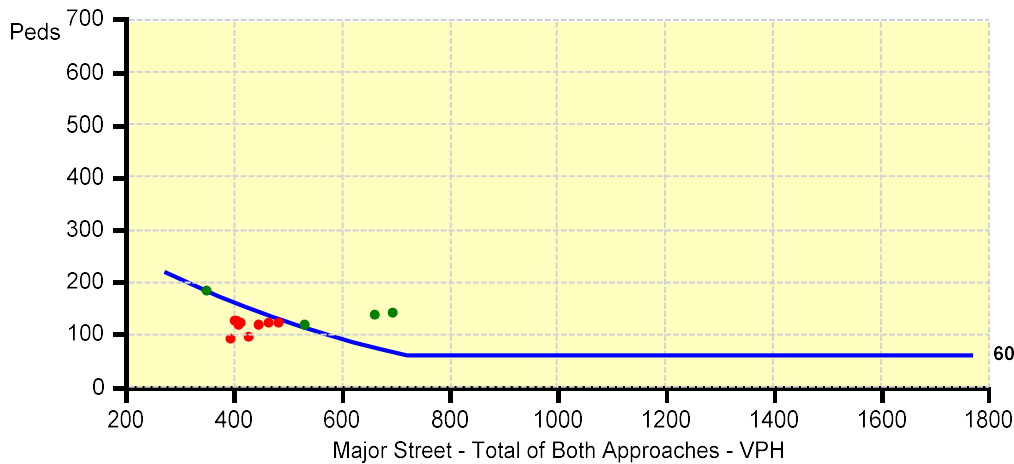
#### Summary

4 one hour periods meet minimums.  
Warrant IS met.

#### Site Data Required

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

Time	Major Road CSAH 23				=	Total	Minor Road CR 62		Met?
	Major EB	+	Major WB				Minor NB	Minor SB	
15:45 - 16:45	476	+	217	=	693	0	140	Yes	
16:45 - 17:45	395	+	265	=	660	0	138	Yes	
14:45 - 15:45	328	+	204	=	532	0	119	Yes	
06:45 - 07:45	175	+	175	=	350	0	184	Yes	
14:30 - 15:30	282	+	199	=	481	0	122	No	
14:15 - 15:15	268	+	195	=	463	0	122	No	
14:00 - 15:00	265	+	179	=	444	0	118	No	
17:45 - 18:45	270	+	156	=	426	0	95	No	
12:45 - 13:45	257	+	155	=	412	0	122	No	
13:45 - 14:45	238	+	170	=	408	0	118	No	
13:00 - 14:00	253	+	153	=	406	0	126	No	
						0	128	No	



# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2158

Study Date : 12/01/2021

## 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

3 one hour periods meet minimums.  
Warrant IS met.

#### Site Data Required

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

Time	Major Road CSAH 23				=	Total	Minor Road CR 62		Met?
	Major EB	+	Major WB				Minor NB	Minor SB	
16:15 - 17:15	463	+	254	=	717	0	151	Yes	
16:30 - 17:30	442	+	271	=	713	0	146	Yes	
16:00 - 17:00	458	+	238	=	696	0	154	Yes	
15:45 - 16:45	476	+	217	=	693	0	140	No	
15:30 - 16:30	456	+	219	=	675	0	123	No	
16:45 - 17:45	395	+	265	=	660	0	138	No	
15:15 - 16:15	425	+	210	=	635	0	128	No	
17:00 - 18:00	360	+	239	=	599	0	109	No	
15:00 - 16:00	384	+	210	=	594	0	125	No	
17:15 - 18:15	328	+	214	=	542	0	115	No	
14:45 - 15:45	328	+	204	=	532	0	119	No	
						0	122	No	

