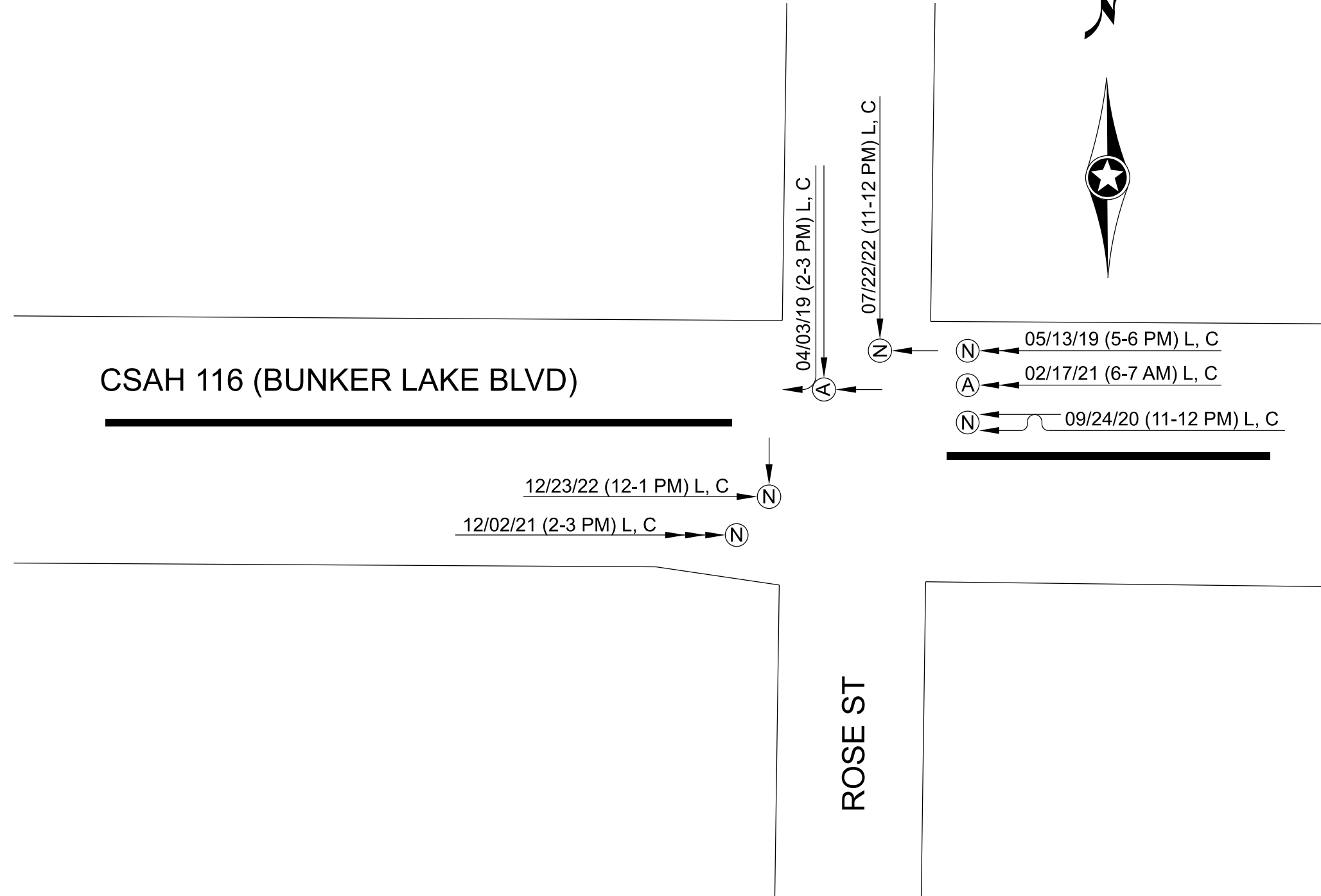


CSAH 116 (BUNKER LAKE BLVD)

ROSE ST



← DATE, TIME, LIGHT, WEATHER

- OVERTURN
- FIRE OR EXPLOSION
- MOVING VEHICLE
- REAR END
- BACKING VEHICLE
- COLLISION WITH FIXED OBJECT
- SIDE SWIPE SAME DIRECTION
- SIDE SWIPE OPPOSITE DIRECTION

- PARKED VEHICLE
- MOTORCYCLE
- DEER
- PEDESTRIAN
- BICYCLE
- FIXED OBJECT
- RIGHT ANGLE

- VEHICLE OUT OF CONTROL
- LEFT TURN INTO ONCOMING TRAFFIC



ANOKA COUNTY  
HIGHWAY DEPT.

ADT: 27124  
ACCIDENT RATE: 0.13 CR INDEX: 0.18  
SEVERITY RATE: 0.24 FAR INDEX: 1.26

**COLLISION  
DIAGRAM**

CSAH 116 (BUNKER LAKE BLVD)  
@ ROSE ST  
JANUARY 2018 - JUNE 2023

Sheet   1   of   1   Sheets

**LIGHT**

L = LIGHT  
DN = DAWN  
DU = DUSK  
D = DARK  
X = UNKNOWN

**WEATHER**

C = CLEAR  
CL = CLOUDY  
R = RAIN  
S = SNOW/SLEET  
X = OTHER/UNKNOWN

**SEVERITY CODE**

(N) PROPERTY DAMAGE  
(C) POSSIBLE INJURY  
(B) MINOR INJURY  
(A) SERIOUS INJURY  
(K) FATALITY

# Intersection Safety Screening

Intersection: CSAH 116 @ Rose St

---

*Statewide Averages based on 2016-2020 crashes*

| Crashes by Crash Severity |          |
|---------------------------|----------|
| Fatal (K)                 | 0        |
| Serious Injury (A)        | 2        |
| Minor Injury (B)          | 0        |
| Possible Injury (C)       | 0        |
| Property Damage (PDO)     | 5        |
| <b>Total Crashes</b>      | <b>7</b> |

| Intersection Characteristics |        |
|------------------------------|--------|
| Entering Volume              | 27,124 |
| Environment                  | Urban  |
| Lighting                     | Lit    |
| Traffic Control              | Signal |

*Annual crash cost* = \$313,000

*Statewide comparison* = Signal, Low Volume (<=20K)

| Total Crash Rate      |             |
|-----------------------|-------------|
| Observed              | 0.141       |
| Statewide Average     | 0.508       |
| Critical Rate         | 0.780       |
| <b>Critical Index</b> | <b>0.18</b> |

| Fatal & Serious Injury Crash Rate |             |
|-----------------------------------|-------------|
| Observed                          | 4.036       |
| Statewide Average                 | 0.690       |
| Critical Rate                     | 3.210       |
| <b>Critical Index</b>             | <b>1.26</b> |

*The observed crash rate is the number of crashes per million entering vehicles (MEV). The critical rate is a statistical comparison based on similar intersections statewide. An observed crash rate greater than the critical rate indicates that the intersection operates outside the expected, normal range. The critical index reports the magnitude of this difference (i.e. observed crash rate ÷ critical crash rate).*

*The observed total crash rate for this period is 0.14 per MEV; this is 82% below the critical rate. Based on similar statewide intersections, an additional 32 crashes over the five years would indicate this intersection operates outside the normal range.*

*The observed fatal and serious injury crash rate for this period is 4.04 per 100 MEV; this is 1.3 times the critical rate. This site may be a sustained severe crash location.*

## ACCIDENT AND SEVERITY RATES FOR AN INTERSECTION

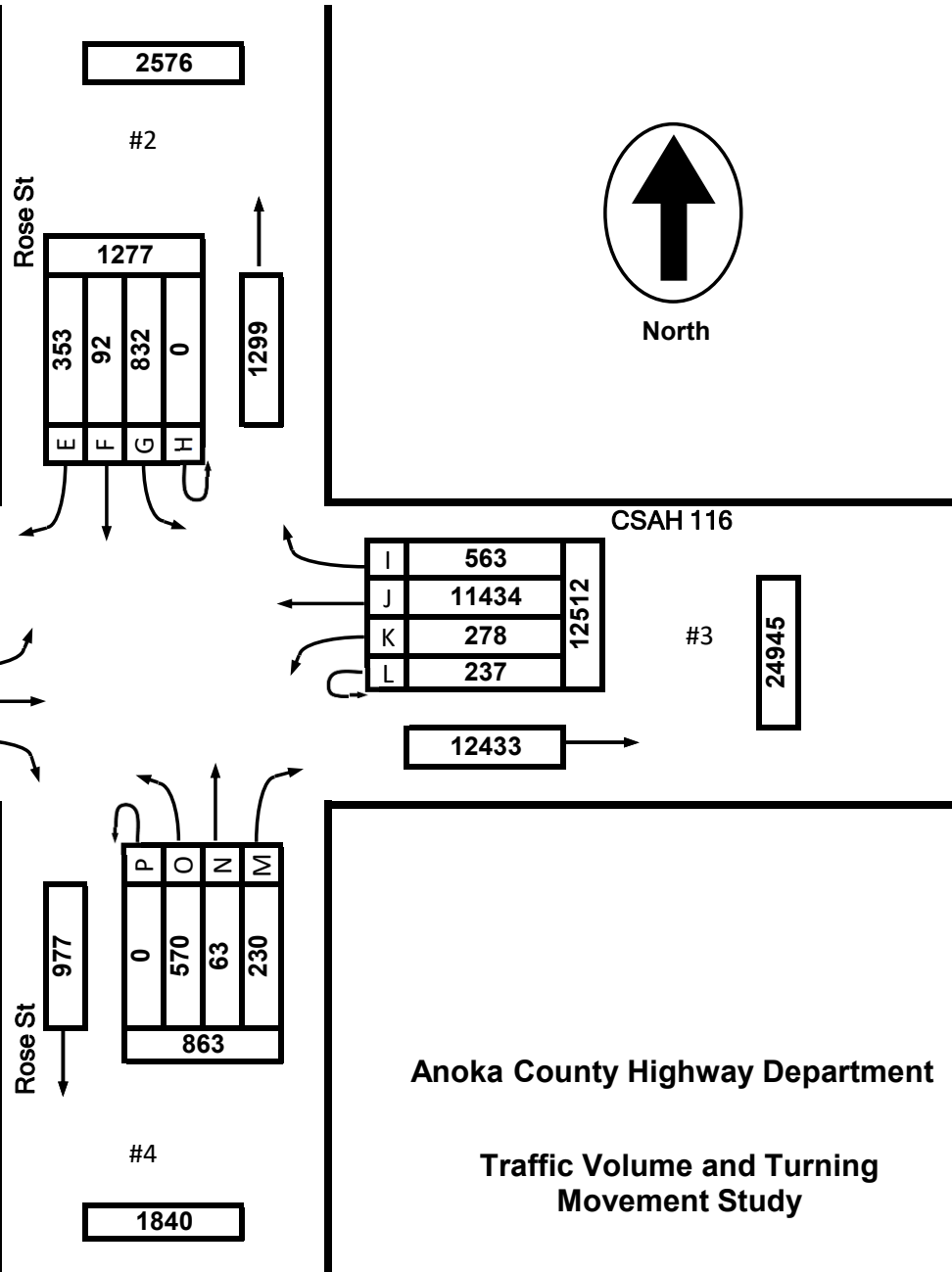
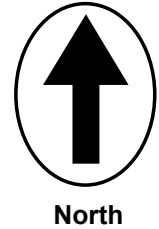
|                                      |                    |  |
|--------------------------------------|--------------------|--|
| Intersection:                        | CSAH 116 @ Rose St |  |
| Study Start Date:                    | 01/01/2018         |  |
| Study End Date:                      | 06/30/2023         |  |
| Length of study in years:            | 5.50               | Days = 2006.486    Weighted              |
| Intersection ADT:                    | 27124              | Total Accidents = 7                      |
| Number of Fatal Accidents:           | 0                  | Total Fatal Accidents = 0            0   |
| Number of "A" P.I. Accidents:        | 2                  | Total "A" Injury Accidents = 2        8  |
| Number of "B" P.I. Accidents:        | 0                  | Total "B" Injury Accidents = 0        0  |
| Number of "C" P.I. Accidents:        | 0                  | Total "C" Injury Accidents = 0        0  |
| Number of Property Damage Accidents: | 5                  | Total Property Damage Accidents = 5    5 |
|                                      |                    | Sum of weighted accidents = 13           |
| Accident Rate (AR) =                 | <b>0.13</b>        |  |
| Severity Rate (SR) =                 | <b>0.24</b>        |  |

Date : 09/21/23

Count Number : TMC 2350

Location : CSAH 116  
@ Rose St

Collection Period : 24 HR



#1

|       |       |       |   |
|-------|-------|-------|---|
| 24887 | 12415 | 58    | D |
|       |       | 673   | C |
|       |       | 11134 | B |
|       |       | 607   | A |
|       | 12472 |       |   |

#2

|      |      |
|------|------|
| 2576 | 1277 |
| 353  | 92   |
| 832  | 0    |
| E    | F    |
| G    | H    |
|      | 1299 |

#3

|       |       |
|-------|-------|
| 563   | 12512 |
| 11434 |       |
| 278   |       |
| 237   |       |
| I     | J     |
| K     | L     |
|       | 12433 |
|       | 24945 |

#4

|     |      |
|-----|------|
| 977 | 863  |
| 0   | 570  |
| 63  | 230  |
| P   | O    |
| N   | M    |
|     | 1840 |

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

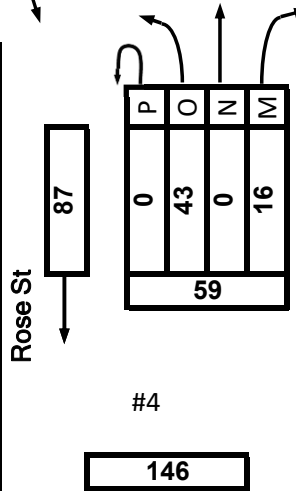
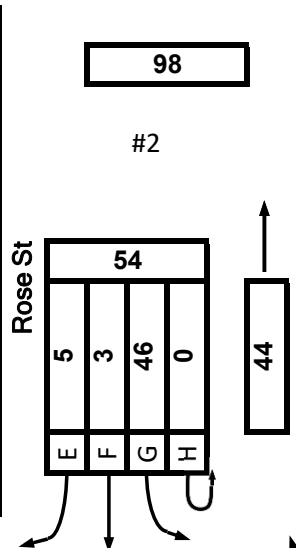
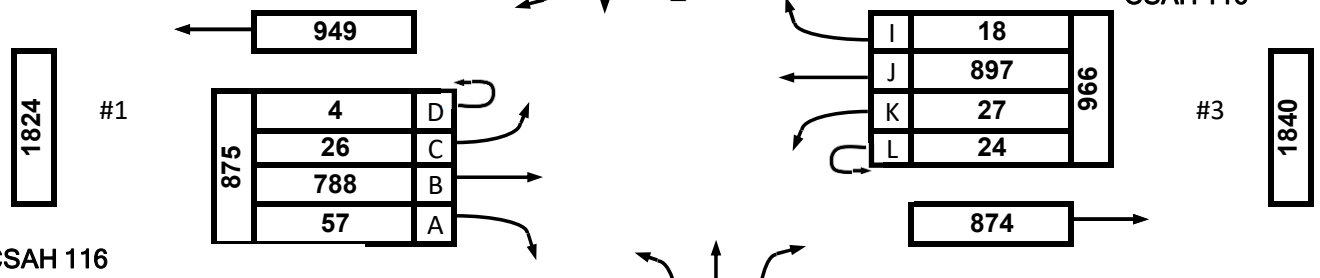
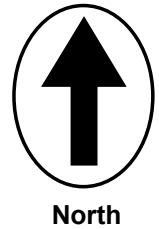
Anoka County Highway Department  
 Traffic Volume and Turning Movement Study

Date : 09/21/23

Count Number : TMC 2350

Location : CSAH 116  
@ Rose St

Collection Period : 7 AM - 8 AM  
AM PEAK



CSAH 116

CSAH 116

EXISTING LANES OF APPROACH

|    | RIGHT<br>TURN<br>LANE | LEFT<br>TURN<br>LANE | THRU<br>LANES | TOTAL |
|----|-----------------------|----------------------|---------------|-------|
| #1 | 1                     | 1                    | 2             | 4     |
| #2 | 1                     | 0                    | 1             | 2     |
| #3 | 1                     | 1                    | 2             | 4     |
| #4 | 1                     | 0                    | 1             | 2     |

Rose St

Anoka County Highway Department

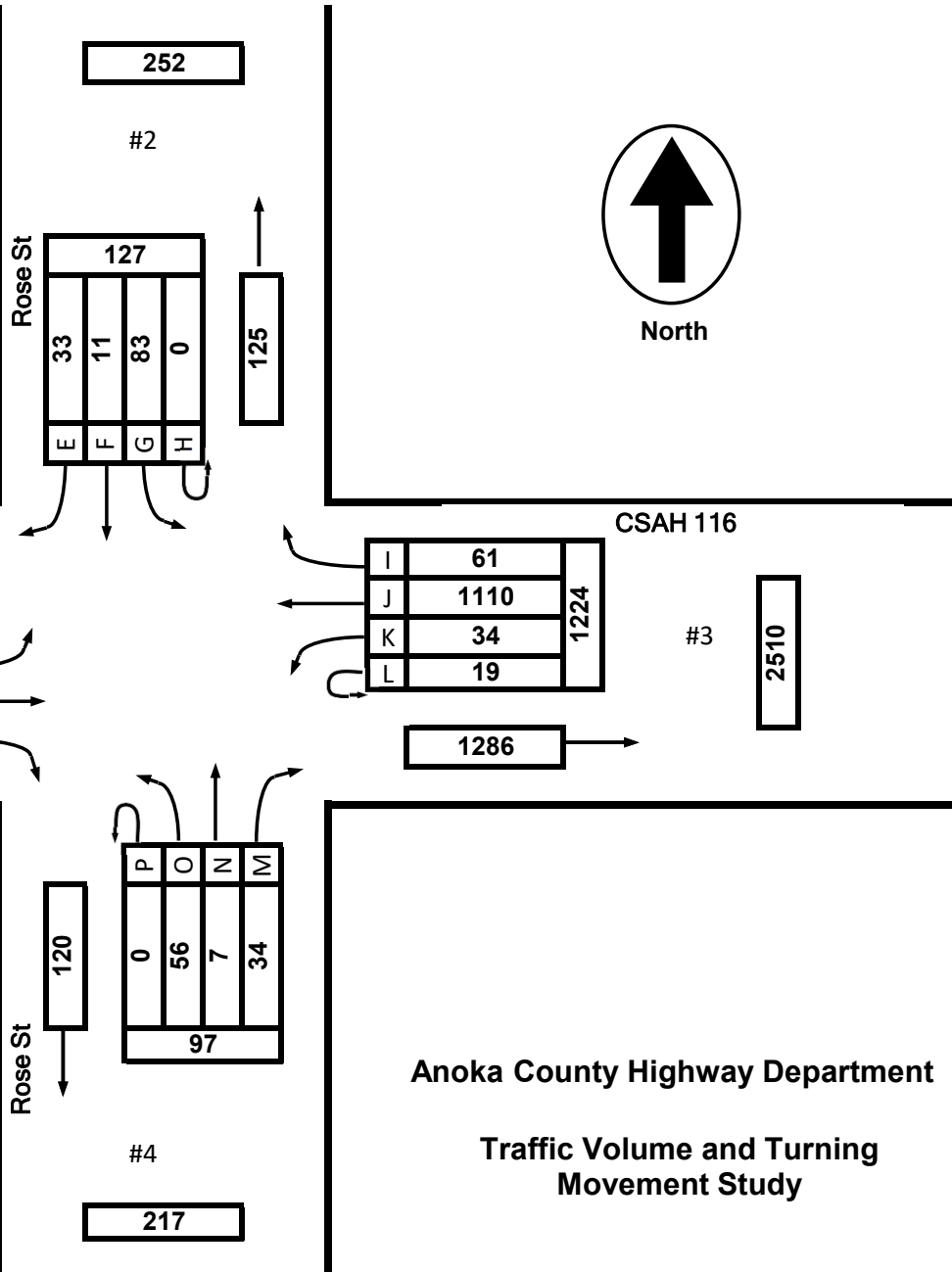
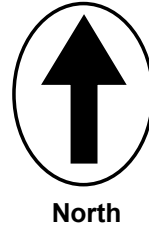
Traffic Volume and Turning  
 Movement Study

Date : 09/21/23

Count Number : TMC 2350

Location : CSAH 116  
@ Rose St

Collection Period : 4 PM - 5 PM  
PM PEAK



CSAH 116

CSAH 116

Rose St

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

Anoka County Highway Department

Traffic Volume and Turning Movement Study

**TMC 2350 - CSAH 116 @ Rose St  
Thursday, September 21, 2023**

| Time         | Southbound |            |                  |             |                     |                        | Westbound |            |                  |             |                     |                        | Northbound |            |                  |             |                     |                        | Eastbound |            |                  |             |                     |                        | VEHICLE TOTAL |
|--------------|------------|------------|------------------|-------------|---------------------|------------------------|-----------|------------|------------------|-------------|---------------------|------------------------|------------|------------|------------------|-------------|---------------------|------------------------|-----------|------------|------------------|-------------|---------------------|------------------------|---------------|
|              | Rose St    |            |                  |             |                     |                        | CSAH 116  |            |                  |             |                     |                        | Rose St    |            |                  |             |                     |                        | CSAH 116  |            |                  |             |                     |                        |               |
|              | 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          | 9                | 0           | 0                   | 9                      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 11               | 0           | 0                   | 11                     | 20            |
| 12:15 AM     | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 6                | 0           | 0                   | 6                      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 1          | 9                | 1           | 0                   | 11                     | 17            |
| 12:30 AM     | 0          | 1          | 0                | 0           | 0                   | 1                      | 0         | 0          | 2                | 1           | 0                   | 3                      | 0          | 2          | 0                | 0           | 0                   | 2                      | 0         | 0          | 5                | 0           | 0                   | 5                      | 11            |
| 12:45 AM     | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 3          | 3                | 0           | 0                   | 6                      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 2          | 0                | 0           | 0                   | 2                      | 8             |
| Hourly Total | 0          | 1          | 0                | 0           | 0                   | 1                      | 0         | 3          | 20               | 1           | 0                   | 24                     | 0          | 2          | 0                | 0           | 0                   | 2                      | 0         | 1          | 27               | 1           | 0                   | 29                     | 56            |
| 1:00 AM      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 5                | 0           | 0                   | 5                      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 4                | 0           | 0                   | 4                      | 9             |
| 1:15 AM      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 2                | 0           | 0                   | 2                      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 5                | 0           | 0                   | 5                      | 7             |
| 1:30 AM      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 1                | 0           | 0                   | 1                      | 0          | 0          | 0                | 1           | 0                   | 1                      | 0         | 0          | 4                | 0           | 0                   | 4                      | 6             |
| 1:45 AM      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 1                | 0           | 0                   | 1                      | 0          | 0          | 0                | 2           | 0                   | 2                      | 0         | 0          | 7                | 0           | 0                   | 7                      | 10            |
| Hourly Total | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 9                | 0           | 0                   | 9                      | 0          | 0          | 0                | 3           | 0                   | 3                      | 0         | 0          | 20               | 0           | 0                   | 20                     | 32            |
| 2:00 AM      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 4                | 0           | 0                   | 4                      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 6                | 0           | 0                   | 6                      | 10            |
| 2:15 AM      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 1                | 0           | 0                   | 1                      | 0          | 0          | 0                | 0           | 0                   | 0                      | 1         | 0          | 8                | 2           | 0                   | 11                     | 12            |
| 2:30 AM      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 5                | 0           | 0                   | 5                      | 0          | 1          | 0                | 0           | 0                   | 1                      | 0         | 0          | 6                | 0           | 0                   | 6                      | 12            |
| 2:45 AM      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 1          | 3                | 0           | 0                   | 4                      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 4          | 0                | 0           | 4                   | 8                      |               |
| Hourly Total | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 1          | 13               | 0           | 0                   | 14                     | 0          | 1          | 0                | 0           | 0                   | 1                      | 1         | 0          | 24               | 2           | 0                   | 27                     | 42            |
| 3:00 AM      | 0          | 0          | 0                | 0           | 1                   | 0                      | 0         | 0          | 3                | 0           | 0                   | 3                      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 5                | 1           | 0                   | 6                      | 9             |
| 3:15 AM      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 3                | 0           | 0                   | 3                      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 4          | 0                | 0           | 4                   | 7                      |               |
| 3:30 AM      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 9                | 0           | 0                   | 9                      | 0          | 1          | 0                | 0           | 0                   | 1                      | 0         | 0          | 2                | 0           | 0                   | 2                      | 12            |
| 3:45 AM      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 8                | 0           | 0                   | 8                      | 0          | 0          | 0                | 1           | 0                   | 1                      | 0         | 0          | 6                | 1           | 0                   | 7                      | 16            |
| Hourly Total | 0          | 0          | 0                | 0           | 1                   | 0                      | 0         | 0          | 23               | 0           | 0                   | 23                     | 0          | 1          | 0                | 1           | 0                   | 2                      | 0         | 0          | 17               | 2           | 0                   | 19                     | 44            |
| 4:00 AM      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 7                | 0           | 0                   | 7                      | 0          | 1          | 0                | 0           | 0                   | 1                      | 0         | 0          | 3                | 1           | 0                   | 4                      | 12            |
| 4:15 AM      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 13               | 0           | 0                   | 13                     | 0          | 2          | 0                | 0           | 0                   | 2                      | 0         | 0          | 13               | 0           | 0                   | 13                     | 28            |
| 4:30 AM      | 0          | 2          | 0                | 0           | 0                   | 2                      | 0         | 1          | 23               | 1           | 0                   | 25                     | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 12               | 0           | 0                   | 12                     | 39            |
| 4:45 AM      | 0          | 1          | 0                | 0           | 0                   | 1                      | 0         | 0          | 22               | 1           | 0                   | 23                     | 0          | 2          | 0                | 0           | 0                   | 2                      | 0         | 1          | 17               | 2           | 0                   | 20                     | 46            |
| Hourly Total | 0          | 3          | 0                | 0           | 0                   | 3                      | 0         | 1          | 65               | 2           | 0                   | 68                     | 0          | 5          | 0                | 0           | 0                   | 5                      | 0         | 1          | 45               | 3           | 0                   | 49                     | 125           |
| 5:00 AM      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 33               | 0           | 0                   | 33                     | 0          | 2          | 0                | 0           | 0                   | 2                      | 0         | 0          | 11               | 0           | 0                   | 11                     | 46            |
| 5:15 AM      | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 1          | 37               | 0           | 0                   | 38                     | 0          | 3          | 1                | 0           | 0                   | 4                      | 0         | 0          | 34               | 1           | 0                   | 35                     | 77            |
| 5:30 AM      | 0          | 2          | 0                | 0           | 0                   | 2                      | 0         | 4          | 56               | 0           | 1                   | 60                     | 0          | 3          | 0                | 1           | 0                   | 4                      | 1         | 2          | 48               | 1           | 0                   | 52                     | 118           |
| 5:45 AM      | 0          | 1          | 0                | 1           | 1                   | 2                      | 0         | 0          | 60               | 0           | 0                   | 60                     | 0          | 1          | 0                | 2           | 0                   | 3                      | 0         | 2          | 57               | 1           | 0                   | 60                     | 125           |
| Hourly Total | 0          | 3          | 0                | 1           | 1                   | 4                      | 0         | 5          | 186              | 0           | 1                   | 191                    | 0          | 9          | 1                | 3           | 0                   | 13                     | 1         | 4          | 150              | 3           | 0                   | 158                    | 366           |
| 6:00 AM      | 0          | 1          | 0                | 1           | 0                   | 2                      | 0         | 2          | 70               | 3           | 2                   | 75                     | 0          | 2          | 0                | 0           | 0                   | 2                      | 0         | 0          | 62               | 0           | 0                   | 62                     | 141           |
| 6:15 AM      | 0          | 6          | 0                | 0           | 0                   | 6                      | 0         | 2          | 78               | 0           | 0                   | 80                     | 0          | 4          | 0                | 3           | 0                   | 7                      | 0         | 6          | 91               | 4           | 0                   | 101                    | 194           |
| 6:30 AM      | 0          | 1          | 0                | 0           | 0                   | 1                      | 0         | 2          | 155              | 1           | 0                   | 158                    | 0          | 4          | 0                | 1           | 0                   | 5                      | 1         | 2          | 114              | 2           | 0                   | 119                    | 283           |
| 6:45 AM      | 0          | 6          | 0                | 2           | 0                   | 8                      | 2         | 5          | 139              | 6           | 0                   | 152                    | 0          | 9          | 0                | 1           | 0                   | 10                     | 0         | 3          | 137              | 11          | 0                   | 151                    | 321           |
| Hourly Total | 0          | 14         | 0                | 3           | 0                   | 17                     | 2         | 11         | 442              | 10          | 2                   | 465                    | 0          | 19         | 0                | 5           | 0                   | 24                     | 1         | 11         | 404              | 17          | 0                   | 433                    | 939           |
| 7:00 AM      | 0          | 9          | 0                | 0           | 0                   | 9                      | 1         | 3          | 154              | 2           | 0                   | 160                    | 0          | 11         | 0                | 4           | 0                   | 15                     | 0         | 5          | 176              | 13          | 0                   | 194                    | 378           |
| 7:15 AM      | 0          | 14         | 1                | 3           | 0                   | 18                     | 7         | 11         | 248              | 3           | 0                   | 269                    | 0          | 10         | 0                | 5           | 0                   | 15                     | 0         | 11         | 217              | 17          | 1                   | 245                    | 547           |
| 7:30 AM      | 0          | 16         | 1                | 2           | 0                   | 19                     | 13        | 6          | 291              | 11          | 0                   | 321                    | 0          | 13         | 0                | 3           | 0                   | 16                     | 0         | 4          | 225              | 13          | 0                   | 242                    | 598           |
| 7:45 AM      | 0          | 7          | 1                | 0           | 0                   | 8                      | 3         | 7          | 204              | 2           | 0                   | 216                    | 0          | 9          | 0                | 4           | 0                   | 13                     | 4         | 6          | 170              | 14          | 1                   | 194                    | 431           |
| Hourly Total | 0          | 46         | 3                | 5           | 0                   | 54                     | 24        | 27         | 897              | 18          | 0                   | 966                    | 0          | 43         | 0                | 16          | 0                   | 59                     | 4         | 26         | 788              | 57          | 2                   | 875                    | 1954          |

**TMC 2350 - CSAH 116 @ Rose St  
Thursday, September 21, 2023**

| Time         | Southbound |            |                  |             |                     |                        | Westbound |            |                  |             |                     |                        | Northbound |            |                  |             |                     |                        | Eastbound |            |                  |             |                     |                        | VEHICLE TOTAL |
|--------------|------------|------------|------------------|-------------|---------------------|------------------------|-----------|------------|------------------|-------------|---------------------|------------------------|------------|------------|------------------|-------------|---------------------|------------------------|-----------|------------|------------------|-------------|---------------------|------------------------|---------------|
|              | Rose St    |            |                  |             |                     |                        | CSAH 116  |            |                  |             |                     |                        | Rose St    |            |                  |             |                     |                        | CSAH 116  |            |                  |             |                     |                        |               |
|              | 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          | 9          | 0                | 0           | 0                   | 9                      | 2         | 6          | 163              | 6           | 0                   | 177                    | 0          | 7          | 0                | 2           | 0                   | 9                      | 0         | 14         | 154              | 8           | 0                   | 176                    | 371           |
| 8:15 AM      | 0          | 8          | 0                | 6           | 0                   | 14                     | 0         | 3          | 140              | 7           | 0                   | 150                    | 0          | 13         | 0                | 3           | 0                   | 16                     | 1         | 5          | 133              | 5           | 0                   | 144                    | 324           |
| 8:30 AM      | 0          | 9          | 0                | 1           | 1                   | 10                     | 1         | 3          | 122              | 4           | 0                   | 130                    | 0          | 7          | 0                | 6           | 0                   | 13                     | 0         | 6          | 138              | 7           | 0                   | 151                    | 304           |
| 8:45 AM      | 0          | 8          | 2                | 1           | 0                   | 11                     | 1         | 7          | 153              | 8           | 0                   | 169                    | 0          | 12         | 0                | 6           | 0                   | 18                     | 0         | 10         | 131              | 9           | 0                   | 150                    | 348           |
| Hourly Total | 0          | 34         | 2                | 8           | 1                   | 44                     | 4         | 19         | 578              | 25          | 0                   | 626                    | 0          | 39         | 0                | 17          | 0                   | 56                     | 1         | 35         | 556              | 29          | 0                   | 621                    | 1347          |
| 9:00 AM      | 0          | 9          | 0                | 2           | 0                   | 11                     | 3         | 4          | 117              | 10          | 0                   | 134                    | 0          | 8          | 2                | 3           | 0                   | 13                     | 0         | 10         | 115              | 11          | 0                   | 136                    | 294           |
| 9:15 AM      | 0          | 13         | 3                | 6           | 0                   | 22                     | 0         | 1          | 138              | 14          | 0                   | 153                    | 0          | 4          | 1                | 2           | 0                   | 7                      | 0         | 12         | 144              | 11          | 0                   | 167                    | 349           |
| 9:30 AM      | 0          | 15         | 0                | 10          | 2                   | 25                     | 3         | 2          | 127              | 10          | 0                   | 142                    | 0          | 14         | 1                | 1           | 0                   | 16                     | 0         | 14         | 135              | 6           | 0                   | 155                    | 338           |
| 9:45 AM      | 0          | 7          | 4                | 4           | 0                   | 15                     | 0         | 2          | 159              | 10          | 0                   | 171                    | 0          | 5          | 0                | 5           | 0                   | 10                     | 1         | 10         | 156              | 9           | 0                   | 176                    | 372           |
| Hourly Total | 0          | 44         | 7                | 22          | 2                   | 73                     | 6         | 9          | 541              | 44          | 0                   | 600                    | 0          | 31         | 4                | 11          | 0                   | 46                     | 1         | 46         | 550              | 37          | 0                   | 634                    | 1353          |
| 10:00 AM     | 0          | 14         | 1                | 5           | 0                   | 20                     | 2         | 4          | 128              | 9           | 0                   | 143                    | 0          | 4          | 0                | 2           | 1                   | 6                      | 0         | 14         | 139              | 7           | 0                   | 160                    | 329           |
| 10:15 AM     | 0          | 7          | 1                | 8           | 1                   | 16                     | 0         | 2          | 158              | 8           | 0                   | 168                    | 0          | 3          | 2                | 0           | 0                   | 5                      | 0         | 8          | 132              | 8           | 0                   | 148                    | 337           |
| 10:30 AM     | 0          | 11         | 0                | 4           | 0                   | 15                     | 2         | 5          | 140              | 10          | 0                   | 157                    | 0          | 9          | 2                | 4           | 0                   | 15                     | 1         | 13         | 137              | 8           | 0                   | 159                    | 346           |
| 10:45 AM     | 0          | 4          | 0                | 7           | 1                   | 11                     | 1         | 2          | 145              | 7           | 0                   | 155                    | 0          | 8          | 0                | 0           | 0                   | 8                      | 1         | 12         | 161              | 7           | 0                   | 181                    | 355           |
| Hourly Total | 0          | 36         | 2                | 24          | 2                   | 62                     | 5         | 13         | 571              | 34          | 0                   | 623                    | 0          | 24         | 4                | 6           | 1                   | 34                     | 2         | 47         | 569              | 30          | 0                   | 648                    | 1367          |
| 11:00 AM     | 0          | 10         | 2                | 10          | 0                   | 22                     | 1         | 2          | 135              | 7           | 0                   | 145                    | 0          | 11         | 1                | 5           | 0                   | 17                     | 1         | 18         | 152              | 5           | 0                   | 176                    | 360           |
| 11:15 AM     | 0          | 9          | 1                | 10          | 0                   | 20                     | 1         | 4          | 170              | 6           | 0                   | 181                    | 0          | 9          | 1                | 1           | 0                   | 11                     | 0         | 19         | 163              | 10          | 0                   | 192                    | 404           |
| 11:30 AM     | 0          | 11         | 3                | 8           | 1                   | 22                     | 2         | 4          | 175              | 18          | 0                   | 199                    | 0          | 4          | 2                | 3           | 0                   | 9                      | 5         | 14         | 152              | 7           | 0                   | 178                    | 408           |
| 11:45 AM     | 0          | 8          | 3                | 12          | 2                   | 23                     | 1         | 2          | 199              | 11          | 0                   | 213                    | 0          | 10         | 0                | 3           | 0                   | 13                     | 0         | 11         | 159              | 11          | 0                   | 181                    | 430           |
| Hourly Total | 0          | 38         | 9                | 40          | 3                   | 87                     | 5         | 12         | 679              | 42          | 0                   | 738                    | 0          | 34         | 4                | 12          | 0                   | 50                     | 6         | 62         | 626              | 33          | 0                   | 727                    | 1602          |
| 12:00 PM     | 0          | 10         | 5                | 9           | 0                   | 24                     | 1         | 5          | 182              | 10          | 0                   | 198                    | 0          | 11         | 1                | 3           | 0                   | 15                     | 1         | 11         | 177              | 12          | 0                   | 201                    | 438           |
| 12:15 PM     | 0          | 19         | 1                | 8           | 0                   | 28                     | 1         | 1          | 147              | 8           | 0                   | 157                    | 0          | 10         | 1                | 1           | 0                   | 12                     | 1         | 17         | 159              | 4           | 0                   | 181                    | 378           |
| 12:30 PM     | 0          | 12         | 1                | 10          | 0                   | 23                     | 1         | 6          | 128              | 15          | 0                   | 150                    | 0          | 10         | 0                | 1           | 0                   | 11                     | 1         | 14         | 177              | 10          | 0                   | 202                    | 386           |
| 12:45 PM     | 0          | 23         | 2                | 8           | 2                   | 33                     | 4         | 3          | 150              | 14          | 0                   | 171                    | 0          | 7          | 1                | 4           | 0                   | 12                     | 1         | 16         | 183              | 8           | 0                   | 208                    | 424           |
| Hourly Total | 0          | 64         | 9                | 35          | 2                   | 108                    | 7         | 15         | 607              | 47          | 0                   | 676                    | 0          | 38         | 3                | 9           | 0                   | 50                     | 4         | 58         | 696              | 34          | 0                   | 792                    | 1626          |
| 1:00 PM      | 0          | 16         | 1                | 5           | 0                   | 22                     | 4         | 4          | 159              | 10          | 0                   | 177                    | 0          | 11         | 1                | 2           | 0                   | 14                     | 2         | 12         | 157              | 9           | 0                   | 180                    | 393           |
| 1:15 PM      | 0          | 16         | 2                | 9           | 0                   | 27                     | 4         | 6          | 148              | 15          | 0                   | 173                    | 0          | 7          | 2                | 1           | 0                   | 10                     | 2         | 12         | 165              | 11          | 0                   | 190                    | 400           |
| 1:30 PM      | 0          | 27         | 0                | 12          | 0                   | 39                     | 6         | 5          | 154              | 18          | 0                   | 183                    | 0          | 10         | 2                | 1           | 0                   | 13                     | 1         | 14         | 167              | 9           | 0                   | 191                    | 426           |
| 1:45 PM      | 0          | 20         | 3                | 5           | 0                   | 28                     | 1         | 6          | 137              | 12          | 1                   | 156                    | 0          | 9          | 0                | 3           | 0                   | 12                     | 1         | 20         | 186              | 12          | 0                   | 219                    | 415           |
| Hourly Total | 0          | 79         | 6                | 31          | 0                   | 116                    | 15        | 21         | 598              | 55          | 1                   | 689                    | 0          | 37         | 5                | 7           | 0                   | 49                     | 6         | 58         | 675              | 41          | 0                   | 780                    | 1634          |
| 2:00 PM      | 0          | 20         | 0                | 8           | 1                   | 28                     | 11        | 4          | 185              | 7           | 0                   | 207                    | 0          | 9          | 1                | 4           | 0                   | 14                     | 0         | 15         | 192              | 11          | 0                   | 218                    | 467           |
| 2:15 PM      | 0          | 25         | 2                | 8           | 0                   | 35                     | 48        | 3          | 228              | 21          | 0                   | 300                    | 0          | 11         | 1                | 3           | 0                   | 15                     | 1         | 20         | 216              | 9           | 0                   | 246                    | 596           |
| 2:30 PM      | 0          | 24         | 2                | 12          | 0                   | 38                     | 9         | 4          | 223              | 7           | 0                   | 243                    | 0          | 8          | 1                | 4           | 0                   | 13                     | 0         | 16         | 205              | 16          | 0                   | 237                    | 531           |
| 2:45 PM      | 0          | 15         | 2                | 11          | 0                   | 28                     | 6         | 4          | 248              | 13          | 0                   | 271                    | 0          | 12         | 0                | 5           | 0                   | 17                     | 0         | 16         | 208              | 12          | 0                   | 236                    | 552           |
| Hourly Total | 0          | 84         | 6                | 39          | 1                   | 129                    | 74        | 15         | 884              | 48          | 0                   | 1021                   | 0          | 40         | 3                | 16          | 0                   | 59                     | 1         | 67         | 821              | 48          | 0                   | 937                    | 2146          |
| 3:00 PM      | 0          | 22         | 2                | 4           | 0                   | 28                     | 8         | 3          | 254              | 16          | 0                   | 281                    | 0          | 10         | 3                | 6           | 2                   | 19                     | 2         | 13         | 248              | 8           | 0                   | 271                    | 599           |
| 3:15 PM      | 0          | 25         | 3                | 12          | 0                   | 40                     | 7         | 8          | 238              | 11          | 0                   | 264                    | 0          | 11         | 4                | 11          | 0                   | 26                     | 2         | 19         | 218              | 15          | 0                   | 254                    | 584           |
| 3:30 PM      | 0          | 10         | 1                | 11          | 0                   | 22                     | 12        | 10         | 302              | 9           | 0                   | 333                    | 0          | 9          | 3                | 4           | 0                   | 16                     | 1         | 17         | 253              | 16          | 0                   | 287                    | 658           |
| 3:45 PM      | 0          | 17         | 0                | 9           | 0                   | 26                     | 9         | 5          | 274              | 21          | 1                   | 309                    | 0          | 17         | 0                | 6           | 0                   | 23                     | 2         | 17         | 271              | 14          | 0                   | 304                    | 662           |
| Hourly Total | 0          | 74         | 6                | 36          | 0                   | 116                    | 36        | 26         | 1068             | 57          | 1                   | 1187                   | 0          | 47         | 10               | 27          | 2                   | 84                     | 7         | 66         | 990              | 53          | 0                   | 1116                   | 2503          |



**TMC 2350 - CSAH 116 @ Rose St  
Thursday, September 21, 2023**

| Time                   | Southbound |            |                  |             |                     |                        | Westbound  |            |                  |             |                     |                        | Northbound |            |                  |             |                     |                        | Eastbound |            |                  |             |                     |                        | VEHICLE TOTAL |
|------------------------|------------|------------|------------------|-------------|---------------------|------------------------|------------|------------|------------------|-------------|---------------------|------------------------|------------|------------|------------------|-------------|---------------------|------------------------|-----------|------------|------------------|-------------|---------------------|------------------------|---------------|
|                        | Rose St    |            |                  |             |                     |                        | CSAH 116   |            |                  |             |                     |                        | Rose St    |            |                  |             |                     |                        | CSAH 116  |            |                  |             |                     |                        |               |
|                        | 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          | 14         | 1                | 4           | 1                   | 19                     | 4          | 8          | 297              | 14          | 0                   | 323                    | 0          | 10         | 2                | 5           | 0                   | 17                     | 0         | 13         | 299              | 22          | 0                   | 334                    | 693           |
| 4:15 PM                | 0          | 28         | 4                | 8           | 0                   | 40                     | 8          | 8          | 256              | 17          | 1                   | 289                    | 0          | 12         | 1                | 7           | 0                   | 20                     | 1         | 11         | 273              | 19          | 0                   | 304                    | 653           |
| 4:30 PM                | 0          | 18         | 2                | 12          | 3                   | 32                     | 2          | 11         | 265              | 15          | 0                   | 293                    | 0          | 21         | 3                | 11          | 0                   | 35                     | 3         | 16         | 305              | 19          | 1                   | 343                    | 703           |
| 4:45 PM                | 0          | 23         | 4                | 9           | 3                   | 36                     | 5          | 7          | 292              | 15          | 0                   | 319                    | 0          | 13         | 1                | 11          | 0                   | 25                     | 1         | 17         | 273              | 15          | 0                   | 306                    | 686           |
| Hourly Total           | 0          | 83         | 11               | 33          | 7                   | 127                    | 19         | 34         | 1110             | 61          | 1                   | 1224                   | 0          | 56         | 7                | 34          | 0                   | 97                     | 5         | 57         | 1150             | 75          | 1                   | 1287                   | 2735          |
| 5:00 PM                | 0          | 18         | 1                | 12          | 0                   | 31                     | 5          | 4          | 236              | 10          | 1                   | 255                    | 0          | 16         | 3                | 4           | 0                   | 23                     | 2         | 14         | 262              | 14          | 1                   | 292                    | 601           |
| 5:15 PM                | 0          | 10         | 4                | 4           | 0                   | 18                     | 4          | 9          | 339              | 6           | 0                   | 358                    | 0          | 10         | 1                | 8           | 2                   | 19                     | 0         | 7          | 247              | 14          | 1                   | 268                    | 663           |
| 5:30 PM                | 0          | 12         | 3                | 2           | 0                   | 17                     | 2          | 3          | 266              | 12          | 0                   | 283                    | 0          | 9          | 0                | 3           | 0                   | 12                     | 1         | 9          | 221              | 15          | 0                   | 246                    | 558           |
| 5:45 PM                | 0          | 12         | 2                | 6           | 0                   | 20                     | 3          | 8          | 247              | 11          | 0                   | 269                    | 0          | 12         | 2                | 2           | 0                   | 16                     | 2         | 9          | 180              | 13          | 0                   | 204                    | 509           |
| Hourly Total           | 0          | 52         | 10               | 24          | 0                   | 86                     | 14         | 24         | 1088             | 39          | 1                   | 1165                   | 0          | 47         | 6                | 17          | 2                   | 70                     | 5         | 39         | 910              | 56          | 2                   | 1010                   | 2331          |
| 6:00 PM                | 0          | 13         | 2                | 5           | 1                   | 20                     | 12         | 0          | 199              | 7           | 1                   | 218                    | 0          | 19         | 2                | 6           | 0                   | 27                     | 2         | 10         | 196              | 13          | 0                   | 221                    | 486           |
| 6:15 PM                | 0          | 11         | 3                | 5           | 1                   | 19                     | 0          | 5          | 184              | 13          | 2                   | 202                    | 0          | 11         | 1                | 3           | 0                   | 15                     | 0         | 8          | 176              | 2           | 0                   | 186                    | 422           |
| 6:30 PM                | 0          | 10         | 1                | 4           | 3                   | 15                     | 0          | 0          | 185              | 5           | 3                   | 190                    | 0          | 2          | 2                | 0           | 0                   | 4                      | 1         | 9          | 168              | 5           | 0                   | 183                    | 392           |
| 6:45 PM                | 0          | 11         | 2                | 3           | 2                   | 16                     | 2          | 3          | 165              | 15          | 0                   | 185                    | 0          | 4          | 0                | 8           | 0                   | 12                     | 2         | 8          | 162              | 9           | 0                   | 181                    | 394           |
| Hourly Total           | 0          | 45         | 8                | 17          | 7                   | 70                     | 14         | 8          | 733              | 40          | 6                   | 795                    | 0          | 36         | 5                | 17          | 0                   | 58                     | 5         | 35         | 702              | 29          | 0                   | 771                    | 1694          |
| 7:00 PM                | 0          | 14         | 2                | 5           | 1                   | 21                     | 2          | 3          | 161              | 5           | 0                   | 171                    | 0          | 4          | 3                | 1           | 0                   | 8                      | 2         | 7          | 150              | 7           | 0                   | 166                    | 366           |
| 7:15 PM                | 0          | 9          | 2                | 3           | 1                   | 14                     | 1          | 9          | 158              | 5           | 2                   | 173                    | 0          | 1          | 1                | 1           | 0                   | 3                      | 1         | 7          | 155              | 13          | 0                   | 176                    | 366           |
| 7:30 PM                | 0          | 12         | 2                | 4           | 0                   | 18                     | 1          | 1          | 127              | 4           | 1                   | 133                    | 0          | 7          | 1                | 1           | 0                   | 9                      | 1         | 7          | 174              | 7           | 0                   | 189                    | 349           |
| 7:45 PM                | 0          | 15         | 2                | 1           | 0                   | 18                     | 2          | 2          | 131              | 8           | 0                   | 143                    | 0          | 5          | 0                | 1           | 0                   | 6                      | 1         | 8          | 115              | 2           | 0                   | 126                    | 293           |
| Hourly Total           | 0          | 50         | 8                | 13          | 2                   | 71                     | 6          | 15         | 577              | 22          | 3                   | 620                    | 0          | 17         | 5                | 4           | 0                   | 26                     | 5         | 29         | 594              | 29          | 0                   | 657                    | 1374          |
| 8:00 PM                | 0          | 13         | 2                | 6           | 0                   | 21                     | 2          | 6          | 115              | 3           | 0                   | 126                    | 0          | 3          | 0                | 1           | 0                   | 4                      | 0         | 7          | 122              | 2           | 0                   | 131                    | 282           |
| 8:15 PM                | 0          | 7          | 0                | 3           | 2                   | 10                     | 2          | 2          | 109              | 1           | 1                   | 114                    | 0          | 8          | 1                | 4           | 0                   | 13                     | 0         | 4          | 135              | 5           | 0                   | 144                    | 281           |
| 8:30 PM                | 0          | 10         | 1                | 2           | 0                   | 13                     | 0          | 1          | 91               | 6           | 0                   | 98                     | 0          | 9          | 0                | 0           | 0                   | 9                      | 0         | 3          | 110              | 6           | 0                   | 119                    | 239           |
| 8:45 PM                | 0          | 7          | 2                | 2           | 0                   | 11                     | 0          | 5          | 64               | 2           | 0                   | 71                     | 0          | 2          | 2                | 3           | 0                   | 7                      | 1         | 1          | 74               | 1           | 0                   | 77                     | 166           |
| Hourly Total           | 0          | 37         | 5                | 13          | 2                   | 55                     | 4          | 14         | 379              | 12          | 1                   | 409                    | 0          | 22         | 3                | 8           | 0                   | 33                     | 1         | 15         | 441              | 14          | 0                   | 471                    | 968           |
| 9:00 PM                | 0          | 9          | 0                | 2           | 0                   | 11                     | 0          | 0          | 66               | 2           | 0                   | 68                     | 0          | 7          | 1                | 1           | 0                   | 9                      | 1         | 1          | 71               | 2           | 0                   | 75                     | 163           |
| 9:15 PM                | 0          | 6          | 0                | 2           | 0                   | 8                      | 0          | 0          | 74               | 0           | 0                   | 74                     | 0          | 5          | 1                | 3           | 0                   | 9                      | 0         | 3          | 58               | 1           | 0                   | 62                     | 153           |
| 9:30 PM                | 0          | 4          | 0                | 0           | 0                   | 4                      | 1          | 2          | 54               | 0           | 0                   | 57                     | 0          | 2          | 0                | 2           | 0                   | 4                      | 0         | 1          | 43               | 1           | 0                   | 45                     | 110           |
| 9:45 PM                | 0          | 2          | 0                | 3           | 0                   | 5                      | 0          | 0          | 25               | 1           | 0                   | 26                     | 0          | 2          | 0                | 5           | 0                   | 7                      | 0         | 3          | 42               | 1           | 0                   | 46                     | 84            |
| Hourly Total           | 0          | 21         | 0                | 7           | 0                   | 28                     | 1          | 2          | 219              | 3           | 0                   | 225                    | 0          | 16         | 2                | 11          | 0                   | 29                     | 1         | 8          | 214              | 5           | 0                   | 228                    | 510           |
| 10:00 PM               | 0          | 5          | 0                | 0           | 0                   | 5                      | 0          | 1          | 34               | 2           | 0                   | 37                     | 0          | 0          | 0                | 2           | 0                   | 2                      | 0         | 1          | 39               | 1           | 0                   | 41                     | 85            |
| 10:15 PM               | 0          | 6          | 0                | 2           | 0                   | 8                      | 0          | 0          | 33               | 0           | 0                   | 33                     | 0          | 3          | 0                | 3           | 0                   | 6                      | 1         | 2          | 35               | 2           | 0                   | 40                     | 87            |
| 10:30 PM               | 0          | 6          | 0                | 0           | 0                   | 6                      | 1          | 0          | 19               | 0           | 0                   | 20                     | 0          | 1          | 0                | 0           | 0                   | 1                      | 0         | 2          | 24               | 2           | 0                   | 28                     | 55            |
| 10:45 PM               | 0          | 2          | 0                | 0           | 0                   | 2                      | 0          | 0          | 18               | 0           | 0                   | 18                     | 0          | 2          | 0                | 0           | 0                   | 2                      | 0         | 0          | 13               | 1           | 0                   | 14                     | 36            |
| Hourly Total           | 0          | 19         | 0                | 2           | 0                   | 21                     | 1          | 1          | 104              | 2           | 0                   | 108                    | 0          | 6          | 0                | 5           | 0                   | 11                     | 1         | 5          | 111              | 6           | 0                   | 123                    | 263           |
| 11:00 PM               | 0          | 1          | 0                | 0           | 2                   | 1                      | 0          | 2          | 12               | 0           | 0                   | 14                     | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 0          | 19               | 1           | 0                   | 20                     | 35            |
| 11:15 PM               | 0          | 2          | 0                | 0           | 0                   | 2                      | 0          | 0          | 11               | 1           | 0                   | 12                     | 0          | 0          | 0                | 0           | 0                   | 0                      | 0         | 1          | 14               | 0           | 0                   | 15                     | 29            |
| 11:30 PM               | 0          | 2          | 0                | 0           | 0                   | 2                      | 0          | 0          | 10               | 0           | 0                   | 10                     | 0          | 0          | 1                | 0           | 0                   | 1                      | 0         | 1          | 12               | 2           | 0                   | 15                     | 28            |
| 11:45 PM               | 0          | 0          | 0                | 0           | 2                   | 0                      | 0          | 0          | 10               | 0           | 0                   | 10                     | 0          | 0          | 0                | 1           | 0                   | 1                      | 0         | 1          | 9                | 0           | 0                   | 10                     | 21            |
| Hourly Total           | 0          | 5          | 0                | 0           | 4                   | 5                      | 0          | 2          | 43               | 1           | 0                   | 46                     | 0          | 0          | 1                | 1           | 0                   | 2                      | 0         | 3          | 54               | 3           | 0                   | 60                     | 113           |
| <b>DAILY TOTAL</b>     | <b>0</b>   | <b>832</b> | <b>92</b>        | <b>353</b>  | <b>35</b>           | <b>1277</b>            | <b>237</b> | <b>278</b> | <b>11434</b>     | <b>563</b>  | <b>17</b>           | <b>12512</b>           | <b>0</b>   | <b>570</b> | <b>63</b>        | <b>230</b>  | <b>5</b>            | <b>863</b>             | <b>58</b> | <b>673</b> | <b>11134</b>     | <b>607</b>  | <b>5</b>            | <b>12472</b>           | <b>27124</b>  |
| <b>Cars</b>            | 0          | 813        | 90               | 344         | 7                   | 1247                   | 237        | 267        | 11171            | 551         | 7                   | 12226                  | 0          | 561        | 62               | 227         | 2                   | 850                    | 58        | 643        | 10898            | 597         | 2                   | 12196                  | 26519         |
| <b>Heavy Vehicles</b>  | 0          | 19         | 2                | 9           | 28                  | 30                     | 0          | 11         | 263              | 12          | 10                  | 286                    | 0          | 9          | 1                | 3           | 3                   | 13                     | 0         | 30         | 236              | 10          | 3                   | 276                    | 605           |
| <b>Heavy Vehicle %</b> | 0.00%      | 2.28%      | 2.17%            | 2.55%       | 80.00%              | 2.35%                  | 0.00%      | 3.96%      | 2.30%            | 2.13%       | 58.82%              | 2.29%                  | 0.00%      | 1.58%      | 1.59%            | 1.30%       | 60.00%              | 1.51%                  | 0.00%     | 4.46%      | 2.12%            | 1.65%       | 60.00%              | 2.21%                  | 2.23%         |

**TMC 2350 - CSAH 116 @ Rose St  
Thursday, September 21, 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          | 9          | 0                | 0           | 0                   | 9                      | 1         | 3          | 154              | 2           | 0                   | 160                    | 0          | 11         | 0                | 4           | 0                   | 15                     | 0         | 5          | 176              | 13          | 0                   | 194                    | 378           |
| 7:15 AM         | 0          | 14         | 1                | 3           | 0                   | 18                     | 7         | 11         | 248              | 3           | 0                   | 269                    | 0          | 10         | 0                | 5           | 0                   | 15                     | 0         | 11         | 217              | 17          | 1                   | 245                    | 547           |
| 7:30 AM         | 0          | 16         | 1                | 2           | 0                   | 19                     | 13        | 6          | 291              | 11          | 0                   | 321                    | 0          | 13         | 0                | 3           | 0                   | 16                     | 0         | 4          | 225              | 13          | 0                   | 242                    | 598           |
| 7:45 AM         | 0          | 7          | 1                | 0           | 0                   | 8                      | 3         | 7          | 204              | 2           | 0                   | 216                    | 0          | 9          | 0                | 4           | 0                   | 13                     | 4         | 6          | 170              | 14          | 1                   | 194                    | 431           |
| Peak Hour Total | 0          | 46         | 3                | 5           | 0                   | 54                     | 24        | 27         | 897              | 18          | 0                   | 966                    | 0          | 43         | 0                | 16          | 0                   | 59                     | 4         | 26         | 788              | 57          | 2                   | 875                    | 1954          |
| PHF             | 0.000      | 0.719      | 0.750            | 0.417       | 0.000               | 0.711                  | 0.462     | 0.614      | 0.771            | 0.409       | 0.000               | 0.752                  | 0.000      | 0.827      | 0.000            | 0.800       | 0.000               | 0.922                  | 0.250     | 0.591      | 0.876            | 0.838       | 0.500               | 0.893                  | 0.817         |

| 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          | 14         | 1                | 4           | 1                   | 19                     | 4         | 8          | 297              | 14          | 0                   | 323                    | 0          | 10         | 2                | 5           | 0                   | 17                     | 0         | 13         | 299              | 22          | 0                   | 334                    | 693           |
| 4:15 PM         | 0          | 28         | 4                | 8           | 0                   | 40                     | 8         | 8          | 256              | 17          | 1                   | 289                    | 0          | 12         | 1                | 7           | 0                   | 20                     | 1         | 11         | 273              | 19          | 0                   | 304                    | 653           |
| 4:30 PM         | 0          | 18         | 2                | 12          | 3                   | 32                     | 2         | 11         | 265              | 15          | 0                   | 293                    | 0          | 21         | 3                | 11          | 0                   | 35                     | 3         | 16         | 305              | 19          | 1                   | 343                    | 703           |
| 4:45 PM         | 0          | 23         | 4                | 9           | 3                   | 36                     | 5         | 7          | 292              | 15          | 0                   | 319                    | 0          | 13         | 1                | 11          | 0                   | 25                     | 1         | 17         | 273              | 15          | 0                   | 306                    | 686           |
| Peak Hour Total | 0          | 83         | 11               | 33          | 7                   | 127                    | 19        | 34         | 1110             | 61          | 1                   | 1224                   | 0          | 56         | 7                | 34          | 0                   | 97                     | 5         | 57         | 1150             | 75          | 1                   | 1287                   | 2735          |
| PHF             | 0.000      | 0.741      | 0.688            | 0.688       | 0.583               | 0.794                  | 0.594     | 0.773      | 0.934            | 0.897       | 0.250               | 0.947                  | 0.000      | 0.667      | 0.583            | 0.773       | 0.000               | 0.693                  | 0.417     | 0.838      | 0.943            | 0.852       | 0.250               | 0.938                  | 0.973         |

|                                |            |           |            |          |           |
|--------------------------------|------------|-----------|------------|----------|-----------|
| Total Vehicles On Leg          |            |           |            | 2576     |           |
| Vehicles Entering Intersection |            |           | 1277       |          |           |
| Vehicles Exiting Intersection  |            |           | 1299       |          |           |
| <b>Southbound</b>              |            |           |            |          |           |
| Cars                           | 344        | 90        | 813        | 0        | 7         |
| Heavy                          | 9          | 2         | 19         | 0        | 28        |
| <b>Total</b>                   | <b>353</b> | <b>92</b> | <b>832</b> | <b>0</b> | <b>35</b> |



|                                |           |                                |       |      |       |       |
|--------------------------------|-----------|--------------------------------|-------|------|-------|-------|
| Total Vehicles on Leg<br>24887 | Eastbound | Vehicles Entering Intersection | 12472 |      |       |       |
|                                |           | Vehicles Exiting Intersection  |       | Cars | Heavy | Total |
|                                |           |                                | 2     | 3    | 5     |       |
|                                |           |                                | 58    | 0    | 58    |       |
|                                |           |                                | 643   | 30   | 673   |       |
| 10898                          | 236       | 11134                          |       |      |       |       |
| 597                            | 10        | 607                            |       |      |       |       |



Daily Volumes

|       |       |       |           |                                |                                |
|-------|-------|-------|-----------|--------------------------------|--------------------------------|
| Cars  | Heavy | Total | Westbound | Vehicles Entering Intersection | Total Vehicles on Leg<br>24945 |
| 551   | 12    | 563   |           |                                |                                |
| 11171 | 263   | 11434 |           |                                |                                |
| 267   | 11    | 278   |           |                                |                                |
| 237   | 0     | 237   |           | Vehicles Exiting Intersection  |                                |
| 7     | 10    | 17    |           | 12433                          |                                |



|                                |          |          |            |           |            |
|--------------------------------|----------|----------|------------|-----------|------------|
| Cars                           | 2        | 0        | 561        | 62        | 227        |
| Heavy                          | 3        | 0        | 9          | 1         | 3          |
| <b>Total</b>                   | <b>5</b> | <b>0</b> | <b>570</b> | <b>63</b> | <b>230</b> |
| <b>Northbound</b>              |          |          |            |           |            |
| Vehicles Entering Intersection |          |          | 863        |           |            |
| Vehicles Exiting Intersection  |          |          | 977        |           |            |
| Total Vehicles On Leg          |          |          | 1840       |           |            |



# Heavy Vehicles

| Date       | Time  | Southbound |            |                  |             |                          |                          | Westbound |            |                  |             |                          |                          | Northbound |            |                  |             |                          |                          | Eastbound |            |                  |             |                          |                          |
|------------|-------|------------|------------|------------------|-------------|--------------------------|--------------------------|-----------|------------|------------------|-------------|--------------------------|--------------------------|------------|------------|------------------|-------------|--------------------------|--------------------------|-----------|------------|------------------|-------------|--------------------------|--------------------------|
|            |       | U Turns    | Left Turns | Straight Through | Right Turns | EB Bicycles in Crosswalk | WB Bicycles in Crosswalk | U Turns   | Left Turns | Straight Through | Right Turns | NB Bicycles in Crosswalk | SB Bicycles in Crosswalk | U Turns    | Left Turns | Straight Through | Right Turns | EB Bicycles in Crosswalk | WB Bicycles in Crosswalk | U Turns   | Left Turns | Straight Through | Right Turns | NB Bicycles in Crosswalk | SB Bicycles in Crosswalk |
| 09/21/2023 | 0:00  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        |
|            | 0:15  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        |
|            | 0:30  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        |
|            | 0:45  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        |
|            | 1:00  | 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  | 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  | 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  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        |
|            | 2:00  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        |
|            | 2:15  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 1           | 0                        | 0                        |
|            | 2:30  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        | 1          | 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          | 0                | 0           | 0                        | 0                        |
|            | 3:00  | 0          | 0          | 0                | 0           | 1                        | 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          | 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          | 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          | 0                | 0           | 0                        | 0                        |
|            | 4:00  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 1          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        |
|            | 4:15  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        |
|            | 4:30  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 1                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        |
|            | 4:45  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 1                | 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          | 1                | 0           | 0                        | 0                        |
|            | 5:15  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        | 0          | 1          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 1           | 0                        | 0                        |
|            | 5:30  | 0          | 0          | 0                | 0           | 0                        | 0                        | 1         | 0          | 0                | 0           | 0                        | 0                        | 1          | 0          | 1                | 0           | 0                        | 0                        | 0         | 0          | 0                | 0           | 0                        | 0                        |
|            | 5:45  | 0          | 0          | 0                | 1           | 0                        | 0                        | 0         | 1          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 1          | 0                | 0           | 0                        | 0                        |
|            | 6:00  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 4          | 1                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 1                | 0           | 0                        | 0                        |
|            | 6:15  | 0          | 1          | 0                | 0           | 0                        | 0                        | 0         | 6          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 1          | 2                | 0           | 0                        | 0                        |
|            | 6:30  | 0          | 0          | 0                | 0           | 0                        | 0                        | 1         | 9          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 1          | 3                | 1           | 0                        | 0                        |
|            | 6:45  | 0          | 1          | 0                | 0           | 0                        | 0                        | 0         | 6          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 0                | 1           | 0                        | 0                        |
|            | 7:00  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 5          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 10               | 0           | 0                        | 0                        |
|            | 7:15  | 0          | 0          | 0                | 0           | 0                        | 0                        | 2         | 11         | 1                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 4          | 10               | 0           | 0                        | 1                        |
|            | 7:30  | 0          | 2          | 0                | 1           | 0                        | 0                        | 3         | 5          | 0                | 0           | 0                        | 0                        | 1          | 0          | 0                | 0           | 0                        | 0                        | 0         | 1          | 9                | 0           | 0                        | 0                        |
|            | 7:45  | 0          | 2          | 1                | 0           | 0                        | 0                        | 0         | 5          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 1          | 7                | 0           | 0                        | 0                        |
|            | 8:00  | 0          | 1          | 0                | 0           | 0                        | 0                        | 0         | 5          | 1                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 2          | 5                | 0           | 0                        | 0                        |
|            | 8:15  | 0          | 1          | 0                | 1           | 0                        | 0                        | 0         | 4          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 1          | 6                | 0           | 0                        | 0                        |
|            | 8:30  | 0          | 0          | 0                | 0           | 1                        | 0                        | 1         | 6          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 6                | 0           | 0                        | 0                        |
|            | 8:45  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 8          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 3                | 0           | 0                        | 0                        |
|            | 9:00  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 1          | 1                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 1          | 4                | 0           | 0                        | 0                        |
|            | 9:15  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 6          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 11               | 0           | 0                        | 0                        |
|            | 9:30  | 0          | 1          | 0                | 1           | 1                        | 1                        | 0         | 5          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 3          | 10               | 0           | 0                        | 0                        |
|            | 9:45  | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 6          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 5                | 0           | 0                        | 0                        |
|            | 10:00 | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 3          | 1                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 2          | 3                | 0           | 0                        | 0                        |
|            | 10:15 | 0          | 1          | 0                | 0           | 0                        | 1                        | 0         | 3          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 1          | 4                | 0           | 0                        | 0                        |
|            | 10:30 | 0          | 1          | 0                | 0           | 0                        | 0                        | 0         | 3          | 1                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 3                | 0           | 0                        | 0                        |
|            | 10:45 | 0          | 0          | 0                | 0           | 1                        | 0                        | 0         | 4          | 1                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 1          | 5                | 0           | 0                        | 0                        |
|            | 11:00 | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 2          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 2                | 0           | 0                        | 0                        |
|            | 11:15 | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 9          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 2          | 6                | 0           | 0                        | 0                        |
|            | 11:30 | 0          | 1          | 0                | 0           | 0                        | 1                        | 0         | 3          | 1                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 8                | 0           | 0                        | 0                        |
|            | 11:45 | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 9          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 0          | 4                | 0           | 0                        | 0                        |
|            | 12:00 | 0          | 0          | 0                | 1           | 0                        | 0                        | 0         | 6          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 1          | 6                | 0           | 0                        | 0                        |
|            | 12:15 | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 5          | 0                | 0           | 0                        | 0                        | 0          | 0          | 0                | 0           | 0                        | 0                        | 0         | 1          | 4                | 0           | 0                        | 0                        |



# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2350

Study Date : 09/27/2023

## Signal Warrants - Summary

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### Major Street Approaches

**Eastbound: CSAH 116**

Number of Lanes : 2+

Total Approach Volume: 12,472

**Westbound: CSAH 116**

Number of Lanes : 2+

Total Approach Volume: 12,512

### Minor Street Approaches

**Northbound: Rose St.**

Number of Lanes : 1

Total Approach Volume: 863

**Southbound: Rose St.**

Number of Lanes : 1

Total Approach Volume: 1,277

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### Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 5 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.....Not Satisfied**

Required 1A volumes reached for 7 hours, 8 are needed

Required 1B volumes reached for 15 hours, 8 are needed

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

Number of hours (12) volumes exceed minimum >= minimum required (4).

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

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

Number of one hour periods (20) 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 2350

Study Date : 09/27/2023

## 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

Only 5 one hour periods meet minimums.  
Warrant is NOT 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 |   |          |   | Total | Minor Road |          | Met? |
|---------------|------------|---|----------|---|-------|------------|----------|------|
|               | Major EB   | + | Major WB | = |       | Minor NB   | Minor SB |      |
| 16:00 - 17:00 | 1287       | + | 1224     | = | 2511  | 97         | 127      | Yes  |
| 15:00 - 16:00 | 1116       | + | 1187     | = | 2303  | 84         | 116      | Yes  |
| 14:00 - 15:00 | 937        | + | 1021     | = | 1958  | 59         | 129      | Yes  |
| 13:00 - 14:00 | 780        | + | 689      | = | 1469  | 49         | 116      | Yes  |
| 12:00 - 13:00 | 792        | + | 676      | = | 1468  | 50         | 108      | Yes  |
| 17:00 - 18:00 | 1010       | + | 1165     | = | 2175  | 70         | 86       | No   |
| 17:15 - 18:15 | 939        | + | 1128     | = | 2067  | 74         | 75       | No   |
| 07:00 - 08:00 | 875        | + | 966      | = | 1841  | 59         | 54       | No   |
| 07:15 - 08:15 | 857        | + | 983      | = | 1840  | 53         | 54       | No   |
| 17:30 - 18:30 | 857        | + | 972      | = | 1829  | 70         | 76       | No   |
| 06:45 - 07:45 | 832        | + | 902      | = | 1734  | 56         | 54       | No   |
| 17:45 - 18:45 | 794        | + | 879      | = | 1673  | 62         | 74       | No   |
| 07:30 - 08:30 | 756        | + | 864      | = | 1620  | 54         | 50       | No   |
| 18:00 - 19:00 | 771        | + | 795      | = | 1566  | 58         | 70       | No   |
| 11:15 - 12:15 | 752        | + | 791      | = | 1543  | 48         | 89       | No   |
| 11:30 - 12:30 | 741        | + | 767      | = | 1508  | 49         | 97       | No   |
| 11:45 - 12:45 | 765        | + | 718      | = | 1483  | 51         | 98       | No   |
| 11:00 - 12:00 | 727        | + | 738      | = | 1465  | 50         | 87       | No   |
| 18:15 - 19:15 | 716        | + | 748      | = | 1464  | 39         | 71       | No   |
| 06:30 - 07:30 | 709        | + | 739      | = | 1448  | 45         | 36       | No   |
| 18:30 - 19:30 | 706        | + | 719      | = | 1425  | 27         | 66       | No   |
| 10:45 - 11:45 | 727        | + | 680      | = | 1407  | 45         | 75       | No   |
| 18:45 - 19:45 | 712        | + | 662      | = | 1374  | 32         | 69       | No   |
| 10:30 - 11:30 | 708        | + | 638      | = | 1346  | 51         | 68       | No   |
| 07:45 - 08:45 | 665        |   | 673      |   | 1338  | 51         | 41       | No   |

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2350

Study Date : 09/27/2023

## 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 Road      |          | Met? |
|---------------|-----------------|---|----------|---|-------|-----------------|----------|------|
|               | Major EB        | + | Major WB | = |       | Minor NB        | Minor SB |      |
|               | <b>CSAH 116</b> |   |          |   |       | <b>Rose St.</b> |          |      |
| 16:00 - 17:00 | 1287            | + | 1224     | = | 2511  | 97              | 127      | Yes  |
| 15:00 - 16:00 | 1116            | + | 1187     | = | 2303  | 84              | 116      | Yes  |
| 17:00 - 18:00 | 1010            | + | 1165     | = | 2175  | 70              | 86       | Yes  |
| 14:00 - 15:00 | 937             | + | 1021     | = | 1958  | 59              | 129      | Yes  |
| 06:45 - 07:45 | 832             | + | 902      | = | 1734  | 56              | 54       | Yes  |
| 18:00 - 19:00 | 771             | + | 795      | = | 1566  | 58              | 70       | Yes  |
| 13:00 - 14:00 | 780             | + | 689      | = | 1469  | 49              | 116      | Yes  |
| 12:00 - 13:00 | 792             | + | 676      | = | 1468  | 50              | 108      | Yes  |
| 11:00 - 12:00 | 727             | + | 738      | = | 1465  | 50              | 87       | Yes  |
| 19:00 - 20:00 | 657             | + | 620      | = | 1277  | 26              | 71       | Yes  |
| 10:00 - 11:00 | 648             | + | 623      | = | 1271  | 34              | 62       | Yes  |
| 08:00 - 09:00 | 621             | + | 626      | = | 1247  | 56              | 44       | Yes  |
| 09:00 - 10:00 | 634             | + | 600      | = | 1234  | 46              | 73       | Yes  |
| 20:00 - 21:00 | 471             | + | 409      | = | 880   | 33              | 55       | Yes  |
| 06:30 - 07:30 | 709             | + | 739      | = | 1448  | 45              | 36       | No   |
| 07:45 - 08:45 | 665             | + | 673      | = | 1338  | 51              | 41       | No   |
| 06:15 - 07:15 | 565             | + | 550      | = | 1115  | 37              | 24       | No   |
| 06:00 - 07:00 | 433             | + | 465      | = | 898   | 24              | 17       | No   |
| 05:45 - 06:45 | 342             | + | 373      | = | 715   | 17              | 11       | No   |
| 05:30 - 06:30 | 275             | + | 275      | = | 550   | 16              | 12       | No   |
| 21:00 - 22:00 | 228             | + | 225      | = | 453   | 29              | 28       | No   |
| 05:15 - 06:15 | 209             | + | 233      | = | 442   | 13              | 6        | No   |
| 21:15 - 22:15 | 194             | + | 194      | = | 388   | 22              | 22       | No   |
| 05:00 - 06:00 | 158             | + | 191      | = | 349   | 13              | 4        | No   |
| 21:30 - 22:30 | 172             |   | 153      |   | 325   | 19              | 22       | No   |

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2350

Study Date : 09/27/2023

## 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

Only 7 hours meet 1A minimums.  
15 hours meet 1B minimums.  
Warrant is NOT 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**

| Time          | Major Road      |   |          |   | Total | Minor Road      |          | Met1A? |
|---------------|-----------------|---|----------|---|-------|-----------------|----------|--------|
|               | Major EB        | + | Major WB | = |       | Minor NB        | Minor SB |        |
|               | <b>CSAH 116</b> |   |          |   |       | <b>Rose St.</b> |          |        |
| 16:00 - 17:00 | 1287            | + | 1224     | = | 2511  | 97              | 127      | Yes    |
| 15:00 - 16:00 | 1116            | + | 1187     | = | 2303  | 84              | 116      | Yes    |
| 17:00 - 18:00 | 1010            | + | 1165     | = | 2175  | 70              | 86       | Yes    |
| 14:00 - 15:00 | 937             | + | 1021     | = | 1958  | 59              | 129      | Yes    |
| 13:00 - 14:00 | 780             | + | 689      | = | 1469  | 49              | 116      | Yes    |
| 12:00 - 13:00 | 792             | + | 676      | = | 1468  | 50              | 108      | Yes    |
| 11:00 - 12:00 | 727             | + | 738      | = | 1465  | 50              | 87       | Yes    |
| 07:00 - 08:00 | 875             | + | 966      | = | 1841  | 59              | 54       | No     |
| 07:15 - 08:15 | 857             | + | 983      | = | 1840  | 53              | 54       | No     |
| 06:45 - 07:45 | 832             | + | 902      | = | 1734  | 56              | 54       | No     |
| 07:30 - 08:30 | 756             | + | 864      | = | 1620  | 54              | 50       | No     |
| 18:00 - 19:00 | 771             |   | 795      |   | 1566  | 58              | 70       | No     |

| Time          | Major EB | + | Major WB | = | Total | Minor NB | Minor SB | Met1B? |
|---------------|----------|---|----------|---|-------|----------|----------|--------|
| 15:30 - 16:30 | 1229     | + | 1254     | = | 2483  | 76       | 107      | Yes    |
| 16:30 - 17:30 | 1209     | + | 1225     | = | 2434  | 102      | 117      | Yes    |
| 14:30 - 15:30 | 998      | + | 1059     | = | 2057  | 75       | 134      | Yes    |
| 17:30 - 18:30 | 857      | + | 972      | = | 1829  | 70       | 76       | Yes    |
| 13:30 - 14:30 | 874      | + | 846      | = | 1720  | 54       | 130      | Yes    |
| 07:30 - 08:30 | 756      | + | 864      | = | 1620  | 54       | 50       | Yes    |
| 11:30 - 12:30 | 741      | + | 767      | = | 1508  | 49       | 97       | Yes    |
| 12:30 - 13:30 | 780      | + | 671      | = | 1451  | 47       | 105      | Yes    |
| 06:30 - 07:30 | 709      | + | 739      | = | 1448  | 45       | 36       | Yes    |
| 18:30 - 19:30 | 706      | + | 719      | = | 1425  | 27       | 66       | Yes    |
| 10:30 - 11:30 | 708      | + | 638      | = | 1346  | 51       | 68       | Yes    |
| 09:30 - 10:30 | 639      |   | 624      |   | 1263  | 37       | 76       | Yes    |



# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2350

Study Date : 09/27/2023

## 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.

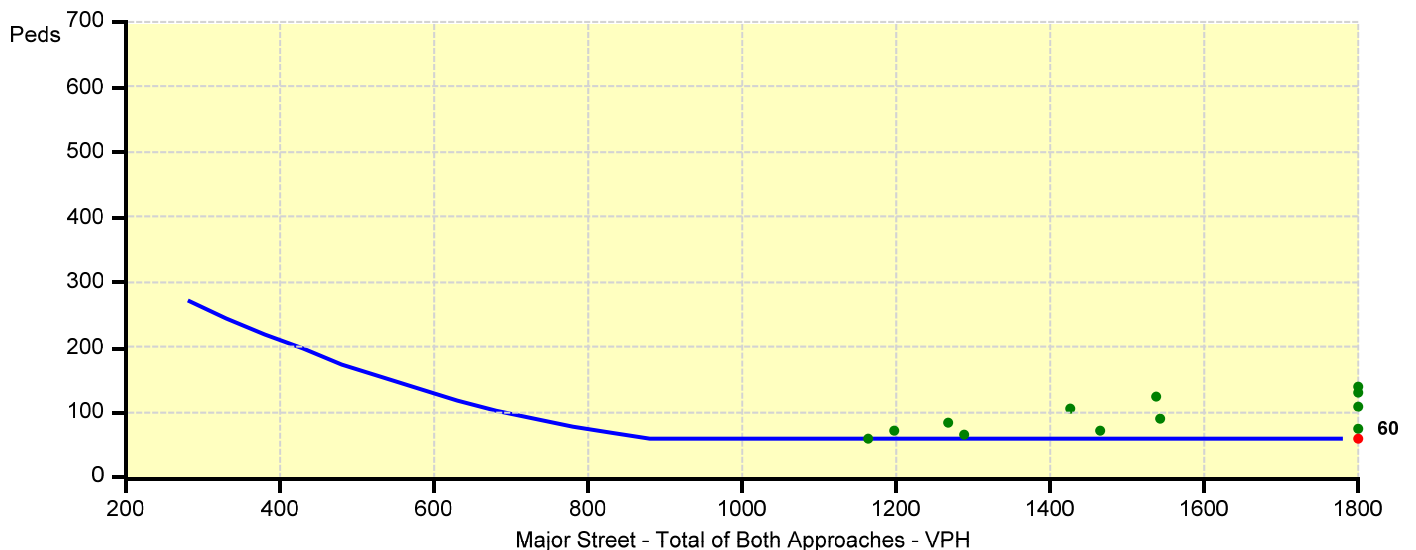
#### Summary

12 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<br>CSAH 116 |   |          |   | Total | Minor Road<br>Rose St. |          | Met? |
|---------------|------------------------|---|----------|---|-------|------------------------|----------|------|
|               | Major EB               | + | Major WB | = |       | Minor NB               | Minor SB |      |
| 15:15 - 16:15 | 1179                   | + | 1229     | = | 2408  | 82                     | 107      | Yes  |
| 16:15 - 17:15 | 1245                   | + | 1156     | = | 2401  | 103                    | 139      | Yes  |
| 14:15 - 15:15 | 990                    | + | 1095     | = | 2085  | 64                     | 129      | Yes  |
| 17:15 - 18:15 | 939                    | + | 1128     | = | 2067  | 74                     | 75       | Yes  |
| 11:15 - 12:15 | 752                    | + | 791      | = | 1543  | 48                     | 89       | Yes  |
| 13:15 - 14:15 | 818                    | + | 719      | = | 1537  | 49                     | 122      | Yes  |
| 18:15 - 19:15 | 716                    | + | 748      | = | 1464  | 39                     | 71       | Yes  |
| 12:15 - 13:15 | 771                    | + | 655      | = | 1426  | 49                     | 106      | Yes  |
| 10:15 - 11:15 | 664                    | + | 625      | = | 1289  | 45                     | 64       | Yes  |
| 09:15 - 10:15 | 658                    | + | 609      | = | 1267  | 39                     | 82       | Yes  |
| 19:15 - 20:15 | 622                    | + | 575      | = | 1197  | 22                     | 71       | Yes  |
| 08:15 - 09:15 | 581                    | + | 583      | = | 1164  | 60                     | 46       | Yes  |



# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2350

Study Date : 09/27/2023

## 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

30 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<br>CSAH 116 |   |          |   | Total | Minor Road<br>Rose St. |          | Met? |
|---------------|------------------------|---|----------|---|-------|------------------------|----------|------|
|               | Major EB               | + | Major WB | = |       | Minor NB               | Minor SB |      |
| 16:00 - 17:00 | 1287                   | + | 1224     | = | 2511  | 97                     | 127      | Yes  |
| 15:45 - 16:45 | 1285                   | + | 1214     | = | 2499  | 95                     | 117      | Yes  |
| 15:30 - 16:30 | 1229                   | + | 1254     | = | 2483  | 76                     | 107      | Yes  |
| 16:30 - 17:30 | 1209                   | + | 1225     | = | 2434  | 102                    | 117      | Yes  |
| 15:15 - 16:15 | 1179                   | + | 1229     | = | 2408  | 82                     | 107      | Yes  |
| 16:15 - 17:15 | 1245                   | + | 1156     | = | 2401  | 103                    | 139      | Yes  |
| 16:45 - 17:45 | 1112                   | + | 1215     | = | 2327  | 79                     | 102      | Yes  |
| 15:00 - 16:00 | 1116                   | + | 1187     | = | 2303  | 84                     | 116      | Yes  |
| 14:45 - 15:45 | 1048                   | + | 1149     | = | 2197  | 78                     | 118      | Yes  |
| 17:00 - 18:00 | 1010                   | + | 1165     | = | 2175  | 70                     | 86       | Yes  |
| 14:15 - 15:15 | 990                    | + | 1095     | = | 2085  | 64                     | 129      | Yes  |
| 17:15 - 18:15 | 939                    |   | 1128     |   | 2067  | 74                     | 75       | Yes  |

