

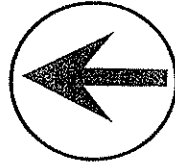
Date : 07/26/12

Count Number : TMC1230

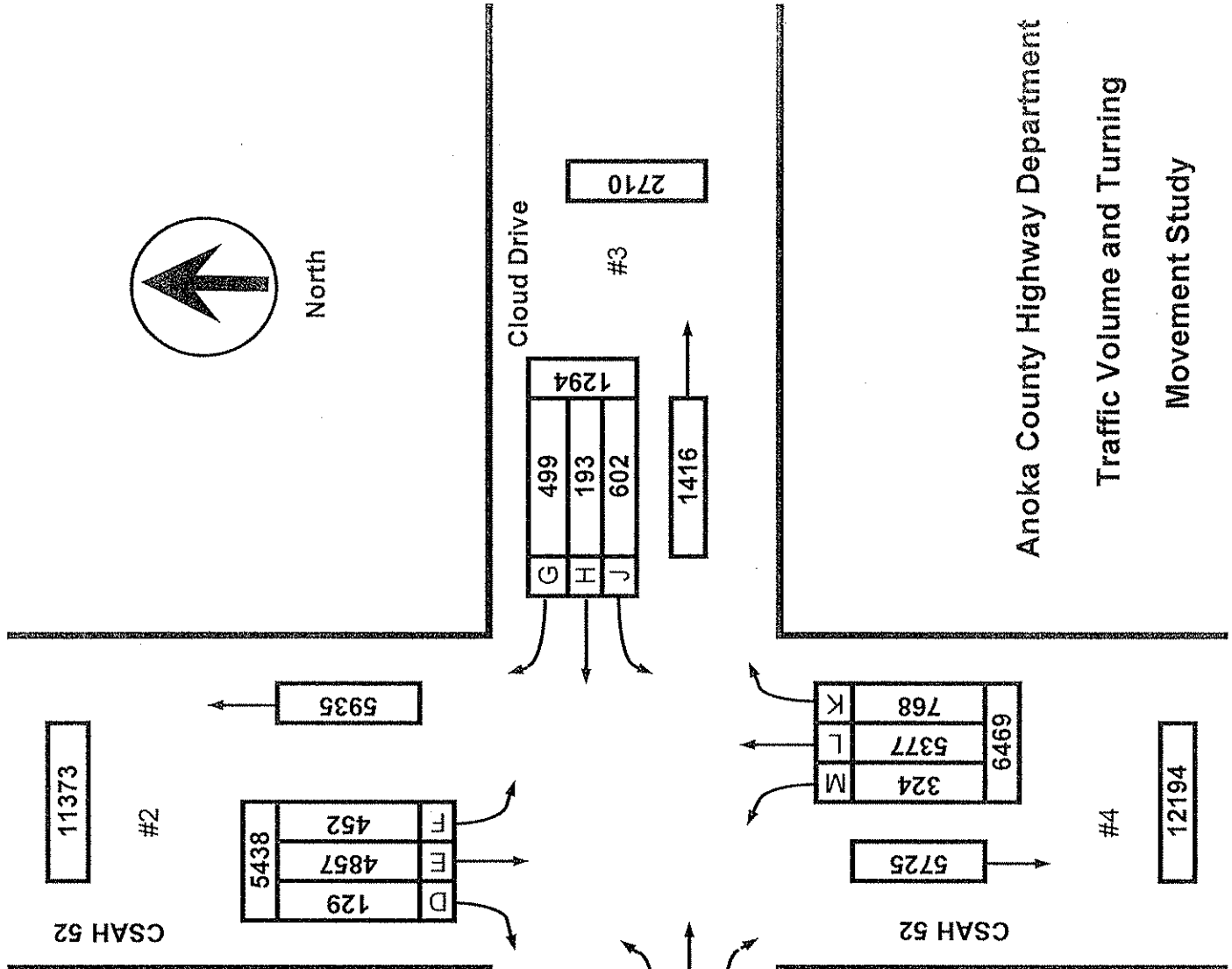
Location : CSAH 52 (Radisson Road)

@ Cloud Drive

Collection Period : 6:00 AM - 10:00 PM



North



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

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

12194

11373

#2

CSAH 52

| | | |
|------|-----|---|
| 5438 | 452 | T |
| 4857 | | M |
| 129 | | D |

5935

#1

1167

Cloud Drive

| | |
|-----|---|
| 521 | C |
| 196 | B |
| 266 | A |

646

#3

| | |
|-----|---|
| 499 | G |
| 193 | H |
| 602 | J |

1294

1416

Cloud Drive

2710

CSAH 52

#4

| | |
|------|---|
| 6469 | L |
| 5377 | M |
| 324 | K |

5725

Date : 07/26/12

Count Number : TMC1230

Location : CSAH 52 (Radisson Road)

@ Cloud Drive

Collection Period : AM PEAK

Hour : 6:45 AM - 7:45 AM

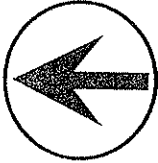
1173

#2

CSAH 52

| | | |
|------|----|---|
| 1048 | 17 | T |
| 1025 | 6 | D |
| | | F |
| | | E |

125



North

Cloud Drive

| | | |
|----|----|---|
| 12 | 85 | G |
| 9 | | H |
| 64 | | J |

#3

143

58

25

#1

79

| | | |
|----|----|---|
| 54 | 6 | C |
| 21 | 21 | B |
| 27 | | A |

Cloud Drive

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

| | | |
|----|-----|---|
| 10 | 107 | L |
| 20 | | K |
| | 137 | |

1116

CSAH 52

#4

1253

Anoka County Highway Department

Traffic Volume and Turning

Movement Study

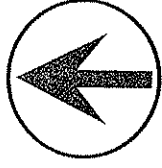
Date : 07/23/12

Count Number : TMC1230

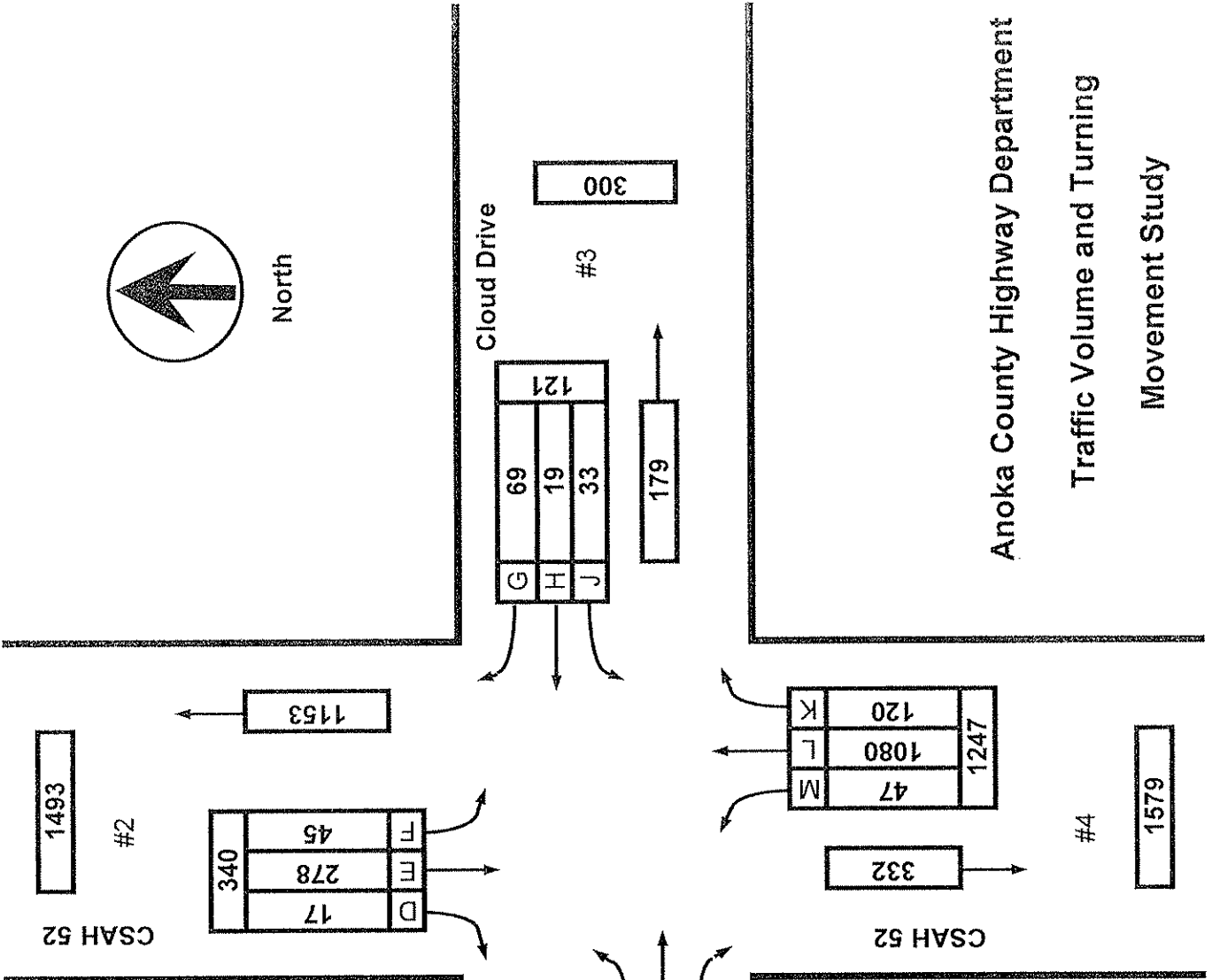
Location : CSAH 52 (Radisson Road)
@ Cloud Drive

Collection Period : PM PEAK

Hour : 4:30 PM - 5:30 PM



North



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

Anoka County Highway Department
Traffic Volume and Turning
Movement Study



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : tmc1230
 Site Code : 12300202
 Start Date : 07/23/2012
 Page No : 1

Weather: Hot and Rain
 Counter: DB-400
 Counted by: Reno and Hannah

Groups Printed- Unshifted

| Start Time | CSAH 52 Southbound | | | | | Cloud Drive Westbound | | | | | CSAH 52 Northbound | | | | | Cloud Drive Eastbound | | | | | Exclu. Total | Inclu. Total | Int. Total |
|--------------|--------------------|-------------|-----------|-----------|-------------|-----------------------|-----------|-----------|----------|------------|--------------------|-------------|------------|-----------|-------------|-----------------------|-----------|-----------|----------|------------|--------------|--------------|-------------|
| | Left | Thru | Right | Heavys | App. Total | Left | Thru | Right | Heavys | App. Total | Left | Thru | Right | Heavys | App. Total | Left | Thru | Right | Heavys | App. Total | | | |
| 06:00 | 9 | 116 | 1 | 2 | 126 | 13 | 0 | 1 | 0 | 14 | 1 | 10 | 5 | 1 | 16 | 0 | 2 | 12 | 0 | 14 | 3 | 170 | 173 |
| 06:15 | 6 | 140 | 0 | 0 | 146 | 8 | 2 | 3 | 1 | 13 | 1 | 12 | 4 | 2 | 17 | 0 | 3 | 7 | 0 | 10 | 3 | 186 | 189 |
| 06:30 | 7 | 197 | 5 | 4 | 209 | 17 | 0 | 2 | 1 | 19 | 1 | 15 | 2 | 1 | 18 | 1 | 1 | 8 | 1 | 10 | 7 | 256 | 263 |
| 06:45 | 0 | 235 | 1 | 6 | 236 | 19 | 2 | 2 | 0 | 23 | 2 | 19 | 3 | 2 | 24 | 2 | 2 | 3 | 1 | 7 | 9 | 290 | 299 |
| Total | 22 | 688 | 7 | 12 | 717 | 57 | 4 | 8 | 2 | 69 | 5 | 56 | 14 | 6 | 75 | 3 | 8 | 30 | 2 | 41 | 22 | 902 | 924 |
| 07:00 | 2 | 290 | 4 | 1 | 296 | 17 | 2 | 5 | 1 | 24 | 1 | 32 | 4 | 1 | 37 | 1 | 13 | 13 | 1 | 27 | 4 | 384 | 388 |
| 07:15 | 8 | 277 | 1 | 4 | 286 | 12 | 2 | 5 | 0 | 19 | 4 | 27 | 4 | 4 | 35 | 1 | 3 | 7 | 2 | 11 | 10 | 351 | 361 |
| 07:30 | 7 | 223 | 0 | 3 | 230 | 16 | 3 | 0 | 1 | 19 | 3 | 29 | 9 | 3 | 41 | 2 | 3 | 4 | 0 | 9 | 7 | 299 | 306 |
| 07:45 | 9 | 211 | 1 | 6 | 221 | 15 | 2 | 7 | 0 | 24 | 3 | 25 | 7 | 2 | 35 | 2 | 3 | 3 | 0 | 8 | 8 | 288 | 296 |
| Total | 26 | 1001 | 6 | 14 | 1033 | 60 | 9 | 17 | 2 | 86 | 11 | 113 | 24 | 10 | 148 | 6 | 22 | 27 | 3 | 55 | 29 | 1322 | 1351 |
| 08:00 | 8 | 152 | 3 | 7 | 163 | 19 | 7 | 4 | 0 | 30 | 5 | 29 | 11 | 3 | 45 | 1 | 4 | 5 | 0 | 10 | 10 | 248 | 258 |
| 08:15 | 5 | 120 | 2 | 5 | 127 | 15 | 4 | 2 | 1 | 21 | 4 | 27 | 2 | 1 | 33 | 0 | 3 | 11 | 0 | 14 | 7 | 195 | 202 |
| 08:30 | 10 | 105 | 2 | 11 | 117 | 12 | 3 | 0 | 1 | 15 | 0 | 39 | 4 | 4 | 43 | 1 | 4 | 6 | 0 | 11 | 16 | 186 | 202 |
| 08:45 | 12 | 100 | 1 | 4 | 113 | 13 | 0 | 6 | 1 | 19 | 1 | 28 | 15 | 2 | 44 | 1 | 1 | 4 | 1 | 6 | 8 | 182 | 190 |
| Total | 35 | 477 | 8 | 27 | 520 | 59 | 14 | 12 | 3 | 85 | 10 | 123 | 32 | 10 | 165 | 3 | 12 | 26 | 1 | 41 | 41 | 811 | 852 |
| 09:00 | 7 | 62 | 1 | 4 | 70 | 18 | 2 | 9 | 2 | 29 | 2 | 38 | 5 | 6 | 45 | 1 | 3 | 5 | 0 | 9 | 12 | 153 | 165 |
| 09:15 | 2 | 67 | 1 | 1 | 70 | 10 | 3 | 6 | 2 | 19 | 1 | 39 | 4 | 5 | 44 | 1 | 3 | 3 | 1 | 7 | 9 | 140 | 149 |
| 09:30 | 7 | 71 | 1 | 4 | 79 | 7 | 5 | 4 | 1 | 16 | 4 | 43 | 8 | 5 | 55 | 0 | 3 | 9 | 0 | 12 | 10 | 162 | 172 |
| 09:45 | 11 | 86 | 0 | 5 | 97 | 10 | 2 | 1 | 0 | 13 | 4 | 32 | 3 | 1 | 39 | 2 | 4 | 8 | 0 | 14 | 6 | 163 | 169 |
| Total | 27 | 286 | 3 | 14 | 316 | 45 | 12 | 20 | 5 | 77 | 11 | 152 | 20 | 17 | 183 | 4 | 13 | 25 | 1 | 42 | 37 | 618 | 655 |
| 10:00 | 7 | 54 | 1 | 5 | 62 | 6 | 1 | 3 | 0 | 10 | 2 | 32 | 12 | 7 | 46 | 1 | 2 | 4 | 1 | 7 | 13 | 125 | 138 |
| 10:15 | 5 | 68 | 0 | 7 | 73 | 14 | 0 | 9 | 4 | 23 | 1 | 38 | 5 | 2 | 44 | 2 | 6 | 2 | 0 | 10 | 13 | 150 | 163 |
| 10:30 | 5 | 70 | 2 | 1 | 77 | 8 | 2 | 3 | 2 | 13 | 7 | 46 | 5 | 8 | 58 | 1 | 2 | 5 | 0 | 8 | 11 | 156 | 167 |
| 10:45 | 2 | 61 | 1 | 2 | 64 | 5 | 1 | 2 | 1 | 8 | 0 | 39 | 8 | 5 | 47 | 0 | 6 | 2 | 1 | 8 | 9 | 127 | 136 |
| Total | 19 | 253 | 4 | 15 | 276 | 33 | 4 | 17 | 7 | 54 | 10 | 155 | 30 | 22 | 195 | 4 | 16 | 13 | 2 | 33 | 46 | 558 | 604 |
| 11:00 | 6 | 58 | 1 | 5 | 65 | 12 | 1 | 2 | 0 | 15 | 4 | 33 | 11 | 3 | 48 | 1 | 2 | 2 | 0 | 5 | 8 | 133 | 141 |
| 11:15 | 8 | 41 | 3 | 4 | 52 | 9 | 3 | 2 | 4 | 14 | 2 | 53 | 7 | 9 | 62 | 0 | 2 | 5 | 0 | 7 | 17 | 135 | 152 |
| 11:30 | 8 | 64 | 0 | 2 | 72 | 3 | 2 | 10 | 0 | 15 | 5 | 67 | 10 | 6 | 82 | 0 | 2 | 2 | 0 | 4 | 8 | 173 | 181 |
| 11:45 | 12 | 62 | 1 | 2 | 75 | 3 | 1 | 8 | 1 | 12 | 4 | 50 | 13 | 3 | 67 | 3 | 3 | 5 | 1 | 11 | 7 | 165 | 172 |
| Total | 34 | 225 | 5 | 13 | 264 | 27 | 7 | 22 | 5 | 56 | 15 | 203 | 41 | 21 | 259 | 4 | 9 | 14 | 1 | 27 | 40 | 606 | 646 |
| 12:00 | 4 | 48 | 3 | 4 | 55 | 10 | 2 | 5 | 0 | 17 | 4 | 52 | 7 | 4 | 63 | 0 | 3 | 3 | 0 | 6 | 8 | 141 | 149 |
| 12:15 | 4 | 54 | 2 | 0 | 60 | 5 | 2 | 5 | 3 | 12 | 7 | 57 | 12 | 8 | 76 | 1 | 0 | 3 | 0 | 4 | 11 | 152 | 163 |
| 12:30 | 6 | 60 | 2 | 3 | 68 | 9 | 3 | 5 | 1 | 17 | 3 | 59 | 7 | 4 | 69 | 1 | 1 | 2 | 0 | 4 | 8 | 158 | 166 |
| 12:45 | 6 | 50 | 5 | 3 | 61 | 8 | 4 | 4 | 1 | 16 | 5 | 71 | 9 | 6 | 85 | 0 | 1 | 4 | 0 | 5 | 10 | 167 | 177 |
| Total | 20 | 212 | 12 | 10 | 244 | 32 | 11 | 19 | 5 | 62 | 19 | 239 | 35 | 22 | 293 | 2 | 5 | 12 | 0 | 19 | 37 | 618 | 655 |
| 13:00 | 2 | 64 | 3 | 5 | 69 | 10 | 2 | 6 | 2 | 18 | 2 | 60 | 9 | 6 | 71 | 1 | 5 | 2 | 0 | 8 | 13 | 166 | 179 |
| 13:15 | 4 | 70 | 1 | 7 | 75 | 11 | 0 | 5 | 1 | 16 | 1 | 66 | 10 | 6 | 77 | 0 | 5 | 5 | 0 | 10 | 14 | 178 | 192 |
| 13:30 | 4 | 60 | 4 | 4 | 68 | 13 | 1 | 5 | 2 | 19 | 5 | 57 | 8 | 6 | 70 | 1 | 4 | 3 | 0 | 8 | 12 | 165 | 177 |
| 13:45 | 10 | 46 | 2 | 8 | 58 | 3 | 1 | 8 | 0 | 12 | 5 | 72 | 11 | 7 | 88 | 0 | 3 | 7 | 1 | 10 | 16 | 168 | 184 |
| Total | 20 | 240 | 10 | 24 | 270 | 37 | 4 | 24 | 5 | 65 | 13 | 255 | 38 | 25 | 306 | 2 | 17 | 17 | 1 | 36 | 55 | 677 | 732 |
| 14:00 | 9 | 43 | 1 | 2 | 53 | 5 | 4 | 6 | 0 | 15 | 7 | 62 | 9 | 3 | 78 | 3 | 6 | 2 | 0 | 11 | 5 | 157 | 162 |
| 14:15 | 10 | 76 | 2 | 4 | 88 | 9 | 4 | 7 | 0 | 20 | 5 | 84 | 14 | 3 | 103 | 1 | 4 | 7 | 0 | 12 | 7 | 223 | 230 |
| 14:30 | 5 | 48 | 2 | 5 | 55 | 7 | 3 | 10 | 0 | 20 | 5 | 79 | 7 | 1 | 91 | 0 | 2 | 5 | 0 | 7 | 6 | 173 | 179 |
| 14:45 | 7 | 47 | 2 | 2 | 56 | 7 | 2 | 17 | 0 | 26 | 3 | 97 | 16 | 3 | 116 | 1 | 6 | 4 | 1 | 11 | 6 | 209 | 215 |
| Total | 31 | 214 | 7 | 13 | 252 | 28 | 13 | 40 | 0 | 81 | 20 | 322 | 46 | 10 | 388 | 5 | 18 | 18 | 1 | 41 | 24 | 762 | 786 |
| 15:00 | 6 | 60 | 1 | 6 | 67 | 14 | 0 | 7 | 0 | 21 | 6 | 107 | 10 | 6 | 123 | 1 | 0 | 3 | 0 | 4 | 12 | 215 | 227 |
| 15:15 | 9 | 39 | 0 | 2 | 48 | 5 | 3 | 19 | 2 | 27 | 10 | 131 | 18 | 12 | 159 | 1 | 3 | 4 | 0 | 8 | 16 | 242 | 258 |
| 15:30 | 5 | 38 | 2 | 1 | 45 | 6 | 3 | 9 | 0 | 18 | 4 | 139 | 24 | 4 | 167 | 1 | 2 | 4 | 0 | 7 | 5 | 237 | 242 |
| 15:45 | 6 | 50 | 2 | 2 | 58 | 11 | 2 | 10 | 0 | 23 | 6 | 177 | 16 | 9 | 199 | 2 | 2 | 1 | 0 | 5 | 11 | 285 | 296 |
| Total | 26 | 187 | 5 | 11 | 218 | 36 | 8 | 45 | 2 | 89 | 26 | 554 | 68 | 31 | 648 | 5 | 7 | 12 | 0 | 24 | 44 | 979 | 1023 |
| 16:00 | 10 | 70 | 4 | 3 | 84 | 16 | 4 | 16 | 0 | 36 | 8 | 198 | 25 | 1 | 231 | 3 | 1 | 2 | 0 | 6 | 4 | 357 | 361 |
| 16:15 | 9 | 52 | 3 | 1 | 64 | 6 | 3 | 13 | 0 | 22 | 11 | 251 | 25 | 5 | 287 | 1 | 2 | 2 | 0 | 5 | 6 | 378 | 384 |
| 16:30 | 14 | 60 | 4 | 4 | 78 | 8 | 3 | 13 | 0 | 24 | 16 | 268 | 29 | 3 | 313 | 1 | 4 | 5 | 0 | 10 | 7 | 425 | 432 |
| 16:45 | 11 | 81 | 8 | 2 | 100 | 8 | 7 | 20 | 1 | 35 | 11 | 276 | 33 | 4 | 320 | 2 | 6 | 6 | 0 | 14 | 7 | 469 | 476 |
| Total | 44 | 263 | 19 | 10 | 326 | 38 | 17 | 62 | 1 | 117 | 46 | 993 | 112 | 13 | 1151 | 7 | 13 | 15 | 0 | 35 | 24 | 1629 | 1653 |
| 17:00 | 12 | 62 | 4 | 1 | 78 | 12 | 5 | 16 | 0 | 33 | 11 | 255 | 30 | 3 | 296 | 0 | 1 | 5 | 0 | 6 | 4 | 413 | 417 |
| 17:15 | 8 | 75 | 1 | 0 | 84 | 5 | 4 | 20 | 0 | 29 | 8 | 281 | 28 | 4 | 317 | 1 | 3 | 5 | 0 | 9 | 4 | 439 | 443 |
| 17:30 | 13 | 54 | 4 | 0 | 71 | 17 | 7 | 18 | 0 | 42 | 9 | 238 | 36 | 0 | 283 | 2 | 4 | 5 | 0 | 11 | 0 | 407 | 407 |
| 17:45 | 9 | 60 | 2 | 1 | 71 | 8 | 14 | 18 | 0 | 40 | 14 | 228 | 35 | 3 | 277 | 3 | 5 | 4 | 2 | 12 | 6 | 400 | 406 |
| Total | 42 | 251 | 11 | 2 | 304 | 42 | 30 | 72 | 0 | 144 | 42 | 1002 | 129 | 10 | 1173 | 6 | 13 | 19 | 2 | 38 | 14 | 1659 | 1673 |



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : tmc1230
 Site Code : 12300202
 Start Date : 07/23/2012
 Page No : 2

Weather: Hot and Rain
 Counter: DB-400
 Counted by: Reno and Hannah

Groups Printed- Unshifted

| Start Time | CSAH 52 Southbound | | | | | Cloud Drive Westbound | | | | | CSAH 52 Northbound | | | | | Cloud Drive Eastbound | | | | | Exclu. Total | Inclu. Total | Int. Total |
|--------------------|--------------------|-------------|------------|------------|-------------|-----------------------|-------------|-------------|-----------|-------------|--------------------|-------------|-------------|------------|-------------|-----------------------|-------------|-------------|-----------|------------|--------------|--------------|--------------|
| | Left | Thru | Right | Heavys | App. Total | Left | Thru | Right | Heavys | App. Total | Left | Thru | Right | Heavys | App. Total | Left | Thru | Right | Heavys | App. Total | | | |
| 18:00 | 12 | 78 | 3 | 6 | 93 | 7 | 3 | 13 | 0 | 23 | 12 | 170 | 21 | 1 | 203 | 0 | 5 | 3 | 0 | 8 | 7 | 327 | 334 |
| 18:15 | 11 | 63 | 2 | 0 | 76 | 5 | 3 | 17 | 0 | 25 | 10 | 135 | 24 | 0 | 169 | 0 | 6 | 2 | 0 | 8 | 0 | 278 | 278 |
| 18:30 | 10 | 65 | 2 | 0 | 77 | 16 | 4 | 11 | 0 | 31 | 14 | 116 | 15 | 0 | 145 | 1 | 4 | 0 | 0 | 5 | 0 | 258 | 258 |
| 18:45 | 5 | 31 | 0 | 0 | 36 | 19 | 7 | 12 | 0 | 38 | 6 | 104 | 10 | 1 | 120 | 0 | 4 | 7 | 0 | 11 | 1 | 205 | 206 |
| Total | 38 | 237 | 7 | 6 | 282 | 47 | 17 | 53 | 0 | 117 | 42 | 525 | 70 | 2 | 637 | 1 | 19 | 12 | 0 | 32 | 8 | 1068 | 1076 |
| 19:00 | 2 | 37 | 0 | 0 | 39 | 4 | 6 | 5 | 0 | 15 | 1 | 94 | 14 | 2 | 109 | 0 | 4 | 3 | 0 | 7 | 2 | 170 | 172 |
| 19:15 | 8 | 40 | 2 | 0 | 50 | 4 | 3 | 10 | 0 | 17 | 8 | 73 | 17 | 1 | 98 | 0 | 9 | 6 | 0 | 15 | 1 | 180 | 181 |
| 19:30 | 8 | 32 | 2 | 0 | 42 | 8 | 3 | 7 | 0 | 18 | 5 | 80 | 12 | 0 | 97 | 1 | 2 | 5 | 0 | 8 | 0 | 165 | 165 |
| 19:45 | 9 | 30 | 2 | 0 | 41 | 6 | 1 | 10 | 1 | 17 | 8 | 57 | 11 | 1 | 76 | 1 | 0 | 3 | 1 | 4 | 3 | 138 | 141 |
| Total | 27 | 139 | 6 | 0 | 172 | 22 | 13 | 32 | 1 | 67 | 22 | 304 | 54 | 4 | 380 | 2 | 15 | 17 | 1 | 34 | 6 | 653 | 659 |
| 20:00 | 3 | 29 | 1 | 0 | 33 | 8 | 4 | 9 | 0 | 21 | 6 | 51 | 9 | 0 | 66 | 2 | 1 | 3 | 0 | 6 | 0 | 126 | 126 |
| 20:15 | 7 | 27 | 3 | 0 | 37 | 6 | 3 | 8 | 0 | 17 | 4 | 37 | 12 | 0 | 53 | 0 | 2 | 1 | 0 | 3 | 0 | 110 | 110 |
| 20:30 | 3 | 27 | 2 | 0 | 32 | 11 | 9 | 11 | 0 | 31 | 3 | 55 | 3 | 2 | 61 | 0 | 2 | 2 | 0 | 4 | 2 | 128 | 130 |
| 20:45 | 5 | 22 | 1 | 1 | 28 | 6 | 3 | 10 | 0 | 19 | 2 | 58 | 11 | 0 | 71 | 1 | 2 | 0 | 0 | 3 | 1 | 121 | 122 |
| Total | 18 | 105 | 7 | 1 | 130 | 31 | 19 | 38 | 0 | 88 | 15 | 201 | 35 | 2 | 251 | 3 | 7 | 6 | 0 | 16 | 3 | 485 | 488 |
| 21:00 | 10 | 26 | 4 | 0 | 40 | 6 | 2 | 3 | 0 | 11 | 5 | 54 | 5 | 1 | 64 | 1 | 0 | 1 | 0 | 2 | 1 | 117 | 118 |
| 21:15 | 8 | 25 | 1 | 1 | 34 | 1 | 3 | 6 | 0 | 10 | 3 | 51 | 7 | 1 | 61 | 0 | 0 | 2 | 0 | 2 | 2 | 107 | 109 |
| 21:30 | 4 | 15 | 2 | 0 | 21 | 0 | 2 | 4 | 0 | 6 | 5 | 43 | 6 | 0 | 54 | 0 | 1 | 0 | 0 | 1 | 0 | 82 | 82 |
| 21:45 | 1 | 13 | 5 | 0 | 19 | 1 | 4 | 5 | 0 | 10 | 4 | 32 | 2 | 0 | 38 | 1 | 1 | 0 | 0 | 2 | 0 | 69 | 69 |
| Total | 23 | 79 | 12 | 1 | 114 | 8 | 11 | 18 | 0 | 37 | 17 | 180 | 20 | 2 | 217 | 2 | 2 | 3 | 0 | 7 | 3 | 375 | 378 |
| Grand Total | 452 | 4857 | 129 | 173 | 5438 | 602 | 193 | 499 | 38 | 1294 | 324 | 5377 | 768 | 207 | 6469 | 59 | 196 | 266 | 15 | 521 | 433 | 13722 | 14155 |
| Apprch % | 8.3 | 89.3 | 2.4 | | | 46.5 | 14.9 | 38.6 | | | 5 | 83.1 | 11.9 | | | 11.3 | 37.6 | 51.1 | | | 3.1 | 96.9 | |
| Total % | 3.3 | 35.4 | 0.9 | | 39.6 | 4.4 | 1.4 | 3.6 | | 9.4 | 2.4 | 39.2 | 5.6 | | 47.1 | 0.4 | 1.4 | 1.9 | | 3.8 | 3.1 | 96.9 | |

| Start Time | CSAH 52 Southbound | | | | Cloud Drive Westbound | | | | CSAH 52 Northbound | | | | Cloud Drive Eastbound | | | | Int. Total |
|--|--------------------|-------------|-------------|-------------|-----------------------|-------------|-------------|-------------|--------------------|-------------|-------------|-------------|-----------------------|-------------|-------------|-------------|-------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| Peak Hour Analysis From 06:00 to 11:45 - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 06:45 | | | | | | | | | | | | | | | | | |
| 06:45 | 0 | 235 | 1 | 236 | 19 | 2 | 2 | 23 | 2 | 19 | 3 | 24 | 2 | 2 | 3 | 7 | 290 |
| 07:00 | 2 | 290 | 4 | 296 | 17 | 2 | 5 | 24 | 1 | 32 | 4 | 37 | 1 | 13 | 13 | 27 | 384 |
| 07:15 | 8 | 277 | 1 | 286 | 12 | 2 | 5 | 19 | 4 | 27 | 4 | 35 | 1 | 3 | 7 | 11 | 351 |
| 07:30 | 7 | 223 | 0 | 230 | 16 | 3 | 0 | 19 | 3 | 29 | 9 | 41 | 2 | 3 | 4 | 9 | 299 |
| Total Volume | 17 | 1025 | 6 | 1048 | 64 | 9 | 12 | 85 | 10 | 107 | 20 | 137 | 6 | 21 | 27 | 54 | 1324 |
| % App. Total | 1.6 | 97.8 | 0.6 | | 75.3 | 10.6 | 14.1 | | 7.3 | 78.1 | 14.6 | | 11.1 | 38.9 | 50 | | |
| PHF | .531 | .884 | .375 | .885 | .842 | .750 | .600 | .885 | .625 | .836 | .556 | .835 | .750 | .404 | .519 | .500 | .862 |

| Start Time | CSAH 52 Southbound | | | | Cloud Drive Westbound | | | | CSAH 52 Northbound | | | | Cloud Drive Eastbound | | | | Int. Total |
|--|--------------------|-------------|-------------|-------------|-----------------------|-------------|-------------|-------------|--------------------|-------------|-------------|-------------|-----------------------|-------------|-------------|-------------|-------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| Peak Hour Analysis From 12:00 to 21:45 - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 16:30 | | | | | | | | | | | | | | | | | |
| 16:30 | 14 | 60 | 4 | 78 | 8 | 3 | 13 | 24 | 16 | 268 | 29 | 313 | 1 | 4 | 5 | 10 | 425 |
| 16:45 | 11 | 81 | 8 | 100 | 8 | 7 | 20 | 35 | 11 | 276 | 33 | 320 | 2 | 6 | 6 | 14 | 469 |
| 17:00 | 12 | 62 | 4 | 78 | 12 | 5 | 16 | 33 | 11 | 255 | 30 | 296 | 0 | 1 | 5 | 6 | 413 |
| 17:15 | 8 | 75 | 1 | 84 | 5 | 4 | 20 | 29 | 8 | 281 | 28 | 317 | 1 | 3 | 5 | 9 | 439 |
| Total Volume | 45 | 278 | 17 | 340 | 33 | 19 | 69 | 121 | 46 | 1080 | 120 | 1246 | 4 | 14 | 21 | 39 | 1746 |
| % App. Total | 13.2 | 81.8 | 5 | | 27.3 | 15.7 | 57 | | 3.7 | 86.7 | 9.6 | | 10.3 | 35.9 | 53.8 | | |
| PHF | .804 | .858 | .531 | .850 | .688 | .679 | .863 | .864 | .719 | .961 | .909 | .973 | .500 | .583 | .875 | .696 | .931 |



**ANOKA COUNTY HIGHWAY
PC-WARRANTS
TRAFFIC SIGNAL WARRANT ANALYSIS**

Study Name : TMC1230
Study Date : 07/27/12
Page No. : 1

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 52

Number of Lanes: 2
85% Speed > 40 MPH.
Total Approach Volume: 6,469

Southbound: CSAH 52

Number of Lanes: 2
85% Speed > 40 MPH.
Total Approach Volume: 5,438

Minor Street Approaches

Eastbound: Cloud Drive

Number of Lanes: 1

Total Approach Volume: 521

Westbound: Cloud Drive

Number of Lanes: 1

Total Approach Volume: 1,294

Warrant Summary (Rural values apply.)

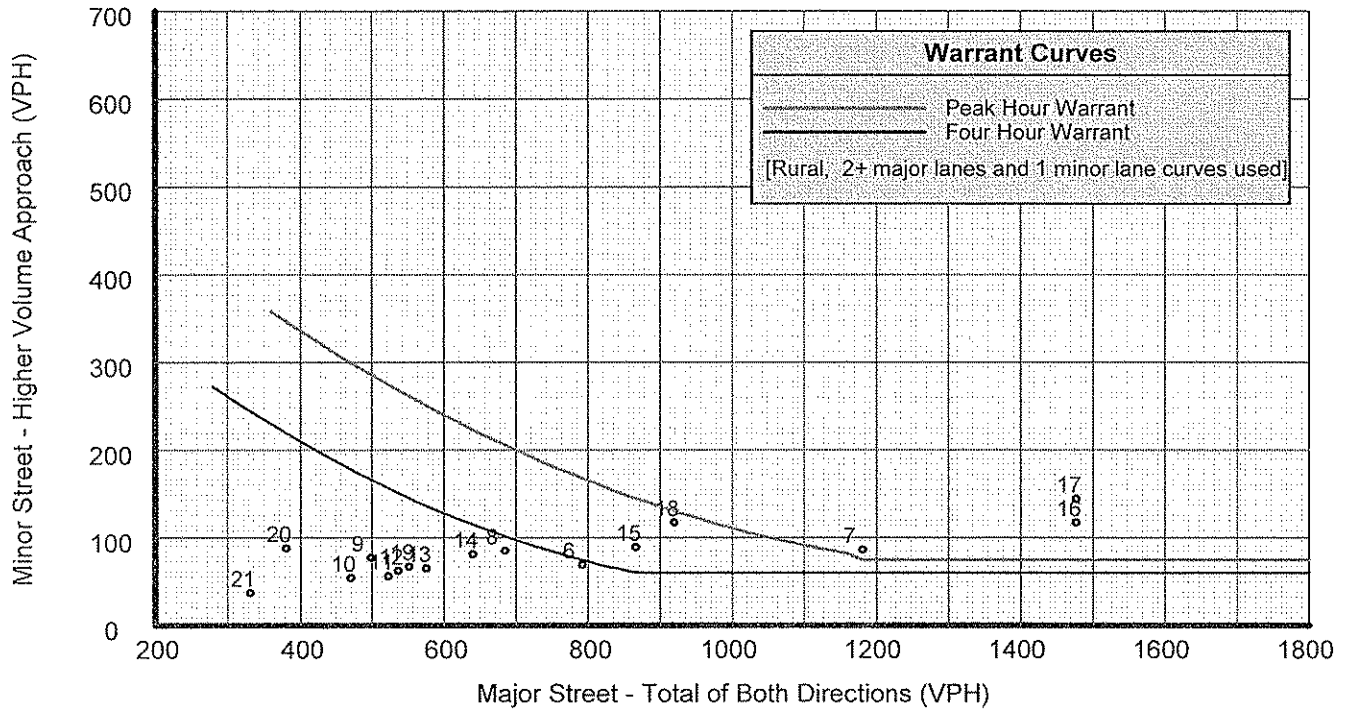
| | |
|--|--------------------------|
| Warrant 1 - Eight Hour Vehicular Volumes | Satisfied |
| Warrant 1A - Minimum Vehicular Volume | Not Satisfied |
| Required volumes reached for 3 hours, 8 are needed | |
| Warrant 1B - Interruption of Continuous Traffic | Satisfied |
| Required volumes reached for 8 hours, 8 are needed | |
| Warrant 1 A&B - Combination of Warrants | Not Satisfied |
| Required volumes reached for 6 hours, 8 are needed | |
| Warrant 2 - Four Hour Volumes | Satisfied |
| Number of hours (5) volumes exceed minimum >= minimum required (4). | |
| Warrant 3 - Peak Hour | Satisfied |
| Warrant 3A - Peak Hour Delay | Satisfied |
| Number of hours (13) volumes exceed minimum >= required (1). Delay data not evaluated. | |
| Warrant 3B - Peak Hour Volumes | Satisfied |
| Volumes exceed minimums for at least one hour. | |
| 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 : TMC1230
Study Date : 07/27/12
Page No. : 2

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

| Hour Begin | Major Total | Higher Minor Vol | Dir | War 1A | | | War 1B | | | War 1A&B | | |
|------------|-------------|------------------|-----|------------|------------|--------|------------|------------|--------|------------|------------|--------|
| | | | | Major Crit | Minor Crit | Meets? | Major Crit | Minor Crit | Meets? | Major Crit | Minor Crit | Meets? |
| 00:00 | 0 | 0 | EB | 420-No | 105-No | --- | 630-No | 53-No | --- | 504-No | 84-No | --- |
| 01:00 | 0 | 0 | EB | 420-No | 105-No | --- | 630-No | 53-No | --- | 504-No | 84-No | --- |
| 02:00 | 0 | 0 | EB | 420-No | 105-No | --- | 630-No | 53-No | --- | 504-No | 84-No | --- |
| 03:00 | 0 | 0 | EB | 420-No | 105-No | --- | 630-No | 53-No | --- | 504-No | 84-No | --- |
| 04:00 | 0 | 0 | EB | 420-No | 105-No | --- | 630-No | 53-No | --- | 504-No | 84-No | --- |
| 05:00 | 0 | 0 | EB | 420-No | 105-No | --- | 630-No | 53-No | --- | 504-No | 84-No | --- |
| 06:00 | 792 | 69 | WB | 420-Yes | 105-No | Major | 630-Yes | 53-Yes | Both | 504-Yes | 84-No | Major |
| 07:00 | 1,181 | 86 | WB | 420-Yes | 105-No | Major | 630-Yes | 53-Yes | Both | 504-Yes | 84-Yes | Both |
| 08:00 | 685 | 85 | WB | 420-Yes | 105-No | Major | 630-Yes | 53-Yes | Both | 504-Yes | 84-Yes | Both |
| 09:00 | 499 | 77 | WB | 420-Yes | 105-No | Major | 630-No | 53-Yes | Minor | 504-No | 84-No | --- |
| 10:00 | 471 | 54 | WB | 420-Yes | 105-No | Major | 630-No | 53-Yes | Minor | 504-No | 84-No | --- |
| 11:00 | 523 | 56 | WB | 420-Yes | 105-No | Major | 630-No | 53-Yes | Minor | 504-Yes | 84-No | Major |
| 12:00 | 537 | 62 | WB | 420-Yes | 105-No | Major | 630-No | 53-Yes | Minor | 504-Yes | 84-No | Major |
| 13:00 | 576 | 65 | WB | 420-Yes | 105-No | Major | 630-No | 53-Yes | Minor | 504-Yes | 84-No | Major |
| 14:00 | 640 | 81 | WB | 420-Yes | 105-No | Major | 630-Yes | 53-Yes | Both | 504-Yes | 84-No | Major |
| 15:00 | 866 | 89 | WB | 420-Yes | 105-No | Major | 630-Yes | 53-Yes | Both | 504-Yes | 84-Yes | Both |
| 16:00 | 1,477 | 117 | WB | 420-Yes | 105-Yes | Both | 630-Yes | 53-Yes | Both | 504-Yes | 84-Yes | Both |
| 17:00 | 1,477 | 144 | WB | 420-Yes | 105-Yes | Both | 630-Yes | 53-Yes | Both | 504-Yes | 84-Yes | Both |
| 18:00 | 919 | 117 | WB | 420-Yes | 105-Yes | Both | 630-Yes | 53-Yes | Both | 504-Yes | 84-Yes | Both |
| 19:00 | 552 | 67 | WB | 420-Yes | 105-No | Major | 630-No | 53-Yes | Minor | 504-Yes | 84-No | Major |
| 20:00 | 381 | 88 | WB | 420-No | 105-No | --- | 630-No | 53-Yes | Minor | 504-No | 84-Yes | Minor |
| 21:00 | 331 | 37 | WB | 420-No | 105-No | --- | 630-No | 53-No | --- | 504-No | 84-No | --- |
| 22:00 | 0 | 0 | EB | 420-No | 105-No | --- | 630-No | 53-No | --- | 504-No | 84-No | --- |
| 23:00 | 0 | 0 | EB | 420-No | 105-No | --- | 630-No | 53-No | --- | 504-No | 84-No | --- |



**ANOKA COUNTY HIGHWAY
PC-WARRANTS
TRAFFIC SIGNAL WARRANT ANALYSIS**

Study Name : TMC1230
Study Date : 07/27/12
Page No. : 1

Multi-Way Stop Warrant Report

Major Street Approaches

Northbound: CSAH 52
Total Approach Volume: 6,469
85% Speed > 40 MPH.

Southbound: CSAH 52
Total Approach Volume: 5,438
85% Speed > 40 MPH.

Minor Street Approaches

Eastbound: Cloud Drive
Total Approach Volume: 521

Westbound: Cloud Drive
Total Approach Volume: 1,294

Warrant Summary

Criteria A - Interim Measure Not Evaluated
If traffic signals are justified, stop signs can be installed as an interim measure.

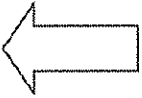
Criteria B - Crash Experience Not Evaluated

Criteria C - Minimum Volumes and Delays Not Satisfied
Delay data not evaluated
Required volumes reached for 4 hours, 8 are needed

Criteria D - 80% of Volumes, Delays, and Crashes Not Evaluated
Delay data not evaluated
Number of crashes (-1) is less than the minimum required (4).
Required volumes reached for 15 hours, 8 are needed

Analysis of 8 Hour Volume Warrants:

| Time | Major Total | Minor Total | Crit C | | | Crit D | | |
|---------------|-------------|-------------|---------|------------|--------|------------|------------|--------|
| | | | Major | Minor Crit | Meets? | Major Crit | Minor Crit | Meets? |
| 06:30 - 07:30 | 1,141 | 140 | 210-Yes | 140-Yes | Both | 240-Yes | 160-No | Major |
| 16:00 - 17:00 | 1,477 | 152 | 210-Yes | 140-Yes | Both | 240-Yes | 160-No | Major |
| 17:00 - 18:00 | 1,477 | 182 | 210-Yes | 140-Yes | Both | 240-Yes | 160-Yes | Both |
| 18:00 - 19:00 | 919 | 149 | 210-Yes | 140-Yes | Both | 240-Yes | 160-No | Major |
| 05:30 - 06:30 | 305 | 51 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 05:45 - 06:45 | 532 | 80 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 06:00 - 07:00 | 792 | 110 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 06:15 - 07:15 | 983 | 133 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 07:30 - 08:30 | 895 | 135 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 07:45 - 08:45 | 784 | 133 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 08:00 - 09:00 | 685 | 126 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 08:15 - 09:15 | 592 | 124 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 08:30 - 09:30 | 546 | 115 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 08:45 - 09:45 | 520 | 117 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 09:00 - 10:00 | 499 | 119 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 09:15 - 10:15 | 492 | 98 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 09:30 - 10:30 | 495 | 105 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 09:45 - 10:45 | 496 | 98 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 10:00 - 11:00 | 471 | 87 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 10:15 - 11:15 | 476 | 90 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 10:30 - 11:30 | 473 | 78 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 10:45 - 11:45 | 492 | 76 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 11:00 - 12:00 | 523 | 83 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |
| 11:15 - 12:15 | 528 | 86 | 210-Yes | 140-No | Major | 240-Yes | 160-No | Major |



NORTH

COUNT LOCATION:

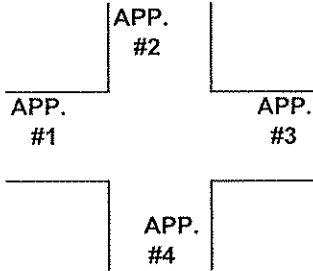
CSAH 52 (Radisson Road)

DATE:

07/26/2012

@ Cloud Drive

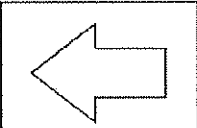
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| APP. #1 = CSAH 52 |
| APP. #2 = Cloud Drive |
| APP. #3 = CSAH 52 |
| APP. #4 = Cloud Drive |



- HEAVY VEHICLE- ANY VEHICLE HAVING MORE THAN FOUR TIRES TOUCHING THE PAVEMENT
- A. TRUCKS- A HEAVY VEHICLE INVOLVED PRIMARILY IN THE TRANSPORT OF GOODS OR IN THE DELIVERY OF A SERVICE.
 - B. RV- A HEAVY VEHICLE OPERATED BY A PRIVATE MOTORIST AND INVOLVED IN THE TRANSPORT OF RECREATIONAL EQUIPMENT OR FACILITIES.
 - C. BUSES- A HEAVY VEHICLE INVOLVED IN THE TRANSPORTATION OF GROUPS OF PEOPLE.

| TIME | PEDESTRIANS | | | | | HEAVY VEHICLES | | |
|---------------------|-------------|---------|---------|---------|--------------|---------------------|--------------|------------|
| | APP. #1 | APP. #2 | APP. #3 | APP. #4 | 15 MIN TOT | TRUCKS | RV | BUS |
| 6:00-6:15AM | | | | | | 3 | | |
| 6:15-6:30 | | | | 1 | 1 | 4 | | |
| 6:30-6:45 | | | | | | 8 | | |
| 6:45-7:00 | | | | 1 | 1 | 8 | | 1 |
| HOURLY TOTAL | | | | | 2 | HOURLY TOTAL | | 24 |
| 7:00-7:15 | | | | 1 | 1 | 4 | | |
| 7:15-7:30 | | 2 | | | 2 | 10 | | |
| 7:30-7:45 | | | | 1 | 1 | 6 | | 1 |
| 7:45-8:00 | 1 | 1 | | | 2 | 8 | | |
| HOURLY TOTAL | | | | | 6 | HOURLY TOTAL | | 29 |
| 8:00-8:15 | | | | | | 9 | | 1 |
| 8:15-8:30 | | | | | | 7 | | |
| 8:30-8:45 | | 1 | | | 1 | 16 | | |
| 8:45-9:00 | | | | | | 7 | | 1 |
| HOURLY TOTAL | | | | | 1 | HOURLY TOTAL | | 41 |
| 9:00-9:15 | | 1 | | | 1 | 12 | | |
| 9:15-9:30 | | | 1 | 1 | 2 | 9 | | |
| 9:30-9:45 | 1 | | | | 1 | 10 | | |
| 9:45-10:00 | | | | | | 6 | | |
| HOURLY TOTAL | | | | | 4 | HOURLY TOTAL | | 37 |
| 10:00-10:15 | | | | | | 13 | | |
| 10:15-10:30 | | | | | | 12 | 1 | |
| 10:30-10:45 | | | 1 | | 1 | 11 | | |
| 10:45-11:00 | | | 3 | | 3 | 9 | | |
| HOURLY TOTAL | | | | | 4 | HOURLY TOTAL | | 46 |
| 11:00-11:15 | 1 | | 2 | | 3 | 8 | | |
| 11:15-11:30 | | | | | | 17 | | |
| 11:30-11:45 | 2 | 2 | 4 | | 8 | 8 | | |
| 11:45-12:00 | 1 | | | | 1 | 6 | 1 | |
| HOURLY TOTAL | | | | | 12 | HOURLY TOTAL | | 40 |
| 12:00-12:15 | | | 2 | | 2 | 8 | | |
| 12:15-12:30 | | | | | | 10 | | 1 |
| 12:30-12:45 | | 2 | | | 2 | 8 | | |
| 12:45-1:00 | | 1 | 1 | | 2 | 10 | | |
| HOURLY TOTAL | | | | | 6 | HOURLY TOTAL | | 37 |
| 1:00-1:15 | | | | | | 13 | | |
| 1:15-1:30 | | | | | | 14 | | |
| 1:30-1:45 | | | 1 | | 1 | 12 | | |
| 1:45-2:00 | | | 1 | | 1 | 16 | | |
| HOURLY TOTAL | | | | | 2 | HOURLY TOTAL | | 55 |
| | | | | | TOTAL | | TOTAL | 309 |

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COUNT LOCATION:

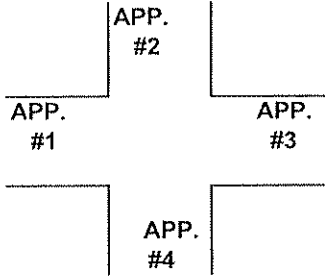
CSAH 52 (Radisson Road)

DATE:

07/23/2012

@ Cloud Drive

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| NORTH |
| APP. #1 = CSAH 52 |
| APP. #2 = Cloud Drive |
| APP. #3 = CSAH 52 |
| APP. #4 = Cloud Drive |



- HEAVY VEHICLE- ANY VEHICLE HAVING MORE THAN FOUR TIRES TOUCHING THE PAVEMENT
- A. TRUCKS- A HEAVY VEHICLE INVOLVED PRIMARILY IN THE TRANSPORT OF GOODS OR IN THE DELIVERY OF A SERVICE.
 - B. RV- A HEAVY VEHICLE OPERATED BY A PRIVATE MOTORIST AND INVOLVED IN THE TRANSPORT OF RECREATIONAL EQUIPMENT OR FACILITIES.
 - C. BUSES- A HEAVY VEHICLE INVOLVED IN THE TRANSPORTATION OF GROUPS OF PEOPLE.

| TIME | PEDESTRIANS | | | | | HEAVY VEHICLES | | |
|---------------------|-------------|---------|---------|---------|------------|---------------------|----|------------|
| | APP. #1 | APP. #2 | APP. #3 | APP. #4 | 15 MIN TOT | TRUCKS | RV | BUS |
| 2:00-2:15PM | | | | | | 5 | | |
| 2:15-2:30 | | | | | | 7 | | |
| 2:30-2:45 | | | | 1 | 1 | 6 | | |
| 2:45-3:00 | | | | | | 5 | | 1 |
| HOURLY TOTAL | | | | | 1 | HOURLY TOTAL | | 24 |
| 3:00-3:15 | | | | 1 | 1 | 12 | | |
| 3:15-3:30 | | | | | | 15 | | 1 |
| 3:30-3:45 | | | 5 | | 5 | 6 | | |
| 3:45-4:00 | | | 2 | | 2 | 11 | | |
| HOURLY TOTAL | | | | | 8 | HOURLY TOTAL | | 45 |
| 4:00-4:15 | | | 6 | | 6 | 4 | | |
| 4:15-4:30 | | | | | | 6 | | |
| 4:30-4:45 | | | 1 | | 1 | 6 | 1 | |
| 4:45-5:00 | | | 2 | | 2 | 7 | | |
| HOURLY TOTAL | | | | | 9 | HOURLY TOTAL | | 24 |
| 5:00-5:15 | | | 1 | | 1 | 4 | | |
| 5:15-5:30 | | | 2 | 3 | 5 | 4 | | |
| 5:30-5:45 | | | | | | | | |
| 5:45-6:00 | | | | | | 6 | | |
| HOURLY TOTAL | | | | | 6 | HOURLY TOTAL | | 14 |
| 6:00-6:15 | | | | 1 | 1 | 7 | | |
| 6:15-6:30 | | 1 | | | 1 | | | |
| 6:30-6:45 | | | | 2 | 2 | | | |
| 6:45-7:00 | | | 2 | | 2 | 1 | | |
| HOURLY TOTAL | | | | | 6 | HOURLY TOTAL | | 8 |
| 7:00-7:15 | | | 1 | | 1 | 2 | | |
| 7:15-7:30 | | | | 1 | 1 | 1 | | |
| 7:30-7:45 | | 2 | | | 2 | | | |
| 7:45-8:00 | 1 | | | | 1 | 3 | | |
| HOURLY TOTAL | | | | | 5 | HOURLY TOTAL | | 6 |
| 8:00-8:15 | | 2 | 1 | | 3 | | | |
| 8:15-8:30 | | | 1 | | 1 | | | |
| 8:30-8:45 | | 2 | | | 2 | 2 | | |
| 8:45-9:00 | | | | 2 | 2 | 1 | | |
| HOURLY TOTAL | | | | | 8 | HOURLY TOTAL | | 3 |
| 9:00-9:15 | | | | | | 1 | | |
| 9:15-9:30 | | | | | | 2 | | |
| 9:30-9:45 | | | | | | | | |
| 9:45-10:00 | | | | | | | | |
| HOURLY TOTAL | | | | | | HOURLY TOTAL | | 3 |
| TOTAL | | | | | 80 | TOTAL | | 436 |

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