

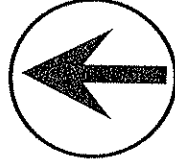
Date : 07/10/13

Count Number : TMC1321

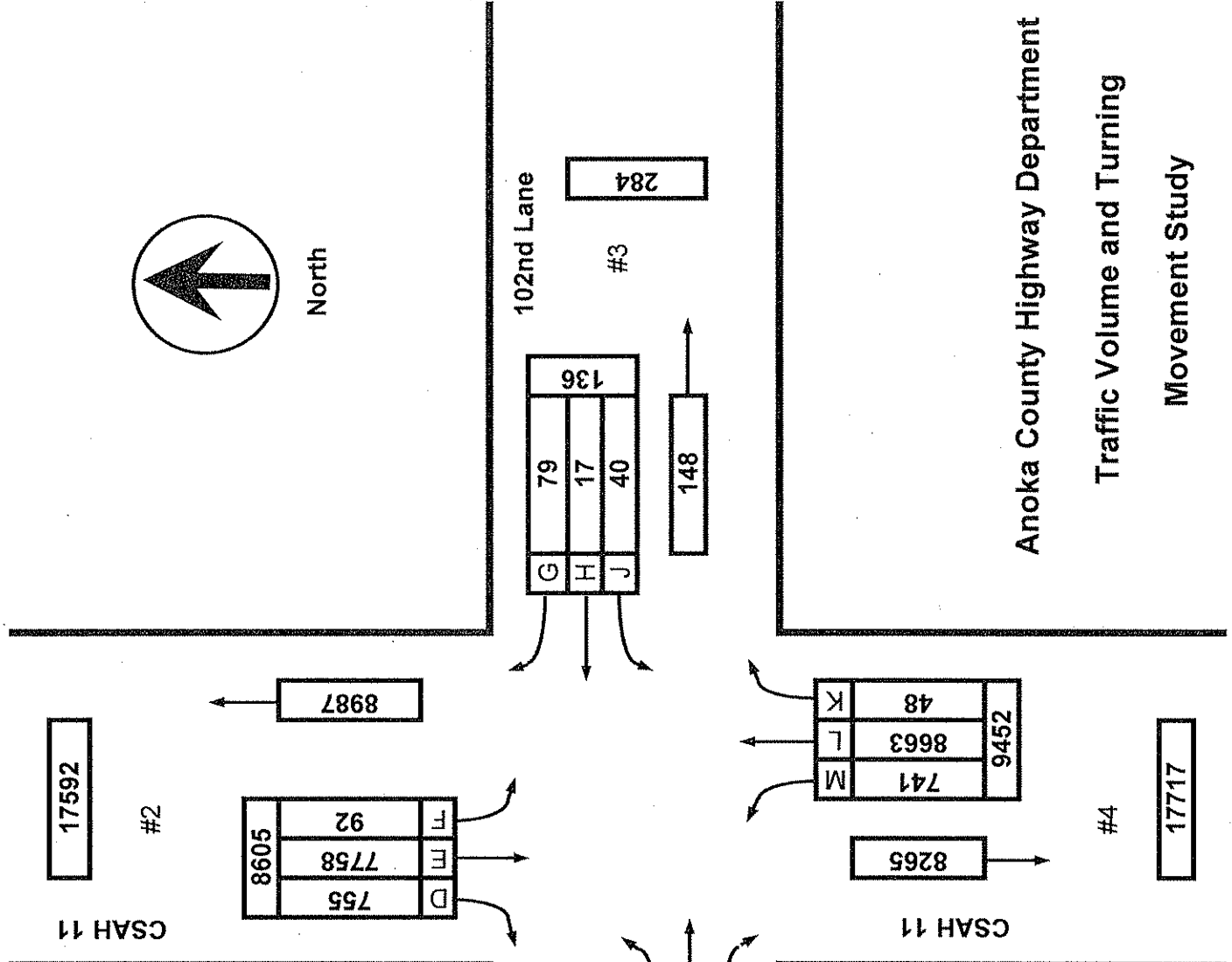
Location : CSAH 11 (Foley Blvd.)

@ 102nd Lane

Collection Period : 6 AM - 10 PM



North



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

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Date : 07/10/13

Count Number : TMC1321

Location : CSAH 11 (Foley Blvd.)

@ 102nd Lane

Collection Period : AM PEAK

Hour : 7:00 - 8:00 AM



North

1355

#2

CSAH 11

| | | |
|------|---|---|
| 1159 | 8 | F |
| 1110 | | E |
| 41 | | D |

196

102nd Lane

#1

87

58

| | | | |
|----|---|----|---|
| 28 | C | B | A |
| 3 | 0 | 26 | |

102nd Ave.

#3

13

| | |
|---|---|
| 2 | 4 |
| 0 | |
| 2 | |

9

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

CSAH 11

1138

#4

1347

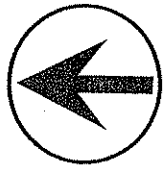
| | |
|-----|---|
| 1 | K |
| 191 | L |
| 17 | M |
| 209 | |

Anoka County Highway Department

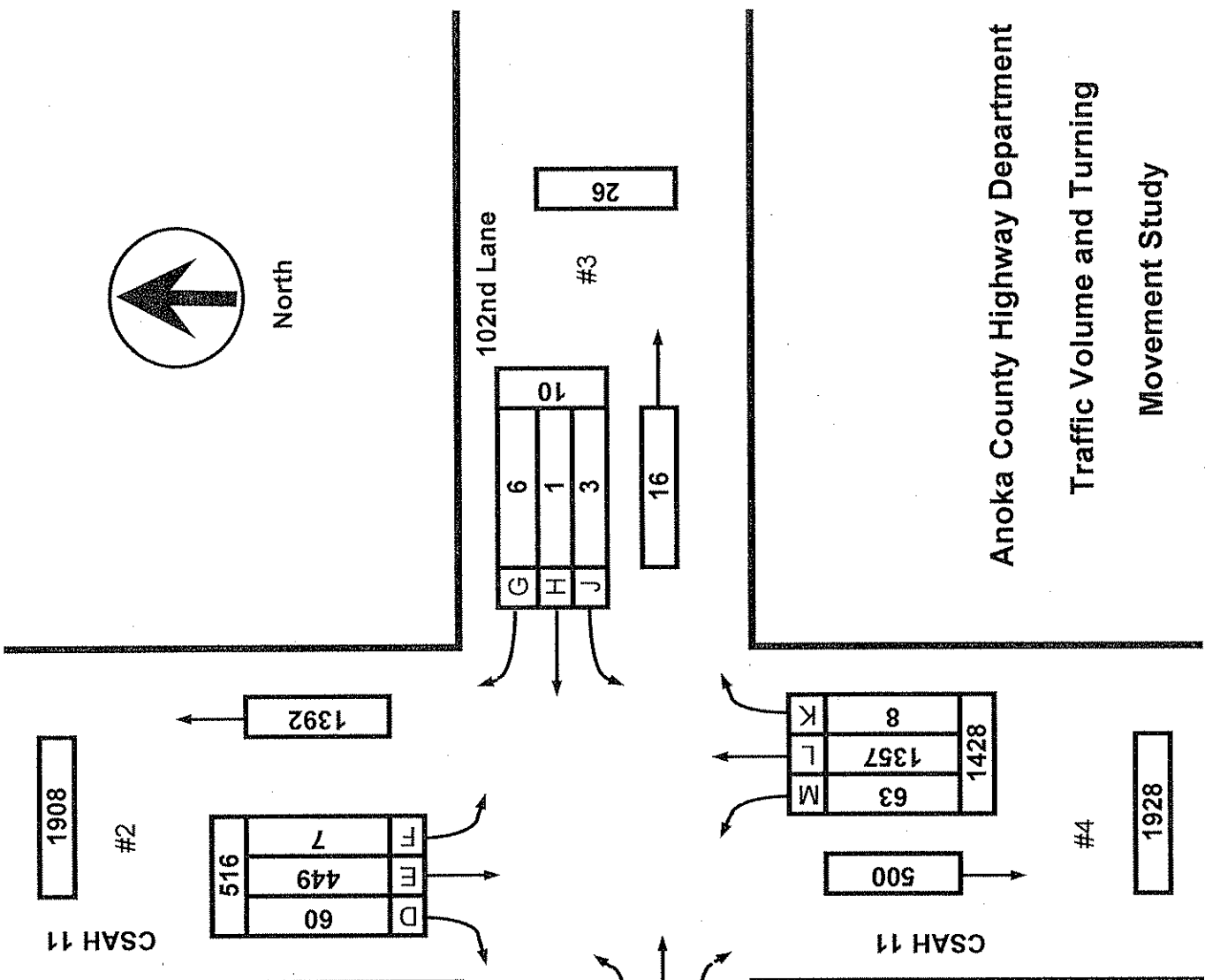
Traffic Volume and Turning

Movement Study

Date : 07/09/13
 Count Number : TMC1321
 Location : CSAH 11 (Foley Blvd.)
 @ 102nd Lane
 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 | 1 | 0 | 1 | 2 |
| #2 | 0 | 1 | 2 | 3 |
| #3 | 0 | 0 | 1 | 1 |
| #4 | 0 | 1 | 2 | 3 |

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 : tmc 1321
 Site Code : 13210202
 Start Date : 07/09/2013
 Page No : 1

Weather: Hot and Muggy
 Counter: DB-400
 Study Conducted By: Kate and Katelyn

Groups Printed- Unshifted

| Start Time | CSAH 11 Southbound | | | | | 102nd Lane Westbound | | | | | CSAH 11 Northbound | | | | | 102nd Ave. 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 | 2 | 239 | 5 | 2 | 246 | 1 | 0 | 1 | 0 | 2 | 3 | 30 | 1 | 1 | 34 | 1 | 0 | 5 | 0 | 6 | 3 | 288 | 291 |
| 06:15 | 0 | 238 | 12 | 2 | 250 | 0 | 0 | 0 | 0 | 0 | 3 | 32 | 0 | 1 | 35 | 0 | 0 | 9 | 0 | 9 | 3 | 294 | 297 |
| 06:30 | 0 | 250 | 7 | 2 | 257 | 1 | 0 | 0 | 0 | 1 | 3 | 45 | 1 | 2 | 49 | 1 | 0 | 7 | 0 | 8 | 4 | 315 | 319 |
| 06:45 | 3 | 281 | 14 | 3 | 298 | 1 | 0 | 0 | 0 | 1 | 5 | 34 | 0 | 1 | 39 | 2 | 0 | 11 | 0 | 13 | 4 | 351 | 355 |
| Total | 5 | 1008 | 38 | 9 | 1051 | 3 | 0 | 1 | 0 | 4 | 14 | 141 | 2 | 5 | 157 | 4 | 0 | 32 | 0 | 36 | 14 | 1248 | 1262 |
| 07:00 | 2 | 294 | 10 | 2 | 306 | 0 | 0 | 1 | 0 | 1 | 2 | 40 | 0 | 3 | 42 | 0 | 0 | 6 | 0 | 6 | 5 | 355 | 360 |
| 07:15 | 2 | 297 | 9 | 6 | 308 | 0 | 0 | 0 | 0 | 0 | 4 | 49 | 0 | 5 | 53 | 0 | 0 | 6 | 0 | 6 | 11 | 367 | 378 |
| 07:30 | 1 | 259 | 7 | 2 | 267 | 1 | 0 | 0 | 0 | 1 | 7 | 42 | 0 | 3 | 49 | 1 | 0 | 6 | 0 | 7 | 5 | 324 | 329 |
| 07:45 | 3 | 260 | 15 | 2 | 278 | 1 | 0 | 1 | 0 | 2 | 4 | 60 | 1 | 2 | 65 | 2 | 0 | 8 | 0 | 10 | 4 | 355 | 359 |
| Total | 8 | 1110 | 41 | 12 | 1159 | 2 | 0 | 2 | 0 | 4 | 17 | 191 | 1 | 13 | 209 | 3 | 0 | 26 | 0 | 29 | 25 | 1401 | 1426 |
| 08:00 | 0 | 186 | 16 | 3 | 202 | 2 | 0 | 1 | 0 | 3 | 7 | 58 | 1 | 0 | 66 | 0 | 0 | 9 | 1 | 9 | 4 | 280 | 284 |
| 08:15 | 1 | 156 | 13 | 3 | 170 | 0 | 0 | 2 | 0 | 2 | 5 | 53 | 0 | 3 | 58 | 1 | 0 | 5 | 0 | 6 | 6 | 236 | 242 |
| 08:30 | 0 | 169 | 12 | 2 | 181 | 0 | 0 | 1 | 0 | 1 | 8 | 60 | 1 | 2 | 69 | 1 | 1 | 7 | 1 | 9 | 5 | 260 | 265 |
| 08:45 | 2 | 163 | 11 | 4 | 176 | 2 | 0 | 3 | 0 | 5 | 8 | 68 | 1 | 1 | 77 | 3 | 0 | 9 | 1 | 12 | 6 | 270 | 276 |
| Total | 3 | 674 | 52 | 12 | 729 | 4 | 0 | 7 | 0 | 11 | 28 | 239 | 3 | 6 | 270 | 5 | 1 | 30 | 3 | 36 | 21 | 1046 | 1067 |
| 09:00 | 1 | 113 | 15 | 0 | 129 | 1 | 1 | 1 | 1 | 3 | 12 | 59 | 1 | 2 | 72 | 4 | 0 | 6 | 0 | 10 | 3 | 214 | 217 |
| 09:15 | 1 | 94 | 15 | 1 | 110 | 0 | 1 | 1 | 0 | 2 | 9 | 66 | 1 | 2 | 76 | 2 | 0 | 4 | 0 | 6 | 3 | 194 | 197 |
| 09:30 | 2 | 124 | 14 | 4 | 140 | 1 | 1 | 1 | 0 | 3 | 21 | 61 | 1 | 1 | 83 | 6 | 0 | 10 | 0 | 16 | 5 | 242 | 247 |
| 09:45 | 1 | 109 | 19 | 1 | 129 | 0 | 0 | 0 | 0 | 0 | 9 | 75 | 1 | 3 | 85 | 5 | 0 | 7 | 0 | 12 | 4 | 226 | 230 |
| Total | 5 | 440 | 63 | 6 | 508 | 2 | 3 | 3 | 1 | 8 | 51 | 261 | 4 | 8 | 316 | 17 | 0 | 27 | 0 | 44 | 15 | 876 | 891 |
| 10:00 | 2 | 89 | 19 | 2 | 110 | 0 | 1 | 0 | 0 | 1 | 13 | 71 | 1 | 2 | 85 | 5 | 0 | 11 | 1 | 16 | 5 | 212 | 217 |
| 10:15 | 1 | 98 | 10 | 3 | 109 | 3 | 0 | 3 | 0 | 6 | 21 | 85 | 0 | 3 | 106 | 7 | 0 | 5 | 0 | 12 | 6 | 233 | 239 |
| 10:30 | 0 | 111 | 25 | 2 | 136 | 0 | 1 | 2 | 0 | 3 | 18 | 73 | 0 | 1 | 91 | 1 | 2 | 17 | 0 | 20 | 3 | 250 | 253 |
| 10:45 | 2 | 95 | 24 | 0 | 121 | 0 | 0 | 0 | 0 | 0 | 15 | 122 | 0 | 2 | 137 | 8 | 0 | 11 | 0 | 19 | 2 | 277 | 279 |
| Total | 5 | 393 | 78 | 7 | 476 | 3 | 2 | 5 | 0 | 10 | 67 | 351 | 1 | 8 | 419 | 21 | 2 | 44 | 1 | 67 | 16 | 972 | 988 |
| 11:00 | 1 | 69 | 24 | 5 | 94 | 0 | 1 | 2 | 0 | 3 | 17 | 88 | 1 | 0 | 106 | 3 | 0 | 7 | 0 | 10 | 5 | 213 | 218 |
| 11:15 | 2 | 83 | 17 | 3 | 102 | 1 | 0 | 1 | 0 | 2 | 18 | 87 | 0 | 0 | 105 | 2 | 0 | 12 | 0 | 14 | 3 | 223 | 226 |
| 11:30 | 2 | 99 | 7 | 4 | 108 | 1 | 0 | 2 | 1 | 3 | 10 | 89 | 0 | 2 | 99 | 5 | 0 | 3 | 1 | 8 | 8 | 218 | 226 |
| 11:45 | 0 | 93 | 20 | 1 | 113 | 0 | 1 | 1 | 0 | 2 | 16 | 108 | 1 | 1 | 125 | 4 | 1 | 11 | 0 | 16 | 2 | 256 | 258 |
| Total | 5 | 344 | 68 | 13 | 417 | 2 | 2 | 6 | 1 | 10 | 61 | 372 | 2 | 3 | 435 | 14 | 1 | 33 | 1 | 48 | 18 | 910 | 928 |
| 12:00 | 0 | 92 | 15 | 0 | 107 | 0 | 1 | 1 | 0 | 2 | 17 | 109 | 0 | 3 | 126 | 3 | 0 | 13 | 0 | 16 | 3 | 251 | 254 |
| 12:15 | 2 | 92 | 14 | 4 | 108 | 1 | 0 | 0 | 0 | 1 | 13 | 114 | 0 | 2 | 127 | 7 | 0 | 6 | 0 | 13 | 6 | 249 | 255 |
| 12:30 | 0 | 96 | 15 | 2 | 111 | 0 | 0 | 0 | 0 | 0 | 19 | 125 | 0 | 2 | 144 | 2 | 0 | 13 | 0 | 15 | 4 | 270 | 274 |
| 12:45 | 0 | 111 | 5 | 3 | 116 | 0 | 0 | 0 | 0 | 0 | 17 | 120 | 0 | 2 | 137 | 6 | 0 | 8 | 0 | 14 | 5 | 267 | 272 |
| Total | 2 | 391 | 49 | 9 | 442 | 1 | 1 | 1 | 0 | 3 | 66 | 468 | 0 | 9 | 534 | 18 | 0 | 40 | 0 | 58 | 18 | 1037 | 1055 |
| 13:00 | 4 | 121 | 20 | 2 | 145 | 1 | 0 | 1 | 0 | 2 | 17 | 107 | 0 | 3 | 124 | 8 | 0 | 7 | 0 | 15 | 5 | 286 | 291 |
| 13:15 | 2 | 138 | 15 | 1 | 155 | 0 | 0 | 1 | 0 | 1 | 20 | 99 | 1 | 1 | 120 | 6 | 0 | 8 | 1 | 14 | 3 | 290 | 293 |
| 13:30 | 3 | 122 | 13 | 0 | 138 | 2 | 2 | 1 | 0 | 5 | 21 | 134 | 3 | 3 | 158 | 5 | 0 | 12 | 0 | 17 | 3 | 318 | 321 |
| 13:45 | 3 | 97 | 14 | 2 | 114 | 0 | 0 | 0 | 0 | 0 | 17 | 127 | 0 | 3 | 144 | 4 | 0 | 7 | 0 | 11 | 5 | 269 | 274 |
| Total | 12 | 478 | 62 | 5 | 552 | 3 | 2 | 3 | 0 | 8 | 75 | 467 | 4 | 10 | 546 | 23 | 0 | 34 | 1 | 57 | 16 | 1163 | 1179 |
| 14:00 | 3 | 130 | 12 | 0 | 145 | 1 | 0 | 1 | 0 | 2 | 26 | 123 | 1 | 4 | 150 | 2 | 1 | 11 | 0 | 14 | 4 | 311 | 315 |
| 14:15 | 2 | 88 | 13 | 1 | 103 | 0 | 0 | 1 | 0 | 1 | 17 | 144 | 1 | 3 | 162 | 4 | 0 | 10 | 0 | 14 | 4 | 280 | 284 |
| 14:30 | 4 | 89 | 16 | 5 | 109 | 0 | 0 | 4 | 0 | 4 | 17 | 151 | 2 | 3 | 170 | 7 | 0 | 10 | 0 | 17 | 8 | 300 | 308 |
| 14:45 | 2 | 90 | 16 | 1 | 108 | 0 | 0 | 4 | 0 | 4 | 25 | 187 | 1 | 3 | 213 | 7 | 0 | 6 | 0 | 13 | 4 | 338 | 342 |
| Total | 11 | 397 | 57 | 7 | 465 | 1 | 0 | 10 | 0 | 11 | 85 | 605 | 5 | 13 | 695 | 20 | 1 | 37 | 0 | 58 | 20 | 1229 | 1249 |
| 15:00 | 1 | 99 | 13 | 2 | 113 | 1 | 1 | 1 | 0 | 3 | 14 | 146 | 2 | 3 | 162 | 6 | 1 | 9 | 0 | 16 | 5 | 294 | 299 |
| 15:15 | 2 | 72 | 20 | 3 | 94 | 1 | 1 | 0 | 0 | 2 | 23 | 227 | 4 | 4 | 254 | 3 | 1 | 10 | 0 | 14 | 7 | 364 | 371 |
| 15:30 | 3 | 97 | 16 | 2 | 116 | 0 | 0 | 4 | 0 | 4 | 21 | 226 | 0 | 2 | 247 | 5 | 0 | 11 | 0 | 16 | 4 | 383 | 387 |
| 15:45 | 3 | 93 | 20 | 0 | 116 | 0 | 0 | 0 | 0 | 0 | 19 | 249 | 1 | 0 | 269 | 10 | 0 | 10 | 0 | 20 | 0 | 405 | 405 |
| Total | 9 | 361 | 69 | 7 | 439 | 2 | 2 | 5 | 0 | 9 | 77 | 848 | 7 | 9 | 932 | 24 | 2 | 40 | 0 | 66 | 16 | 1446 | 1462 |
| 16:00 | 1 | 106 | 20 | 1 | 127 | 0 | 0 | 2 | 0 | 2 | 17 | 280 | 1 | 1 | 298 | 6 | 0 | 8 | 0 | 14 | 2 | 441 | 443 |
| 16:15 | 1 | 82 | 14 | 2 | 97 | 0 | 0 | 2 | 0 | 2 | 17 | 303 | 0 | 2 | 320 | 6 | 0 | 13 | 1 | 19 | 5 | 438 | 443 |
| 16:30 | 0 | 113 | 20 | 5 | 133 | 1 | 0 | 2 | 0 | 3 | 16 | 339 | 2 | 0 | 357 | 10 | 0 | 13 | 0 | 23 | 5 | 516 | 521 |
| 16:45 | 5 | 122 | 20 | 5 | 147 | 0 | 0 | 1 | 0 | 1 | 17 | 347 | 0 | 0 | 364 | 5 | 1 | 16 | 0 | 22 | 5 | 534 | 539 |
| Total | 7 | 423 | 74 | 13 | 504 | 1 | 0 | 7 | 0 | 8 | 67 | 1269 | 3 | 3 | 1339 | 27 | 1 | 50 | 1 | 78 | 17 | 1929 | 1946 |
| 17:00 | 1 | 119 | 11 | 2 | 131 | 0 | 1 | 3 | 0 | 4 | 13 | 319 | 1 | 1 | 333 | 8 | 0 | 10 | 1 | 18 | 4 | 486 | 490 |
| 17:15 | 1 | 95 | 9 | 0 | 105 | 2 | 0 | 0 | 0 | 2 | 17 | 352 | 5 | 1 | 374 | 6 | 0 | 9 | 0 | 15 | 1 | 496 | 497 |
| 17:30 | 1 | 113 | 6 | 1 | 120 | 3 | 0 | 5 | 2 | 8 | 9 | 309 | 0 | 2 | 318 | 2 | 0 | 2 | 0 | 4 | 5 | 450 | 455 |



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : tmc 1321
 Site Code : 13210202
 Start Date : 07/09/2013
 Page No : 2

Weather: Hot and Muggy
 Counter: DB-400
 Study Conducted By: Kate and Katelyn

Groups Printed- Unshifted

| Start Time | CSAH 11 Southbound | | | | | 102nd Lane Westbound | | | | | CSAH 11 Northbound | | | | | 102nd Ave. Eastbound | | | | | Excl. Total | Incl. 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 | | | |
| 17:45 | 3 | 111 | 11 | 1 | 125 | 1 | 0 | 3 | 0 | 4 | 10 | 275 | 1 | 1 | 286 | 5 | 0 | 6 | 0 | 11 | 2 | 426 | 428 |
| Total | 6 | 438 | 37 | 4 | 481 | 6 | 1 | 11 | 2 | 18 | 49 | 1255 | 7 | 5 | 1311 | 21 | 0 | 27 | 1 | 48 | 12 | 1858 | 1870 |
| 18:00 | 3 | 105 | 2 | 1 | 110 | 1 | 0 | 1 | 0 | 2 | 12 | 226 | 2 | 2 | 240 | 3 | 0 | 4 | 0 | 7 | 3 | 359 | 362 |
| 18:15 | 0 | 108 | 4 | 0 | 112 | 0 | 0 | 1 | 0 | 1 | 4 | 222 | 1 | 0 | 227 | 1 | 0 | 3 | 0 | 4 | 0 | 344 | 344 |
| 18:30 | 0 | 110 | 4 | 2 | 114 | 0 | 1 | 1 | 0 | 2 | 8 | 192 | 0 | 1 | 200 | 3 | 0 | 3 | 0 | 6 | 3 | 322 | 325 |
| 18:45 | 1 | 89 | 8 | 0 | 98 | 0 | 2 | 0 | 0 | 2 | 7 | 170 | 0 | 0 | 177 | 2 | 0 | 3 | 0 | 5 | 0 | 282 | 282 |
| Total | 4 | 412 | 18 | 3 | 434 | 1 | 3 | 3 | 0 | 7 | 31 | 810 | 3 | 3 | 844 | 9 | 0 | 13 | 0 | 22 | 6 | 1307 | 1313 |
| 19:00 | 0 | 88 | 5 | 1 | 93 | 0 | 0 | 0 | 0 | 0 | 11 | 154 | 0 | 1 | 165 | 8 | 0 | 3 | 0 | 11 | 2 | 269 | 271 |
| 19:15 | 3 | 119 | 4 | 1 | 126 | 1 | 0 | 2 | 0 | 3 | 6 | 138 | 1 | 1 | 145 | 4 | 0 | 4 | 0 | 8 | 2 | 282 | 284 |
| 19:30 | 1 | 77 | 6 | 0 | 84 | 1 | 0 | 2 | 0 | 3 | 3 | 133 | 0 | 1 | 136 | 7 | 0 | 7 | 0 | 14 | 1 | 237 | 238 |
| 19:45 | 0 | 77 | 8 | 0 | 85 | 1 | 0 | 0 | 0 | 1 | 5 | 112 | 1 | 0 | 118 | 4 | 0 | 3 | 0 | 7 | 0 | 211 | 211 |
| Total | 4 | 361 | 23 | 2 | 388 | 3 | 0 | 4 | 0 | 7 | 25 | 537 | 2 | 3 | 564 | 23 | 0 | 17 | 0 | 40 | 5 | 999 | 1004 |
| 20:00 | 1 | 78 | 3 | 1 | 82 | 0 | 1 | 2 | 0 | 3 | 1 | 123 | 2 | 1 | 126 | 1 | 0 | 2 | 0 | 3 | 2 | 214 | 216 |
| 20:15 | 2 | 88 | 5 | 2 | 95 | 0 | 0 | 1 | 0 | 1 | 3 | 113 | 0 | 1 | 116 | 7 | 0 | 3 | 0 | 10 | 3 | 222 | 225 |
| 20:30 | 0 | 78 | 3 | 0 | 81 | 0 | 0 | 0 | 0 | 0 | 5 | 109 | 0 | 0 | 114 | 2 | 0 | 4 | 0 | 6 | 0 | 201 | 201 |
| 20:45 | 2 | 61 | 3 | 0 | 66 | 2 | 0 | 1 | 0 | 3 | 2 | 103 | 0 | 0 | 105 | 1 | 0 | 1 | 0 | 2 | 0 | 176 | 176 |
| Total | 5 | 305 | 14 | 3 | 324 | 2 | 1 | 4 | 0 | 7 | 11 | 448 | 2 | 2 | 461 | 11 | 0 | 10 | 0 | 21 | 5 | 813 | 818 |
| 21:00 | 0 | 61 | 2 | 1 | 63 | 0 | 0 | 1 | 0 | 1 | 8 | 100 | 1 | 0 | 109 | 1 | 0 | 4 | 0 | 5 | 1 | 178 | 179 |
| 21:15 | 0 | 62 | 4 | 1 | 66 | 0 | 0 | 4 | 0 | 4 | 5 | 102 | 1 | 0 | 108 | 2 | 0 | 2 | 0 | 4 | 1 | 182 | 183 |
| 21:30 | 1 | 56 | 4 | 0 | 61 | 3 | 0 | 1 | 0 | 4 | 3 | 96 | 0 | 1 | 99 | 2 | 0 | 1 | 0 | 3 | 1 | 167 | 168 |
| 21:45 | 0 | 44 | 2 | 0 | 46 | 1 | 0 | 1 | 0 | 2 | 1 | 103 | 0 | 0 | 104 | 0 | 0 | 0 | 0 | 0 | 0 | 152 | 152 |
| Total | 1 | 223 | 12 | 2 | 236 | 4 | 0 | 7 | 0 | 11 | 17 | 401 | 2 | 1 | 420 | 5 | 0 | 7 | 0 | 12 | 3 | 679 | 682 |
| Grand Total | 92 | 7758 | 755 | 114 | 8605 | 40 | 17 | 79 | 4 | 136 | 741 | 8663 | 48 | 101 | 9452 | 245 | 8 | 467 | 8 | 720 | 227 | 18913 | 19140 |
| Apprch % | 1.1 | 90.2 | 8.8 | | | 29.4 | 12.5 | 58.1 | | | 7.8 | 91.7 | 0.5 | | | 34 | 1.1 | 64.9 | | | | | |
| Total % | 0.5 | 41 | 4 | | 45.5 | 0.2 | 0.1 | 0.4 | | 0.7 | 3.9 | 45.8 | 0.3 | | 50 | 1.3 | 0 | 2.5 | | 3.8 | 1.2 | 98.8 | |

| Start Time | CSAH 11 Southbound | | | | 102nd Lane Westbound | | | | CSAH 11 Northbound | | | | 102nd Ave. 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 07:00 | | | | | | | | | | | | | | | | | |
| 07:00 | 2 | 294 | 10 | 306 | 0 | 0 | 1 | 1 | 2 | 40 | 0 | 42 | 0 | 0 | 6 | 6 | 355 |
| 07:15 | 2 | 297 | 9 | 308 | 0 | 0 | 0 | 0 | 4 | 49 | 0 | 53 | 0 | 0 | 6 | 6 | 367 |
| 07:30 | 1 | 259 | 7 | 267 | 1 | 0 | 0 | 1 | 7 | 42 | 0 | 49 | 1 | 0 | 6 | 7 | 324 |
| 07:45 | 3 | 260 | 15 | 278 | 1 | 0 | 1 | 2 | 4 | 60 | 1 | 65 | 2 | 0 | 8 | 10 | 355 |
| Total Volume | 8 | 1110 | 41 | 1159 | 2 | 0 | 2 | 4 | 17 | 191 | 1 | 209 | 3 | 0 | 26 | 29 | 1401 |
| % App. Total | 0.7 | 95.8 | 3.5 | | 50 | 0 | 50 | | 8.1 | 91.4 | 0.5 | | 10.3 | 0 | 89.7 | | |
| PHF | .667 | .934 | .683 | .941 | .500 | .000 | .500 | .500 | .607 | .796 | .250 | .804 | .375 | .000 | .813 | .725 | .954 |

| Start Time | CSAH 11 Southbound | | | | 102nd Lane Westbound | | | | CSAH 11 Northbound | | | | 102nd Ave. 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 | 0 | 113 | 20 | 133 | 1 | 0 | 2 | 3 | 16 | 339 | 2 | 357 | 10 | 0 | 13 | 23 | 516 |
| 16:45 | 5 | 122 | 20 | 147 | 0 | 0 | 1 | 1 | 17 | 347 | 0 | 364 | 5 | 1 | 16 | 22 | 534 |
| 17:00 | 1 | 119 | 11 | 131 | 0 | 1 | 3 | 4 | 13 | 319 | 1 | 333 | 8 | 0 | 10 | 18 | 486 |
| 17:15 | 1 | 95 | 9 | 105 | 2 | 0 | 0 | 2 | 17 | 352 | 5 | 374 | 6 | 0 | 9 | 15 | 496 |
| Total Volume | 7 | 449 | 60 | 516 | 3 | 1 | 6 | 10 | 63 | 1357 | 8 | 1428 | 29 | 1 | 48 | 78 | 2032 |
| % App. Total | 1.4 | 87 | 11.6 | | 30 | 10 | 60 | | 4.4 | 95 | 0.6 | | 37.2 | 1.3 | 61.5 | | |
| PHF | .350 | .920 | .750 | .878 | .375 | .250 | .500 | .625 | .926 | .964 | .400 | .955 | .725 | .250 | .750 | .848 | .951 |



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

Study Name : TMC 1321
Study Date : 07/12/13
Page No. : 1

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 11
Number of Lanes: 2
85% Speed < 40 MPH.
Total Approach Volume: **9,452**

Southbound: CSAH 11
Number of Lanes: 2
85% Speed < 40 MPH.
Total Approach Volume: **8,605**

Minor Street Approaches

Eastbound: 102nd Ave.
Number of Lanes: 2

Total Approach Volume: **720**

Westbound: 102nd Lane
Number of Lanes: 1

Total Approach Volume: **136**

Warrant Summary (Urban values apply.)

- Warrant 1 - Eight Hour Vehicular Volumes** **Not Satisfied**
 - Warrant 1A - Minimum Vehicular Volume** **Not Satisfied**
Required volumes reached for 0 hours, 8 are needed
 - Warrant 1B - Interruption of Continuous Traffic** **Not Satisfied**
Required volumes reached for 0 hours, 8 are needed
 - Warrant 1 A&B - Combination of Warrants** **Not Satisfied**
Required volumes reached for 0 hours, 8 are needed

- Warrant 2 - Four Hour Volumes** **Not Satisfied**
Number of hours (0) volumes exceed minimum < minimum required (4).

- Warrant 3 - Peak Hour** **Not Satisfied**
 - Warrant 3A - Peak Hour Delay** **Not Satisfied**
Approach volumes on minor street don't exceed minimums for any hour. Delay data not evaluated.
 - Warrant 3B - Peak Hour Volumes** **Not Satisfied**
Volumes do not exceed minimums for any 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**

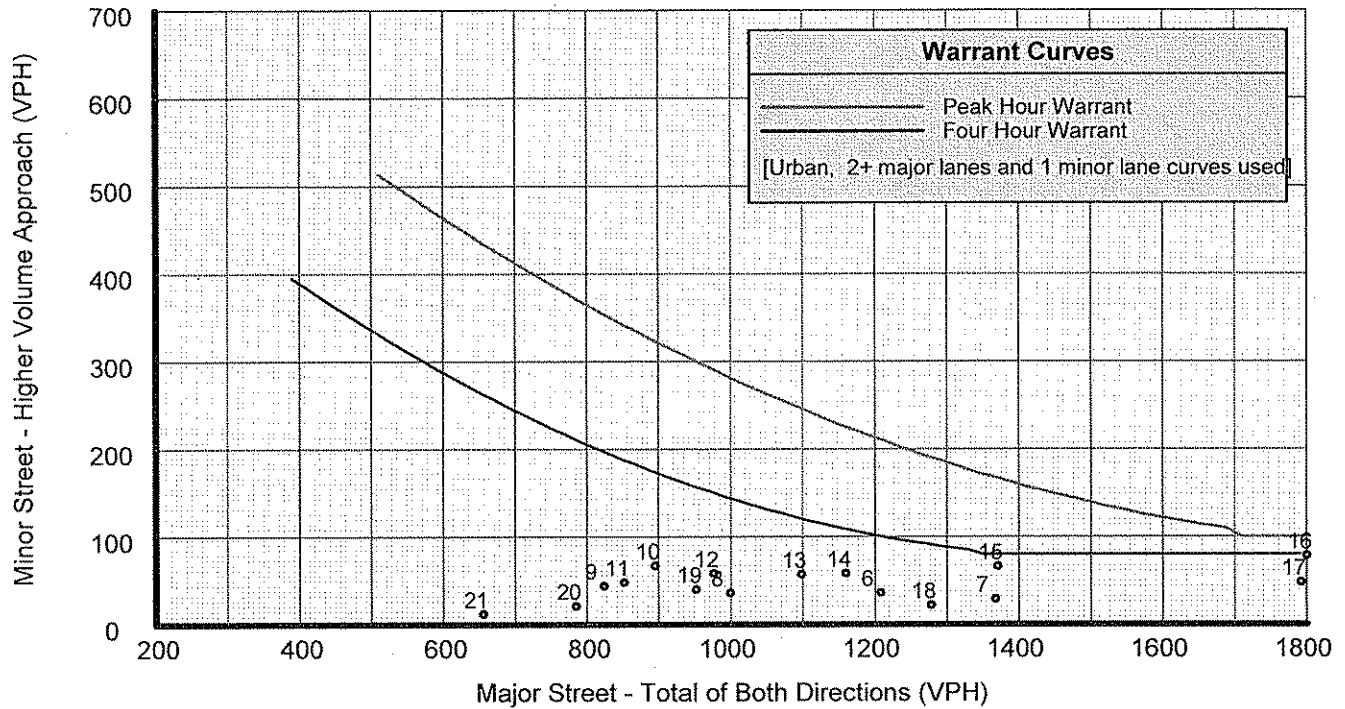
- Warrant 9 - Intersection Near a Grade Crossing** **Not Evaluated**



ANOKA COUNTY HIGHWAY PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name : TMC 1321
Study Date : 07/12/13
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 | 600-No | 150-No | --- | 900-No | 75-No | --- | 720-No | 120-No | --- |
| 01:00 | 0 | 0 | EB | 600-No | 150-No | --- | 900-No | 75-No | --- | 720-No | 120-No | --- |
| 02:00 | 0 | 0 | EB | 600-No | 150-No | --- | 900-No | 75-No | --- | 720-No | 120-No | --- |
| 03:00 | 0 | 0 | EB | 600-No | 150-No | --- | 900-No | 75-No | --- | 720-No | 120-No | --- |
| 04:00 | 0 | 0 | EB | 600-No | 150-No | --- | 900-No | 75-No | --- | 720-No | 120-No | --- |
| 05:00 | 0 | 0 | EB | 600-No | 150-No | --- | 900-No | 75-No | --- | 720-No | 120-No | --- |
| 06:00 | 1,208 | 36 | EB | 600-Yes | 200-No | Major | 900-Yes | 100-No | Major | 720-Yes | 160-No | Major |
| 07:00 | 1,368 | 29 | EB | 600-Yes | 200-No | Major | 900-Yes | 100-No | Major | 720-Yes | 160-No | Major |
| 08:00 | 999 | 36 | EB | 600-Yes | 200-No | Major | 900-Yes | 100-No | Major | 720-Yes | 160-No | Major |
| 09:00 | 824 | 44 | EB | 600-Yes | 200-No | Major | 900-No | 100-No | --- | 720-Yes | 160-No | Major |
| 10:00 | 895 | 67 | EB | 600-Yes | 200-No | Major | 900-No | 100-No | --- | 720-Yes | 160-No | Major |
| 11:00 | 852 | 48 | EB | 600-Yes | 200-No | Major | 900-No | 100-No | --- | 720-Yes | 160-No | Major |
| 12:00 | 976 | 58 | EB | 600-Yes | 200-No | Major | 900-Yes | 100-No | Major | 720-Yes | 160-No | Major |
| 13:00 | 1,098 | 57 | EB | 600-Yes | 200-No | Major | 900-Yes | 100-No | Major | 720-Yes | 160-No | Major |
| 14:00 | 1,160 | 58 | EB | 600-Yes | 200-No | Major | 900-Yes | 100-No | Major | 720-Yes | 160-No | Major |
| 15:00 | 1,371 | 66 | EB | 600-Yes | 200-No | Major | 900-Yes | 100-No | Major | 720-Yes | 160-No | Major |
| 16:00 | 1,843 | 78 | EB | 600-Yes | 200-No | Major | 900-Yes | 100-No | Major | 720-Yes | 160-No | Major |
| 17:00 | 1,792 | 48 | EB | 600-Yes | 200-No | Major | 900-Yes | 100-No | Major | 720-Yes | 160-No | Major |
| 18:00 | 1,278 | 22 | EB | 600-Yes | 200-No | Major | 900-Yes | 100-No | Major | 720-Yes | 160-No | Major |
| 19:00 | 952 | 40 | EB | 600-Yes | 200-No | Major | 900-Yes | 100-No | Major | 720-Yes | 160-No | Major |
| 20:00 | 785 | 21 | EB | 600-Yes | 200-No | Major | 900-No | 100-No | --- | 720-Yes | 160-No | Major |
| 21:00 | 656 | 12 | EB | 600-Yes | 200-No | Major | 900-No | 100-No | --- | 720-No | 160-No | --- |
| 22:00 | 0 | 0 | EB | 600-No | 150-No | --- | 900-No | 75-No | --- | 720-No | 120-No | --- |
| 23:00 | 0 | 0 | EB | 600-No | 150-No | --- | 900-No | 75-No | --- | 720-No | 120-No | --- |



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

Study Name : TMC 1321 MW
Study Date : 07/12/13
Page No. : 1

Multi-Way Stop Warrant Report

Major Street Approaches

Northbound: CSAH 11
Total Approach Volume: 9,452
85% Speed < 40 MPH.

Southbound: CSAH 11
Total Approach Volume: 8,605
85% Speed < 40 MPH.

Minor Street Approaches

Eastbound: 102nd Ave.
Total Approach Volume: 720

Westbound: 102nd Lane
Total Approach Volume: 136

Warrant Summary

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

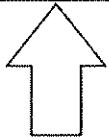
Criteria B - Crash Experience Not Evaluated

Criteria C - Minimum Volumes and Delays Not Satisfied
Delay data not evaluated
Required volumes reached for 0 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 16 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? |
| 05:30 - 06:30 | 565 | 17 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 05:45 - 06:45 | 871 | 26 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 06:00 - 07:00 | 1,208 | 40 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 06:15 - 07:15 | 1,276 | 39 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 06:30 - 07:30 | 1,352 | 36 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 06:45 - 07:45 | 1,362 | 35 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 07:00 - 08:00 | 1,368 | 33 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 07:15 - 08:15 | 1,288 | 38 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 07:30 - 08:30 | 1,155 | 40 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 07:45 - 08:45 | 1,089 | 42 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 08:00 - 09:00 | 999 | 47 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 08:15 - 09:15 | 932 | 48 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 08:30 - 09:30 | 890 | 48 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 08:45 - 09:45 | 863 | 57 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 09:00 - 10:00 | 824 | 52 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 09:15 - 10:15 | 818 | 56 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 09:30 - 10:30 | 847 | 66 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 09:45 - 10:45 | 851 | 70 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 10:00 - 11:00 | 895 | 77 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 10:15 - 11:15 | 900 | 73 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 10:30 - 11:30 | 892 | 71 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 10:45 - 11:45 | 872 | 59 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 11:00 - 12:00 | 852 | 58 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |
| 11:15 - 12:15 | 885 | 63 | 300-Yes | 200-No | Major | 240-Yes | 160-No | Major |



NORTH

COUNT LOCATION:

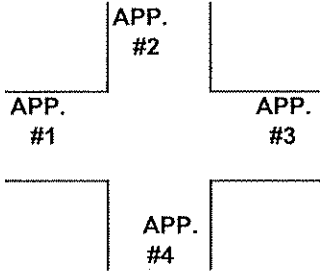
CSAH 11 (Foley Blvd.)

DATE:

07/10/2013

@ 102nd Lane

| |
|----------------------|
| APP. #1 = 102nd Ave. |
| APP. #2 = CSAH 11 |
| APP. #3 = 102nd Lane |
| APP. #4 = CSAH 11 |

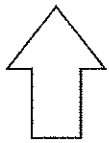


HEAVY VEHICLE- ANY VEHICLE HAVING MORE THAN FOUR TIRES TOUCHING THE PAVEMENT

- 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 | 2 | | 1 |
| 6:30-6:45 | | | | | | 4 | | |
| 6:45-7:00 | | | | | | 4 | | |
| HOURLY TOTAL | | | | | 1 | HOURLY TOTAL | | 14 |
| 7:00-7:15 | | 1 | | | 1 | 4 | | 1 |
| 7:15-7:30 | | | | | | 8 | | 3 |
| 7:30-7:45 | | | | | | 3 | | 2 |
| 7:45-8:00 | | 3 | | | 3 | 1 | | 3 |
| HOURLY TOTAL | | | | | 4 | HOURLY TOTAL | | 25 |
| 8:00-8:15 | | 1 | | | 1 | 4 | | |
| 8:15-8:30 | | | | 2 | 2 | 5 | | 1 |
| 8:30-8:45 | | | | | | 4 | | 1 |
| 8:45-9:00 | | | | | | 4 | | 2 |
| HOURLY TOTAL | | | | | 3 | HOURLY TOTAL | | 21 |
| 9:00-9:15 | | 2 | | | 2 | 2 | | 1 |
| 9:15-9:30 | | | | | | 3 | | |
| 9:30-9:45 | | | | | | 3 | | 2 |
| 9:45-10:00 | | | | | | 4 | | |
| HOURLY TOTAL | | | | | 2 | HOURLY TOTAL | | 15 |
| 10:00-10:15 | | | | | | 5 | | |
| 10:15-10:30 | | 1 | | | 1 | 6 | | |
| 10:30-10:45 | | | | | | 3 | | |
| 10:45-11:00 | 1 | 2 | | | 3 | 2 | | |
| HOURLY TOTAL | | | | | 4 | HOURLY TOTAL | | 16 |
| 11:00-11:15 | | | | | | 3 | | 2 |
| 11:15-11:30 | | | | | | 2 | | 1 |
| 11:30-11:45 | | | | | | 4 | | 4 |
| 11:45-12:00 | | | | | | 1 | | 1 |
| HOURLY TOTAL | | | | | | HOURLY TOTAL | | 18 |
| 12:00-12:15 | | 1 | | | 1 | 2 | | 1 |
| 12:15-12:30 | 1 | 3 | | | 4 | 5 | | 1 |
| 12:30-12:45 | | 1 | | 2 | 3 | 4 | | |
| 12:45-1:00 | 3 | 1 | | | 4 | 4 | | 1 |
| HOURLY TOTAL | | | | | 12 | HOURLY TOTAL | | 18 |
| 1:00-1:15 | | 1 | | 1 | 2 | 5 | | |
| 1:15-1:30 | | 5 | | 2 | 7 | 3 | | |
| 1:30-1:45 | | | | 3 | 3 | 1 | | 2 |
| 1:45-2:00 | | | | | | 5 | | |
| HOURLY TOTAL | | | | | 12 | HOURLY TOTAL | | 16 |
| | | | | TOTAL | 38 | | TOTAL | 143 |

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NORTH

COUNT LOCATION: _____

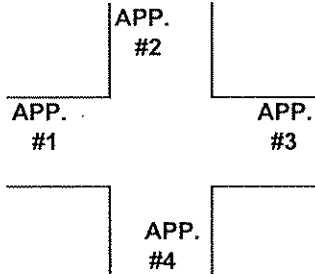
CSAH 11 (Foley Blvd.)

DATE: _____

07/09/2013

_____ @ 102nd Lane _____

| |
|----------------------|
| APP. #1 = 102nd Ave. |
| APP. #2 = CSAH 11 |
| APP. #3 = 102nd Lane |
| APP. #4 = CSAH 11 |



- 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.
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 - 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 | | | | | | 3 | | 1 |
| 2:15-2:30 | | 1 | | 1 | 2 | 2 | | 2 |
| 2:30-2:45 | | 1 | | 1 | 2 | 7 | | 1 |
| 2:45-3:00 | | 1 | | | 1 | 3 | | 1 |
| HOURLY TOTAL | | | | | 5 | HOURLY TOTAL | | 20 |
| 3:00-3:15 | | 1 | | 1 | 2 | 4 | | 1 |
| 3:15-3:30 | | 2 | 1 | 1 | 4 | 5 | | 2 |
| 3:30-3:45 | 1 | | | | 1 | 2 | | 2 |
| 3:45-4:00 | | 1 | | | 1 | | | |
| HOURLY TOTAL | | | | | 8 | HOURLY TOTAL | | 16 |
| 4:00-4:15 | | 4 | | | 4 | 1 | 1 | |
| 4:15-4:30 | | | | | | 3 | | |
| 4:30-4:45 | 1 | | | 4 | 5 | 5 | | |
| 4:45-5:00 | | | | | | 5 | | |
| HOURLY TOTAL | | | | | 9 | HOURLY TOTAL | | 15 |
| 5:00-5:15 | | | | | | 3 | | 1 |
| 5:15-5:30 | | | | | | 1 | | |
| 5:30-5:45 | | 1 | | | 1 | 3 | | 2 |
| 5:45-6:00 | | | | | | 2 | | |
| HOURLY TOTAL | | | | | 1 | HOURLY TOTAL | | 12 |
| 6:00-6:15 | | | | | | 2 | | 1 |
| 6:15-6:30 | | 1 | | | 1 | | | |
| 6:30-6:45 | | | | 1 | 1 | 2 | | 1 |
| 6:45-7:00 | | 1 | | | 1 | | | |
| HOURLY TOTAL | | | | | 3 | HOURLY TOTAL | | 6 |
| 7:00-7:15 | | 1 | 1 | 1 | 3 | 2 | | |
| 7:15-7:30 | | 2 | | 2 | 4 | 2 | | |
| 7:30-7:45 | | | 1 | | 1 | 1 | | |
| 7:45-8:00 | | | | 1 | 1 | | | |
| HOURLY TOTAL | | | | | 9 | HOURLY TOTAL | | 5 |
| 8:00-8:15 | | | | | | 2 | | |
| 8:15-8:30 | 1 | | | | 1 | 3 | | |
| 8:30-8:45 | | | | | | | | |
| 8:45-9:00 | | | | 3 | 3 | | | |
| HOURLY TOTAL | | | | | 4 | HOURLY TOTAL | | 5 |
| 9:00-9:15 | | | | 1 | 1 | 1 | | |
| 9:15-9:30 | | 2 | | | 2 | 1 | | |
| 9:30-9:45 | | | | | | 1 | | |
| 9:45-10:00 | | 2 | | | 2 | | | |
| HOURLY TOTAL | | | | | 5 | HOURLY TOTAL | | 3 |
| | | | | | TOTAL | | TOTAL | 225 |
| | | | | | 82 | | | |

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