

Date : 5/31/03

Count Number : TMC0325

Location : T.H. 47 @

CSAH 81 (Pederson Rd.)

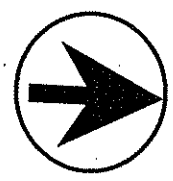
T.H. 47

6140

#2

|      |      |   |
|------|------|---|
| 2829 | 653  | D |
|      | 2124 | E |
|      | 52   | F |

3311



North

CSAH 81

|     |    |
|-----|----|
| G   | 31 |
| H   | 44 |
| J   | 45 |
| 120 |    |

197

317

#3

CSAH 81

|      |      |   |
|------|------|---|
| 2674 | 612  | C |
|      | 54   | B |
|      | 2008 | A |

3723

6397

#1

T.H. 47

4177

#4

|      |   |
|------|---|
| 3026 | M |
| 2668 | L |
| 91   | K |
| 5785 |   |

9962

LANES OF APPROACH

|    | RIGHT TURN LANE | LEFT TURN LANE | THRU LANES | TOTAL |
|----|-----------------|----------------|------------|-------|
| #1 | 0               | 0              | 1          | 1     |
| #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

Traffic Volume and Turning Movement Study

Weather: Cloudy & Warm  
Counter TDC-8  
Counted by: Krystal/Shari

File Name : TMC0325  
Site Code : 03250201  
Start Date : 05/31/2003  
Page No : 1

Groups Printed- 1 - Unshifted

| Start Time | T.H. 47 Southbound |      |      |       |       | CSAH 81 Westbound |      |      |       |       | T.H. 47 Northbound |      |      |       |       | CSAH 81 Eastbound |      |      |       |       | Exclu. Total | Inclu. Total | Int. Total |            |
|------------|--------------------|------|------|-------|-------|-------------------|------|------|-------|-------|--------------------|------|------|-------|-------|-------------------|------|------|-------|-------|--------------|--------------|------------|------------|
|            | Factor             | Left | Thru | Right | Heavy | App. Total        | Left | Thru | Right | Heavy | App. Total         | Left | Thru | Right | Heavy | App. Total        | Left | Thru | Right | Heavy |              |              |            | App. Total |
| 06:00      | 1.0                | 54   | 9    | 1     | 63    | 1.0               | 0    | 0    | 0     | 1     | 1.0                | 9    | 4    | 0     | 1     | 13                | 1.0  | 0    | 39    | 1     | 40           | 3            | 117        | 120        |
| 06:15      | 1.0                | 75   | 8    | 1     | 83    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 9    | 10   | 0     | 3     | 19                | 1.0  | 0    | 55    | 3     | 64           | 7            | 166        | 173        |
| 06:30      | 1.0                | 81   | 9    | 11    | 93    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 12   | 14   | 0     | 3     | 26                | 1.0  | 4    | 52    | 1     | 59           | 15           | 178        | 193        |
| 06:45      | 1.0                | 63   | 12   | 12    | 78    | 1.0               | 2    | 0    | 0     | 3     | 1.0                | 19   | 13   | 2     | 5     | 34                | 1.0  | 2    | 58    | 3     | 72           | 20           | 187        | 207        |
| Total      | 6                  | 273  | 38   | 25    | 317   | 2                 | 2    | 0    | 0     | 4     | 49                 | 41   | 2    | 12    | 92    | 16                | 15   | 204  | 8     | 235   | 45           | 648          | 693        |            |
| 07:00      | 1.0                | 77   | 11   | 9     | 101   | 1.0               | 6    | 1    | 0     | 9     | 1.0                | 22   | 26   | 5     | 13    | 53                | 1.0  | 5    | 61    | 5     | 80           | 27           | 243        | 270        |
| 07:15      | 1.0                | 70   | 13   | 13    | 91    | 1.0               | 3    | 4    | 7     | 14    | 1.0                | 17   | 21   | 5     | 11    | 43                | 1.0  | 5    | 81    | 5     | 99           | 34           | 247        | 281        |
| 07:30      | 1.0                | 80   | 17   | 12    | 101   | 1.0               | 0    | 4    | 2     | 6     | 1.0                | 23   | 28   | 3     | 10    | 54                | 1.0  | 5    | 49    | 8     | 56           | 30           | 217        | 247        |
| 07:45      | 1.0                | 53   | 6    | 3     | 59    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 29   | 10   | 0     | 6     | 39                | 1.0  | 7    | 45    | 4     | 52           | 13           | 150        | 163        |
| Total      | 25                 | 280  | 47   | 37    | 352   | 5                 | 14   | 10   | 5     | 29    | 91                 | 85   | 13   | 40    | 189   | 22                | 29   | 236  | 22    | 287   | 104          | 857          | 961        |            |
| 08:00      | 1.0                | 55   | 18   | 10    | 73    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 12   | 29   | 0     | 9     | 41                | 1.0  | 8    | 35    | 8     | 43           | 27           | 157        | 184        |
| 08:15      | 1.0                | 30   | 5    | 2     | 35    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 17   | 12   | 0     | 3     | 29                | 1.0  | 7    | 35    | 3     | 42           | 8            | 106        | 114        |
| 08:30      | 1.0                | 38   | 10   | 6     | 49    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 21   | 9    | 0     | 4     | 30                | 1.0  | 7    | 36    | 6     | 43           | 16           | 122        | 138        |
| 08:45      | 1.0                | 46   | 14   | 10    | 60    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 23   | 18   | 0     | 7     | 41                | 1.0  | 6    | 45    | 9     | 51           | 26           | 152        | 178        |
| Total      | 1                  | 169  | 47   | 28    | 217   | 0                 | 0    | 0    | 0     | 0     | 73                 | 68   | 0    | 23    | 141   | 28                | 0    | 151  | 26    | 179   | 77           | 537          | 614        |            |
| 09:00      | 1.0                | 54   | 5    | 6     | 59    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 31   | 24   | 0     | 7     | 55                | 1.0  | 6    | 46    | 4     | 52           | 17           | 166        | 183        |
| 09:15      | 1.0                | 24   | 8    | 10    | 33    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 16   | 14   | 0     | 7     | 30                | 1.0  | 11   | 57    | 3     | 68           | 20           | 131        | 151        |
| 09:30      | 1.0                | 22   | 11   | 5     | 33    | 1.0               | 0    | 0    | 1     | 1     | 1.0                | 13   | 11   | 0     | 5     | 24                | 1.0  | 2    | 17    | 1     | 19           | 12           | 77         | 89         |
| 09:45      | 1.0                | 18   | 11   | 1     | 29    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 14   | 12   | 0     | 6     | 26                | 1.0  | 7    | 34    | 5     | 41           | 12           | 96         | 108        |
| Total      | 1                  | 118  | 35   | 22    | 154   | 1                 | 0    | 0    | 1     | 1     | 74                 | 61   | 0    | 25    | 135   | 26                | 0    | 154  | 13    | 180   | 61           | 470          | 531        |            |
| 10:00      | 1.0                | 24   | 12   | 7     | 38    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 16   | 13   | 0     | 6     | 29                | 1.0  | 9    | 19    | 2     | 28           | 15           | 95         | 110        |
| 10:15      | 1.0                | 30   | 11   | 8     | 41    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 16   | 11   | 0     | 3     | 27                | 1.0  | 10   | 34    | 7     | 44           | 18           | 112        | 130        |
| 10:30      | 1.0                | 29   | 6    | 6     | 36    | 1.0               | 0    | 0    | 0     | 1     | 1.0                | 15   | 18   | 0     | 7     | 33                | 1.0  | 3    | 18    | 4     | 21           | 17           | 91         | 108        |
| 10:45      | 1.0                | 20   | 15   | 4     | 35    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 14   | 13   | 0     | 4     | 27                | 1.0  | 7    | 16    | 2     | 23           | 10           | 85         | 95         |
| Total      | 3                  | 103  | 44   | 25    | 150   | 1                 | 0    | 0    | 0     | 1     | 61                 | 55   | 0    | 20    | 116   | 29                | 0    | 87   | 15    | 116   | 60           | 383          | 443        |            |
| 11:00      | 1.0                | 16   | 10   | 4     | 26    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 28   | 28   | 1     | 8     | 57                | 1.0  | 8    | 15    | 3     | 23           | 15           | 106        | 121        |
| 11:15      | 1.0                | 27   | 10   | 6     | 38    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 21   | 22   | 0     | 3     | 43                | 1.0  | 2    | 13    | 0     | 15           | 9            | 96         | 105        |
| 11:30      | 1.0                | 22   | 10   | 5     | 32    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 26   | 19   | 0     | 5     | 45                | 1.0  | 1    | 20    | 1     | 21           | 11           | 98         | 109        |
| 11:45      | 1.0                | 7    | 2    | 1     | 9     | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 24   | 7    | 0     | 4     | 31                | 1.0  | 7    | 16    | 2     | 23           | 7            | 63         | 70         |
| Total      | 1                  | 72   | 32   | 16    | 105   | 0                 | 0    | 0    | 0     | 0     | 99                 | 76   | 1    | 20    | 176   | 18                | 0    | 64   | 6     | 82    | 42           | 363          | 405        |            |
| 12:00      | 1.0                | 20   | 7    | 5     | 28    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 29   | 27   | 0     | 7     | 56                | 1.0  | 10   | 24    | 1     | 34           | 13           | 118        | 131        |
| 12:15      | 1.0                | 22   | 6    | 4     | 28    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 33   | 19   | 0     | 6     | 52                | 1.0  | 8    | 32    | 1     | 40           | 11           | 120        | 131        |
| 12:30      | 1.0                | 28   | 12   | 7     | 40    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 25   | 19   | 0     | 4     | 44                | 1.0  | 13   | 59    | 4     | 73           | 15           | 157        | 172        |
| 12:45      | 1.0                | 20   | 18   | 8     | 38    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 25   | 13   | 0     | 6     | 38                | 1.0  | 11   | 39    | 5     | 50           | 19           | 126        | 145        |
| Total      | 1                  | 90   | 43   | 24    | 134   | 0                 | 0    | 0    | 0     | 0     | 112                | 78   | 0    | 23    | 190   | 42                | 1    | 154  | 11    | 197   | 58           | 521          | 579        |            |
| 13:00      | 1.0                | 27   | 7    | 3     | 35    | 1.0               | 0    | 0    | 0     | 1     | 1.0                | 24   | 13   | 0     | 2     | 37                | 1.0  | 10   | 24    | 2     | 34           | 7            | 107        | 114        |
| 13:15      | 1.0                | 19   | 10   | 2     | 29    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 39   | 18   | 0     | 5     | 57                | 1.0  | 11   | 29    | 2     | 40           | 9            | 126        | 135        |
| 13:30      | 1.0                | 27   | 4    | 2     | 31    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 21   | 26   | 0     | 8     | 47                | 1.0  | 6    | 16    | 0     | 23           | 10           | 101        | 111        |
| 13:45      | 1.0                | 10   | 4    | 2     | 15    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 26   | 37   | 0     | 11    | 63                | 1.0  | 10   | 17    | 3     | 27           | 16           | 105        | 121        |
| Total      | 2                  | 83   | 25   | 9     | 110   | 1                 | 0    | 0    | 0     | 1     | 110                | 94   | 0    | 26    | 204   | 37                | 1    | 86   | 7     | 124   | 42           | 439          | 481        |            |
| 14:00      | 1.0                | 44   | 11   | 9     | 55    | 1.0               | 2    | 0    | 0     | 2     | 1.0                | 45   | 39   | 0     | 15    | 84                | 1.0  | 17   | 31    | 6     | 49           | 30           | 190        | 220        |
| 14:15      | 1.0                | 52   | 15   | 11    | 68    | 1.0               | 1    | 0    | 1     | 2     | 1.0                | 37   | 46   | 8     | 4     | 91                | 1.0  | 12   | 24    | 2     | 38           | 17           | 199        | 216        |
| 14:30      | 1.0                | 33   | 8    | 6     | 44    | 1.0               | 11   | 9    | 15    | 35    | 1.0                | 57   | 60   | 2     | 9     | 119               | 1.0  | 21   | 34    | 2     | 56           | 17           | 254        | 271        |
| 14:45      | 1.0                | 32   | 13   | 4     | 45    | 1.0               | 1    | 1    | 1     | 3     | 1.0                | 77   | 43   | 1     | 4     | 121               | 1.0  | 12   | 31    | 0     | 43           | 8            | 212        | 220        |
| Total      | 4                  | 161  | 47   | 30    | 212   | 13                | 12   | 17   | 0     | 42    | 216                | 188  | 11   | 32    | 415   | 62                | 4    | 120  | 10    | 186   | 72           | 855          | 927        |            |
| 15:00      | 1.0                | 30   | 12   | 6     | 42    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 77   | 50   | 1     | 8     | 128               | 1.0  | 7    | 28    | 1     | 35           | 15           | 205        | 220        |
| 15:15      | 1.0                | 41   | 15   | 4     | 56    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 84   | 86   | 0     | 4     | 170               | 1.0  | 16   | 28    | 0     | 44           | 8            | 270        | 278        |
| 15:30      | 1.0                | 37   | 14   | 6     | 53    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 81   | 74   | 2     | 10    | 157               | 1.0  | 10   | 24    | 2     | 34           | 18           | 244        | 262        |
| 15:45      | 1.0                | 27   | 2    | 4     | 29    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 105  | 106  | 0     | 9     | 211               | 1.0  | 9    | 49    | 5     | 58           | 18           | 298        | 316        |
| Total      | 2                  | 135  | 43   | 20    | 180   | 0                 | 0    | 0    | 0     | 0     | 347                | 316  | 3    | 31    | 666   | 42                | 0    | 129  | 8     | 171   | 59           | 1017         | 1076       |            |
| 16:00      | 1.0                | 30   | 12   | 3     | 42    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 122  | 96   | 1     | 14    | 219               | 1.0  | 21   | 34    | 4     | 56           | 21           | 317        | 338        |
| 16:15      | 1.0                | 33   | 12   | 5     | 45    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 92   | 116  | 0     | 9     | 208               | 1.0  | 23   | 22    | 3     | 45           | 17           | 298        | 315        |
| 16:30      | 1.0                | 39   | 11   | 2     | 50    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 120  | 116  | 0     | 9     | 236               | 1.0  | 13   | 33    | 3     | 46           | 14           | 332        | 346        |
| 16:45      | 1.0                | 32   | 12   | 4     | 44    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 111  | 109  | 1     | 9     | 221               | 1.0  | 8    | 29    | 3     | 37           | 16           | 302        | 318        |
| Total      | 0                  | 134  | 47   | 14    | 181   | 0                 | 0    | 0    | 0     | 0     | 445                | 437  | 2    | 41    | 884   | 65                | 1    | 118  | 13    | 184   | 68           | 1249         | 1317       |            |
| 17:00      | 1.0                | 38   | 7    | 2     | 45    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 102  | 112  | 1     | 15    | 215               | 1.0  | 11   | 32    | 3     | 43           | 20           | 303        | 323        |
| 17:15      | 1.0                | 43   | 15   | 8     | 58    | 1.0               | 0    | 0    | 0     | 0     | 1.0                | 118  | 91   | 1     | 5     | 210               | 1.0  | 25   | 41    | 3     | 66           | 16           | 334        | 350        |
| 17:30      | 1.0                | 36   | 15   | 7     | 52    | 1.0               | 1    | 0    | 1     | 2     | 1.0                | 93   | 100  | 14    | 7     | 207               | 1.0  | 22   | 46    | 1     | 68           | 15           | 329        | 344        |
| 17:45      | 1.0                | 32   | 8    | 2     | 41    | 1.0               | 1    | 3    | 0     | 4     | 1.0                | 100  | 103  | 4     | 6     | 207               | 1.0  | 14   | 39    | 3     | 53           | 11           | 305        | 316        |
| Total      | 2                  | 149  | 45   | 19    | 196   | 2                 | 3    | 1    | 0     | 6     | 413                | 406  | 20   | 33    | 839   | 72                | 0    | 168  | 10    | 230   | 62           | 1271         | 1333       |            |

Anoka County Highway Department  
Traffic Engineering  
Traffic Volume and Turning Movement Stud

Weather: Cloudy & Warm  
Counter TDC-8  
Counted by: Krystal/Shari

File Name : TMC0325  
Site Code : 03250201  
Start Date : 05/31/2003  
Page No : 2

Groups Printed- 1 - Unshifted

| Start Time  | T.H. 47 Southbound |      |       |       |            | CSAH 81 Westbound |      |       |       |            | T.H. 47 Northbound |      |       |       |            | CSAH 81 Eastbound |      |       |       |            | Exclu. Total | Inclu. Total | Int. Total |
|-------------|--------------------|------|-------|-------|------------|-------------------|------|-------|-------|------------|--------------------|------|-------|-------|------------|-------------------|------|-------|-------|------------|--------------|--------------|------------|
|             | Left               | Thru | Right | Heavy | App. Total | Left              | Thru | Right | Heavy | App. Total | Left               | Thru | Right | Heavy | App. Total | Left              | Thru | Right | Heavy | App. Total |              |              |            |
| Factor      | 1.0                | 1.0  | 1.0   | 1.0   |            | 1.0               | 1.0  | 1.0   | 1.0   |            | 1.0                | 1.0  | 1.0   | 1.0   |            | 1.0               | 1.0  | 1.0   | 1.0   |            |              |              |            |
| 18:00       | 0                  | 33   | 7     | 3     | 40         | 1                 | 0    | 0     | 0     | 1          | 86                 | 73   | 3     | 7     | 162        | 14                | 0    | 27    | 0     | 41         | 10           | 244          | 254        |
| 18:15       | 0                  | 38   | 17    | 3     | 55         | 1                 | 0    | 0     | 0     | 1          | 78                 | 106  | 12    | 6     | 194        | 6                 | 0    | 29    | 3     | 35         | 12           | 285          | 297        |
| 18:30       | 1                  | 27   | 12    | 0     | 40         | 0                 | 0    | 0     | 0     | 0          | 76                 | 84   | 12    | 2     | 172        | 11                | 1    | 32    | 1     | 44         | 3            | 256          | 259        |
| 18:45       | 0                  | 32   | 28    | 4     | 60         | 0                 | 0    | 0     | 0     | 0          | 82                 | 65   | 3     | 1     | 150        | 10                | 0    | 27    | 2     | 37         | 7            | 247          | 254        |
| Total       | 1                  | 130  | 64    | 10    | 195        | 2                 | 0    | 0     | 0     | 2          | 320                | 328  | 30    | 16    | 678        | 41                | 1    | 115   | 6     | 157        | 32           | 1032         | 1064       |
| 19:00       | 0                  | 15   | 9     | 2     | 24         | 1                 | 1    | 0     | 0     | 2          | 63                 | 67   | 1     | 3     | 131        | 12                | 2    | 24    | 1     | 38         | 6            | 195          | 201        |
| 19:15       | 0                  | 24   | 12    | 5     | 36         | 0                 | 0    | 0     | 0     | 0          | 72                 | 53   | 0     | 8     | 125        | 5                 | 0    | 26    | 2     | 31         | 15           | 192          | 207        |
| 19:30       | 2                  | 20   | 6     | 1     | 28         | 0                 | 2    | 0     | 0     | 2          | 63                 | 40   | 2     | 2     | 105        | 8                 | 0    | 22    | 2     | 30         | 5            | 165          | 170        |
| 19:45       | 0                  | 25   | 13    | 2     | 38         | 0                 | 2    | 0     | 0     | 2          | 48                 | 41   | 1     | 7     | 90         | 11                | 0    | 26    | 2     | 37         | 11           | 167          | 178        |
| Total       | 2                  | 84   | 40    | 10    | 126        | 1                 | 5    | 0     | 0     | 6          | 246                | 201  | 4     | 20    | 451        | 36                | 2    | 98    | 7     | 136        | 37           | 719          | 756        |
| 20:00       | 0                  | 17   | 13    | 1     | 30         | 1                 | 0    | 0     | 0     | 1          | 50                 | 38   | 2     | 2     | 90         | 8                 | 0    | 30    | 0     | 38         | 3            | 159          | 162        |
| 20:15       | 0                  | 15   | 6     | 1     | 21         | 0                 | 0    | 0     | 0     | 0          | 39                 | 34   | 0     | 4     | 73         | 21                | 0    | 25    | 0     | 46         | 5            | 140          | 145        |
| 20:30       | 0                  | 20   | 7     | 2     | 27         | 0                 | 2    | 0     | 0     | 2          | 59                 | 26   | 0     | 6     | 85         | 9                 | 0    | 9     | 0     | 18         | 8            | 132          | 140        |
| 20:45       | 0                  | 21   | 7     | 3     | 28         | 10                | 4    | 2     | 0     | 16         | 55                 | 27   | 0     | 2     | 82         | 8                 | 0    | 13    | 0     | 21         | 5            | 147          | 152        |
| Total       | 0                  | 73   | 33    | 7     | 106        | 11                | 6    | 2     | 0     | 19         | 203                | 125  | 2     | 14    | 330        | 46                | 0    | 77    | 0     | 123        | 21           | 578          | 599        |
| 21:00       | 1                  | 22   | 7     | 2     | 30         | 6                 | 2    | 1     | 0     | 9          | 48                 | 32   | 1     | 0     | 81         | 8                 | 0    | 8     | 2     | 16         | 4            | 136          | 140        |
| 21:15       | 0                  | 16   | 4     | 1     | 20         | 0                 | 0    | 0     | 0     | 0          | 47                 | 32   | 2     | 2     | 81         | 3                 | 0    | 22    | 0     | 25         | 3            | 126          | 129        |
| 21:30       | 0                  | 21   | 7     | 1     | 28         | 0                 | 0    | 0     | 0     | 0          | 46                 | 24   | 0     | 0     | 70         | 9                 | 0    | 13    | 0     | 22         | 1            | 120          | 121        |
| 21:45       | 0                  | 11   | 5     | 4     | 16         | 0                 | 0    | 0     | 0     | 0          | 26                 | 21   | 0     | 2     | 47         | 10                | 0    | 14    | 0     | 24         | 6            | 87           | 93         |
| Total       | 1                  | 70   | 23    | 8     | 94         | 6                 | 2    | 1     | 0     | 9          | 167                | 109  | 3     | 4     | 279        | 30                | 0    | 57    | 2     | 87         | 14           | 469          | 483        |
| Grand Total | 52                 | 212  | 653   | 304   | 2829       | 45                | 44   | 31    | 6     | 120        | 302                | 266  | 91    | 380   | 5785       | 612               | 54   | 200   | 164   | 2674       | 854          | 11408        | 12262      |
| Apprch %    | 1.8                | 75.1 | 23.1  |       |            | 37.5              | 36.7 | 25.8  |       |            | 52.3               | 46.1 | 1.6   |       |            | 22.9              | 2.0  | 75.1  |       |            |              |              |            |
| Total %     | 0.5                | 18.6 | 5.7   |       | 24.8       | 0.4               | 0.4  | 0.3   |       | 1.1        | 26.5               | 23.4 | 0.8   |       | 50.7       | 5.4               | 0.5  | 17.6  |       | 23.4       | 7.0          | 93.0         |            |

**ANOKA COUNTY HIGHWAY DEPARTMENT**

**PC-WARRANTS**

**TRAFFIC SIGNAL WARRANT ANALYSIS**

Study Name : TMC0325

Study Date : 06/18/03

Page No. : 1

**Signal Warrants - Summary**

**Major Street Approaches**

**Northbound: T.H. 47**

Number of Lanes: 2

Approach Speed: 55

Total Approach Volume: 5,785

**Southbound: T.H. 47**

Number of Lanes: 2

Approach Speed: 55

Total Approach Volume: 2,829

**Minor Street Approaches**

**Eastbound: CSAH 81**

Number of Lanes: 2

Total Approach Volume: 2,674

**Westbound: CSAH 81**

Number of Lanes: 2

Total Approach Volume: 120

**Warrant Summary (Rural values apply.)**

|  |                      |
|--|----------------------|
| <b>Warrant 1 - Eight Hour Vehicular Volumes</b> .....                                  | <b>Not Satisfied</b> |
| <b>Warrant 1A - Minimum Vehicular Volume</b> .....                                     | <b>Not Satisfied</b> |
| Required volumes reached for 6 hours, 8 are needed                                     |                      |
| <b>Warrant 1B - Interruption of Continuous Traffic</b> .....                           | <b>Not Satisfied</b> |
| Required volumes reached for 4 hours, 8 are needed                                     |                      |
| <b>Warrant 1 A&amp;B - Combination of Warrants</b> .....                               | <b>Not Satisfied</b> |
| Required volumes reached for 7 hours, 8 are needed                                     |                      |
| <b>Warrant 2 - Four Hour Volumes</b> .....   | <b>Satisfied</b>     |
| Number of hours (6) volumes exceed minimum >= minimum required (4).                    |                      |
| <b>Warrant 3 - Peak Hour</b> .....   | <b>Satisfied</b>     |
| <b>Warrant 3A - Peak Hour Volumes</b> .....  | <b>Satisfied</b>     |
| Volumes exceed minimums for at least one hour.   |                      |
| <b>Warrant 3B - Peak Hour Delay</b> .....  | <b>Satisfied</b>     |
| Number of hours (22) volumes exceed minimum >= required (1). Delay data not evaluated. |                      |
| <b>Warrant 4 - Pedestrian Volumes</b> .....  | <b>Not Evaluated</b> |
| <b>Warrant 5 - School Crossing</b> .....   | <b>Not Evaluated</b> |
| <b>Warrant 6 - Coordinated Signal System</b> .....                                     | <b>Not Evaluated</b> |
| <b>Warrant 7 - Crash Experience</b> .....  | <b>Not Evaluated</b> |
| <b>Warrant 8 - Roadway Network</b> .....   | <b>Not Evaluated</b> |

# ANOKA COUNTY HIGHWAY DEPARTMENT

## PC-WARRANTS

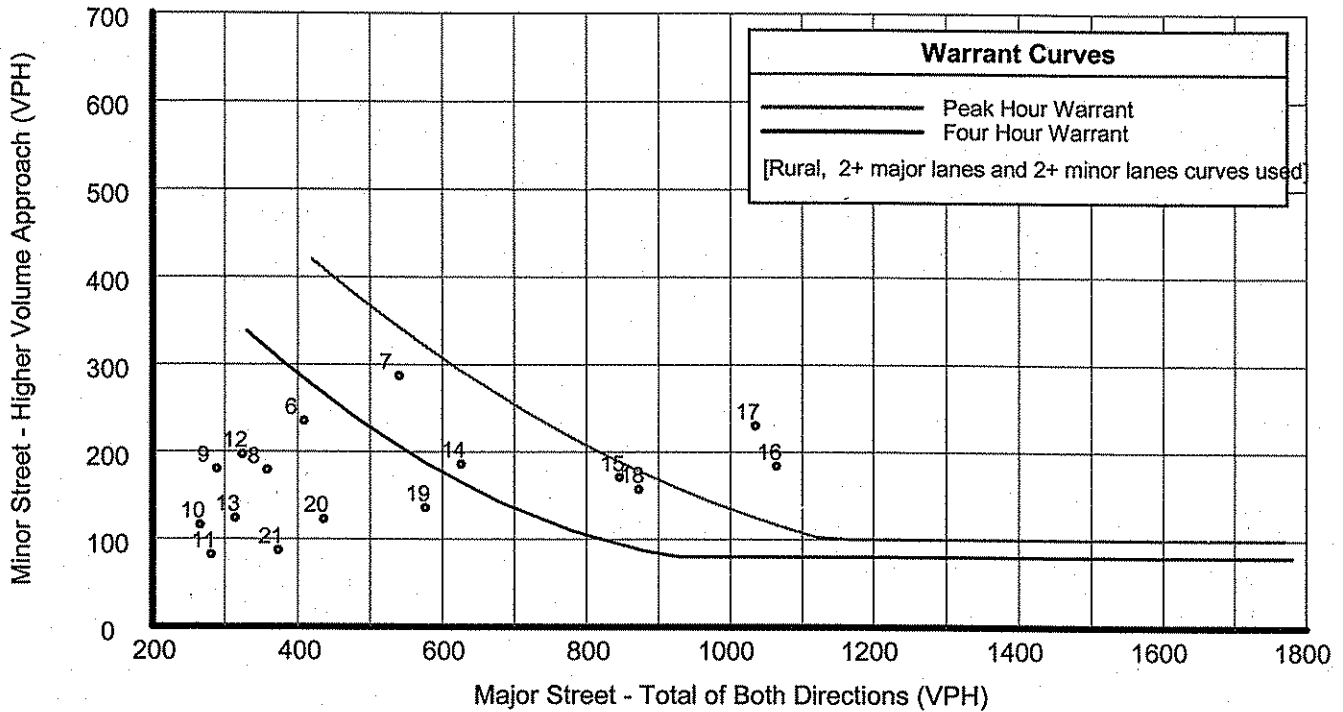
### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name : TMC0325

Study Date : 06/18/03

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     | 140-No     | ---    | 630-No     | 70-No      | ---    | 504-No     | 112-No     | ---    |
| 01:00      | 0           | 0                 | EB  | 420-No     | 140-No     | ---    | 630-No     | 70-No      | ---    | 504-No     | 112-No     | ---    |
| 02:00      | 0           | 0                 | EB  | 420-No     | 140-No     | ---    | 630-No     | 70-No      | ---    | 504-No     | 112-No     | ---    |
| 03:00      | 0           | 0                 | EB  | 420-No     | 140-No     | ---    | 630-No     | 70-No      | ---    | 504-No     | 112-No     | ---    |
| 04:00      | 0           | 0                 | EB  | 420-No     | 140-No     | ---    | 630-No     | 70-No      | ---    | 504-No     | 112-No     | ---    |
| 05:00      | 0           | 0                 | EB  | 420-No     | 140-No     | ---    | 630-No     | 70-No      | ---    | 504-No     | 112-No     | ---    |
| 06:00      | 409         | 235               | EB  | 420-No     | 140-Yes    | Minor  | 630-No     | 70-Yes     | Minor  | 504-No     | 112-Yes    | Minor  |
| 07:00      | 541         | 287               | EB  | 420-Yes    | 140-Yes    | Both   | 630-No     | 70-Yes     | Minor  | 504-Yes    | 112-Yes    | Both   |
| 08:00      | 358         | 179               | EB  | 420-No     | 140-Yes    | Minor  | 630-No     | 70-Yes     | Minor  | 504-No     | 112-Yes    | Minor  |
| 09:00      | 289         | 180               | EB  | 420-No     | 140-Yes    | Minor  | 630-No     | 70-Yes     | Minor  | 504-No     | 112-Yes    | Minor  |
| 10:00      | 266         | 116               | EB  | 420-No     | 140-No     | ---    | 630-No     | 70-Yes     | Minor  | 504-No     | 112-Yes    | Minor  |
| 11:00      | 281         | 82                | EB  | 420-No     | 140-No     | ---    | 630-No     | 70-Yes     | Minor  | 504-No     | 112-No     | ---    |
| 12:00      | 324         | 197               | EB  | 420-No     | 140-Yes    | Minor  | 630-No     | 70-Yes     | Minor  | 504-No     | 112-Yes    | Minor  |
| 13:00      | 314         | 124               | EB  | 420-No     | 140-No     | ---    | 630-No     | 70-Yes     | Minor  | 504-No     | 112-Yes    | Minor  |
| 14:00      | 627         | 186               | EB  | 420-Yes    | 140-Yes    | Both   | 630-No     | 70-Yes     | Minor  | 504-Yes    | 112-Yes    | Both   |
| 15:00      | 846         | 171               | EB  | 420-Yes    | 140-Yes    | Both   | 630-Yes    | 70-Yes     | Both   | 504-Yes    | 112-Yes    | Both   |
| 16:00      | 1,065       | 184               | EB  | 420-Yes    | 140-Yes    | Both   | 630-Yes    | 70-Yes     | Both   | 504-Yes    | 112-Yes    | Both   |
| 17:00      | 1,035       | 230               | EB  | 420-Yes    | 140-Yes    | Both   | 630-Yes    | 70-Yes     | Both   | 504-Yes    | 112-Yes    | Both   |
| 18:00      | 873         | 157               | EB  | 420-Yes    | 140-Yes    | Both   | 630-Yes    | 70-Yes     | Both   | 504-Yes    | 112-Yes    | Both   |
| 19:00      | 577         | 136               | EB  | 420-Yes    | 140-No     | Major  | 630-No     | 70-Yes     | Minor  | 504-Yes    | 112-Yes    | Both   |
| 20:00      | 436         | 123               | EB  | 420-Yes    | 140-No     | Major  | 630-No     | 70-Yes     | Minor  | 504-No     | 112-Yes    | Minor  |
| 21:00      | 373         | 87                | EB  | 420-No     | 140-No     | ---    | 630-No     | 70-Yes     | Minor  | 504-No     | 112-No     | ---    |
| 22:00      | 0           | 0                 | EB  | 420-No     | 140-No     | ---    | 630-No     | 70-No      | ---    | 504-No     | 112-No     | ---    |
| 23:00      | 0           | 0                 | EB  | 420-No     | 140-No     | ---    | 630-No     | 70-No      | ---    | 504-No     | 112-No     | ---    |

# ANOKA COUNTY HIGHWAY DEPARTMENT

## PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name : TMC0325  
Study Date : 06/18/03

### Multi-Way Stop Warrant Report

#### Major Street Approaches

**Northbound: T.H. 47**  
Total Approach Volume: 5,785  
Approach Speed: 55

**Southbound: T.H. 47**  
Total Approach Volume: 2,829  
Approach Speed: 55

#### Minor Street Approaches

**Eastbound: CSAH 81**  
Total Approach Volume: 2,674

**Westbound: CSAH 81**  
Total Approach Volume: 120

#### Warrant Summary

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

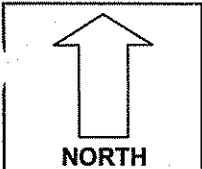
**Criteria B - Crash Experience** ..... Not Evaluated  
Number of crashes (0) is less than the minimum required (5).

**Criteria C - Minimum Volumes and Delays** ..... Satisfied  
Delay data not evaluated  
Required volumes reached for 12 hours, 8 are needed

**Criteria D - 80% of Volumes, Delays, and Crashes** ..... Not Evaluated  
Delay data not evaluated  
Required volumes reached for 8 hours, 8 are needed

#### Analysis of 8-Hour Volume Warrants:

| Time          | Major Crit |             | Crit C     |            |        | Crit D     |            |        |
|---------------|------------|-------------|------------|------------|--------|------------|------------|--------|
|               | Total      | Minor Total | Major Crit | Minor Crit | Meets? | Major Crit | Minor Crit | Meets? |
| 00:00 - 01:00 | 0          | 0           | 210-No     | 140-No     | No     | 240-No     | 160-No     | No     |
| 01:00 - 02:00 | 0          | 0           | 210-No     | 140-No     | No     | 240-No     | 160-No     | No     |
| 02:00 - 03:00 | 0          | 0           | 210-No     | 140-No     | No     | 240-No     | 160-No     | No     |
| 03:00 - 04:00 | 0          | 0           | 210-No     | 140-No     | No     | 240-No     | 160-No     | No     |
| 04:00 - 05:00 | 0          | 0           | 210-No     | 140-No     | No     | 240-No     | 160-No     | No     |
| 05:00 - 06:00 | 0          | 0           | 210-No     | 140-No     | No     | 240-No     | 160-No     | No     |
| 06:00 - 07:00 | 409        | 239         | 210-Yes    | 140-Yes    | Both   | 240-Yes    | 160-Yes    | Both   |
| 07:00 - 08:00 | 541        | 316         | 210-Yes    | 140-Yes    | Both   | 240-Yes    | 160-Yes    | Both   |
| 08:00 - 09:00 | 358        | 179         | 210-Yes    | 140-Yes    | Both   | 240-Yes    | 160-Yes    | Both   |
| 09:00 - 10:00 | 289        | 181         | 210-Yes    | 140-Yes    | Both   | 240-Yes    | 160-Yes    | Both   |
| 10:00 - 11:00 | 266        | 117         | 210-Yes    | 140-No     | Major  | 240-Yes    | 160-No     | Major  |
| 11:00 - 12:00 | 281        | 82          | 210-Yes    | 140-No     | Major  | 240-Yes    | 160-No     | Major  |
| 12:00 - 13:00 | 324        | 197         | 210-Yes    | 140-Yes    | Both   | 240-Yes    | 160-Yes    | Both   |
| 13:00 - 14:00 | 314        | 125         | 210-Yes    | 140-No     | Major  | 240-Yes    | 160-No     | Major  |
| 14:00 - 15:00 | 627        | 228         | 210-Yes    | 140-Yes    | Both   | 240-Yes    | 160-Yes    | Both   |
| 15:00 - 16:00 | 846        | 171         | 210-Yes    | 140-Yes    | Both   | 240-Yes    | 160-Yes    | Both   |
| 16:00 - 17:00 | 1,065      | 184         | 210-Yes    | 140-Yes    | Both   | 240-Yes    | 160-Yes    | Both   |
| 17:00 - 18:00 | 1,035      | 236         | 210-Yes    | 140-Yes    | Both   | 240-Yes    | 160-Yes    | Both   |
| 18:00 - 19:00 | 873        | 159         | 210-Yes    | 140-Yes    | Both   | 240-Yes    | 160-No     | Major  |
| 19:00 - 20:00 | 577        | 142         | 210-Yes    | 140-Yes    | Both   | 240-Yes    | 160-No     | Major  |
| 20:00 - 21:00 | 436        | 142         | 210-Yes    | 140-Yes    | Both   | 240-Yes    | 160-No     | Major  |
| 21:00 - 22:00 | 373        | 96          | 210-Yes    | 140-No     | Major  | 240-Yes    | 160-No     | Major  |
| 22:00 - 23:00 | 0          | 0           | 210-No     | 140-No     | No     | 240-No     | 160-No     | No     |
| 23:00 - 00:00 | 0          | 0           | 210-No     | 140-No     | No     | 240-No     | 160-No     | No     |



COUNT LOCATION:

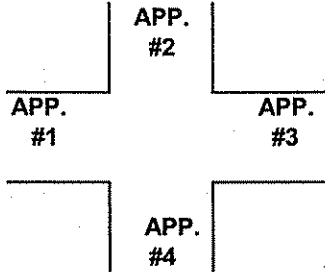
T.H. 47 @

DATE:

6/3/03

CSAH 81 (Pederson Rd.)

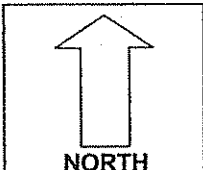
|                   |
|-------------------|
| APP. #1 = CSAH 81 |
| APP. #2 = T.H. 47 |
| APP. #3 = CSAH 81 |
| APP. #4 = T.H. 47 |



- 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           |             |         |         |         |              | 7                   |              |            |
| 6:30-6:45           |             | 3       |         | 3       | 6            | 13                  |              | 1          |
| 6:45-7:00           |             | 1       |         | 1       | 2            | 19                  |              | 1          |
| <b>HOURLY TOTAL</b> |             |         |         |         | <b>8</b>     | <b>HOURLY TOTAL</b> |              | <b>44</b>  |
| 7:00-7:15           |             | 2       |         | 2       | 4            | 12                  |              | 7          |
| 7:15-7:30           |             | 1       |         | 1       | 2            | 20                  |              | 9          |
| 7:30-7:45           |             |         |         |         |              | 20                  | 1            | 9          |
| 7:45-8:00           |             | 1       |         | 1       | 2            | 25                  | 1            |            |
| <b>HOURLY TOTAL</b> |             |         |         |         | <b>8</b>     | <b>HOURLY TOTAL</b> |              | <b>104</b> |
| 8:00-8:15           |             |         |         |         |              | 7                   | 1            | 7          |
| 8:15-8:30           |             | 1       |         | 1       | 2            | 11                  | 1            | 4          |
| 8:30-8:45           |             | 20      | 20      | 20      | 60           | 13                  | 2            | 6          |
| 8:45-9:00           |             | 3       |         | 3       | 6            | 13                  | 3            | 8          |
| <b>HOURLY TOTAL</b> |             |         |         |         | <b>68</b>    | <b>HOURLY TOTAL</b> |              | <b>76</b>  |
| 9:00-9:15           |             | 1       |         | 1       | 2            | 19                  | 1            | 1          |
| 9:15-9:30           |             | 19      | 19      | 19      | 57           | 12                  |              |            |
| 9:30-9:45           |             |         |         |         |              | 11                  |              |            |
| 9:45-10:00          |             |         |         |         |              | 14                  |              |            |
| <b>HOURLY TOTAL</b> |             |         |         |         | <b>59</b>    | <b>HOURLY TOTAL</b> |              | <b>58</b>  |
| 10:00-10:15         |             |         |         |         |              | 21                  | 1            |            |
| 10:15-10:30         |             |         |         |         |              | 11                  | 1            |            |
| 10:30-10:45         |             | 1       |         | 1       | 2            | 10                  | 1            |            |
| 10:45-11:00         |             |         |         |         |              | 13                  |              |            |
| <b>HOURLY TOTAL</b> |             |         |         |         | <b>2</b>     | <b>HOURLY TOTAL</b> |              | <b>58</b>  |
| 11:00-11:15         |             |         |         |         |              | 8                   |              | 4          |
| 11:15-11:30         |             |         |         |         |              | 9                   |              |            |
| 11:30-11:45         |             |         |         |         |              | 10                  |              | 4          |
| 11:45-12:00         | 2           |         |         |         | 2            | 6                   |              | 1          |
| <b>HOURLY TOTAL</b> |             |         |         |         | <b>2</b>     | <b>HOURLY TOTAL</b> |              | <b>42</b>  |
| 12:00-12:15         |             |         |         |         |              | 12                  |              | 1          |
| 12:15-12:30         |             |         |         |         |              | 10                  |              |            |
| 12:30-12:45         |             | 1       |         | 1       | 2            | 15                  |              |            |
| 12:45-1:00          |             |         |         |         |              | 19                  |              |            |
| <b>HOURLY TOTAL</b> |             |         |         |         | <b>2</b>     | <b>HOURLY TOTAL</b> |              | <b>57</b>  |
| 1:00-1:15           |             |         |         |         |              | 6                   |              |            |
| 1:15-1:30           |             |         |         |         |              | 9                   |              |            |
| 1:30-1:45           |             |         |         |         |              | 10                  |              |            |
| 1:45-2:00           |             |         |         |         |              | 11                  |              | 1          |
| <b>HOURLY TOTAL</b> |             |         |         |         |              | <b>HOURLY TOTAL</b> |              | <b>37</b>  |
|                     |             |         |         |         | <b>TOTAL</b> |                     | <b>TOTAL</b> |            |

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32



COUNT LOCATION:

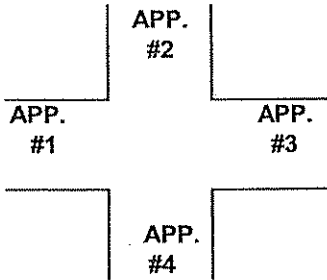
T.H. 47 @

DATE:

6/3/03

CSAH 81 (Pederson Rd.)

|                   |
|-------------------|
| NORTH             |
| APP. #1 = CSAH 81 |
| APP. #2 = T.H. 47 |
| APP. #3 = CSAH 81 |
| APP. #4 = T.H. 47 |



- 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         |             |         |         |         |              | 20                  | 1            | 8         |
| 2:15-2:30           |             | 2       |         |         | 2            | 11                  |              | 5         |
| 2:30-2:45           |             | 4       |         |         | 4            | 13                  |              | 2         |
| 2:45-3:00           |             | 11      |         |         | 11           | 6                   |              | 2         |
| <b>HOURLY TOTAL</b> |             |         |         |         | <b>17</b>    | <b>HOURLY TOTAL</b> |              | <b>68</b> |
| 3:00-3:15           |             | 1       |         |         | 1            | 14                  | 1            |           |
| 3:15-3:30           |             |         |         |         |              | 8                   |              |           |
| 3:30-3:45           |             |         |         |         |              | 19                  | 2            |           |
| 3:45-4:00           |             | 8       |         | 1       | 9            | 14                  |              | 3         |
| <b>HOURLY TOTAL</b> |             |         |         |         | <b>10</b>    | <b>HOURLY TOTAL</b> |              | <b>61</b> |
| 4:00-4:15           |             | 2       |         |         | 2            | 18                  | 1            | 1         |
| 4:15-4:30           |             |         |         |         |              | 18                  |              |           |
| 4:30-4:45           |             | 2       |         |         | 2            | 12                  | 3            |           |
| 4:45-5:00           |             |         |         |         |              | 17                  |              |           |
| <b>HOURLY TOTAL</b> |             |         |         |         | <b>4</b>     | <b>HOURLY TOTAL</b> |              | <b>70</b> |
| 5:00-5:15           |             |         |         |         |              | 15                  | 2            | 2         |
| 5:15-5:30           |             | 4       |         |         | 4            | 20                  | 2            | 1         |
| 5:30-5:45           |             |         |         |         |              | 6                   | 1            | 2         |
| 5:45-6:00           |             | 3       |         |         | 3            | 6                   | 4            | 1         |
| <b>HOURLY TOTAL</b> |             |         |         |         | <b>7</b>     | <b>HOURLY TOTAL</b> |              | <b>62</b> |
| 6:00-6:15           |             | 6       |         |         | 6            | 14                  | 1            |           |
| 6:15-6:30           |             | 1       |         |         | 1            | 7                   | 3            |           |
| 6:30-6:45           |             |         |         |         |              | 5                   | 1            |           |
| 6:45-7:00           | 1           |         |         |         | 1            | 1                   | 1            |           |
| <b>HOURLY TOTAL</b> |             |         |         |         | <b>8</b>     | <b>HOURLY TOTAL</b> |              | <b>33</b> |
| 7:00-7:15           |             | 1       |         | 1       | 2            | 5                   |              | 1         |
| 7:15-7:30           |             |         |         |         |              | 17                  | 1            |           |
| 7:30-7:45           |             |         |         |         |              | 5                   |              |           |
| 7:45-8:00           |             | 6       |         |         | 6            | 10                  | 1            |           |
| <b>HOURLY TOTAL</b> |             |         |         |         | <b>8</b>     | <b>HOURLY TOTAL</b> |              | <b>40</b> |
| 8:00-8:15           |             |         |         |         |              | 6                   |              |           |
| 8:15-8:30           | 1           |         |         |         | 1            | 5                   |              | 1         |
| 8:30-8:45           |             | 3       |         |         | 3            | 7                   |              |           |
| 8:45-9:00           |             |         |         |         |              | 4                   | 1            |           |
| <b>HOURLY TOTAL</b> |             |         |         |         | <b>4</b>     | <b>HOURLY TOTAL</b> |              | <b>24</b> |
| 9:00-9:15           |             | 3       |         |         | 3            | 2                   | 1            |           |
| 9:15-9:30           |             | 1       |         |         | 1            | 1                   | 2            |           |
| 9:30-9:45           |             |         | 1       |         | 1            | 1                   |              |           |
| 9:45-10:00          |             |         |         |         |              | 4                   | 1            |           |
| <b>HOURLY TOTAL</b> |             |         |         |         | <b>5</b>     | <b>HOURLY TOTAL</b> |              | <b>12</b> |
|                     |             |         |         |         | <b>TOTAL</b> |                     | <b>TOTAL</b> |           |

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32