

# Alliant Engineering Inc Minneapolis, MN 55415

TH-65 at 237th Ave NE / CSAH-24  
Ref.Pt.: 029.389  
data by Alliant Inc  
TURN MOVEMENT COUNT

File Name : 24 - TH 65 & 237th Av, 10-27-11  
Site Code : 24  
Start Date : 10/27/2011  
Page No : 1

Groups Printed- Cars + - Trucks

| Start Time  | TH-65 Southbound |      |      |       |      | 237th Ave NE Westbound |      |      |       |      | TH-65 Northbound |      |      |       |      | 237th Ave NE / CSAH-24 Eastbound |      |      |       |      | Int. Total |
|-------------|------------------|------|------|-------|------|------------------------|------|------|-------|------|------------------|------|------|-------|------|----------------------------------|------|------|-------|------|------------|
|             | UTrn             | Left | Thru | Right | Peds | UTrn                   | Left | Thru | Right | Peds | UTrn             | Left | Thru | Right | Peds | UTrn                             | Left | Thru | Right | Peds |            |
| 06:00       | 0                | 8    | 354  | 3     | 0    | 0                      | 9    | 1    | 5     | 0    | 0                | 2    | 43   | 1     | 0    | 0                                | 7    | 8    | 27    | 0    | 468        |
| 06:15       | 1                | 10   | 281  | 8     | 0    | 0                      | 15   | 5    | 5     | 0    | 1                | 2    | 32   | 4     | 0    | 0                                | 5    | 6    | 29    | 0    | 404        |
| 06:30       | 0                | 12   | 267  | 5     | 0    | 0                      | 15   | 4    | 6     | 0    | 0                | 0    | 76   | 2     | 0    | 0                                | 9    | 6    | 21    | 0    | 423        |
| 06:45       | 0                | 10   | 274  | 14    | 0    | 0                      | 15   | 14   | 10    | 0    | 0                | 1    | 54   | 5     | 0    | 0                                | 4    | 10   | 19    | 0    | 430        |
| Total       | 1                | 40   | 1176 | 30    | 0    | 0                      | 54   | 24   | 26    | 0    | 1                | 5    | 205  | 12    | 0    | 0                                | 25   | 30   | 96    | 0    | 1725       |
| 07:00       | 0                | 7    | 232  | 5     | 0    | 0                      | 8    | 17   | 10    | 0    | 0                | 4    | 78   | 4     | 0    | 0                                | 7    | 11   | 21    | 0    | 404        |
| 07:15       | 1                | 7    | 230  | 3     | 0    | 0                      | 16   | 3    | 9     | 0    | 2                | 3    | 82   | 2     | 0    | 0                                | 7    | 8    | 16    | 0    | 389        |
| 07:30       | 1                | 6    | 234  | 8     | 0    | 0                      | 14   | 6    | 11    | 0    | 1                | 3    | 123  | 6     | 0    | 0                                | 11   | 12   | 17    | 0    | 453        |
| 07:45       | 0                | 7    | 217  | 7     | 0    | 0                      | 8    | 4    | 14    | 0    | 1                | 1    | 94   | 8     | 0    | 0                                | 12   | 4    | 15    | 0    | 392        |
| Total       | 2                | 27   | 913  | 23    | 0    | 0                      | 46   | 30   | 44    | 0    | 4                | 11   | 377  | 20    | 0    | 0                                | 37   | 35   | 69    | 0    | 1638       |
| 08:00       | 0                | 12   | 185  | 4     | 0    | 0                      | 9    | 4    | 12    | 0    | 0                | 5    | 84   | 1     | 0    | 0                                | 7    | 4    | 10    | 0    | 337        |
| 08:15       | 0                | 4    | 154  | 5     | 0    | 0                      | 8    | 2    | 6     | 0    | 0                | 8    | 77   | 5     | 0    | 0                                | 4    | 4    | 7     | 0    | 284        |
| 08:30       | 0                | 11   | 154  | 7     | 0    | 0                      | 14   | 4    | 16    | 0    | 0                | 1    | 76   | 4     | 0    | 0                                | 8    | 7    | 10    | 0    | 312        |
| 08:45       | 0                | 11   | 140  | 2     | 0    | 0                      | 10   | 11   | 7     | 0    | 0                | 14   | 72   | 6     | 0    | 0                                | 7    | 3    | 11    | 0    | 294        |
| Total       | 0                | 38   | 633  | 18    | 0    | 0                      | 41   | 21   | 41    | 0    | 0                | 28   | 309  | 16    | 0    | 0                                | 26   | 18   | 38    | 0    | 1227       |
| 09:00       | 1                | 7    | 114  | 5     | 0    | 0                      | 4    | 1    | 10    | 0    | 0                | 2    | 72   | 3     | 0    | 0                                | 7    | 4    | 7     | 0    | 237        |
| 09:15       | 0                | 7    | 114  | 5     | 0    | 0                      | 6    | 2    | 5     | 0    | 0                | 0    | 62   | 4     | 0    | 0                                | 10   | 6    | 10    | 0    | 231        |
| Total       | 1                | 14   | 228  | 10    | 0    | 0                      | 10   | 3    | 15    | 0    | 0                | 2    | 134  | 7     | 0    | 0                                | 17   | 10   | 17    | 0    | 468        |
| 10:30       | 1                | 8    | 79   | 5     | 0    | 0                      | 5    | 6    | 5     | 0    | 0                | 4    | 74   | 7     | 0    | 0                                | 5    | 3    | 2     | 0    | 204        |
| 10:45       | 1                | 5    | 91   | 6     | 0    | 0                      | 3    | 3    | 9     | 0    | 0                | 2    | 75   | 7     | 0    | 0                                | 10   | 3    | 8     | 0    | 223        |
| Total       | 2                | 13   | 170  | 11    | 0    | 0                      | 8    | 9    | 14    | 0    | 0                | 6    | 149  | 14    | 0    | 0                                | 15   | 6    | 10    | 0    | 427        |
| 11:00       | 0                | 8    | 107  | 6     | 0    | 0                      | 5    | 4    | 10    | 0    | 2                | 5    | 84   | 6     | 0    | 0                                | 6    | 1    | 3     | 0    | 247        |
| 11:15       | 0                | 8    | 90   | 10    | 0    | 0                      | 4    | 2    | 11    | 0    | 0                | 6    | 83   | 4     | 0    | 0                                | 8    | 2    | 6     | 0    | 234        |
| 11:30       | 0                | 6    | 101  | 6     | 0    | 0                      | 5    | 7    | 11    | 0    | 0                | 6    | 82   | 8     | 0    | 0                                | 3    | 4    | 6     | 0    | 245        |
| 11:45       | 0                | 8    | 93   | 9     | 0    | 0                      | 2    | 5    | 6     | 0    | 0                | 4    | 80   | 6     | 0    | 0                                | 9    | 3    | 5     | 0    | 230        |
| Total       | 0                | 30   | 391  | 31    | 0    | 0                      | 16   | 18   | 38    | 0    | 2                | 21   | 329  | 24    | 0    | 0                                | 26   | 10   | 20    | 0    | 956        |
| 12:00       | 0                | 11   | 70   | 6     | 0    | 0                      | 7    | 4    | 13    | 0    | 0                | 4    | 95   | 14    | 0    | 0                                | 8    | 7    | 4     | 0    | 243        |
| 12:15       | 0                | 8    | 95   | 8     | 0    | 0                      | 5    | 8    | 10    | 0    | 1                | 4    | 93   | 10    | 0    | 0                                | 3    | 3    | 5     | 0    | 253        |
| 12:30       | 0                | 11   | 108  | 8     | 0    | 0                      | 3    | 2    | 15    | 0    | 0                | 6    | 116  | 10    | 0    | 0                                | 5    | 4    | 7     | 0    | 295        |
| 12:45       | 1                | 7    | 119  | 4     | 0    | 0                      | 7    | 7    | 13    | 0    | 0                | 9    | 109  | 9     | 0    | 0                                | 5    | 4    | 8     | 0    | 302        |
| Total       | 1                | 37   | 392  | 26    | 0    | 0                      | 22   | 21   | 51    | 0    | 1                | 23   | 413  | 43    | 0    | 0                                | 21   | 18   | 24    | 0    | 1093       |
| 13:00       | 0                | 12   | 115  | 8     | 0    | 0                      | 6    | 5    | 17    | 0    | 0                | 9    | 90   | 10    | 0    | 0                                | 10   | 4    | 6     | 0    | 292        |
| 13:15       | 1                | 4    | 86   | 3     | 0    | 0                      | 10   | 4    | 12    | 0    | 0                | 8    | 88   | 10    | 0    | 0                                | 8    | 2    | 9     | 0    | 245        |
| Total       | 1                | 16   | 201  | 11    | 0    | 0                      | 16   | 9    | 29    | 0    | 0                | 17   | 178  | 20    | 0    | 0                                | 18   | 6    | 15    | 0    | 537        |
| 14:30       | 0                | 9    | 99   | 8     | 0    | 0                      | 11   | 5    | 12    | 0    | 0                | 3    | 155  | 9     | 0    | 0                                | 7    | 13   | 2     | 0    | 333        |
| 14:45       | 0                | 10   | 96   | 4     | 0    | 0                      | 5    | 8    | 18    | 0    | 0                | 12   | 165  | 20    | 0    | 0                                | 11   | 11   | 2     | 1    | 363        |
| Total       | 0                | 19   | 195  | 12    | 0    | 0                      | 16   | 13   | 30    | 0    | 0                | 15   | 320  | 29    | 0    | 0                                | 18   | 24   | 4     | 1    | 696        |
| 15:00       | 0                | 15   | 127  | 15    | 0    | 0                      | 5    | 3    | 12    | 0    | 0                | 13   | 195  | 12    | 1    | 0                                | 13   | 6    | 10    | 0    | 427        |
| 15:15       | 0                | 6    | 105  | 10    | 0    | 0                      | 10   | 5    | 18    | 0    | 1                | 16   | 208  | 14    | 0    | 0                                | 12   | 9    | 10    | 0    | 424        |
| 15:30       | 0                | 19   | 128  | 14    | 0    | 0                      | 6    | 9    | 17    | 0    | 0                | 13   | 244  | 25    | 0    | 0                                | 13   | 11   | 7     | 0    | 506        |
| 15:45       | 0                | 6    | 114  | 13    | 0    | 0                      | 10   | 15   | 25    | 0    | 0                | 5    | 233  | 21    | 0    | 0                                | 10   | 12   | 5     | 0    | 469        |
| Total       | 0                | 46   | 474  | 52    | 0    | 0                      | 31   | 32   | 72    | 0    | 1                | 47   | 880  | 72    | 1    | 0                                | 48   | 38   | 32    | 0    | 1826       |
| 16:00       | 0                | 13   | 123  | 6     | 0    | 0                      | 10   | 10   | 27    | 0    | 0                | 15   | 302  | 14    | 0    | 0                                | 8    | 9    | 4     | 0    | 541        |
| 16:15       | 0                | 10   | 125  | 9     | 0    | 0                      | 2    | 11   | 15    | 0    | 0                | 14   | 259  | 18    | 0    | 0                                | 12   | 7    | 7     | 0    | 489        |
| 16:30       | 0                | 13   | 128  | 12    | 0    | 0                      | 4    | 13   | 20    | 0    | 0                | 22   | 258  | 32    | 0    | 0                                | 18   | 9    | 8     | 0    | 537        |
| 16:45       | 0                | 16   | 159  | 16    | 0    | 0                      | 11   | 16   | 30    | 0    | 0                | 12   | 301  | 22    | 0    | 0                                | 13   | 16   | 5     | 0    | 617        |
| Total       | 0                | 52   | 535  | 43    | 0    | 0                      | 27   | 50   | 92    | 0    | 0                | 63   | 1120 | 86    | 0    | 0                                | 51   | 41   | 24    | 0    | 2184       |
| 17:00       | 1                | 15   | 135  | 14    | 0    | 0                      | 6    | 15   | 23    | 0    | 0                | 18   | 300  | 20    | 0    | 0                                | 19   | 13   | 8     | 1    | 588        |
| 17:15       | 0                | 20   | 132  | 3     | 1    | 0                      | 6    | 14   | 12    | 1    | 1                | 16   | 273  | 21    | 0    | 0                                | 12   | 6    | 6     | 0    | 524        |
| 17:30       | 0                | 11   | 131  | 9     | 0    | 0                      | 6    | 11   | 24    | 0    | 1                | 6    | 296  | 15    | 0    | 0                                | 15   | 13   | 8     | 0    | 546        |
| 17:45       | 1                | 7    | 94   | 15    | 0    | 0                      | 12   | 20   | 19    | 0    | 0                | 19   | 261  | 12    | 0    | 0                                | 11   | 11   | 8     | 0    | 490        |
| Total       | 2                | 53   | 492  | 41    | 1    | 0                      | 30   | 60   | 78    | 1    | 2                | 59   | 1130 | 68    | 0    | 0                                | 57   | 43   | 30    | 1    | 2148       |
| Grand Total | 10               | 385  | 5800 | 308   | 1    | 0                      | 317  | 290  | 530   | 1    | 11               | 297  | 5544 | 411   | 1    | 0                                | 359  | 279  | 379   | 2    | 14925      |
| Apprch %    | 0.2              | 5.9  | 89.2 | 4.7   | 0    | 0                      | 27.9 | 25.5 | 46.6  | 0.1  | 0.2              | 4.7  | 88.5 | 6.6   | 0    | 0                                | 35.2 | 27.4 | 37.2  | 0.2  |            |
| Total %     | 0.1              | 2.6  | 38.9 | 2.1   | 0    | 0                      | 2.1  | 1.9  | 3.6   | 0    | 0.1              | 2    | 37.1 | 2.8   | 0    | 0                                | 2.4  | 1.9  | 2.5   | 0    |            |
| Cars +      | 9                | 367  | 5549 | 290   | 0    | 0                      | 301  | 275  | 511   | 0    | 10               | 276  | 5284 | 389   | 1    | 0                                | 336  | 264  | 359   | 2    | 14223      |
| % Cars +    | 90               | 95.3 | 95.7 | 94.2  | 0    | 0                      | 95   | 94.8 | 96.4  | 0    | 90.9             | 92.9 | 95.3 | 94.6  | 100  | 0                                | 93.6 | 94.6 | 94.7  | 100  | 95.3       |
| Trucks      | 1                | 18   | 251  | 18    | 1    | 0                      | 16   | 15   | 19    | 1    | 1                | 21   | 260  | 22    | 0    | 0                                | 23   | 15   | 20    | 0    | 702        |
| % Trucks    | 10               | 4.7  | 4.3  | 5.8   | 100  | 0                      | 5    | 5.2  | 3.6   | 100  | 9.1              | 7.1  | 4.7  | 5.4   | 0    | 0                                | 6.4  | 5.4  | 5.3   | 0    | 4.7        |

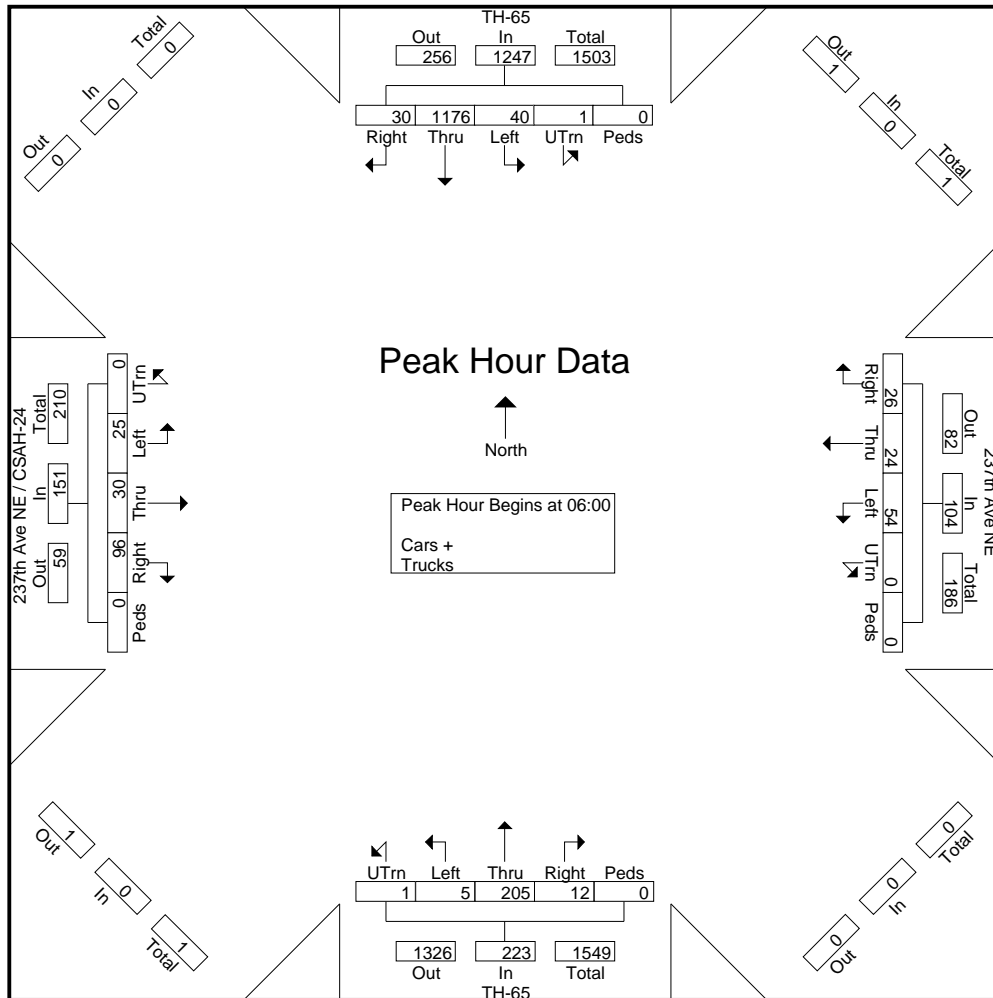
# Alliant Engineering Inc Minneapolis, MN 55415

TH-65 at 237th Ave NE / CSAH-24  
 Ref.Pt.: 029.389  
 data by Alliant Inc  
 TURN MOVEMENT COUNT

File Name : 24 - TH 65 & 237th Av, 10-27-11  
 Site Code : 24  
 Start Date : 10/27/2011  
 Page No : 2

| Start Time   | TH-65 Southbound |      |      |       |      | 237th Ave NE Westbound |      |      |      |       | TH-65 Northbound |            |      |      |      | 237th Ave NE / CSAH-24 Eastbound |      |            |      |      | Int. Total |      |       |      |            |
|--------------|------------------|------|------|-------|------|------------------------|------|------|------|-------|------------------|------------|------|------|------|----------------------------------|------|------------|------|------|------------|------|-------|------|------------|
|              | UTrn             | Left | Thru | Right | Peds | App. Total             | UTrn | Left | Thru | Right | Peds             | App. Total | UTrn | Left | Thru | Right                            | Peds | App. Total | UTrn | Left |            | Thru | Right | Peds | App. Total |
| 06:00        | 0                | 8    | 354  | 3     | 0    | 365                    | 0    | 9    | 1    | 5     | 0                | 15         | 0    | 2    | 43   | 1                                | 0    | 46         | 0    | 7    | 8          | 27   | 0     | 42   | 468        |
| 06:15        | 1                | 10   | 281  | 8     | 0    | 300                    | 0    | 15   | 5    | 5     | 0                | 25         | 1    | 2    | 32   | 4                                | 0    | 39         | 0    | 5    | 6          | 29   | 0     | 40   | 404        |
| 06:30        | 0                | 12   | 267  | 5     | 0    | 284                    | 0    | 15   | 4    | 6     | 0                | 25         | 0    | 0    | 76   | 2                                | 0    | 78         | 0    | 9    | 6          | 21   | 0     | 36   | 423        |
| 06:45        | 0                | 10   | 274  | 14    | 0    | 298                    | 0    | 15   | 14   | 10    | 0                | 39         | 0    | 1    | 54   | 5                                | 0    | 60         | 0    | 4    | 10         | 19   | 0     | 33   | 430        |
| Total Volume | 1                | 40   | 1176 | 30    | 0    | 1247                   | 0    | 54   | 24   | 26    | 0                | 104        | 1    | 5    | 205  | 12                               | 0    | 223        | 0    | 25   | 30         | 96   | 0     | 151  | 1725       |
| % App. Total | 0.1              | 3.2  | 94.3 | 2.4   | 0    |                        | 0    | 51.9 | 23.1 | 25    | 0                |            | 0.4  | 2.2  | 91.9 | 5.4                              | 0    |            | 0    | 16.6 | 19.9       | 63.6 | 0     |      |            |
| PHF          | .250             | .833 | .831 | .536  | .000 | .854                   | .000 | .900 | .429 | .650  | .000             | .667       | .250 | .625 | .674 | .600                             | .000 | .715       | .000 | .694 | .750       | .828 | .000  | .899 | .921       |

Peak Hour Analysis From 06:00 to 09:15 - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 06:00



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File Name : 24 - TH 65 & 237th Av, 10-27-11  
 Site Code : 24  
 Start Date : 10/27/2011  
 Page No : 3

| Start Time   | TH-65 Southbound |      |      |       |      |            | 237th Ave NE Westbound |      |      |       |      |            | TH-65 Northbound |      |      |       |      |            | 237th Ave NE / CSAH-24 Eastbound |      |      |       |      |            | Int. Total |
|--|------------------|------|------|-------|------|------------|------------------------|------|------|-------|------|------------|------------------|------|------|-------|------|------------|----------------------------------|------|------|-------|------|------------|------------|
|  | UTrn             | Left | Thru | Right | Peds | App. Total | UTrn                   | Left | Thru | Right | Peds | App. Total | UTrn             | Left | Thru | Right | Peds | App. Total | UTrn                             | Left | Thru | Right | Peds | App. Total |            |
| Peak Hour Analysis From 14:30 to 17:45 - Peak 1 of 1 |                  |      |      |       |      |            |                        |      |      |       |      |            |                  |      |      |       |      |            |                                  |      |      |       |      |            |            |
| Peak Hour for Entire Intersection Begins at 16:45    |                  |      |      |       |      |            |                        |      |      |       |      |            |                  |      |      |       |      |            |                                  |      |      |       |      |            |            |
| 16:45  | 0                | 16   | 159  | 16    | 0    | 191        | 0                      | 11   | 16   | 30    | 0    | 57         | 0                | 12   | 301  | 22    | 0    | 335        | 0                                | 13   | 16   | 5     | 0    | 34         | 617        |
| 17:00  | 1                | 15   | 135  | 14    | 0    | 165        | 0                      | 6    | 15   | 23    | 0    | 44         | 0                | 18   | 300  | 20    | 0    | 338        | 0                                | 19   | 13   | 8     | 1    | 41         | 588        |
| 17:15  | 0                | 20   | 132  | 3     | 1    | 156        | 0                      | 6    | 14   | 12    | 1    | 33         | 1                | 16   | 273  | 21    | 0    | 311        | 0                                | 12   | 6    | 6     | 0    | 24         | 524        |
| 17:30  | 0                | 11   | 131  | 9     | 0    | 151        | 0                      | 6    | 11   | 24    | 0    | 41         | 1                | 6    | 296  | 15    | 0    | 318        | 0                                | 15   | 13   | 8     | 0    | 36         | 546        |
| Total Volume   | 1                | 62   | 557  | 42    | 1    | 663        | 0                      | 29   | 56   | 89    | 1    | 175        | 2                | 52   | 1170 | 78    | 0    | 1302       | 0                                | 59   | 48   | 27    | 1    | 135        | 2275       |
| % App. Total   | 0.2              | 9.4  | 84   | 6.3   | 0.2  |            | 0                      | 16.6 | 32   | 50.9  | 0.6  |            | 0.2              | 4    | 89.9 | 6     | 0    |            | 0                                | 43.7 | 35.6 | 20    | 0.7  |            |            |
| PHF  | .250             | .775 | .876 | .656  | .250 | .868       | .000                   | .659 | .875 | .742  | .250 | .768       | .500             | .722 | .972 | .886  | .000 | .963       | .000                             | .776 | .750 | .844  | .250 | .823       | .922       |

