

Appendix

- Traffic Volume Data
- Seasonal/Annual Growth Data
- Speed Data
- Sight Distance Calculations
- Trip Generation Data
- Trip Distribution Calculations
- Capacity Analysis

□ Traffic Volume Data

MDM TRANSPORTATION CONSULTANTS, INC.

Town Farm Road
South of Site
Ipswich, MA

28 Lord Road, Suite 280
Marlborough, MA
www.mdmtrans.com

| Start Time | 02-May-17 Tue | Southbound | | Hour Totals | | | | Northbound | | Combined Totals | |
|-----------------------|------------------|--------------|--------------|-------------|-----------|--------------|--------------|------------|-----------|-----------------|--------------|
| | | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon |
| 12:00 | | 0 | 13 | | | 0 | 15 | | | | |
| 12:15 | | 0 | 12 | | | 1 | 16 | | | | |
| 12:30 | | 0 | 13 | | | 0 | 8 | | | | |
| 12:45 | | 0 | 13 | 0 | 51 | 1 | 9 | 2 | 48 | 2 | 99 |
| 01:00 | | 0 | 12 | | | 1 | 15 | | | | |
| 01:15 | | 0 | 12 | | | 0 | 19 | | | | |
| 01:30 | | 0 | 12 | | | 1 | 15 | | | | |
| 01:45 | | 0 | 16 | 0 | 52 | 0 | 14 | 2 | 63 | 2 | 115 |
| 02:00 | | 0 | 15 | | | 0 | 10 | | | | |
| 02:15 | | 0 | 13 | | | 0 | 16 | | | | |
| 02:30 | | 0 | 6 | | | 0 | 13 | | | | |
| 02:45 | | 0 | 10 | 0 | 44 | 0 | 23 | 0 | 62 | 0 | 106 |
| 03:00 | | 0 | 10 | | | 0 | 11 | | | | |
| 03:15 | | 0 | 15 | | | 0 | 17 | | | | |
| 03:30 | | 1 | 14 | | | 1 | 12 | | | | |
| 03:45 | | 1 | 13 | 2 | 52 | 0 | 4 | 1 | 44 | 3 | 96 |
| 04:00 | | 0 | 9 | | | 0 | 10 | | | | |
| 04:15 | | 0 | 7 | | | 0 | 12 | | | | |
| 04:30 | | 0 | 9 | | | 8 | 4 | | | | |
| 04:45 | | 1 | 6 | 1 | 31 | 0 | 16 | 8 | 42 | 9 | 73 |
| 05:00 | | 2 | 8 | | | 1 | 13 | | | | |
| 05:15 | | 6 | 11 | | | 0 | 18 | | | | |
| 05:30 | | 2 | 11 | | | 1 | 14 | | | | |
| 05:45 | | 1 | 12 | 11 | 42 | 0 | 9 | 2 | 54 | 13 | 96 |
| 06:00 | | 1 | 15 | | | 2 | 12 | | | | |
| 06:15 | | 6 | 10 | | | 3 | 11 | | | | |
| 06:30 | | 6 | 6 | | | 7 | 8 | | | | |
| 06:45 | | 5 | 10 | 18 | 41 | 7 | 13 | 19 | 44 | 37 | 85 |
| 07:00 | | 13 | 13 | | | 8 | 16 | | | | |
| 07:15 | | 14 | 3 | | | 14 | 8 | | | | |
| 07:30 | | 21 | 7 | | | 14 | 8 | | | | |
| 07:45 | | 11 | 5 | 59 | 28 | 7 | 8 | 43 | 40 | 102 | 68 |
| 08:00 | | 16 | 6 | | | 10 | 6 | | | | |
| 08:15 | | 13 | 5 | | | 12 | 7 | | | | |
| 08:30 | | 12 | 5 | | | 11 | 7 | | | | |
| 08:45 | | 10 | 4 | 51 | 20 | 12 | 5 | 45 | 25 | 96 | 45 |
| 09:00 | | 11 | 1 | | | 12 | 3 | | | | |
| 09:15 | | 12 | 2 | | | 7 | 4 | | | | |
| 09:30 | | 6 | 1 | | | 8 | 0 | | | | |
| 09:45 | | 14 | 1 | 43 | 5 | 12 | 1 | 39 | 8 | 82 | 13 |
| 10:00 | | 15 | 2 | | | 12 | 2 | | | | |
| 10:15 | | 10 | 1 | | | 17 | 2 | | | | |
| 10:30 | | 14 | 1 | | | 11 | 0 | | | | |
| 10:45 | | 12 | 2 | 51 | 6 | 10 | 1 | 50 | 5 | 101 | 11 |
| 11:00 | | 8 | 0 | | | 10 | 1 | | | | |
| 11:15 | | 11 | 0 | | | 7 | 2 | | | | |
| 11:30 | | 5 | 0 | | | 16 | 1 | | | | |
| 11:45 | | 4 | 0 | 28 | 0 | 8 | 0 | 41 | 4 | 69 | 4 |
| Total | | 264 | 372 | | | 252 | 439 | | | 516 | 811 |
| Percent | | 41.5% | 58.5% | | | 36.5% | 63.5% | | | 38.9% | 61.1% |
| Combined Total | | 636 | | | | 691 | | | | 1327 | |

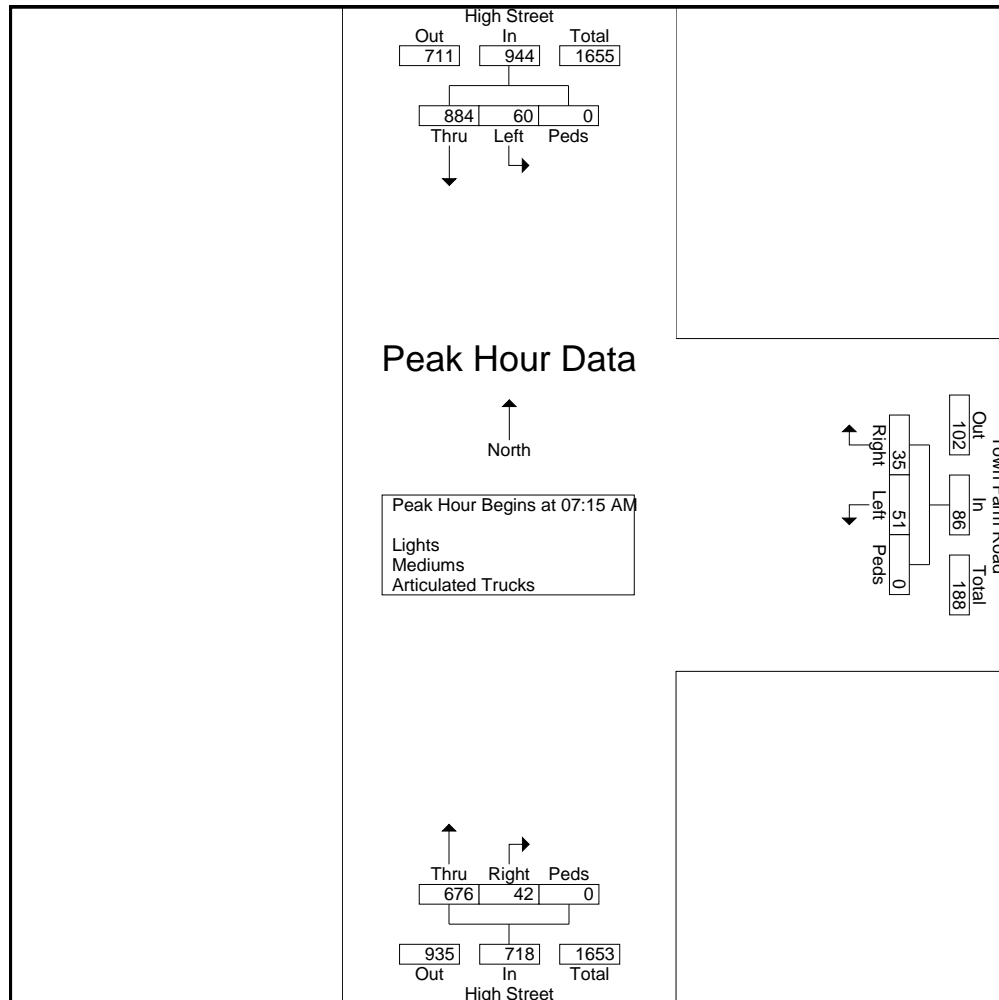
MDM Transportation Consultants, Inc.

28 Lord Road, Suite 280

N/S: High Street
E/W: Town Farm Road
Ipswich, MA

File Name : 367 Ipswich AM
Site Code : 367
Start Date : 5/3/2017
Page No : 2

| Start Time | High Street From North | | | | Town Farm Road From East | | | | High Street From South | | | | Int. Total |
|--|------------------------|----------|----------|------------|--------------------------|-----------|----------|------------|------------------------|------------|----------|------------|------------|
| | Thru | Left | Peds | App. Total | Right | Left | Peds | App. Total | Right | Thru | Peds | App. Total | |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:15 AM | | | | | | | | | | | | | |
| 07:15 AM | 205 | 16 | 0 | 221 | 10 | 10 | 0 | 20 | 11 | 206 | 0 | 217 | 458 |
| 07:30 AM | 193 | 9 | 0 | 202 | 12 | 12 | 0 | 24 | 7 | 212 | 0 | 219 | 445 |
| 07:45 AM | 219 | 18 | 0 | 237 | 6 | 10 | 0 | 16 | 7 | 145 | 0 | 152 | 405 |
| 08:00 AM | 267 | 17 | 0 | 284 | | 19 | 0 | 26 | 17 | 113 | 0 | 130 | 440 |
| Total Volume | 884 | 60 | 0 | 944 | 35 | 51 | 0 | 86 | 42 | 676 | 0 | 718 | 1748 |
| % App. Total | 93.6 | 6.4 | 0 | | 40.7 | 59.3 | 0 | | 5.8 | 94.2 | 0 | | |
| PHF | .828 | .833 | .000 | .831 | .729 | .671 | .000 | .827 | .618 | .797 | .000 | .820 | .954 |



MDM Transportation Consultants, Inc.

28 Lord Road, Suite 280

N/S: High Street
E/W: Town Farm Road
Ipswich, MA

File Name : 367 Ipswich AM
Site Code : 367
Start Date : 5/3/2017
Page No : 1

Groups Printed- Lights - Mediums - Articulated Trucks

| Start Time | High Street From North | | | | Town Farm Road From East | | | | High Street From South | | | | Int. Total |
|----------------------|---------------------------|------|------|------------|-----------------------------|------|------|------------|---------------------------|------|------|------------|------------|
| | Thru | Left | Peds | App. Total | Right | Left | Peds | App. Total | Right | Thru | Peds | App. Total | |
| 07:00 AM | 180 | 6 | 0 | 186 | 9 | 5 | 0 | 14 | 6 | 136 | 0 | 142 | 342 |
| 07:15 AM | 205 | 16 | 0 | 221 | 10 | 10 | 0 | 20 | 11 | 206 | 0 | 217 | 458 |
| 07:30 AM | 193 | 9 | 0 | 202 | 12 | 12 | 0 | 24 | 7 | 212 | 0 | 219 | 445 |
| 07:45 AM | 219 | 18 | 0 | 237 | 6 | 10 | 0 | 16 | 7 | 145 | 0 | 152 | 405 |
| Total | 797 | 49 | 0 | 846 | 37 | 37 | 0 | 74 | 31 | 699 | 0 | 730 | 1650 |
| 08:00 AM | 267 | 17 | 0 | 284 | 7 | 19 | 0 | 26 | 17 | 113 | 0 | 130 | 440 |
| 08:15 AM | 244 | 3 | 0 | 247 | 15 | 16 | 0 | 31 | 12 | 142 | 0 | 154 | 432 |
| 08:30 AM | 233 | 12 | 0 | 245 | 6 | 19 | 0 | 25 | 10 | 147 | 0 | 157 | 427 |
| 08:45 AM | 193 | 7 | 0 | 200 | 9 | 11 | 0 | 20 | 15 | 156 | 0 | 171 | 391 |
| Total | 937 | 39 | 0 | 976 | 37 | 65 | 0 | 102 | 54 | 558 | 0 | 612 | 1690 |
| Grand Total | 1734 | 88 | 0 | 1822 | 74 | 102 | 0 | 176 | 85 | 1257 | 0 | 1342 | 3340 |
| Apprch % | 95.2 | 4.8 | 0 | | 42 | 58 | 0 | | 6.3 | 93.7 | 0 | | |
| Total % | 51.9 | 2.6 | 0 | 54.6 | 2.2 | 3.1 | 0 | 5.3 | 2.5 | 37.6 | 0 | 40.2 | |
| Lights | 1626 | 76 | 0 | 1702 | 63 | 91 | 0 | 154 | 72 | 1179 | 0 | 1251 | 3107 |
| % Lights | 93.8 | 86.4 | 0 | 93.4 | 85.1 | 89.2 | 0 | 87.5 | 84.7 | 93.8 | 0 | 93.2 | 93 |
| Mediums | 82 | 10 | 0 | 92 | 10 | 10 | 0 | 20 | 12 | 67 | 0 | 79 | 191 |
| % Mediums | 4.7 | 11.4 | 0 | 5 | 13.5 | 9.8 | 0 | 11.4 | 14.1 | 5.3 | 0 | 5.9 | 5.7 |
| Articulated Trucks | 26 | 2 | 0 | 28 | 1 | 1 | 0 | 2 | 1 | 11 | 0 | 12 | 42 |
| % Articulated Trucks | 1.5 | 2.3 | 0 | 1.5 | 1.4 | 1 | 0 | 1.1 | 1.2 | 0.9 | 0 | 0.9 | 1.3 |

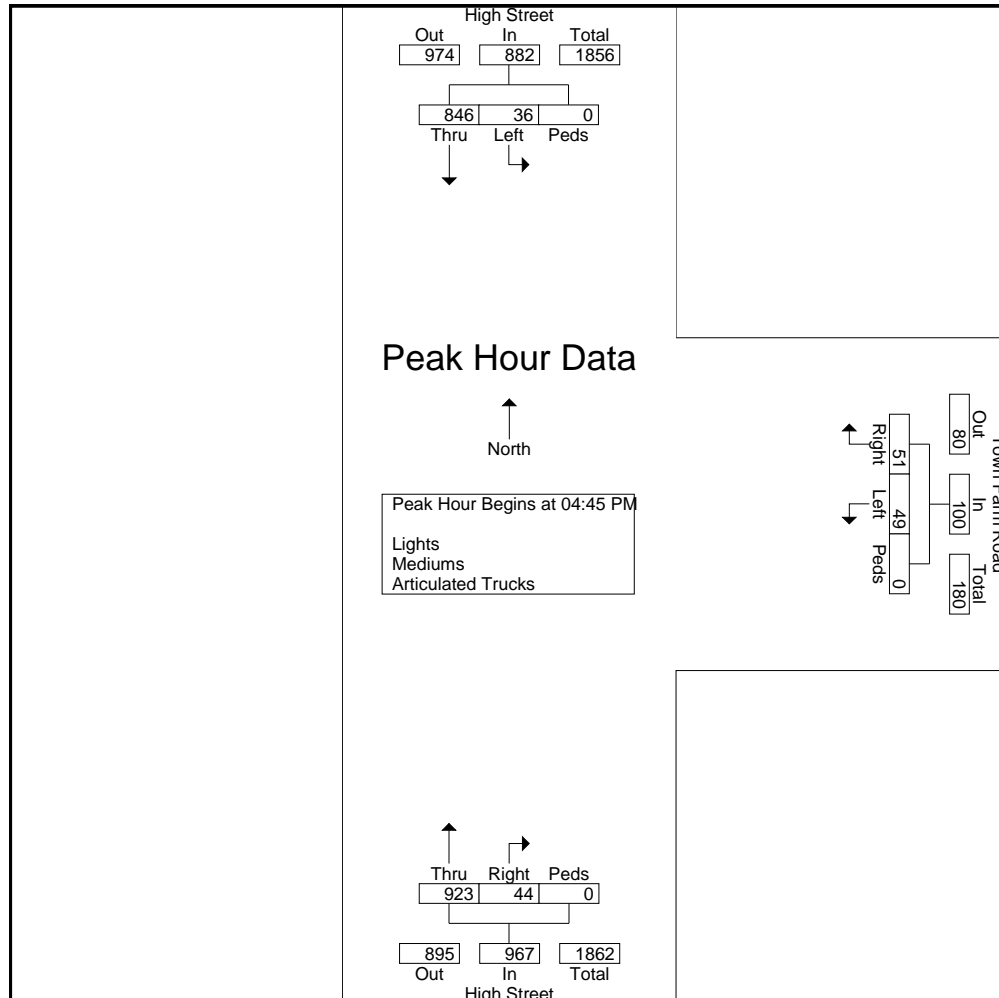
MDM Transportation Consultants, Inc.

28 Lord Road, Suite 280

N/S: High Street
E/W: Town Farm Road
Ipswich, MA

File Name : 367 Ipswich PM
Site Code : 367
Start Date : 5/3/2017
Page No : 2

| Start Time | High Street From North | | | | Town Farm Road From East | | | | High Street From South | | | | Int. Total |
|--|------------------------|-------------|-------------|-------------|--------------------------|-------------|-------------|-------------|------------------------|-------------|-------------|-------------|-------------|
| | Thru | Left | Peds | App. Total | Right | Left | Peds | App. Total | Right | Thru | Peds | App. Total | |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 04:45 PM | | | | | | | | | | | | | |
| 04:45 PM | 198 | 8 | 0 | 206 | 17 | 15 | 0 | 32 | 14 | 215 | 0 | 229 | 467 |
| 05:00 PM | 185 | 10 | 0 | 195 | 18 | 11 | 0 | 29 | 10 | 267 | 0 | 277 | 501 |
| 05:15 PM | 242 | 8 | 0 | 250 | 5 | 14 | 0 | 19 | 7 | 222 | 0 | 229 | 498 |
| 05:30 PM | 221 | 10 | 0 | 231 | 11 | 9 | 0 | 20 | 13 | 219 | 0 | 232 | 483 |
| Total Volume | 846 | 36 | 0 | 882 | 51 | 49 | 0 | 100 | 44 | 923 | 0 | 967 | 1949 |
| % App. Total | 95.9 | 4.1 | 0 | | 51 | 49 | 0 | | 4.6 | 95.4 | 0 | | |
| PHF | .874 | .900 | .000 | .882 | .708 | .817 | .000 | .781 | .786 | .864 | .000 | .873 | .973 |



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28 Lord Road, Suite 280

N/S: High Street
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Ipswich, MA

File Name : 367 Ipswich PM
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Page No : 1

Groups Printed- Lights - Mediums - Articulated Trucks

| Start Time | High Street From North | | | | Town Farm Road From East | | | | High Street From South | | | | Int. Total |
|----------------------|---------------------------|------|------|------------|-----------------------------|------|------|------------|---------------------------|------|------|------------|------------|
| | Thru | Left | Peds | App. Total | Right | Left | Peds | App. Total | Right | Thru | Peds | App. Total | |
| 04:00 PM | 225 | 6 | 0 | 231 | 11 | 7 | 0 | 18 | 16 | 219 | 0 | 235 | 484 |
| 04:15 PM | 223 | 9 | 0 | 232 | 13 | 6 | 0 | 19 | 10 | 233 | 0 | 243 | 494 |
| 04:30 PM | 209 | 9 | 0 | 218 | 18 | 9 | 0 | 27 | 6 | 229 | 0 | 235 | 480 |
| 04:45 PM | 198 | 8 | 0 | 206 | 17 | 15 | 0 | 32 | 14 | 215 | 0 | 229 | 467 |
| Total | 855 | 32 | 0 | 887 | 59 | 37 | 0 | 96 | 46 | 896 | 0 | 942 | 1925 |
| 05:00 PM | 185 | 10 | 0 | 195 | 18 | 11 | 0 | 29 | 10 | 267 | 0 | 277 | 501 |
| 05:15 PM | 242 | 8 | 0 | 250 | 5 | 14 | 0 | 19 | 7 | 222 | 0 | 229 | 498 |
| 05:30 PM | 221 | 10 | 0 | 231 | 11 | 9 | 0 | 20 | 13 | 219 | 0 | 232 | 483 |
| 05:45 PM | 192 | 8 | 0 | 200 | 12 | 11 | 0 | 23 | 12 | 218 | 0 | 230 | 453 |
| Total | 840 | 36 | 0 | 876 | 46 | 45 | 0 | 91 | 42 | 926 | 0 | 968 | 1935 |
| Grand Total | 1695 | 68 | 0 | 1763 | 105 | 82 | 0 | 187 | 88 | 1822 | 0 | 1910 | 3860 |
| Apprch % | 96.1 | 3.9 | 0 | | 56.1 | 43.9 | 0 | | 4.6 | 95.4 | 0 | | |
| Total % | 43.9 | 1.8 | 0 | 45.7 | 2.7 | 2.1 | 0 | 4.8 | 2.3 | 47.2 | 0 | 49.5 | |
| Lights | 1671 | 66 | 0 | 1737 | 103 | 81 | 0 | 184 | 85 | 1792 | 0 | 1877 | 3798 |
| % Lights | 98.6 | 97.1 | 0 | 98.5 | 98.1 | 98.8 | 0 | 98.4 | 96.6 | 98.4 | 0 | 98.3 | 98.4 |
| Mediums | 21 | 1 | 0 | 22 | 2 | 0 | 0 | 2 | 3 | 27 | 0 | 30 | 54 |
| % Mediums | 1.2 | 1.5 | 0 | 1.2 | 1.9 | 0 | 0 | 1.1 | 3.4 | 1.5 | 0 | 1.6 | 1.4 |
| Articulated Trucks | 3 | 1 | 0 | 4 | 0 | 1 | 0 | 1 | 0 | 3 | 0 | 3 | 8 |
| % Articulated Trucks | 0.2 | 1.5 | 0 | 0.2 | 0 | 1.2 | 0 | 0.5 | 0 | 0.2 | 0 | 0.2 | 0.2 |

□ Seasonal/Annual Growth Data

SECTION I - CONTINUOUS COUNTING STATION MONTHLY AVERAGE DAILY TRAFFIC

STATION 35 - BEVERLY - RTE.128 - NORTH OF BRIMBLE AVENUE

| YR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | YEAR |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------------------|
| 05 | 40,000 | 42,720 | 43,414 | 47,496 | 49,010 | 55,111 | 54,830 | 54,453 | 49,541 | 46,632 | 46,086 | 44,140 | 47,786 |
| | 0% | -5% | 4% | -3% | 2% | -5% | -2% | -1% | 1% | 5% | 0% | 1% | 0% |
| 06 | 40,160 | 40,405 | 45,147 | 46,084 | 50,124 | 52,245 | 53,561 | 54,000 | 49,983 | 48,920 | 46,034 | 44,596 | 47,605 |
| | 5% | 5% | -2% | -1% | 2% | -5% | 0% | 1% | 1% | 0% | -1% | -7% | 0% |
| 07 | 42,000 | 42,541 | 44,243 | 45,757 | 50,896 | 49,531 | 53,663 | 54,422 | 50,516 | 49,004 | 45,465 | 41,565 | 47,467 |
| | 1% | -2% | -5% | 1% | -4% | 2% | -6% | -8% | -8% | -14% | -14% | -3% | -5% |
| 08 | 42,261 | 41,630 | 42,213 | 46,145 | 48,637 | 50,306 | 50,358 | 50,045 | 46,660 | 41,991 | 39,012 | 40,257 | 44,960 |
| | -8% | 0% | 9% | 1% | 0% | -2% | 2% | -4% | -2% | 15% | 12% | 4% | 2% |
| 09 | 39,011 | 41,648 | 46,000 | 46,511 | 48,741 | 49,470 | 51,273 | 48,153 | 45,721 | 48,212 | 43,754 | 41,813 | 45,859 |
| | -7% | -6% | -8% | -5% | -2% | 2% | 4% | 4% | -9% | -31% | -4% | -1% | -5% |
| 11 | 36,148 | 38,966 | 42,453 | 44,361 | 47,814 | 50,280 | 53,246 | 50,147 | 41,399 | 33,246 | 41,933 | 41,407 | 43,636 |
| | 11% | 6% | 2% | 5% | 6% | 2% | 2% | 9% | 26% | 46% | 7% | 8% | 9% |
| 15 | 40,264 | 41,143 | 43,401 | 46,445 | 50,909 | 51,500 | 54,454 | 54,685 | 52,058 | 48,569 | 44,667 | 44,522 | 47,718 |
| | 1.16 | 1.12 | 1.06 | 1.01 | 0.94 | 0.91 | 0.88 | 0.89 | 0.97 | 1.04 | 1.06 | 1.09 | |
| Seasonal Adjustment Factor (to average month) | | | | | | | | | | | | | Growth -0.67% |

STATION 18 - GEORGETOWN - RTE.1-95 - NORTH OF RTE.133

| YR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | YEAR |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------------------|
| 05 | 57,892 | 61,640 | 62,154 | 66,076 | 69,373 | 80,051 | 82,926 | 83,378 | 71,578 | 68,235 | 65,280 | 62,250 | 69,236 |
| | 4% | -1% | 2% | -1% | -3% | -8% | -6% | -2% | 1% | 3% | 0% | 1% | -1% |
| 06 | 60,000 | 61,145 | 63,651 | 65,342 | 67,549 | 73,606 | 77,874 | 81,624 | 72,579 | 70,144 | 65,604 | 62,968 | 68,507 |
| | -1% | -1% | -3% | -3% | 4% | 2% | 4% | 3% | 1% | 0% | -2% | -8% | 0% |
| 07 | 59,608 | 60,364 | 61,801 | 63,520 | 70,112 | 75,263 | 81,298 | 84,431 | 73,267 | 70,309 | 64,535 | 58,030 | 68,545 |
| | -4% | -3% | -3% | 0% | -5% | -7% | -5% | -6% | -9% | -3% | -5% | -2% | -5% |
| 08 | 57,267 | 58,298 | 60,036 | 63,255 | 66,709 | 70,176 | 77,042 | 79,130 | 67,039 | 67,879 | 61,016 | 56,843 | 65,391 |
| | -30% | 21% | 31% | 16% | 6% | 4% | 6% | 4% | 6% | 0% | 3% | 8% | 6% |
| 10 | 39,923 | 70,252 | 78,609 | 73,165 | 70,962 | 72,919 | 81,712 | 82,203 | 71,271 | 67,724 | 62,832 | 61,331 | 69,409 |
| | 46% | -15% | -24% | -15% | -7% | -1% | 0% | -5% | -1% | -1% | 0% | 1% | -4% |
| 11 | 58,264 | 59,912 | 59,619 | 62,294 | 66,058 | 71,838 | 81,365 | 77,828 | 70,297 | 66,788 | 62,730 | 61,666 | 66,555 |
| | -6% | -11% | 4% | 2% | 4% | 2% | -2% | 5% | -1% | 1% | 0% | -5% | 0% |
| 12 | 54,483 | 53,077 | 62,067 | 63,614 | 68,971 | 72,934 | 80,072 | 81,440 | 69,716 | 67,223 | 62,893 | 58,530 | 66,252 |
| | -6% | 6% | -2% | 2% | 1% | 4% | 2% | 3% | 4% | 5% | -2% | 5% | 2% |
| 14 | 51,127 | 56,236 | 60,536 | 64,715 | 69,744 | 76,021 | 81,311 | 83,768 | 72,762 | 70,511 | 61,869 | 61,701 | 67,525 |
| | 9% | -6% | 2% | 2% | 4% | 1% | 4% | 2% | 11% | 3% | 8% | 5% | 4% |
| 15 | 55,890 | 52,982 | 61,547 | 65,769 | 72,533 | 76,541 | 84,791 | 85,452 | 81,004 | 72,590 | 66,660 | 64,971 | 70,061 |
| | 1.26 | 1.15 | 1.08 | 1.04 | 0.98 | 0.91 | 0.84 | 0.83 | 0.94 | 0.98 | 1.07 | 1.12 | |
| Seasonal Adjustment Factor (to average month) | | | | | | | | | | | | | Growth -0.18% |

Average

Seasonal Adjustment Factor
(to average month)

Average Yearly Growth Calculated -0.4%
Yearly Growth Factor Used 1.0%

ITALICS = ESTIMATED DATA
MADT

□ Speed Data

□ Sight Distance Calculations

Intersection Sight Distance Calculations

Source: *A Policy on Geometric Design of Highways and Street, 6th Edition*; AASHTO; 2011.

Passenger Car

$$ISD = 1.47 * V * t$$

V = speed

t = time gap

t = 7.5 s for a passenger car for Left Turn from a Stop

t = 6.5 s for a passenger car for Right Turn from a Stop

Posted (Regulatory) Speed Limit

Town Farm Road Road ISD = $1.47 * 25 * 7.5 = 276$ ft **SAY 280 ft**
(left-turn from a stop)

Town Farm Road Road ISD = $1.47 * 25 * 6.5 = 239$ ft **SAY 240 ft**
(right-turn from a stop)

Stopping Sight Distance - Posted

| | | SPEED (MPH) | BRAKE REACTION DISTANCE (FT) | BRAKING DISTANCE (FT) | CALCULATED STOPPING SIGHT DISTANCE (FT) |
|--------------------|----|----------------|---------------------------------------|--------------------------|---|
| Direction 1 | NB | 25 | 91.875 | 59.9 | 151.8 |
| Direction 2 | SB | 25 | 91.875 | 59.9 | 151.8 |

INPUTS

Direction 1

Direction 2

| | | |
|------------------|------|------|
| Travel Direction | NB | SB |
| Speed | 25 | 25 |
| Grade | 0 | 0 |
| t | 2.5 | 2.5 |
| a | 11.2 | 11.2 |

Stopping Sight Distance (SSD) - Source: AASHTO

SSD = Reaction Distance + Brake Distance

Reaction Distance = $1.47 \times t \times V$

Brake Distance = $V^2 / (30 \times ((a/32.2)+G))$

Where:

t = reaction time (sec)

V = travel speed (mph)

G = roadway grade

a = deceleration rate (ft/sec²)

Stopping Sight Distance - Average

| | | SPEED (MPH) | BRAKE REACTION DISTANCE (FT) | BRAKING DISTANCE (FT) | CALCULATED STOPPING SIGHT DISTANCE (FT) |
|--------------------|----|----------------|---------------------------------------|--------------------------|---|
| Direction 1 | NB | 26 | 95.55 | 64.8 | 160.3 |
| Direction 2 | SB | 27 | 99.225 | 69.9 | 169.1 |

INPUTS

Travel Direction
Speed
Grade
t
a

Direction 1

NB
26
0
2.5
11.2

Direction 2

SB
27
0
2.5
11.2

Stopping Sight Distance (SSD) - Source: AASHTO

SSD = Reaction Distance + Brake Distance

Reaction Distance = $1.47 \times t \times V$

Brake Distance = $V^2 / (30 \times ((a/32.2)+G))$

Where:

t = reaction time (sec)

V = travel speed (mph)

G = roadway grade

a = deceleration rate (ft/sec²)

Stopping Sight Distance - 85th Percentile

| | | SPEED (MPH) | BRAKE REACTION DISTANCE (FT) | BRAKING DISTANCE (FT) | CALCULATED STOPPING SIGHT DISTANCE (FT) |
|--------------------|----|----------------|---------------------------------------|--------------------------|---|
| Direction 1 | NB | 30 | 110.25 | 86.3 | 196.5 |
| Direction 2 | SB | 31 | 113.925 | 92.1 | 206.0 |

INPUTS

Direction 1

Direction 2

| | | |
|------------------|------|------|
| Travel Direction | NB | SB |
| Speed | 30 | 31 |
| Grade | 0 | 0 |
| t | 2.5 | 2.5 |
| a | 11.2 | 11.2 |

Stopping Sight Distance (SSD) - Source: AASHTO

SSD = Reaction Distance + Brake Distance

Reaction Distance = $1.47 \times t \times V$

Brake Distance = $V^2 / (30 \times ((a/32.2)+G))$

Where:

t = reaction time (sec)

V = travel speed (mph)

G = roadway grade

a = deceleration rate (ft/sec²)

□ Trip Generation Data

Institute of Transportation Engineers (ITE) 9th Edition
Land Use Code (LUC) 252 - Senior Adult Housing - Attached

Average Vehicle Trips Ends vs: Dwelling Units
 Independent Variable (X): 40

AVERAGE WEEKDAY DAILY

T = $2.98 * (X) + 21.05$ (Small Sample Size - Use with Caution)
 T = $2.98 * 40 + 21.05$
 T = 140.25 vehicle trips
 T = 140
 with 50% (70 vpd) entering and 50% (70 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = $0.2*(X) - 0.13$
 T = $0.20* 40 - 0.13$
 T = 8.00 vehicle trips
 T = 8
 with 34% (3 vph) entering and 66%(5 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = $0.24*(X) + 1.64$
 T = $0.24* 40 + 1.64$
 T = 11.00
 T = 11
 with 54% (6 vph) entering and 46%(5 vph) exiting.

SATURDAY DAILY

T = $2.12 * (X) + 22.3$ (Small Sample Size - Use with Caution)
 T = $2.12 * 40 + 22.3$
 T = 107.10
 T = 108 vehicle trips
 with 50% (54 vpd) entering and 50% (54 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

T = $0.31 * (X) + 0.46$
 T = $0.31 * 40 + 0.46$
 T = 12.86
 T = 13 vehicle trips
 with 57% (7 vph) entering and 43%(6 vph) exiting.

□ Trip Distribution Calculations

Journey-to-Work Distribution

| Residence Town Name | Workplace Town Name | All Workers | % of Total |
|---------------------|---|-------------|------------|
| Ipswich | Ipswich town Essex Co. MA | 1835 | 32.8% |
| Ipswich | Boston city Suffolk Co. MA | 578 | 10.3% |
| Ipswich | Beverly city Essex Co. MA | 526 | 9.4% |
| Ipswich | Danvers town Essex Co. MA | 281 | 5.0% |
| Ipswich | Gloucester city Essex Co. MA | 269 | 4.8% |
| Ipswich | Peabody city Essex Co. MA | 262 | 4.7% |
| Ipswich | Rowley town Essex Co. MA | 230 | 4.1% |
| Ipswich | Hamilton town Essex Co. MA | 202 | 3.6% |
| Ipswich | Newburyport city Essex Co. MA | 159 | 2.8% |
| Ipswich | Malden city Middlesex Co. MA | 147 | 2.6% |
| Ipswich | Salem city Essex Co. MA | 136 | 2.4% |
| Ipswich | Cambridge city Middlesex Co. MA | 111 | 2.0% |
| Ipswich | Lynn city Essex Co. MA | 99 | 1.8% |
| Ipswich | Burlington town Middlesex Co. MA | 93 | 1.7% |
| Ipswich | Topsfield town Essex Co. MA | 86 | 1.5% |
| Ipswich | Haverhill city Essex Co. MA | 70 | 1.3% |
| Ipswich | Middleton town Essex Co. MA | 67 | 1.2% |
| Ipswich | Medford city Middlesex Co. MA | 66 | 1.2% |
| Ipswich | Essex town Essex Co. MA | 63 | 1.1% |
| Ipswich | Marblehead town Essex Co. MA | 47 | 0.8% |
| Ipswich | Newbury town Essex Co. MA | 31 | 0.6% |
| Ipswich | Waltham city Middlesex Co. MA | 30 | 0.5% |
| Ipswich | Wakefield town Middlesex Co. MA | 29 | 0.5% |
| Ipswich | Andover town Essex Co. MA | 28 | 0.5% |
| Ipswich | Lynnfield town Essex Co. MA | 28 | 0.5% |
| Ipswich | Methuen city Essex Co. MA | 27 | 0.5% |
| Ipswich | Woburn city Middlesex Co. MA | 22 | 0.4% |
| Ipswich | Manchester-by-the-Sea town Essex Co. MA | 22 | 0.4% |
| Ipswich | Wenham town Essex Co. MA | 20 | 0.4% |
| Ipswich | Saugus town Essex Co. MA | 19 | 0.3% |
| Ipswich | Everett city Middlesex Co. MA | 10 | 0.2% |
| | Total | 5593 | 100.00% |

| | To/From Routes | | | Total |
|--|-----------------------|-----------------------|-------|--------|
| | High Street Northerly | High Street Southerly | Total | |
| | 20% | 6.56% | 80% | 26.25% |
| | 100% | 10.33% | 0% | 0.00% |
| | 0% | 0.00% | 100% | 9.40% |
| | 50% | 2.51% | 50% | 2.51% |
| | 0% | 0.00% | 100% | 4.81% |
| | 50% | 2.34% | 50% | 2.34% |
| | 100% | 4.11% | 0% | 0.00% |
| | 0% | 0.00% | 100% | 3.61% |
| | 100% | 2.84% | 0% | 0.00% |
| | 60% | 1.58% | 40% | 1.05% |
| | 0% | 0.00% | 100% | 2.43% |
| | 100% | 1.98% | 0% | 2.00% |
| | 100% | 1.77% | 0% | 0.00% |
| | 100% | 1.66% | 0% | 0.00% |
| | 80% | 1.23% | 20% | 0.31% |
| | 100% | 1.25% | 0% | 0.00% |
| | 50% | 0.60% | 50% | 0.60% |
| | 100% | 1.18% | 0% | 0.00% |
| | 0% | 0.00% | 100% | 1.13% |
| | 0% | 0.00% | 100% | 0.84% |
| | 100% | 0.55% | 0% | 0.00% |
| | 100% | 0.54% | 0% | 0.00% |
| | 100% | 0.52% | 0% | 0.00% |
| | 100% | 0.50% | 0% | 0.00% |
| | 50% | 0.25% | 50% | 0.25% |
| | 100% | 0.48% | 0% | 0.00% |
| | 100% | 0.39% | 0% | 0.00% |
| | 0% | 0.00% | 100% | 0.39% |
| | 0% | 0.00% | 100% | 0.36% |
| | 100% | 0.34% | 0% | 0.00% |
| | 100% | 0.18% | 0% | 0.00% |
| | | 43.7% | | 56.3% |
| | | | | 100% |

Source: 2010 US Census Journey-to-Work Data

□ Capacity Analysis

HCM 2010 TWSC
1: High Street & Town Farm Road

2017 Existing Condition
Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 6

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|--------------------------|------|------|------|------|------|------|
| Vol, veh/h | 51 | 35 | 676 | 42 | 60 | 854 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 93 | 95 |
| Heavy Vehicles, % | 11 | 15 | 6 | 15 | 14 | 7 |
| Mvmt Flow | 54 | 37 | 712 | 44 | 65 | 899 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|----------------------|--------|-------|--------|---|--------|---|
| Conflicting Flow All | 1762 | 734 | 0 | 0 | 756 | 0 |
| Stage 1 | 734 | - | - | - | - | - |
| Stage 2 | 1028 | - | - | - | - | - |
| Critical Hdwy | 6.51 | 6.35 | - | - | 4.24 | - |
| Critical Hdwy Stg 1 | 5.51 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.51 | - | - | - | - | - |
| Follow-up Hdwy | 3.599 | 3.435 | - | - | 2.326 | - |
| Pot Cap-1 Maneuver | 88 | 399 | - | - | 803 | - |
| Stage 1 | 459 | - | - | - | - | - |
| Stage 2 | 332 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | |
| Mov Cap-1 Maneuver | 74 | 399 | - | - | 803 | - |
| Mov Cap-2 Maneuver | 74 | - | - | - | - | - |
| Stage 1 | 459 | - | - | - | - | - |
| Stage 2 | 278 | - | - | - | - | - |

| Approach | WB | | NB | | SB |
|----------------------|-------|--|----|--|-----|
| HCM Control Delay, s | 112.7 | | 0 | | 0.7 |
| HCM LOS | F | | | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|------|-----|
| Capacity (veh/h) | - | - 111 | 803 | - |
| HCM Lane V/C Ratio | - | - 0.816 | 0.08 | - |
| HCM Control Delay (s) | - | - 112.7 | 9.9 | 0 |
| HCM Lane LOS | - | - F | A | A |
| HCM 95th %tile Q(veh) | - | - 4.7 | 0.3 | - |

Intersection

Int Delay, s/veh 10

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|--------------------------|------|------|------|------|------|------|
| Vol, veh/h | 54 | 37 | 710 | 44 | 63 | 929 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 93 | 95 |
| Heavy Vehicles, % | 11 | 15 | 6 | 15 | 14 | 7 |
| Mvmt Flow | 57 | 39 | 747 | 46 | 68 | 978 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|----------------------|--------|-------|--------|---|--------|---|
| Conflicting Flow All | 1884 | 771 | 0 | 0 | 794 | 0 |
| Stage 1 | 771 | - | - | - | - | - |
| Stage 2 | 1113 | - | - | - | - | - |
| Critical Hdwy | 6.51 | 6.35 | - | - | 4.24 | - |
| Critical Hdwy Stg 1 | 5.51 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.51 | - | - | - | - | - |
| Follow-up Hdwy | 3.599 | 3.435 | - | - | 2.326 | - |
| Pot Cap-1 Maneuver | 74 | 380 | - | - | 777 | - |
| Stage 1 | 441 | - | - | - | - | - |
| Stage 2 | 302 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | |
| Mov Cap-1 Maneuver | 60 | 380 | - | - | 777 | - |
| Mov Cap-2 Maneuver | 60 | - | - | - | - | - |
| Stage 1 | 441 | - | - | - | - | - |
| Stage 2 | 244 | - | - | - | - | - |

| Approach | WB | | NB | | SB |
|----------------------|-------|--|----|--|-----|
| HCM Control Delay, s | 193.8 | | 0 | | 0.7 |
| HCM LOS | F | | | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h) | - | - | 91 | 777 |
| HCM Lane V/C Ratio | - | - | 1.053 | 0.087 |
| HCM Control Delay (s) | - | - | 193.8 | 10.1 |
| HCM Lane LOS | - | - | F | B |
| HCM 95th %tile Q(veh) | - | - | 6.3 | 0.3 |

Intersection

Int Delay, s/veh 11.7

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|--------------------------|------|------|------|------|------|------|
| Vol, veh/h | 57 | 39 | 710 | 46 | 64 | 929 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 93 | 95 |
| Heavy Vehicles, % | 11 | 15 | 6 | 15 | 14 | 7 |
| Mvmt Flow | 60 | 41 | 747 | 48 | 69 | 978 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|----------------------|--------|-------|--------|---|--------|---|
| Conflicting Flow All | 1888 | 772 | 0 | 0 | 796 | 0 |
| Stage 1 | 772 | - | - | - | - | - |
| Stage 2 | 1116 | - | - | - | - | - |
| Critical Hdwy | 6.51 | 6.35 | - | - | 4.24 | - |
| Critical Hdwy Stg 1 | 5.51 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.51 | - | - | - | - | - |
| Follow-up Hdwy | 3.599 | 3.435 | - | - | 2.326 | - |
| Pot Cap-1 Maneuver | 73 | 379 | - | - | 775 | - |
| Stage 1 | 440 | - | - | - | - | - |
| Stage 2 | 301 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | |
| Mov Cap-1 Maneuver | ~ 59 | 379 | - | - | 775 | - |
| Mov Cap-2 Maneuver | ~ 59 | - | - | - | - | - |
| Stage 1 | 440 | - | - | - | - | - |
| Stage 2 | 242 | - | - | - | - | - |

| Approach | WB | | NB | | SB |
|----------------------|-------|--|----|--|-----|
| HCM Control Delay, s | 217.5 | | 0 | | 0.7 |
| HCM LOS | F | | | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|-------|-----|
| Capacity (veh/h) | - | - 90 | 775 | - |
| HCM Lane V/C Ratio | - | - 1.123 | 0.089 | - |
| HCM Control Delay (s) | - | - 217.5 | 10.1 | 0 |
| HCM Lane LOS | - | - F | B | A |
| HCM 95th %tile Q(veh) | - | - 6.9 | 0.3 | - |

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 7.5

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|--------------------------|------|------|------|------|------|------|
| Vol, veh/h | 49 | 51 | 924 | 44 | 36 | 846 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 97 | 97 | 97 | 97 | 97 | 97 |
| Heavy Vehicles, % | 1 | 2 | 2 | 3 | 3 | 1 |
| Mvmt Flow | 51 | 53 | 953 | 45 | 37 | 872 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|----------------------|--------|-------|--------|---|--------|---|
| Conflicting Flow All | 1921 | 975 | 0 | 0 | 998 | 0 |
| Stage 1 | 975 | - | - | - | - | - |
| Stage 2 | 946 | - | - | - | - | - |
| Critical Hdwy | 6.41 | 6.22 | - | - | 4.13 | - |
| Critical Hdwy Stg 1 | 5.41 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.41 | - | - | - | - | - |
| Follow-up Hdwy | 3.509 | 3.318 | - | - | 2.227 | - |
| Pot Cap-1 Maneuver | 74 | 305 | - | - | 689 | - |
| Stage 1 | 367 | - | - | - | - | - |
| Stage 2 | 379 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | |
| Mov Cap-1 Maneuver | 66 | 305 | - | - | 689 | - |
| Mov Cap-2 Maneuver | 66 | - | - | - | - | - |
| Stage 1 | 367 | - | - | - | - | - |
| Stage 2 | 340 | - | - | - | - | - |

| Approach | WB | | NB | | SB |
|----------------------|-------|--|----|--|-----|
| HCM Control Delay, s | 141.9 | | 0 | | 0.4 |
| HCM LOS | F | | | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h) | - | - | 110 | 689 |
| HCM Lane V/C Ratio | - | - | 0.937 | 0.054 |
| HCM Control Delay (s) | - | - | 141.9 | 10.5 |
| HCM Lane LOS | - | - | F | B |
| HCM 95th %tile Q(veh) | - | - | 5.8 | 0.2 |

Intersection

Int Delay, s/veh 11.3

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|--------------------------|------|------|------|------|------|------|
| Vol, veh/h | 51 | 54 | 971 | 46 | 38 | 889 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 97 | 97 | 97 | 97 | 97 | 97 |
| Heavy Vehicles, % | 1 | 2 | 2 | 3 | 3 | 1 |
| Mvmt Flow | 53 | 56 | 1001 | 47 | 39 | 916 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|----------------------|--------|-------|--------|---|--------|---|
| Conflicting Flow All | 2020 | 1025 | 0 | 0 | 1048 | 0 |
| Stage 1 | 1025 | - | - | - | - | - |
| Stage 2 | 995 | - | - | - | - | - |
| Critical Hdwy | 6.41 | 6.22 | - | - | 4.13 | - |
| Critical Hdwy Stg 1 | 5.41 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.41 | - | - | - | - | - |
| Follow-up Hdwy | 3.509 | 3.318 | - | - | 2.227 | - |
| Pot Cap-1 Maneuver | 64 | 285 | - | - | 660 | - |
| Stage 1 | 348 | - | - | - | - | - |
| Stage 2 | 359 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | |
| Mov Cap-1 Maneuver | 56 | 285 | - | - | 660 | - |
| Mov Cap-2 Maneuver | 56 | - | - | - | - | - |
| Stage 1 | 348 | - | - | - | - | - |
| Stage 2 | 316 | - | - | - | - | - |

| Approach | WB | | NB | | SB |
|----------------------|-------|--|----|--|-----|
| HCM Control Delay, s | 217.2 | | 0 | | 0.4 |
| HCM LOS | F | | | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h) | - | - | 95 | 660 |
| HCM Lane V/C Ratio | - | - | 1.139 | 0.059 |
| HCM Control Delay (s) | - | - | 217.2 | 10.8 |
| HCM Lane LOS | - | - | F | B |
| HCM 95th %tile Q(veh) | - | - | 7.3 | 0.2 |

Intersection

Int Delay, s/veh 12.8

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|--------------------------|------|------|------|------|------|------|
| Vol, veh/h | 54 | 56 | 971 | 50 | 40 | 889 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 97 | 97 | 97 | 97 | 97 | 97 |
| Heavy Vehicles, % | 1 | 2 | 2 | 3 | 3 | 1 |
| Mvmt Flow | 56 | 58 | 1001 | 52 | 41 | 916 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|----------------------|--------|-------|--------|---|--------|---|
| Conflicting Flow All | 2026 | 1027 | 0 | 0 | 1053 | 0 |
| Stage 1 | 1027 | - | - | - | - | - |
| Stage 2 | 999 | - | - | - | - | - |
| Critical Hdwy | 6.41 | 6.22 | - | - | 4.13 | - |
| Critical Hdwy Stg 1 | 5.41 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.41 | - | - | - | - | - |
| Follow-up Hdwy | 3.509 | 3.318 | - | - | 2.227 | - |
| Pot Cap-1 Maneuver | 64 | 285 | - | - | 657 | - |
| Stage 1 | 347 | - | - | - | - | - |
| Stage 2 | 358 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | |
| Mov Cap-1 Maneuver | 56 | 285 | - | - | 657 | - |
| Mov Cap-2 Maneuver | 56 | - | - | - | - | - |
| Stage 1 | 347 | - | - | - | - | - |
| Stage 2 | 313 | - | - | - | - | - |

| Approach | WB | | NB | | SB |
|----------------------|-------|--|----|--|-----|
| HCM Control Delay, s | 235.7 | | 0 | | 0.5 |
| HCM LOS | F | | | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h) | - | - | 95 | 657 |
| HCM Lane V/C Ratio | - | - | 1.194 | 0.063 |
| HCM Control Delay (s) | - | - | 235.7 | 10.8 |
| HCM Lane LOS | - | - | F | B |
| HCM 95th %tile Q(veh) | - | - | 7.8 | 0.2 |