| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 42 | 176 | 291 | 166 | 863 | 27 | 912 | 236 | 651 | 647 | 67 |
| v/c Ratio | 0.56 | 0.44 | 0.29 | 0.24 | 0.86 | 0.36 | 0.74 | 0.25 | 0.91 | 0.42 | 0.09 |
| Control Delay | 92.8 | 53.3 | 37.2 | 28.3 | 29.4 | 78.8 | 50.5 | 1.6 | 69.1 | 26.4 | 5.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 92.8 | 53.3 | 37.2 | 28.3 | 29.4 | 78.8 | 50.5 | 1.6 | 69.1 | 26.4 | 5.6 |
| Queue Length 50th (ft) | 39 | 73 | 98 | 99 | 582 | 24 | 282 | 0 | 306 | 218 | 0 |
| Queue Length 95th (ft) | #91 | 102 | 157 | 155 | #887 | 58 | 336 | 20 | #424 | 274 | 29 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 79 | 1034 | 1016 | 718 | 998 | 83 | 1276 | 953 | 719 | 1530 | 750 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.53 | 0.17 | 0.29 | 0.23 | 0.86 | 0.33 | 0.71 | 0.25 | 0.91 | 0.42 | 0.09 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 39 | 136 | 26 | 268 | 153 | 794 | 25 | 839 | 217 | 599 | 595 | 62 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 2.5 | 2.5 | | 2.5 | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 2.5 | 1.8 | 1.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3112 | | 3255 | 1689 | 1501 | 1620 | 4655 | 1449 | 3143 | 3240 | 1514 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3112 | | 3255 | 1689 | 1501 | 1620 | 4655 | 1449 | 3143 | 3240 | 1514 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 42 | 148 | 28 | 291 | 166 | 863 | 27 | 912 | 236 | 651 | 647 | 67 |
| RTOR Reduction (vph) | 0 | 14 | 0 | 0 | 0 | 18 | 0 | 0 | 96 | 0 | 0 | 36 |
| Lane Group Flow (vph) | 42 | 162 | 0 | 291 | 166 | 845 | 27 | 912 | 140 | 651 | 647 | 31 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 4.2 | 15.0 | | 42.3 | 53.1 | 87.7 | 3.4 | 35.5 | 77.8 | 30.1 | 62.2 | 62.2 |
| Effective Green, g (s) | 5.2 | 17.0 | | 43.3 | 55.1 | 89.7 | 4.4 | 37.5 | 81.8 | 31.1 | 64.2 | 64.2 |
| Actuated g/C Ratio | 0.04 | 0.12 | | 0.31 | 0.40 | 0.65 | 0.03 | 0.27 | 0.59 | 0.23 | 0.46 | 0.46 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 4.0 | | 2.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 63 | 383 | | 1020 | 673 | 974 | 52 | 1263 | 858 | 707 | 1505 | 703 |
| v/s Ratio Prot | c0.03 | 0.05 | | 0.09 | 0.10 | c0.56 | 0.02 | c0.20 | 0.10 | c0.21 | 0.20 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.02 |
| v/c Ratio | 0.67 | 0.42 | | 0.29 | 0.25 | 0.87 | 0.52 | 0.72 | 0.16 | 0.92 | 0.43 | 0.04 |
| Uniform Delay, d1 | 65.6 | 56.1 | | 35.8 | 27.7 | 19.5 | 65.9 | 45.6 | 12.7 | 52.3 | 24.8 | 20.2 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 18.7 | 1.3 | | 0.1 | 0.3 | 8.5 | 3.6 | 2.2 | 0.1 | 17.1 | 0.2 | 0.0 |
| Delay (s) | 84.3 | 57.4 | | 35.8 | 28.0 | 28.0 | 69.5 | 47.8 | 12.9 | 69.5 | 25.0 | 20.3 |
| Level of Service | F | E | | D | C | C | E | D | B | E | C | C |
| Approach Delay (s) | | 62.6 | | | 29.7 | | | 41.3 | | | 46.0 | |
| Approach LOS | | E | | | C | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 40.2 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.82 | | |
| Actuated Cycle Length (s) | 138.2 | Sum of lost time (s) | 6.8 |
| Intersection Capacity Utilization | 79.9% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 124 | 923 | 25 | 1217 | 153 | 28 | 149 | 182 | 124 |
| v/c Ratio | 0.67 | 0.42 | 0.15 | 0.65 | 0.18 | 0.25 | 0.64 | 0.48 | 0.51 |
| Control Delay | 62.2 | 9.7 | 60.4 | 7.8 | 0.5 | 50.7 | 21.2 | 46.6 | 28.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 62.2 | 9.7 | 60.4 | 8.0 | 0.5 | 50.7 | 21.2 | 46.6 | 28.4 |
| Queue Length 50th (ft) | 81 | 84 | 17 | 60 | 1 | 18 | 1 | 60 | 36 |
| Queue Length 95th (ft) | 139 | 249 | m29 | 202 | 2 | 45 | 60 | 92 | 92 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 221 | 2208 | 170 | 1883 | 869 | 224 | 318 | 461 | 278 |
| Starvation Cap Reductn | 0 | 0 | 0 | 116 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.56 | 0.42 | 0.15 | 0.69 | 0.18 | 0.13 | 0.47 | 0.39 | 0.45 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 114 | 833 | 17 | 23 | 1104 | 156 | 26 | 2 | 135 | 167 | 42 | 72 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 2.0 | 3.0 | | 2.0 | 3.0 | 3.0 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.91 | 0.91 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.99 | 1.00 | 0.98 | | 1.00 | 0.97 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3169 | | 1620 | 3067 | 1319 | 1678 | 1431 | | 3143 | 1502 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3169 | | 1620 | 3067 | 1319 | 1678 | 1431 | | 3143 | 1502 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 124 | 905 | 18 | 25 | 1200 | 170 | 28 | 2 | 147 | 182 | 46 | 78 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 1 | 59 | 0 | 137 | 0 | 0 | 59 | 0 |
| Lane Group Flow (vph) | 124 | 922 | 0 | 25 | 1216 | 94 | 28 | 12 | 0 | 182 | 65 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 10.9 | 70.3 | | 4.0 | 63.4 | 63.4 | 6.0 | 6.0 | | 11.7 | 11.7 | |
| Effective Green, g (s) | 11.9 | 71.3 | | 5.0 | 64.4 | 64.4 | 7.0 | 7.0 | | 12.7 | 12.7 | |
| Actuated g/C Ratio | 0.11 | 0.68 | | 0.05 | 0.61 | 0.61 | 0.07 | 0.07 | | 0.12 | 0.12 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 184 | 2152 | | 77 | 1881 | 809 | 112 | 95 | | 380 | 182 | |
| v/s Ratio Prot | c0.08 | 0.29 | | 0.02 | c0.40 | | c0.02 | 0.01 | | c0.06 | 0.04 | |
| v/s Ratio Perm | | | | | | 0.07 | | | | | | |
| v/c Ratio | 0.67 | 0.43 | | 0.32 | 0.65 | 0.12 | 0.25 | 0.12 | | 0.48 | 0.36 | |
| Uniform Delay, d1 | 44.7 | 7.6 | | 48.4 | 13.0 | 8.5 | 46.5 | 46.1 | | 43.1 | 42.4 | |
| Progression Factor | 1.00 | 1.00 | | 1.36 | 0.42 | 0.07 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 7.4 | 0.6 | | 0.7 | 1.4 | 0.2 | 0.4 | 0.2 | | 1.0 | 1.2 | |
| Delay (s) | 52.1 | 8.3 | | 66.6 | 6.9 | 0.8 | 46.9 | 46.3 | | 44.0 | 43.6 | |
| Level of Service | D | A | | E | A | A | D | D | | D | D | |
| Approach Delay (s) | | 13.4 | | | 7.3 | | | 46.4 | | | 43.9 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 15.7 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.59 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 65.3% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 28 | 1156 | 301 | 1294 | 171 | 223 | 121 | 96 |
| v/c Ratio | 0.30 | 0.48 | 0.73 | 0.61 | 0.71 | 0.25 | 0.69 | 0.51 |
| Control Delay | 60.3 | 13.6 | 54.0 | 12.5 | 59.6 | 4.1 | 64.0 | 45.4 |
| Queue Delay | 0.0 | 0.2 | 0.0 | 0.1 | 0.0 | 0.0 | 0.3 | 0.0 |
| Total Delay | 60.3 | 13.7 | 54.0 | 12.6 | 59.6 | 4.1 | 64.4 | 45.4 |
| Queue Length 50th (ft) | 18 | 197 | 98 | 230 | 111 | 0 | 79 | 51 |
| Queue Length 95th (ft) | m47 | 157 | 141 | 377 | 176 | 27 | 135 | 100 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 98 | 2404 | 468 | 2110 | 310 | 938 | 238 | 251 |
| Starvation Cap Reductn | 0 | 435 | 0 | 106 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 128 | 0 | 40 | 0 | 9 | 10 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.29 | 0.59 | 0.64 | 0.65 | 0.55 | 0.24 | 0.53 | 0.38 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 26 | 944 | 120 | 277 | 1136 | 54 | 139 | 18 | 205 | 111 | 64 | 24 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 2.0 | 3.0 | | 2.5 | 3.0 | | | 2.0 | 2.5 | 2.0 | 2.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.95 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.99 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.98 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.96 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4491 | | 3143 | 3298 | | | 1808 | 2806 | 1562 | 1558 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4491 | | 3143 | 3298 | | | 1808 | 2806 | 1562 | 1558 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 28 | 1026 | 130 | 301 | 1235 | 59 | 151 | 20 | 223 | 121 | 70 | 26 |
| RTOR Reduction (vph) | 0 | 13 | 0 | 0 | 3 | 0 | 0 | 0 | 164 | 0 | 13 | 0 |
| Lane Group Flow (vph) | 28 | 1143 | 0 | 301 | 1291 | 0 | 0 | 171 | 59 | 121 | 83 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 3.3 | 55.0 | | 12.8 | 65.0 | | | 12.9 | 25.7 | 10.8 | 10.8 | |
| Effective Green, g (s) | 4.3 | 56.0 | | 13.8 | 66.0 | | | 13.9 | 27.7 | 11.8 | 11.8 | |
| Actuated g/C Ratio | 0.04 | 0.53 | | 0.13 | 0.63 | | | 0.13 | 0.26 | 0.11 | 0.11 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 66 | 2395 | | 413 | 2073 | | | 239 | 740 | 176 | 175 | |
| v/s Ratio Prot | 0.02 | 0.25 | | c0.10 | c0.39 | | | c0.09 | 0.01 | c0.08 | 0.05 | |
| v/s Ratio Perm | | | | | | | | | 0.01 | | | |
| v/c Ratio | 0.42 | 0.48 | | 0.73 | 0.62 | | | 0.72 | 0.08 | 0.69 | 0.47 | |
| Uniform Delay, d1 | 49.1 | 15.3 | | 43.8 | 11.9 | | | 43.7 | 29.1 | 44.8 | 43.7 | |
| Progression Factor | 1.10 | 0.78 | | 1.03 | 0.83 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.5 | 0.6 | | 4.6 | 1.2 | | | 8.2 | 0.0 | 8.6 | 0.7 | |
| Delay (s) | 55.8 | 12.5 | | 49.7 | 11.1 | | | 51.8 | 29.1 | 53.4 | 44.4 | |
| Level of Service | E | B | | D | B | | | D | C | D | D | |
| Approach Delay (s) | | 13.5 | | | 18.4 | | | 39.0 | | | 49.4 | |
| Approach LOS | | B | | | B | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 21.1 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.65 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 6.5 |
| Intersection Capacity Utilization | 61.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 582 | 1459 | 1225 | 443 | 186 | 242 | 240 |
| v/c Ratio | 0.23 | 1.01 | 0.50 | 0.30 | 0.63 | 0.63 | 0.62 |
| Control Delay | 2.1 | 43.5 | 5.7 | 0.5 | 50.5 | 26.5 | 25.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 2.1 | 43.5 | 5.7 | 0.5 | 50.5 | 26.5 | 25.5 |
| Queue Length 50th (ft) | 20 | ~871 | 137 | 0 | 123 | 73 | 68 |
| Queue Length 95th (ft) | 32 | #1329 | 174 | 0 | 202 | 168 | 157 |
| Internal Link Dist (ft) | 509 | | 867 | | | 1128 | |
| Turn Bay Length (ft) | | | | 75 | | | 80 |
| Base Capacity (vph) | 2508 | 1439 | 2445 | 1478 | 294 | 384 | 389 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 30 | 0 | 0 | 1 | 1 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 1.01 | 0.51 | 0.30 | 0.63 | 0.63 | 0.62 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 535 | 1342 | 0 | 1127 | 408 | 0 | 0 | 0 | 190 | 0 | 424 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | 4.0 | 3.0 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.95 | 1.00 | | | | 0.95 | 0.91 | 0.95 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | 0.86 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | | 3292 | 1439 | | 3209 | 1478 | | | | 1625 | 1608 | 1559 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | | 3292 | 1439 | | 3209 | 1478 | | | | 1625 | 1608 | 1559 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 582 | 1459 | 0 | 1225 | 443 | 0 | 0 | 0 | 207 | 0 | 461 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 109 | 107 |
| Lane Group Flow (vph) | 0 | 582 | 1459 | 0 | 1225 | 443 | 0 | 0 | 0 | 186 | 133 | 133 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Free | | | | custom | | Prot |
| Protected Phases | | 2 | | | 6 | | | | | 4 | 4 | 4 |
| Permitted Phases | | | 2 4 | | | Free | | | | 4 | | |
| Actuated Green, G (s) | | 79.0 | 105.0 | | 79.0 | 105.0 | | | | 18.0 | 18.0 | 18.0 |
| Effective Green, g (s) | | 80.0 | 105.0 | | 80.0 | 105.0 | | | | 19.0 | 18.0 | 19.0 |
| Actuated g/C Ratio | | 0.76 | 1.00 | | 0.76 | 1.00 | | | | 0.18 | 0.17 | 0.18 |
| Clearance Time (s) | | 4.0 | | | 4.0 | | | | | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | | | | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | | 2508 | 1439 | | 2445 | 1478 | | | | 294 | 276 | 282 |
| v/s Ratio Prot | | 0.18 | | | 0.38 | | | | | 0.11 | 0.08 | 0.09 |
| v/s Ratio Perm | | | c1.01 | | | 0.30 | | | | | | |
| v/c Ratio | | 0.23 | 1.01 | | 0.50 | 0.30 | | | | 0.63 | 0.48 | 0.47 |
| Uniform Delay, d1 | | 3.6 | 52.5 | | 4.8 | 0.0 | | | | 39.8 | 39.3 | 38.5 |
| Progression Factor | | 0.53 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.2 | 26.9 | | 0.7 | 0.5 | | | | 4.9 | 1.8 | 1.7 |
| Delay (s) | | 2.1 | 79.4 | | 5.6 | 0.5 | | | | 44.7 | 41.1 | 40.2 |
| Level of Service | | A | E | | A | A | | | | D | D | D |
| Approach Delay (s) | | 57.3 | | | 4.2 | | | 0.0 | | | 41.8 | |
| Approach LOS | | E | | | A | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 34.7 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 1.01 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 99.8% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 196 | 27 | 41 | 114 | 251 | 122 |
| v/c Ratio | 0.53 | 0.08 | 0.20 | 0.09 | 0.24 | 0.12 |
| Control Delay | 25.2 | 7.6 | 26.0 | 4.4 | 8.8 | 2.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 25.2 | 7.6 | 26.0 | 4.4 | 8.8 | 2.9 |
| Queue Length 50th (ft) | 63 | 0 | 14 | 11 | 27 | 0 |
| Queue Length 95th (ft) | 105 | 15 | 38 | 32 | 108 | 25 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 587 | 543 | 216 | 1242 | 1034 | 994 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.33 | 0.05 | 0.19 | 0.09 | 0.24 | 0.12 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 180 | 25 | 38 | 105 | 231 | 112 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1562 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1562 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 196 | 27 | 41 | 114 | 251 | 122 |
| RTOR Reduction (vph) | 0 | 21 | 0 | 0 | 0 | 53 |
| Lane Group Flow (vph) | 196 | 6 | 41 | 114 | 251 | 69 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 12.2 | 12.2 | 2.8 | 39.8 | 33.0 | 33.0 |
| Effective Green, g (s) | 13.2 | 13.2 | 3.8 | 40.8 | 34.0 | 34.0 |
| Actuated g/C Ratio | 0.22 | 0.22 | 0.06 | 0.68 | 0.57 | 0.57 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 369 | 330 | 103 | 1242 | 966 | 885 |
| v/s Ratio Prot | c0.12 | | c0.03 | 0.06 | c0.15 | |
| v/s Ratio Perm | | 0.00 | | | | 0.04 |
| v/c Ratio | 0.53 | 0.02 | 0.40 | 0.09 | 0.26 | 0.08 |
| Uniform Delay, d1 | 20.7 | 18.3 | 27.0 | 3.3 | 6.6 | 5.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.5 | 0.0 | 2.5 | 0.1 | 0.7 | 0.2 |
| Delay (s) | 22.1 | 18.3 | 29.5 | 3.4 | 7.3 | 6.1 |
| Level of Service | C | B | C | A | A | A |
| Approach Delay (s) | 21.7 | | | 10.3 | 6.9 | |
| Approach LOS | C | | | B | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 12.0 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.34 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 36.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 213 | 234 | 235 | 30 | 981 | 49 | 717 |
| v/c Ratio | 0.49 | 0.57 | 0.49 | 0.11 | 0.67 | 0.27 | 0.49 |
| Control Delay | 18.4 | 21.5 | 13.0 | 9.6 | 12.8 | 14.0 | 10.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 18.4 | 21.5 | 13.0 | 9.6 | 12.8 | 14.0 | 10.4 |
| Queue Length 50th (ft) | 48 | 58 | 32 | 4 | 102 | 8 | 66 |
| Queue Length 95th (ft) | 110 | 129 | 92 | 20 | 201 | 34 | 132 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 678 | 649 | 712 | 386 | 1995 | 243 | 1997 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.31 | 0.36 | 0.33 | 0.08 | 0.49 | 0.20 | 0.36 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 59 | 116 | 21 | 122 | 93 | 216 | 28 | 822 | 81 | 45 | 610 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | | 0.99 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1537 | | | 1683 | 1308 | 1616 | 3030 | | 1561 | 3037 | |
| Flt Permitted | | 0.85 | | | 0.73 | 1.00 | 0.35 | 1.00 | | 0.22 | 1.00 | |
| Satd. Flow (perm) | | 1319 | | | 1270 | 1308 | 589 | 3030 | | 369 | 3037 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 64 | 126 | 23 | 133 | 101 | 235 | 30 | 893 | 88 | 49 | 663 | 54 |
| RTOR Reduction (vph) | 0 | 7 | 0 | 0 | 0 | 62 | 0 | 11 | 0 | 0 | 9 | 0 |
| Lane Group Flow (vph) | 0 | 206 | 0 | 0 | 234 | 173 | 30 | 970 | 0 | 49 | 708 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 16.1 | | | 16.1 | 16.1 | 24.2 | 24.2 | | 24.2 | 24.2 | |
| Effective Green, g (s) | | 16.1 | | | 16.1 | 16.1 | 24.2 | 24.2 | | 24.2 | 24.2 | |
| Actuated g/C Ratio | | 0.33 | | | 0.33 | 0.33 | 0.49 | 0.49 | | 0.49 | 0.49 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 429 | | | 413 | 425 | 288 | 1481 | | 180 | 1485 | |
| v/s Ratio Prot | | | | | | | | c0.32 | | | 0.23 | |
| v/s Ratio Perm | | 0.16 | | | c0.18 | 0.13 | 0.05 | | | 0.13 | | |
| v/c Ratio | | 0.48 | | | 0.57 | 0.41 | 0.10 | 0.65 | | 0.27 | 0.48 | |
| Uniform Delay, d1 | | 13.3 | | | 13.8 | 13.0 | 6.8 | 9.5 | | 7.5 | 8.4 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.2 | | | 2.2 | 0.9 | 0.2 | 1.2 | | 1.1 | 0.3 | |
| Delay (s) | | 14.5 | | | 16.0 | 13.9 | 7.0 | 10.7 | | 8.6 | 8.8 | |
| Level of Service | | B | | | B | B | A | B | | A | A | |
| Approach Delay (s) | | 14.5 | | | 14.9 | | | 10.6 | | | 8.7 | |
| Approach LOS | | B | | | B | | | B | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 11.2 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.62 | | |
| Actuated Cycle Length (s) | 49.5 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 64.2% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 28 | 288 | 553 | 178 | 243 | 28 |
| v/c Ratio | 0.27 | 0.22 | 0.49 | 0.13 | 0.82 | 0.10 |
| Control Delay | 55.2 | 5.6 | 10.2 | 0.2 | 64.4 | 16.1 |
| Queue Delay | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 |
| Total Delay | 55.2 | 5.6 | 10.7 | 0.2 | 64.4 | 16.1 |
| Queue Length 50th (ft) | 19 | 60 | 102 | 0 | 163 | 2 |
| Queue Length 95th (ft) | 49 | 96 | 257 | m0 | #266 | 26 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 118 | 1338 | 1139 | 1409 | 341 | 313 |
| Starvation Cap Reductn | 0 | 0 | 251 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 3 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.24 | 0.22 | 0.62 | 0.13 | 0.71 | 0.09 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 26 | 265 | 509 | 164 | 224 | 26 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1574 | 1562 | 1349 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1574 | 1562 | 1349 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 28 | 288 | 553 | 178 | 243 | 28 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 28 | 0 | 19 |
| Lane Group Flow (vph) | 28 | 288 | 553 | 150 | 243 | 9 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 4.7 | 80.5 | 71.8 | 92.7 | 20.9 | 20.9 |
| Effective Green, g (s) | 4.7 | 80.5 | 71.8 | 92.7 | 20.9 | 20.9 |
| Actuated g/C Ratio | 0.04 | 0.73 | 0.65 | 0.84 | 0.19 | 0.19 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 69 | 1337 | 1113 | 1326 | 297 | 256 |
| v/s Ratio Prot | c0.02 | 0.16 | c0.32 | 0.02 | c0.16 | |
| v/s Ratio Perm | | | | 0.07 | | 0.01 |
| v/c Ratio | 0.41 | 0.22 | 0.50 | 0.11 | 0.82 | 0.03 |
| Uniform Delay, d1 | 51.3 | 4.7 | 9.8 | 1.5 | 42.7 | 36.3 |
| Progression Factor | 1.00 | 1.00 | 0.80 | 0.20 | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.9 | 0.4 | 1.4 | 0.0 | 15.9 | 0.1 |
| Delay (s) | 55.2 | 5.1 | 9.3 | 0.3 | 58.6 | 36.4 |
| Level of Service | E | A | A | A | E | D |
| Approach Delay (s) | | 9.5 | 7.1 | | 56.3 | |
| Approach LOS | | A | A | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.8 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.56 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 12.6 |
| Intersection Capacity Utilization | 46.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 353 | 261 | 247 | 355 | 383 | 262 | 3 |
| v/c Ratio | 0.55 | 0.37 | 0.78 | 0.34 | 0.76 | 0.47 | 0.04 |
| Control Delay | 22.0 | 1.6 | 59.8 | 13.5 | 44.9 | 14.2 | 51.0 |
| Queue Delay | 1.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Total Delay | 23.0 | 1.6 | 59.8 | 13.5 | 45.0 | 14.2 | 51.0 |
| Queue Length 50th (ft) | 105 | 0 | 161 | 114 | 241 | 53 | 2 |
| Queue Length 95th (ft) | 290 | m0 | #326 | 227 | 338 | 118 | 12 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | | 217 |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 | |
| Base Capacity (vph) | 646 | 703 | 319 | 1033 | 574 | 557 | 85 |
| Starvation Cap Reductn | 116 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 8 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.67 | 0.37 | 0.77 | 0.34 | 0.68 | 0.47 | 0.04 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1 | 324 | 240 | 227 | 326 | 1 | 350 | 3 | 241 | 2 | 1 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | 4.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.99 | | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | 1.00 | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.97 | |
| Satd. Flow (prot) | | 1759 | 1464 | 1562 | 1704 | | | 1683 | 1727 | | 1754 | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.97 | |
| Satd. Flow (perm) | | 1758 | 1464 | 1562 | 1704 | | | 1683 | 1727 | | 1754 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1 | 352 | 261 | 247 | 354 | 1 | 380 | 3 | 262 | 2 | 1 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 172 | 0 | 0 | 0 | 0 | 0 | 118 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 353 | 89 | 247 | 355 | 0 | 0 | 383 | 144 | 0 | 3 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 37.3 | 37.3 | 22.2 | 63.5 | | | 32.9 | 28.4 | | 1.0 | |
| Effective Green, g (s) | | 37.3 | 37.3 | 22.2 | 63.5 | | | 28.4 | 28.4 | | 1.0 | |
| Actuated g/C Ratio | | 0.34 | 0.34 | 0.20 | 0.58 | | | 0.26 | 0.26 | | 0.01 | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | 4.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | | 596 | 496 | 315 | 984 | | | 435 | 517 | | 16 | |
| v/s Ratio Prot | | | | c0.16 | 0.21 | | | c0.23 | 0.03 | | c0.00 | |
| v/s Ratio Perm | | c0.20 | 0.06 | | | | | | 0.05 | | | |
| v/c Ratio | | 0.59 | 0.18 | 0.78 | 0.36 | | | 0.88 | 0.28 | | 0.19 | |
| Uniform Delay, d1 | | 30.1 | 25.6 | 41.6 | 12.4 | | | 39.2 | 32.6 | | 54.1 | |
| Progression Factor | | 0.62 | 0.05 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | | 4.0 | 0.7 | 12.0 | 1.0 | | | 18.4 | 0.3 | | 5.6 | |
| Delay (s) | | 22.6 | 1.9 | 53.7 | 13.4 | | | 57.5 | 32.9 | | 59.7 | |
| Level of Service | | C | A | D | B | | | E | C | | E | |
| Approach Delay (s) | | 13.8 | | | 29.9 | | | 47.5 | | | 59.7 | |
| Approach LOS | | B | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 30.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 20.6 |
| Intersection Capacity Utilization | 71.5% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 80 | 160 | 27 | 142 | 121 | 257 | 15 | 623 | 139 | 226 | 395 |
| v/c Ratio | 0.44 | 0.55 | 0.10 | 0.57 | 0.28 | 0.48 | 0.12 | 0.67 | 0.33 | 0.68 | 0.26 |
| Control Delay | 53.7 | 47.4 | 18.7 | 50.3 | 36.1 | 8.0 | 53.1 | 34.9 | 19.3 | 48.2 | 15.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 53.7 | 47.4 | 18.7 | 50.3 | 36.1 | 8.0 | 53.1 | 34.9 | 19.3 | 48.2 | 15.3 |
| Queue Length 50th (ft) | 43 | 84 | 1 | 75 | 59 | 0 | 8 | 163 | 32 | 118 | 55 |
| Queue Length 95th (ft) | 119 | 197 | 30 | 182 | 139 | 71 | 36 | 305 | 104 | 264 | 138 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 250 | 587 | 505 | 415 | 769 | 758 | 212 | 1547 | 669 | 547 | 2075 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.32 | 0.27 | 0.05 | 0.34 | 0.16 | 0.34 | 0.07 | 0.40 | 0.21 | 0.41 | 0.19 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 74 | 147 | 25 | 131 | 111 | 236 | 14 | 573 | 128 | 208 | 311 | 52 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1447 | 1620 | 1739 | 1399 | 1652 | 3240 | 1332 | 1620 | 3008 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1447 | 1620 | 1739 | 1399 | 1652 | 3240 | 1332 | 1620 | 3008 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 80 | 160 | 27 | 142 | 121 | 257 | 15 | 623 | 139 | 226 | 338 | 57 |
| RTOR Reduction (vph) | 0 | 0 | 20 | 0 | 0 | 195 | 0 | 0 | 45 | 0 | 9 | 0 |
| Lane Group Flow (vph) | 80 | 160 | 7 | 142 | 121 | 62 | 15 | 623 | 94 | 226 | 386 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 9.0 | 16.9 | 16.9 | 15.4 | 23.3 | 23.3 | 2.8 | 29.3 | 29.3 | 20.1 | 46.6 | |
| Effective Green, g (s) | 8.0 | 16.4 | 16.4 | 14.4 | 22.8 | 22.8 | 1.8 | 28.8 | 28.8 | 19.1 | 46.1 | |
| Actuated g/C Ratio | 0.08 | 0.17 | 0.17 | 0.15 | 0.24 | 0.24 | 0.02 | 0.30 | 0.30 | 0.20 | 0.49 | |
| Clearance Time (s) | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 140 | 301 | 251 | 246 | 419 | 337 | 31 | 985 | 405 | 327 | 1464 | |
| v/s Ratio Prot | 0.05 | c0.09 | | c0.09 | 0.07 | | 0.01 | c0.19 | | c0.14 | 0.13 | |
| v/s Ratio Perm | | | 0.00 | | | 0.04 | | | 0.07 | | | |
| v/c Ratio | 0.57 | 0.53 | 0.03 | 0.58 | 0.29 | 0.18 | 0.48 | 0.63 | 0.23 | 0.69 | 0.26 | |
| Uniform Delay, d1 | 41.7 | 35.7 | 32.5 | 37.3 | 29.3 | 28.6 | 46.0 | 28.4 | 24.7 | 35.1 | 14.3 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 6.6 | 2.3 | 0.1 | 3.9 | 0.5 | 0.4 | 15.3 | 1.5 | 0.4 | 6.7 | 0.1 | |
| Delay (s) | 48.3 | 37.9 | 32.6 | 41.2 | 29.9 | 28.9 | 61.3 | 29.9 | 25.1 | 41.7 | 14.4 | |
| Level of Service | D | D | C | D | C | C | E | C | C | D | B | |
| Approach Delay (s) | | 40.5 | | | 32.5 | | | 29.6 | | | 24.4 | |
| Approach LOS | | D | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 30.1 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.62 | | |
| Actuated Cycle Length (s) | 94.7 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 56.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 33 | 568 | 88 | 941 | 1031 | 68 | 388 | 820 | 220 | 366 | 27 |
| v/c Ratio | 0.35 | 0.61 | 0.24 | 1.10 | 0.73 | 0.44 | 0.44 | 0.53 | 0.61 | 0.37 | 0.06 |
| Control Delay | 55.8 | 39.0 | 8.8 | 90.7 | 21.2 | 52.2 | 32.4 | 15.4 | 50.5 | 29.7 | 10.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 55.8 | 39.0 | 8.8 | 90.7 | 21.2 | 52.2 | 32.4 | 15.4 | 50.5 | 29.7 | 10.4 |
| Queue Length 50th (ft) | 21 | 120 | 0 | ~356 | 237 | 41 | 108 | 174 | 70 | 100 | 0 |
| Queue Length 95th (ft) | 52 | 155 | 39 | #500 | 327 | 85 | 153 | 244 | 108 | 143 | 20 |
| Internal Link Dist (ft) | | 238 | | | 310 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 94 | 1047 | 401 | 859 | 1412 | 168 | 889 | 1539 | 358 | 989 | 469 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.35 | 0.54 | 0.22 | 1.10 | 0.73 | 0.40 | 0.44 | 0.53 | 0.61 | 0.37 | 0.06 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 30 | 523 | 81 | 866 | 718 | 231 | 63 | 357 | 754 | 202 | 337 | 25 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3109 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1475 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3109 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1475 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 33 | 568 | 88 | 941 | 780 | 251 | 68 | 388 | 820 | 220 | 366 | 27 |
| RTOR Reduction (vph) | 0 | 0 | 70 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 19 |
| Lane Group Flow (vph) | 33 | 568 | 18 | 941 | 1002 | 0 | 68 | 388 | 820 | 220 | 366 | 8 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 3.6 | 18.6 | 18.6 | 28.0 | 43.0 | | 7.8 | 22.6 | 54.6 | 11.8 | 26.6 | 26.6 |
| Effective Green, g (s) | 3.6 | 20.1 | 20.1 | 28.0 | 44.5 | | 7.8 | 24.1 | 54.6 | 11.8 | 28.1 | 28.1 |
| Actuated g/C Ratio | 0.04 | 0.20 | 0.20 | 0.28 | 0.44 | | 0.08 | 0.24 | 0.55 | 0.12 | 0.28 | 0.28 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 56 | 936 | 297 | 911 | 1384 | | 131 | 809 | 1477 | 384 | 910 | 414 |
| v/s Ratio Prot | 0.02 | c0.12 | | c0.29 | c0.32 | | 0.04 | 0.12 | c0.30 | c0.07 | 0.11 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | 0.01 |
| v/c Ratio | 0.59 | 0.61 | 0.06 | 1.03 | 0.72 | | 0.52 | 0.48 | 0.56 | 0.57 | 0.40 | 0.02 |
| Uniform Delay, d1 | 47.5 | 36.4 | 32.3 | 36.0 | 22.7 | | 44.3 | 32.6 | 14.8 | 41.7 | 29.1 | 26.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.86 | 0.80 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 17.4 | 1.3 | 0.1 | 36.4 | 1.8 | | 4.6 | 2.0 | 0.6 | 2.5 | 1.3 | 0.1 |
| Delay (s) | 64.8 | 37.7 | 32.4 | 67.2 | 20.0 | | 48.9 | 34.6 | 15.3 | 44.2 | 30.5 | 26.1 |
| Level of Service | E | D | C | E | B | | D | C | B | D | C | C |
| Approach Delay (s) | | 38.3 | | | 42.5 | | | 23.0 | | | 35.2 | |
| Approach LOS | | D | | | D | | | C | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 35.4 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.75 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 74.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 166 | 865 | 385 | 213 | 875 | 149 | 151 | 85 | 300 |
| v/c Ratio | 0.73 | 0.48 | 0.47 | 0.64 | 0.43 | 0.50 | 0.50 | 0.23 | 0.90 |
| Control Delay | 47.9 | 14.4 | 2.1 | 48.2 | 21.7 | 39.7 | 39.4 | 7.3 | 54.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 47.9 | 14.4 | 2.1 | 48.2 | 21.7 | 39.7 | 39.4 | 7.3 | 54.3 |
| Queue Length 50th (ft) | 99 | 73 | 0 | 121 | 127 | 93 | 94 | 0 | 51 |
| Queue Length 95th (ft) | #197 | 177 | 24 | #283 | 230 | 121 | 122 | 31 | #131 |
| Internal Link Dist (ft) | | 660 | | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 520 | 180 | | 200 | | | |
| Base Capacity (vph) | 227 | 1790 | 826 | 332 | 2046 | 563 | 576 | 609 | 333 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.73 | 0.48 | 0.47 | 0.64 | 0.43 | 0.26 | 0.26 | 0.14 | 0.90 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 153 | 796 | 354 | 196 | 770 | 35 | 221 | 55 | 78 | 25 | 116 | 135 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | | 0.93 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 1.00 | |
| Satd. Flow (prot) | 1620 | 4655 | 1531 | 1678 | 4619 | | 1539 | 1572 | 1514 | | 3056 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 1.00 | |
| Satd. Flow (perm) | 1620 | 4655 | 1531 | 1678 | 4619 | | 1539 | 1572 | 1514 | | 3056 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 166 | 865 | 385 | 213 | 837 | 38 | 240 | 60 | 85 | 27 | 126 | 147 |
| RTOR Reduction (vph) | 0 | 0 | 237 | 0 | 4 | 0 | 0 | 0 | 69 | 0 | 138 | 0 |
| Lane Group Flow (vph) | 166 | 865 | 148 | 213 | 871 | 0 | 149 | 151 | 16 | 0 | 162 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | Perm | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Actuated Green, G (s) | 13.1 | 37.4 | 37.4 | 18.8 | 43.1 | | 18.8 | 18.8 | 18.8 | | 5.8 | |
| Effective Green, g (s) | 14.1 | 38.4 | 38.4 | 19.8 | 44.1 | | 19.4 | 19.4 | 19.4 | | 6.4 | |
| Actuated g/C Ratio | 0.14 | 0.38 | 0.38 | 0.20 | 0.44 | | 0.19 | 0.19 | 0.19 | | 0.06 | |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | 6.0 | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 228 | 1788 | 588 | 332 | 2037 | | 299 | 305 | 294 | | 196 | |
| v/s Ratio Prot | c0.10 | c0.19 | | c0.13 | 0.19 | | c0.10 | 0.10 | | | c0.05 | |
| v/s Ratio Perm | | | 0.10 | | | | | | 0.01 | | | |
| v/c Ratio | 0.73 | 0.48 | 0.25 | 0.64 | 0.43 | | 0.50 | 0.50 | 0.06 | | 0.83 | |
| Uniform Delay, d1 | 41.1 | 23.3 | 21.0 | 36.8 | 19.3 | | 36.0 | 35.9 | 32.8 | | 46.3 | |
| Progression Factor | 0.68 | 0.54 | 0.10 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 11.4 | 0.9 | 1.0 | 4.7 | 0.7 | | 1.8 | 1.7 | 0.1 | | 25.1 | |
| Delay (s) | 39.4 | 13.5 | 3.1 | 41.5 | 19.9 | | 37.7 | 37.7 | 32.9 | | 71.3 | |
| Level of Service | D | B | A | D | B | | D | D | C | | E | |
| Approach Delay (s) | | 13.7 | | | 24.1 | | | 36.6 | | | 71.3 | |
| Approach LOS | | B | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 25.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.61 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 20.0 |
| Intersection Capacity Utilization | 64.0% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 122 | 946 | 263 | 762 | 148 | 162 | 175 | 49 | 348 |
| v/c Ratio | 0.51 | 0.55 | 0.60 | 0.48 | 1.12 | 0.26 | 0.38 | 0.36 | 0.57 |
| Control Delay | 45.7 | 22.1 | 37.4 | 8.6 | 158.2 | 32.5 | 6.8 | 52.0 | 24.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 45.7 | 22.1 | 37.4 | 8.6 | 158.2 | 32.5 | 6.8 | 52.0 | 24.3 |
| Queue Length 50th (ft) | 69 | 137 | 115 | 37 | ~53 | 47 | 0 | 14 | 62 |
| Queue Length 95th (ft) | 126 | 188 | m#211 | m149 | #115 | 61 | 45 | 34 | 84 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 239 | 1714 | 438 | 1576 | 132 | 1044 | 654 | 135 | 1069 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.51 | 0.55 | 0.60 | 0.48 | 1.12 | 0.16 | 0.27 | 0.36 | 0.33 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 112 | 607 | 263 | 242 | 685 | 16 | 136 | 149 | 161 | 45 | 193 | 127 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.95 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4504 | | 1652 | 3278 | | 3143 | 3240 | 1659 | 3204 | 3024 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4504 | | 1652 | 3278 | | 3143 | 3240 | 1659 | 3204 | 3024 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 122 | 660 | 286 | 263 | 745 | 17 | 148 | 162 | 175 | 49 | 210 | 138 |
| RTOR Reduction (vph) | 0 | 82 | 0 | 0 | 1 | 0 | 0 | 0 | 141 | 0 | 114 | 0 |
| Lane Group Flow (vph) | 122 | 864 | 0 | 263 | 761 | 0 | 148 | 162 | 34 | 49 | 234 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 14.1 | 32.2 | | 25.3 | 43.4 | | 5.0 | 19.0 | 19.0 | 3.0 | 17.0 | |
| Effective Green, g (s) | 14.0 | 33.2 | | 25.2 | 44.4 | | 4.0 | 18.6 | 18.6 | 2.0 | 16.6 | |
| Actuated g/C Ratio | 0.15 | 0.35 | | 0.27 | 0.47 | | 0.04 | 0.20 | 0.20 | 0.02 | 0.17 | |
| Clearance Time (s) | 3.9 | 5.0 | | 3.9 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 239 | 1574 | | 438 | 1532 | | 132 | 634 | 325 | 67 | 528 | |
| v/s Ratio Prot | 0.08 | c0.19 | | c0.16 | 0.23 | | c0.05 | 0.05 | | 0.02 | c0.08 | |
| v/s Ratio Perm | | | | | | | | | 0.02 | | | |
| v/c Ratio | 0.51 | 0.55 | | 0.60 | 0.50 | | 1.12 | 0.26 | 0.11 | 0.73 | 0.44 | |
| Uniform Delay, d1 | 37.3 | 24.9 | | 30.5 | 17.5 | | 45.5 | 32.3 | 31.4 | 46.2 | 35.1 | |
| Progression Factor | 1.00 | 1.00 | | 1.03 | 0.44 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.8 | 1.4 | | 0.7 | 0.3 | | 114.6 | 0.3 | 0.2 | 35.2 | 0.8 | |
| Delay (s) | 39.2 | 26.3 | | 32.1 | 8.1 | | 160.1 | 32.6 | 31.6 | 81.5 | 35.9 | |
| Level of Service | D | C | | C | A | | F | C | C | F | D | |
| Approach Delay (s) | | 27.7 | | | 14.3 | | | 71.1 | | | 41.5 | |
| Approach LOS | | C | | | B | | | E | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 32.0 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.56 | | |
| Actuated Cycle Length (s) | 95.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 58.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 44 | 28 | 247 | 21 | 887 | 91 | 503 | 858 |
| v/c Ratio | 0.40 | 0.25 | 0.56 | 0.06 | 0.57 | 0.12 | 0.85 | 0.31 |
| Control Delay | 50.1 | 51.9 | 11.0 | 4.6 | 17.5 | 1.6 | 48.3 | 3.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.1 | 51.9 | 11.0 | 4.6 | 17.5 | 1.6 | 48.3 | 3.2 |
| Queue Length 50th (ft) | 24 | 19 | 0 | 2 | 92 | 1 | 276 | 44 |
| Queue Length 95th (ft) | 59 | 47 | 41 | m5 | 336 | m8 | 368 | 85 |
| Internal Link Dist (ft) | 387 | 350 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 400 | |
| Base Capacity (vph) | 225 | 240 | 663 | 364 | 1568 | 788 | 657 | 2741 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.20 | 0.12 | 0.37 | 0.06 | 0.57 | 0.12 | 0.77 | 0.31 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 32 | 0 | 8 | 24 | 2 | 227 | 19 | 816 | 84 | 463 | 712 | 77 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.97 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.96 | | | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1700 | | | 1780 | 2787 | 1677 | 3355 | 1583 | 1770 | 3411 | |
| Flt Permitted | | 0.75 | | | 0.79 | 1.00 | 0.33 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1328 | | | 1469 | 2787 | 582 | 3355 | 1583 | 1770 | 3411 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 35 | 0 | 9 | 26 | 2 | 247 | 21 | 887 | 91 | 503 | 774 | 84 |
| RTOR Reduction (vph) | 0 | 8 | 0 | 0 | 0 | 228 | 0 | 0 | 48 | 0 | 5 | 0 |
| Lane Group Flow (vph) | 0 | 36 | 0 | 0 | 28 | 19 | 21 | 887 | 43 | 503 | 853 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | pm+pt | | Perm | Prot | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | 2 | | | |
| Actuated Green, G (s) | | 8.5 | | | 8.5 | 8.5 | 53.8 | 51.4 | 51.4 | 36.6 | 85.6 | |
| Effective Green, g (s) | | 8.5 | | | 8.5 | 8.5 | 53.8 | 51.4 | 51.4 | 36.6 | 85.6 | |
| Actuated g/C Ratio | | 0.08 | | | 0.08 | 0.08 | 0.49 | 0.47 | 0.47 | 0.33 | 0.78 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 103 | | | 114 | 215 | 309 | 1568 | 740 | 589 | 2654 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.26 | | c0.28 | 0.25 | |
| v/s Ratio Perm | | c0.03 | | | 0.02 | 0.01 | 0.03 | | 0.03 | | | |
| v/c Ratio | | 0.35 | | | 0.25 | 0.09 | 0.07 | 0.57 | 0.06 | 0.85 | 0.32 | |
| Uniform Delay, d1 | | 48.1 | | | 47.7 | 47.2 | 14.9 | 21.2 | 16.0 | 34.2 | 3.6 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 0.45 | 0.70 | 0.27 | 1.03 | 0.82 | |
| Incremental Delay, d2 | | 2.0 | | | 1.1 | 0.2 | 0.1 | 1.3 | 0.1 | 10.7 | 0.3 | |
| Delay (s) | | 50.1 | | | 48.9 | 47.3 | 6.7 | 16.1 | 4.5 | 46.0 | 3.3 | |
| Level of Service | | D | | | D | D | A | B | A | D | A | |
| Approach Delay (s) | | 50.1 | | | 47.5 | | | 14.8 | | | 19.0 | |
| Approach LOS | | D | | | D | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 20.9 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.66 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 68.4% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 219 | 26 | 68 | 92 | 286 | 32 | 492 | 197 | 316 |
| v/c Ratio | 0.57 | 0.07 | 0.26 | 0.19 | 0.50 | 0.16 | 0.57 | 0.54 | 0.21 |
| Control Delay | 26.3 | 8.6 | 21.3 | 18.8 | 6.2 | 31.7 | 21.6 | 28.6 | 10.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.3 | 8.6 | 21.3 | 18.8 | 6.2 | 31.7 | 21.6 | 28.6 | 10.3 |
| Queue Length 50th (ft) | 61 | 0 | 17 | 23 | 0 | 10 | 68 | 58 | 22 |
| Queue Length 95th (ft) | 160 | 17 | 58 | 69 | 53 | 43 | 159 | 156 | 77 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 808 | 759 | 551 | 1032 | 894 | 254 | 1755 | 631 | 2395 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.03 | 0.12 | 0.09 | 0.32 | 0.13 | 0.28 | 0.31 | 0.13 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 108 | 94 | 24 | 63 | 85 | 263 | 29 | 374 | 78 | 181 | 261 | 29 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.98 | |
| Flt Protected | | 0.97 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1686 | 1260 | 1620 | 1739 | 1317 | 1711 | 2986 | | 1620 | 3029 | |
| Flt Permitted | | 0.79 | 1.00 | 0.55 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1366 | 1260 | 930 | 1739 | 1317 | 1711 | 2986 | | 1620 | 3029 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 117 | 102 | 26 | 68 | 92 | 286 | 32 | 407 | 85 | 197 | 284 | 32 |
| RTOR Reduction (vph) | 0 | 0 | 19 | 0 | 0 | 208 | 0 | 19 | 0 | 0 | 9 | 0 |
| Lane Group Flow (vph) | 0 | 219 | 7 | 68 | 92 | 78 | 32 | 473 | 0 | 197 | 307 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 16.3 | 16.3 | 16.3 | 16.3 | 16.3 | 2.4 | 18.6 | | 13.2 | 29.4 | |
| Effective Green, g (s) | | 16.3 | 16.3 | 16.3 | 16.3 | 16.3 | 2.4 | 18.6 | | 13.2 | 29.4 | |
| Actuated g/C Ratio | | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.04 | 0.31 | | 0.22 | 0.49 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 374 | 345 | 254 | 476 | 360 | 69 | 932 | | 359 | 1494 | |
| v/s Ratio Prot | | | | | 0.05 | | 0.02 | c0.16 | | c0.12 | 0.10 | |
| v/s Ratio Perm | | c0.16 | 0.01 | 0.07 | | 0.06 | | | | | | |
| v/c Ratio | | 0.59 | 0.02 | 0.27 | 0.19 | 0.22 | 0.46 | 0.51 | | 0.55 | 0.21 | |
| Uniform Delay, d1 | | 18.7 | 15.8 | 17.0 | 16.6 | 16.7 | 28.0 | 16.8 | | 20.6 | 8.5 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 2.3 | 0.0 | 0.6 | 0.2 | 0.3 | 4.9 | 0.6 | | 1.7 | 0.1 | |
| Delay (s) | | 21.1 | 15.8 | 17.5 | 16.8 | 17.0 | 32.8 | 17.4 | | 22.3 | 8.6 | |
| Level of Service | | C | B | B | B | B | C | B | | C | A | |
| Approach Delay (s) | | 20.5 | | | 17.1 | | | 18.3 | | | 13.9 | |
| Approach LOS | | C | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.0 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.55 | | |
| Actuated Cycle Length (s) | 59.6 | Sum of lost time (s) | 11.5 |
| Intersection Capacity Utilization | 53.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 146 | 208 | 138 | 111 | 333 | 153 | 117 | 879 | 43 | 760 |
| v/c Ratio | 0.68 | 0.47 | 0.33 | 0.62 | 0.83 | 0.34 | 0.62 | 0.59 | 0.41 | 0.63 |
| Control Delay | 61.5 | 39.4 | 7.8 | 70.6 | 54.2 | 7.3 | 62.9 | 22.4 | 69.9 | 28.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 61.5 | 39.4 | 7.8 | 70.6 | 54.2 | 7.3 | 62.9 | 22.4 | 69.9 | 28.5 |
| Queue Length 50th (ft) | 98 | 123 | 0 | 60 | 222 | 30 | 83 | 207 | 27 | 171 |
| Queue Length 95th (ft) | 166 | 195 | 48 | 141 | #344 | 44 | 147 | 245 | 72 | 235 |
| Internal Link Dist (ft) | | 2946 | | | 561 | | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 230 | | | 200 | | 150 | |
| Base Capacity (vph) | 244 | 480 | 442 | 203 | 435 | 481 | 210 | 1485 | 105 | 1208 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.60 | 0.43 | 0.31 | 0.55 | 0.77 | 0.32 | 0.56 | 0.59 | 0.41 | 0.63 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 134 | 191 | 127 | 102 | 306 | 141 | 108 | 658 | 151 | 40 | 615 | 85 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 9 | 12 | 12 | 10 | 10 | 10 | 9 | 10 | 10 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1577 | 1845 | 1306 | 1593 | 1863 | 1559 | 1652 | 3134 | | 1593 | 3163 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1577 | 1845 | 1306 | 1593 | 1863 | 1559 | 1652 | 3134 | | 1593 | 3163 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 146 | 208 | 138 | 111 | 333 | 153 | 117 | 715 | 164 | 43 | 668 | 92 |
| RTOR Reduction (vph) | 0 | 0 | 105 | 0 | 0 | 120 | 0 | 16 | 0 | 0 | 9 | 0 |
| Lane Group Flow (vph) | 146 | 208 | 33 | 111 | 333 | 33 | 117 | 863 | 0 | 43 | 751 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | 4 | | | | | | |
| Actuated Green, G (s) | 14.9 | 26.2 | 26.2 | 12.4 | 23.7 | 23.7 | 12.6 | 49.9 | | 4.3 | 41.6 | |
| Effective Green, g (s) | 14.9 | 26.2 | 26.2 | 12.4 | 23.7 | 23.7 | 12.6 | 49.9 | | 4.3 | 41.6 | |
| Actuated g/C Ratio | 0.14 | 0.24 | 0.24 | 0.11 | 0.22 | 0.22 | 0.11 | 0.45 | | 0.04 | 0.38 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 214 | 439 | 311 | 180 | 401 | 336 | 189 | 1422 | | 62 | 1196 | |
| v/s Ratio Prot | c0.09 | 0.11 | | 0.07 | c0.18 | | c0.07 | c0.28 | | 0.03 | 0.24 | |
| v/s Ratio Perm | | | 0.03 | | | 0.02 | | | | | | |
| v/c Ratio | 0.68 | 0.47 | 0.11 | 0.62 | 0.83 | 0.10 | 0.62 | 0.61 | | 0.69 | 0.63 | |
| Uniform Delay, d1 | 45.3 | 36.0 | 32.7 | 46.5 | 41.2 | 34.6 | 46.4 | 22.7 | | 52.2 | 27.9 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.21 | 0.88 | 0.94 | 1.06 | 0.90 | | 1.17 | 0.90 | |
| Incremental Delay, d2 | 9.4 | 1.1 | 0.2 | 6.9 | 13.9 | 0.2 | 6.5 | 1.8 | | 29.6 | 2.4 | |
| Delay (s) | 54.7 | 37.1 | 32.9 | 63.0 | 50.2 | 32.7 | 55.5 | 22.2 | | 90.5 | 27.4 | |
| Level of Service | D | D | C | E | D | C | E | C | | F | C | |
| Approach Delay (s) | | 41.1 | | | 48.1 | | | 26.1 | | | 30.8 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 34.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.65 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 12.6 |
| Intersection Capacity Utilization | 64.5% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 36 | 345 | 86 | 878 | 13 | 14 | 17 | 15 | 22 |
| v/c Ratio | 0.29 | 0.28 | 0.44 | 0.57 | 0.13 | 0.12 | 0.17 | 0.13 | 0.21 |
| Control Delay | 55.7 | 7.6 | 52.0 | 12.0 | 50.7 | 25.5 | 51.7 | 25.4 | 52.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 55.7 | 7.6 | 52.0 | 12.0 | 50.7 | 25.5 | 51.7 | 25.4 | 52.8 |
| Queue Length 50th (ft) | 25 | 50 | 57 | 244 | 9 | 1 | 12 | 1 | 15 |
| Queue Length 95th (ft) | 57 | 160 | 106 | 630 | 28 | 21 | 34 | 22 | 40 |
| Internal Link Dist (ft) | | 485 | | 1458 | | 986 | | 702 | |
| Turn Bay Length (ft) | 205 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 126 | 1250 | 194 | 1537 | 251 | 273 | 259 | 274 | 264 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.29 | 0.28 | 0.44 | 0.57 | 0.05 | 0.05 | 0.07 | 0.05 | 0.08 |

Intersection Summary

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 33 | 286 | 31 | 79 | 708 | 99 | 12 | 1 | 12 | 16 | 1 | 13 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 8 | 9 | 14 | 12 | 11 | 12 | 11 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.98 | | 1.00 | 0.86 | | 1.00 | 0.86 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1831 | | 1593 | 1950 | | 1711 | 1603 | | 1770 | 1602 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.85 | 1.00 | | 0.85 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1831 | | 1593 | 1950 | | 1532 | 1603 | | 1585 | 1602 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 36 | 311 | 34 | 86 | 770 | 108 | 13 | 1 | 13 | 17 | 1 | 14 |
| RTOR Reduction (vph) | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 13 | 0 |
| Lane Group Flow (vph) | 36 | 342 | 0 | 86 | 878 | 0 | 13 | 2 | 0 | 17 | 2 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Parking (#/hr) | | | | | | | | | 0 | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 5.3 | 70.5 | | 13.4 | 78.6 | | 4.7 | 4.7 | | 4.7 | 4.7 | |
| Effective Green, g (s) | 5.3 | 70.5 | | 13.4 | 78.6 | | 4.7 | 4.7 | | 4.7 | 4.7 | |
| Actuated g/C Ratio | 0.05 | 0.64 | | 0.12 | 0.71 | | 0.04 | 0.04 | | 0.04 | 0.04 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 85 | 1174 | | 194 | 1393 | | 65 | 68 | | 68 | 68 | |
| v/s Ratio Prot | 0.02 | 0.19 | | c0.05 | c0.45 | | | 0.00 | | | 0.00 | |
| v/s Ratio Perm | | | | | | | 0.01 | | | c0.01 | | |
| v/c Ratio | 0.42 | 0.29 | | 0.44 | 0.63 | | 0.20 | 0.02 | | 0.25 | 0.02 | |
| Uniform Delay, d1 | 50.9 | 8.7 | | 44.8 | 8.2 | | 50.8 | 50.4 | | 50.9 | 50.5 | |
| Progression Factor | 1.05 | 0.75 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 3.3 | 0.6 | | 1.6 | 2.2 | | 1.5 | 0.1 | | 1.9 | 0.1 | |
| Delay (s) | 56.5 | 7.1 | | 46.5 | 10.3 | | 52.4 | 50.6 | | 52.9 | 50.6 | |
| Level of Service | E | A | | D | B | | D | D | | D | D | |
| Approach Delay (s) | | 11.8 | | | 13.6 | | | 51.4 | | | 51.8 | |
| Approach LOS | | B | | | B | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 15.3 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.60 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 75.8% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | SWR |
|---|---|
| Lane Configurations | |
| Volume (vph) | 20 |
| Ideal Flow (vphpl) | 1900 |
| Lane Width | 12 |
| Total Lost time (s) | 4.5 |
| Lane Util. Factor | 1.00 |
| Frpb, ped/bikes | 1.00 |
| Flpb, ped/bikes | 1.00 |
| Frt | 0.86 |
| Flt Protected | 1.00 |
| Satd. Flow (prot) | 1611 |
| Flt Permitted | 1.00 |
| Satd. Flow (perm) | 1611 |
| Peak-hour factor, PHF | 0.92 |
| Adj. Flow (vph) | 22 |
| RTOR Reduction (vph) | 0 |
| Lane Group Flow (vph) | 22 |
| Confl. Peds. (#/hr) | |
| Parking (#/hr) | |
| Turn Type | custom |
| Protected Phases | 9 |
| Permitted Phases | |
| Actuated Green, G (s) | 3.4 |
| Effective Green, g (s) | 3.4 |
| Actuated g/C Ratio | 0.03 |
| Clearance Time (s) | 4.5 |
| Vehicle Extension (s) | 3.0 |
| Lane Grp Cap (vph) | 50 |
| v/s Ratio Prot | c0.01 |
| v/s Ratio Perm | |
| v/c Ratio | 0.44 |
| Uniform Delay, d1 | 52.4 |
| Progression Factor | 1.00 |
| Incremental Delay, d2 | 6.1 |
| Delay (s) | 58.4 |
| Level of Service | E |
| Approach Delay (s) | |
| Approach LOS | |

Intersection Summary

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 86 | 264 | 12 | 749 | 66 | 126 | 14 | 78 | 420 |
| v/c Ratio | 0.54 | 0.25 | 0.11 | 0.97 | 0.55 | 0.23 | 0.04 | 0.23 | 0.74 |
| Control Delay | 46.3 | 9.2 | 35.4 | 50.4 | 38.3 | 18.7 | 8.5 | 19.3 | 26.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 46.3 | 9.2 | 35.4 | 50.4 | 38.3 | 18.7 | 8.5 | 19.3 | 26.3 |
| Queue Length 50th (ft) | 35 | 40 | 5 | ~318 | 23 | 39 | 0 | 24 | 132 |
| Queue Length 95th (ft) | #103 | 119 | 21 | #624 | 64 | 76 | 11 | 54 | 224 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 160 | 1075 | 107 | 769 | 173 | 787 | 568 | 494 | 785 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.54 | 0.25 | 0.11 | 0.97 | 0.38 | 0.16 | 0.02 | 0.16 | 0.54 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 79 | 160 | 83 | 11 | 634 | 55 | 61 | 116 | 13 | 72 | 206 | 180 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1912 | | 1711 | 1698 | | 1652 | 1863 | 1326 | 1643 | 1767 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.23 | 1.00 | 1.00 | 0.68 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1912 | | 1711 | 1698 | | 408 | 1863 | 1326 | 1169 | 1767 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 86 | 174 | 90 | 12 | 689 | 60 | 66 | 126 | 14 | 78 | 224 | 196 |
| RTOR Reduction (vph) | 0 | 20 | 0 | 0 | 4 | 0 | 0 | 0 | 10 | 0 | 47 | 0 |
| Lane Group Flow (vph) | 86 | 244 | 0 | 12 | 745 | 0 | 66 | 126 | 4 | 78 | 373 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 4.5 | 35.7 | | 0.7 | 31.9 | | 19.3 | 19.3 | 19.3 | 19.3 | 19.3 | |
| Effective Green, g (s) | 4.5 | 35.7 | | 0.7 | 31.9 | | 19.3 | 19.3 | 19.3 | 19.3 | 19.3 | |
| Actuated g/C Ratio | 0.07 | 0.52 | | 0.01 | 0.46 | | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 112 | 994 | | 17 | 788 | | 115 | 523 | 373 | 328 | 496 | |
| v/s Ratio Prot | c0.05 | c0.13 | | 0.01 | c0.44 | | | 0.07 | | | c0.21 | |
| v/s Ratio Perm | | | | | | | 0.16 | | 0.00 | 0.07 | | |
| v/c Ratio | 0.77 | 0.25 | | 0.71 | 0.95 | | 0.57 | 0.24 | 0.01 | 0.24 | 0.75 | |
| Uniform Delay, d1 | 31.6 | 9.1 | | 33.9 | 17.6 | | 21.2 | 19.1 | 17.8 | 19.0 | 22.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 27.9 | 0.2 | | 88.4 | 20.0 | | 8.1 | 0.3 | 0.0 | 0.5 | 6.7 | |
| Delay (s) | 59.5 | 9.3 | | 122.3 | 37.6 | | 29.2 | 19.4 | 17.8 | 19.5 | 29.2 | |
| Level of Service | E | A | | F | D | | C | B | B | B | C | |
| Approach Delay (s) | | 21.6 | | | 38.9 | | | 22.4 | | | 27.7 | |
| Approach LOS | | C | | | D | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 30.6 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.91 | | |
| Actuated Cycle Length (s) | 68.7 | Sum of lost time (s) | 17.5 |
| Intersection Capacity Utilization | 82.6% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 174 | 56 | 4 | 28 | 520 | 460 | 13 | 27 | 566 |
| v/c Ratio | 0.65 | 0.10 | 0.04 | 0.12 | 1.01 | 0.27 | 0.02 | 0.18 | 0.67 |
| Control Delay | 45.5 | 8.3 | 40.2 | 17.7 | 70.8 | 12.6 | 9.5 | 39.6 | 18.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 45.5 | 8.3 | 40.2 | 17.7 | 70.8 | 12.6 | 9.5 | 39.6 | 18.9 |
| Queue Length 50th (ft) | 68 | 3 | 2 | 5 | 209 | 42 | 1 | 11 | 58 |
| Queue Length 95th (ft) | #242 | 30 | 14 | 26 | #656 | 147 | 13 | 45 | 148 |
| Internal Link Dist (ft) | | 1442 | | 221 | | 1609 | | | 1977 |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | |
| Base Capacity (vph) | 267 | 870 | 94 | 712 | 517 | 1844 | 825 | 146 | 1233 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.65 | 0.06 | 0.04 | 0.04 | 1.01 | 0.25 | 0.02 | 0.18 | 0.46 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 160 | 10 | 41 | 4 | 11 | 15 | 484 | 423 | 12 | 25 | 252 | 269 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.88 | | 1.00 | 0.91 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.92 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1554 | | 1652 | 1572 | | 1652 | 3240 | 1450 | 1711 | 3127 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1554 | | 1652 | 1572 | | 1652 | 3240 | 1450 | 1711 | 3127 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 174 | 11 | 45 | 4 | 12 | 16 | 520 | 460 | 13 | 27 | 274 | 292 |
| RTOR Reduction (vph) | 0 | 31 | 0 | 0 | 13 | 0 | 0 | 0 | 5 | 0 | 197 | 0 |
| Lane Group Flow (vph) | 174 | 25 | 0 | 4 | 15 | 0 | 520 | 460 | 8 | 27 | 369 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 11.3 | 24.0 | | 0.6 | 13.3 | | 22.7 | 37.7 | 37.7 | 2.1 | 17.1 | |
| Effective Green, g (s) | 11.3 | 24.0 | | 0.6 | 13.3 | | 22.7 | 37.7 | 37.7 | 2.1 | 17.1 | |
| Actuated g/C Ratio | 0.15 | 0.31 | | 0.01 | 0.17 | | 0.30 | 0.49 | 0.49 | 0.03 | 0.22 | |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 251 | 485 | | 13 | 272 | | 488 | 1588 | 711 | 47 | 695 | |
| v/s Ratio Prot | c0.10 | c0.02 | | 0.00 | 0.01 | | c0.31 | 0.14 | | 0.02 | c0.12 | |
| v/s Ratio Perm | | | | | | | | | 0.01 | | | |
| v/c Ratio | 0.69 | 0.05 | | 0.31 | 0.05 | | 1.07 | 0.29 | 0.01 | 0.57 | 0.53 | |
| Uniform Delay, d1 | 31.2 | 18.5 | | 37.9 | 26.5 | | 27.1 | 11.6 | 10.0 | 37.0 | 26.4 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 8.6 | 0.1 | | 17.5 | 0.1 | | 59.3 | 0.1 | 0.0 | 18.7 | 1.0 | |
| Delay (s) | 39.8 | 18.6 | | 55.4 | 26.7 | | 86.4 | 11.8 | 10.1 | 55.7 | 27.4 | |
| Level of Service | D | B | | E | C | | F | B | B | E | C | |
| Approach Delay (s) | | 34.6 | | | 30.3 | | | 50.8 | | | 28.7 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 41.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.62 | | |
| Actuated Cycle Length (s) | 76.9 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 68.5% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 38 | 7 | 17 | 999 | 861 |
| v/c Ratio | 0.27 | 0.06 | 0.03 | 0.35 | 0.30 |
| Control Delay | 49.5 | 24.2 | 2.6 | 2.5 | 0.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.7 | 0.0 |
| Total Delay | 49.5 | 24.2 | 2.6 | 3.2 | 0.7 |
| Queue Length 50th (ft) | 26 | 0 | 1 | 57 | 4 |
| Queue Length 95th (ft) | 54 | 13 | 8 | 140 | 24 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 345 | 284 | 506 | 2874 | 2837 |
| Starvation Cap Reductn | 0 | 0 | 0 | 1419 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.11 | 0.02 | 0.03 | 0.69 | 0.30 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 35 | 6 | 16 | 919 | 724 | 68 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3196 | |
| Flt Permitted | 0.95 | 1.00 | 0.33 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 570 | 3240 | 3196 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 38 | 7 | 17 | 999 | 787 | 74 |
| RTOR Reduction (vph) | 0 | 7 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 38 | 0 | 17 | 999 | 858 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 7.0 | 7.0 | 94.0 | 94.0 | 94.0 | |
| Effective Green, g (s) | 7.0 | 7.0 | 94.0 | 94.0 | 94.0 | |
| Actuated g/C Ratio | 0.06 | 0.06 | 0.85 | 0.85 | 0.85 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 105 | 85 | 487 | 2769 | 2731 | |
| v/s Ratio Prot | c0.02 | | | c0.31 | 0.27 | |
| v/s Ratio Perm | | 0.00 | 0.03 | | | |
| v/c Ratio | 0.36 | 0.01 | 0.03 | 0.36 | 0.31 | |
| Uniform Delay, d1 | 49.4 | 48.2 | 1.2 | 1.7 | 1.6 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 0.21 | |
| Incremental Delay, d2 | 2.1 | 0.0 | 0.1 | 0.4 | 0.2 | |
| Delay (s) | 51.5 | 48.3 | 1.3 | 2.0 | 0.6 | |
| Level of Service | D | D | A | A | A | |
| Approach Delay (s) | 51.0 | | | 2.0 | 0.6 | |
| Approach LOS | D | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 2.5 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.36 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 36.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1114 | 596 | 362 | 1234 | 628 | 766 |
| v/c Ratio | 0.88 | 0.44 | 0.60 | 0.60 | 0.37 | 0.84 |
| Control Delay | 31.2 | 2.2 | 32.6 | 12.2 | 0.6 | 36.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 31.2 | 2.2 | 32.6 | 12.2 | 0.6 | 36.7 |
| Queue Length 50th (ft) | 309 | 1 | 59 | 187 | 0 | 218 |
| Queue Length 95th (ft) | #407 | 18 | 119 | 302 | 0 | #325 |
| Internal Link Dist (ft) | 363 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 1292 | 1384 | 607 | 2063 | 1686 | 915 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.86 | 0.43 | 0.60 | 0.60 | 0.37 | 0.84 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1025 | 548 | 333 | 1135 | 0 | 0 | 0 | 578 | 0 | 0 | 705 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.5 | 4.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | | | 1.00 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2787 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2787 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1114 | 596 | 362 | 1234 | 0 | 0 | 0 | 628 | 0 | 0 | 766 |
| RTOR Reduction (vph) | 0 | 0 | 371 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 93 |
| Lane Group Flow (vph) | 0 | 1114 | 225 | 362 | 1234 | 0 | 0 | 0 | 628 | 0 | 0 | 673 |
| Confl. Peds. (#/hr) | | | | 4 | | | | | | | | |
| Heavy Vehicles (%) | 2% | 4% | 4% | 4% | 4% | 2% | 2% | 2% | 4% | 2% | 2% | 2% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 | | 1 | 6 | | | | | | | 4 |
| Permitted Phases | | | 2 | | | | | | Free | | | 4 |
| Actuated Green, G (s) | | 37.7 | 37.7 | 19.3 | 61.5 | | | | 100.0 | | | 29.5 |
| Effective Green, g (s) | | 37.7 | 37.7 | 19.3 | 61.5 | | | | 100.0 | | | 29.5 |
| Actuated g/C Ratio | | 0.38 | 0.38 | 0.19 | 0.62 | | | | 1.00 | | | 0.29 |
| Clearance Time (s) | | 4.5 | 4.5 | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 1265 | 996 | 607 | 2063 | | | | 1686 | | | 822 |
| v/s Ratio Prot | | c0.33 | | 0.12 | c0.37 | | | | | | | c0.24 |
| v/s Ratio Perm | | | 0.09 | | | | | | 0.37 | | | |
| v/c Ratio | | 0.88 | 0.23 | 0.60 | 0.60 | | | | 0.37 | | | 0.82 |
| Uniform Delay, d1 | | 29.1 | 21.2 | 36.8 | 11.7 | | | | 0.0 | | | 32.8 |
| Progression Factor | | 0.78 | 0.72 | 0.76 | 0.93 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 6.6 | 0.1 | 4.0 | 1.1 | | | | 0.6 | | | 8.9 |
| Delay (s) | | 29.3 | 15.5 | 32.1 | 12.0 | | | | 0.6 | | | 41.7 |
| Level of Service | | C | B | C | B | | | | A | | | D |
| Approach Delay (s) | | 24.5 | | | 16.6 | | | 0.6 | | | 41.7 | |
| Approach LOS | | C | | | B | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 21.4 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.77 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 63.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 602 | 1057 | 724 | 520 | 416 | 915 |
| v/c Ratio | 0.72 | 0.32 | 0.39 | 0.59 | 0.26 | 0.60 |
| Control Delay | 23.3 | 0.2 | 7.5 | 11.6 | 0.4 | 1.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.3 | 0.2 | 7.5 | 11.6 | 0.4 | 1.7 |
| Queue Length 50th (ft) | 121 | 0 | 141 | 202 | 0 | 0 |
| Queue Length 95th (ft) | m156 | m0 | m16 | m58 | 0 | 0 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 911 | 3355 | 1853 | 876 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.32 | 0.39 | 0.59 | 0.26 | 0.60 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 554 | 972 | 0 | 0 | 666 | 478 | 0 | 0 | 383 | 0 | 0 | 842 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 602 | 1057 | 0 | 0 | 724 | 520 | 0 | 0 | 416 | 0 | 0 | 915 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 602 | 1057 | 0 | 0 | 724 | 490 | 0 | 0 | 416 | 0 | 0 | 915 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 13.4 | 50.0 | | | 27.6 | 27.6 | | | 50.0 | | | 50.0 |
| Effective Green, g (s) | 13.4 | 50.0 | | | 27.6 | 27.6 | | | 50.0 | | | 50.0 |
| Actuated g/C Ratio | 0.27 | 1.00 | | | 0.55 | 0.55 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 842 | 3355 | | | 1852 | 845 | | | 1611 | | | 1528 |
| v/s Ratio Prot | 0.19 | 0.32 | | | 0.22 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.32 | | | 0.26 | | | c0.60 |
| v/c Ratio | 0.71 | 0.32 | | | 0.39 | 0.58 | | | 0.26 | | | 0.60 |
| Uniform Delay, d1 | 16.6 | 0.0 | | | 6.4 | 7.4 | | | 0.0 | | | 0.0 |
| Progression Factor | 1.18 | 1.00 | | | 1.03 | 1.30 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 2.1 | 0.0 | | | 0.6 | 2.6 | | | 0.4 | | | 1.7 |
| Delay (s) | 21.7 | 0.0 | | | 7.2 | 12.2 | | | 0.4 | | | 1.7 |
| Level of Service | C | A | | | A | B | | | A | | | A |
| Approach Delay (s) | | 7.9 | | | 9.3 | | | 0.4 | | | 1.7 | |
| Approach LOS | | A | | | A | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 6.2 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.60 | | |
| Actuated Cycle Length (s) | 50.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 52.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 315 | 317 | 439 | 443 | 18 | 470 | 867 | 9 | 41 | 612 | 210 |
| v/c Ratio | 1.09 | 0.45 | 0.25 | 1.09 | 0.05 | 1.08 | 0.56 | 0.02 | 0.35 | 0.91 | 0.50 |
| Control Delay | 98.0 | 12.8 | 0.3 | 107.7 | 19.5 | 102.8 | 16.8 | 9.9 | 51.3 | 51.7 | 17.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 98.0 | 12.8 | 0.3 | 107.7 | 19.5 | 102.8 | 16.8 | 9.9 | 51.3 | 51.7 | 17.2 |
| Queue Length 50th (ft) | ~156 | 67 | 0 | ~304 | 4 | ~324 | 171 | 1 | 19 | 198 | 70 |
| Queue Length 95th (ft) | #317 | 106 | 0 | #490 | 22 | #504 | 252 | m4 | m46 | #299 | m97 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 289 | 707 | 1770 | 406 | 353 | 435 | 1562 | 579 | 118 | 675 | 420 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.09 | 0.45 | 0.25 | 1.09 | 0.05 | 1.08 | 0.56 | 0.02 | 0.35 | 0.91 | 0.50 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 290 | 292 | 404 | 2 | 406 | 17 | 432 | 798 | 8 | 38 | 563 | 193 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.96 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1738 | 1477 | 1652 | 3539 | 1338 | 1652 | 3303 | 1552 |
| Flt Permitted | 0.15 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 265 | 1739 | 1770 | | 1736 | 1477 | 1652 | 3539 | 1338 | 1652 | 3303 | 1552 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 315 | 317 | 439 | 2 | 441 | 18 | 470 | 867 | 9 | 41 | 612 | 210 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 3 | 0 | 0 | 103 |
| Lane Group Flow (vph) | 315 | 317 | 439 | 0 | 443 | 10 | 470 | 867 | 6 | 41 | 612 | 107 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 38.1 | 38.1 | 95.0 | | 21.7 | 21.7 | 24.0 | 39.1 | 39.1 | 3.8 | 18.4 | 18.4 |
| Effective Green, g (s) | 38.6 | 38.6 | 95.0 | | 22.2 | 22.2 | 25.0 | 40.1 | 39.1 | 4.3 | 19.4 | 19.4 |
| Actuated g/C Ratio | 0.41 | 0.41 | 1.00 | | 0.23 | 0.23 | 0.26 | 0.42 | 0.41 | 0.05 | 0.20 | 0.20 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.5 | 5.0 | 5.0 |
| Vehicle Extension (s) | 3.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 289 | 707 | 1770 | | 406 | 345 | 435 | 1494 | 551 | 75 | 675 | 317 |
| v/s Ratio Prot | c0.14 | 0.18 | | | | | c0.28 | 0.24 | | 0.02 | c0.19 | |
| v/s Ratio Perm | c0.30 | | 0.25 | | 0.26 | 0.01 | | | 0.00 | | | 0.07 |
| v/c Ratio | 1.09 | 0.45 | 0.25 | | 1.09 | 0.03 | 1.08 | 0.58 | 0.01 | 0.55 | 0.91 | 0.34 |
| Uniform Delay, d1 | 24.9 | 20.5 | 0.0 | | 36.4 | 28.1 | 35.0 | 21.0 | 16.5 | 44.4 | 36.9 | 32.3 |
| Progression Factor | 0.69 | 0.52 | 1.00 | | 1.00 | 1.00 | 1.07 | 0.74 | 0.72 | 1.02 | 0.89 | 0.95 |
| Incremental Delay, d2 | 77.3 | 0.6 | 0.3 | | 71.5 | 0.0 | 65.7 | 1.6 | 0.0 | 8.5 | 17.6 | 2.8 |
| Delay (s) | 94.5 | 11.2 | 0.3 | | 107.9 | 28.1 | 103.1 | 17.1 | 11.9 | 53.7 | 50.5 | 33.4 |
| Level of Service | F | B | A | | F | C | F | B | B | D | D | C |
| Approach Delay (s) | | 31.3 | | | 104.8 | | | 47.1 | | | 46.5 | |
| Approach LOS | | C | | | F | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 49.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.03 | | |
| Actuated Cycle Length (s) | 95.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 90.4% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 18 | 14 | 1 | 1202 | 82 | 1379 |
| v/c Ratio | 0.17 | 0.10 | 0.00 | 0.27 | 0.25 | 0.45 |
| Control Delay | 46.4 | 19.5 | 3.0 | 1.6 | 5.0 | 3.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 |
| Total Delay | 46.4 | 19.5 | 3.0 | 1.6 | 5.0 | 3.6 |
| Queue Length 50th (ft) | 12 | 0 | 0 | 16 | 7 | 78 |
| Queue Length 95th (ft) | 31 | 18 | m0 | 76 | 43 | 253 |
| Internal Link Dist (ft) | 217 | | | 650 | | 443 |
| Turn Bay Length (ft) | | | 115 | | 115 | |
| Base Capacity (vph) | 278 | 328 | 282 | 4373 | 333 | 3077 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 994 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.06 | 0.04 | 0.00 | 0.27 | 0.25 | 0.66 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 16 | 1 | 13 | 1 | 1076 | 29 | 75 | 1265 | 4 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | 1.00 | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1572 | 1397 | 1650 | 4931 | | 1618 | 3470 | |
| Flt Permitted | | | | | 0.74 | 1.00 | 0.18 | 1.00 | | 0.22 | 1.00 | |
| Satd. Flow (perm) | | | | | 1222 | 1397 | 318 | 4931 | | 376 | 3470 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 17 | 1 | 14 | 1 | 1170 | 32 | 82 | 1375 | 4 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 1 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 18 | 1 | 1 | 1201 | 0 | 82 | 1379 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 7.3 | 7.3 | 94.1 | 94.1 | | 94.1 | 94.1 | |
| Effective Green, g (s) | | | | | 7.3 | 7.3 | 94.1 | 94.1 | | 94.1 | 94.1 | |
| Actuated g/C Ratio | | | | | 0.07 | 0.07 | 0.86 | 0.86 | | 0.86 | 0.86 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 81 | 93 | 272 | 4218 | | 322 | 2968 | |
| v/s Ratio Prot | | | | | | | | 0.24 | | | c0.40 | |
| v/s Ratio Perm | | | | | c0.01 | 0.00 | 0.00 | | | 0.22 | | |
| v/c Ratio | | | | | 0.22 | 0.01 | 0.00 | 0.28 | | 0.25 | 0.46 | |
| Uniform Delay, d1 | | | | | 48.7 | 48.0 | 1.2 | 1.5 | | 1.5 | 1.9 | |
| Progression Factor | | | | | 1.00 | 1.00 | 0.85 | 0.70 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | | | | 1.4 | 0.0 | 0.0 | 0.1 | | 1.9 | 0.5 | |
| Delay (s) | | | | | 50.1 | 48.0 | 1.0 | 1.2 | | 3.4 | 2.4 | |
| Level of Service | | | | | D | D | A | A | | A | A | |
| Approach Delay (s) | | 0.0 | | | 49.2 | | | 1.2 | | | 2.5 | |
| Approach LOS | | A | | | D | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 2.5 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.45 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 55.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 36 | 364 | 797 | 16 | 17 |
| v/c Ratio | 0.29 | 0.21 | 0.27 | 0.15 | 0.15 |
| Control Delay | 46.8 | 1.0 | 0.9 | 51.5 | 23.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 46.8 | 1.0 | 0.9 | 51.5 | 23.4 |
| Queue Length 50th (ft) | 23 | 20 | 13 | 11 | 0 |
| Queue Length 95th (ft) | m50 | 38 | 19 | 34 | 22 |
| Internal Link Dist (ft) | | 561 | 485 | 363 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 249 | 1698 | 2923 | 426 | 394 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.21 | 0.27 | 0.04 | 0.04 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 33 | 335 | 657 | 76 | 15 | 16 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.98 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3484 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3484 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 36 | 364 | 714 | 83 | 16 | 17 |
| RTOR Reduction (vph) | 0 | 0 | 3 | 0 | 0 | 16 |
| Lane Group Flow (vph) | 36 | 364 | 794 | 0 | 16 | 1 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 5.3 | 96.7 | 86.9 | | 4.3 | 4.3 |
| Effective Green, g (s) | 5.3 | 96.7 | 86.9 | | 4.3 | 4.3 |
| Actuated g/C Ratio | 0.05 | 0.88 | 0.79 | | 0.04 | 0.04 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 85 | 1638 | 2752 | | 69 | 62 |
| v/s Ratio Prot | c0.02 | 0.20 | c0.23 | | c0.01 | |
| v/s Ratio Perm | | | | | | 0.00 |
| v/c Ratio | 0.42 | 0.22 | 0.29 | | 0.23 | 0.01 |
| Uniform Delay, d1 | 50.9 | 1.0 | 3.1 | | 51.2 | 50.8 |
| Progression Factor | 0.87 | 0.68 | 0.20 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.0 | 0.3 | 0.2 | | 1.7 | 0.1 |
| Delay (s) | 47.3 | 1.0 | 0.9 | | 53.0 | 50.9 |
| Level of Service | D | A | A | | D | D |
| Approach Delay (s) | | 5.1 | 0.9 | | 51.9 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 3.6 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.29 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 39.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 85 | 183 | 276 | 65 | 1098 | 46 | 691 | 350 | 727 | 892 | 53 |
| v/c Ratio | 1.08 | 0.50 | 0.24 | 0.09 | 1.14 | 0.54 | 0.63 | 0.35 | 1.16 | 0.70 | 0.09 |
| Control Delay | 185.3 | 47.8 | 34.3 | 26.5 | 100.6 | 87.2 | 50.5 | 1.8 | 138.6 | 39.7 | 8.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 185.3 | 47.8 | 34.3 | 26.5 | 100.6 | 87.2 | 50.5 | 1.8 | 138.6 | 39.7 | 8.0 |
| Queue Length 50th (ft) | ~88 | 64 | 90 | 37 | ~1180 | 42 | 206 | 0 | ~412 | 360 | 1 |
| Queue Length 95th (ft) | #204 | 94 | 147 | 70 | #1447 | 85 | 252 | 23 | #539 | 453 | 31 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 79 | 1015 | 1145 | 692 | 964 | 117 | 1177 | 1012 | 625 | 1270 | 623 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.08 | 0.18 | 0.24 | 0.09 | 1.14 | 0.39 | 0.59 | 0.35 | 1.16 | 0.70 | 0.09 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 78 | 120 | 49 | 254 | 60 | 1010 | 42 | 636 | 322 | 669 | 821 | 49 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | 4.5 | 3.5 | 3.8 | 3.8 | 3.5 | 3.8 | 3.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3057 | | 3255 | 1689 | 1501 | 1620 | 4655 | 1449 | 3143 | 3240 | 1512 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3057 | | 3255 | 1689 | 1501 | 1620 | 4655 | 1449 | 3143 | 3240 | 1512 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 85 | 130 | 53 | 276 | 65 | 1098 | 46 | 691 | 350 | 727 | 892 | 53 |
| RTOR Reduction (vph) | 0 | 41 | 0 | 0 | 0 | 13 | 0 | 0 | 144 | 0 | 0 | 31 |
| Lane Group Flow (vph) | 85 | 142 | 0 | 276 | 65 | 1085 | 46 | 691 | 206 | 727 | 892 | 22 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 6.5 | 14.5 | | 48.7 | 56.7 | 88.7 | 6.4 | 33.2 | 81.9 | 27.5 | 54.3 | 54.3 |
| Effective Green, g (s) | 6.5 | 14.5 | | 48.7 | 56.7 | 88.7 | 6.4 | 33.2 | 81.9 | 27.5 | 54.3 | 54.3 |
| Actuated g/C Ratio | 0.05 | 0.10 | | 0.35 | 0.41 | 0.64 | 0.05 | 0.24 | 0.59 | 0.20 | 0.39 | 0.39 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 4.0 | | 2.0 | 4.5 | 4.5 |
| Lane Grp Cap (vph) | 78 | 318 | | 1139 | 688 | 956 | 74 | 1110 | 853 | 621 | 1264 | 590 |
| v/s Ratio Prot | c0.05 | 0.05 | | 0.08 | 0.04 | c0.72 | 0.03 | 0.15 | 0.14 | c0.23 | c0.28 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.01 |
| v/c Ratio | 1.09 | 0.45 | | 0.24 | 0.09 | 1.14 | 0.62 | 0.62 | 0.24 | 1.17 | 0.71 | 0.04 |
| Uniform Delay, d1 | 66.3 | 58.6 | | 32.1 | 25.4 | 25.2 | 65.2 | 47.4 | 13.7 | 55.8 | 35.7 | 26.3 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 128.5 | 1.7 | | 0.0 | 0.1 | 73.9 | 11.1 | 1.2 | 0.2 | 93.2 | 2.1 | 0.0 |
| Delay (s) | 194.8 | 60.3 | | 32.2 | 25.5 | 99.1 | 76.3 | 48.6 | 13.9 | 149.0 | 37.8 | 26.3 |
| Level of Service | F | E | | C | C | F | E | D | B | F | D | C |
| Approach Delay (s) | | 103.0 | | | 83.0 | | | 38.6 | | | 85.8 | |
| Approach LOS | | F | | | F | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 74.4 | HCM Level of Service | E |
| HCM Volume to Capacity ratio | 1.02 | | |
| Actuated Cycle Length (s) | 139.2 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 91.0% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 179 | 988 | 157 | 1184 | 508 | 76 | 289 | 878 | 550 |
| v/c Ratio | 0.97 | 0.79 | 0.80 | 0.97 | 0.60 | 0.59 | 0.95 | 0.98 | 0.91 |
| Control Delay | 106.1 | 34.1 | 73.0 | 39.4 | 3.8 | 66.6 | 55.5 | 63.1 | 39.6 |
| Queue Delay | 0.0 | 7.4 | 0.0 | 34.1 | 1.0 | 0.0 | 29.8 | 23.4 | 0.0 |
| Total Delay | 106.1 | 41.5 | 73.0 | 73.5 | 4.8 | 66.6 | 85.3 | 86.4 | 39.6 |
| Queue Length 50th (ft) | 122 | 308 | 95 | 304 | 0 | 50 | 52 | 301 | 200 |
| Queue Length 95th (ft) | #259 | 395 | m126 | m#557 | m52 | #112 | #219 | #432 | #419 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 185 | 1247 | 216 | 1218 | 840 | 128 | 305 | 898 | 604 |
| Starvation Cap Reductn | 0 | 0 | 0 | 125 | 138 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 222 | 0 | 0 | 0 | 0 | 33 | 69 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.97 | 0.96 | 0.73 | 1.08 | 0.72 | 0.59 | 1.06 | 1.06 | 0.91 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 165 | 899 | 10 | 144 | 980 | 577 | 70 | 3 | 263 | 808 | 57 | 449 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.91 | 0.91 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.99 | 1.00 | 0.99 | | 1.00 | 0.98 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.98 | 0.85 | 1.00 | 0.85 | | 1.00 | 0.87 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3173 | | 1620 | 3026 | 1319 | 1678 | 1431 | | 3143 | 1445 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3173 | | 1620 | 3026 | 1319 | 1678 | 1431 | | 3143 | 1445 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 179 | 977 | 11 | 157 | 1065 | 627 | 76 | 3 | 286 | 878 | 62 | 488 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 8 | 300 | 0 | 196 | 0 | 0 | 191 | 0 |
| Lane Group Flow (vph) | 179 | 987 | 0 | 157 | 1176 | 208 | 76 | 93 | 0 | 878 | 359 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 12.0 | 41.3 | | 12.7 | 42.0 | 42.0 | 8.0 | 8.0 | | 30.0 | 30.0 | |
| Effective Green, g (s) | 12.0 | 41.3 | | 12.7 | 42.0 | 43.0 | 8.0 | 8.0 | | 30.0 | 30.0 | |
| Actuated g/C Ratio | 0.11 | 0.39 | | 0.12 | 0.40 | 0.41 | 0.08 | 0.08 | | 0.29 | 0.29 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 185 | 1248 | | 196 | 1210 | 540 | 128 | 109 | | 898 | 413 | |
| v/s Ratio Prot | c0.11 | 0.31 | | 0.10 | c0.39 | | 0.05 | c0.07 | | c0.28 | 0.25 | |
| v/s Ratio Perm | | | | | | 0.16 | | | | | | |
| v/c Ratio | 0.97 | 0.79 | | 0.80 | 0.97 | 0.39 | 0.59 | 0.85 | | 0.98 | 0.87 | |
| Uniform Delay, d1 | 46.3 | 28.1 | | 44.9 | 30.9 | 21.7 | 46.9 | 47.9 | | 37.2 | 35.6 | |
| Progression Factor | 1.00 | 1.00 | | 1.21 | 0.77 | 0.86 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 55.8 | 5.2 | | 12.8 | 14.7 | 1.3 | 4.8 | 42.8 | | 24.4 | 17.3 | |
| Delay (s) | 102.1 | 33.2 | | 67.1 | 38.5 | 20.0 | 51.8 | 90.8 | | 61.6 | 52.9 | |
| Level of Service | F | C | | E | D | C | D | F | | E | D | |
| Approach Delay (s) | | 43.8 | | | 35.8 | | | 82.6 | | | 58.2 | |
| Approach LOS | | D | | | D | | | F | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 48.0 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.96 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 95.2% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 85 | 2162 | 322 | 1527 | 330 | 789 | 78 | 51 |
| v/c Ratio | 0.75 | 0.95 | 0.84 | 0.81 | 0.97 | 0.89 | 0.88 | 0.46 |
| Control Delay | 65.0 | 27.1 | 68.2 | 15.6 | 84.4 | 38.9 | 117.3 | 39.7 |
| Queue Delay | 0.0 | 34.3 | 0.0 | 1.4 | 0.0 | 0.0 | 0.0 | 0.1 |
| Total Delay | 65.0 | 61.4 | 68.2 | 17.0 | 84.4 | 38.9 | 117.3 | 39.8 |
| Queue Length 50th (ft) | 54 | 364 | 118 | 286 | 222 | 217 | 53 | 14 |
| Queue Length 95th (ft) | m64 | m#546 | m#169 | 392 | #397 | #314 | #144 | 53 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 123 | 2282 | 410 | 1894 | 345 | 909 | 89 | 110 |
| Starvation Cap Reductn | 0 | 274 | 0 | 111 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 189 | 0 | 0 | 0 | 1 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.69 | 1.08 | 0.79 | 0.90 | 0.96 | 0.87 | 0.88 | 0.47 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 78 | 1800 | 189 | 296 | 1289 | 116 | 266 | 38 | 726 | 72 | 19 | 28 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.95 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.99 | 1.00 | 0.95 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4503 | | 3143 | 3277 | | | 1809 | 2802 | 1562 | 1430 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4503 | | 3143 | 3277 | | | 1809 | 2802 | 1562 | 1430 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 85 | 1957 | 205 | 322 | 1401 | 126 | 289 | 41 | 789 | 78 | 21 | 30 |
| RTOR Reduction (vph) | 0 | 12 | 0 | 0 | 6 | 0 | 0 | 0 | 28 | 0 | 28 | 0 |
| Lane Group Flow (vph) | 85 | 2150 | 0 | 322 | 1521 | 0 | 0 | 330 | 761 | 78 | 23 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 6.3 | 52.9 | | 12.8 | 59.9 | | | 19.8 | 32.6 | 6.0 | 6.0 | |
| Effective Green, g (s) | 6.3 | 52.9 | | 12.8 | 59.9 | | | 19.8 | 32.6 | 6.0 | 6.0 | |
| Actuated g/C Ratio | 0.06 | 0.50 | | 0.12 | 0.57 | | | 0.19 | 0.31 | 0.06 | 0.06 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 97 | 2269 | | 383 | 1869 | | | 341 | 870 | 89 | 82 | |
| v/s Ratio Prot | 0.05 | c0.48 | | 0.10 | 0.46 | | | c0.18 | c0.11 | c0.05 | 0.02 | |
| v/s Ratio Perm | | | | | | | | | 0.17 | | | |
| v/c Ratio | 0.88 | 0.95 | | 0.84 | 0.81 | | | 0.97 | 0.88 | 0.88 | 0.28 | |
| Uniform Delay, d1 | 49.0 | 24.7 | | 45.1 | 18.1 | | | 42.3 | 34.3 | 49.1 | 47.4 | |
| Progression Factor | 0.91 | 0.83 | | 1.20 | 0.69 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 32.1 | 5.8 | | 10.6 | 2.8 | | | 39.5 | 9.5 | 55.2 | 0.7 | |
| Delay (s) | 76.6 | 26.4 | | 64.6 | 15.3 | | | 81.8 | 43.8 | 104.3 | 48.1 | |
| Level of Service | E | C | | E | B | | | F | D | F | D | |
| Approach Delay (s) | | 28.3 | | | 23.9 | | | 55.0 | | | 82.1 | |
| Approach LOS | | C | | | C | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 33.6 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.94 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 81.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1392 | 547 | 1666 | 442 | 268 | 257 | 243 |
| v/c Ratio | 0.61 | 0.38 | 0.75 | 0.30 | 0.66 | 0.58 | 0.58 |
| Control Delay | 5.5 | 0.3 | 13.6 | 0.5 | 43.3 | 34.8 | 34.0 |
| Queue Delay | 0.3 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 5.8 | 0.3 | 13.7 | 0.5 | 43.3 | 34.8 | 34.0 |
| Queue Length 50th (ft) | 129 | 0 | 355 | 0 | 166 | 138 | 123 |
| Queue Length 95th (ft) | m118 | m0 | 448 | 0 | 260 | 229 | 208 |
| Internal Link Dist (ft) | 509 | | 867 | | | 1128 | |
| Turn Bay Length (ft) | | | | 75 | | | 80 |
| Base Capacity (vph) | 2275 | 1439 | 2218 | 1478 | 433 | 467 | 445 |
| Starvation Cap Reductn | 322 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 50 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.71 | 0.38 | 0.77 | 0.30 | 0.62 | 0.55 | 0.55 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1281 | 503 | 0 | 1533 | 407 | 0 | 0 | 0 | 358 | 0 | 349 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | 4.0 | 3.0 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.95 | 1.00 | | | | 0.95 | 0.91 | 0.95 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | 0.92 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 0.98 | 1.00 |
| Satd. Flow (prot) | | 3292 | 1439 | | 3209 | 1478 | | | | 1625 | 1701 | 1559 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 0.98 | 1.00 |
| Satd. Flow (perm) | | 3292 | 1439 | | 3209 | 1478 | | | | 1625 | 1701 | 1559 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1392 | 547 | 0 | 1666 | 442 | 0 | 0 | 0 | 389 | 0 | 379 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 30 |
| Lane Group Flow (vph) | 0 | 1392 | 547 | 0 | 1666 | 442 | 0 | 0 | 0 | 268 | 227 | 213 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Free | | | | custom | | Prot |
| Protected Phases | | 2 | | | 6 | | | | | 4 | 4 | 4 |
| Permitted Phases | | | 2 4 | | | Free | | | | 4 | | |
| Actuated Green, G (s) | | 71.6 | 105.0 | | 71.6 | 105.0 | | | | 25.4 | 25.4 | 25.4 |
| Effective Green, g (s) | | 72.6 | 105.0 | | 72.6 | 105.0 | | | | 26.4 | 25.4 | 26.4 |
| Actuated g/C Ratio | | 0.69 | 1.00 | | 0.69 | 1.00 | | | | 0.25 | 0.24 | 0.25 |
| Clearance Time (s) | | 4.0 | | | 4.0 | | | | | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | | | | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | | 2276 | 1439 | | 2219 | 1478 | | | | 409 | 411 | 392 |
| v/s Ratio Prot | | 0.42 | | | c0.52 | | | | | c0.16 | 0.13 | 0.14 |
| v/s Ratio Perm | | | 0.38 | | | 0.30 | | | | | | |
| v/c Ratio | | 0.61 | 0.38 | | 0.75 | 0.30 | | | | 0.66 | 0.55 | 0.54 |
| Uniform Delay, d1 | | 8.7 | 0.0 | | 10.4 | 0.0 | | | | 35.2 | 34.8 | 34.1 |
| Progression Factor | | 0.54 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.5 | 0.1 | | 2.4 | 0.5 | | | | 4.2 | 2.0 | 1.9 |
| Delay (s) | | 5.1 | 0.1 | | 12.8 | 0.5 | | | | 39.4 | 36.8 | 36.0 |
| Level of Service | | A | A | | B | A | | | | D | D | D |
| Approach Delay (s) | | 3.7 | | | 10.2 | | | 0.0 | | | 37.4 | |
| Approach LOS | | A | | | B | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 11.9 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 6.0 |
| Intersection Capacity Utilization | 63.4% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 604 | 50 | 42 | 211 | 191 | 428 |
| v/c Ratio | 0.85 | 0.08 | 0.42 | 0.25 | 0.30 | 0.50 |
| Control Delay | 29.2 | 3.5 | 42.9 | 13.3 | 18.7 | 4.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.2 | 3.5 | 42.9 | 13.3 | 18.7 | 4.7 |
| Queue Length 50th (ft) | 194 | 0 | 17 | 52 | 59 | 0 |
| Queue Length 95th (ft) | #320 | 15 | #50 | 99 | 114 | 60 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 800 | 742 | 100 | 828 | 647 | 857 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.76 | 0.07 | 0.42 | 0.25 | 0.30 | 0.50 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 556 | 46 | 39 | 194 | 176 | 394 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1560 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1560 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 604 | 50 | 42 | 211 | 191 | 428 |
| RTOR Reduction (vph) | 0 | 29 | 0 | 0 | 0 | 276 |
| Lane Group Flow (vph) | 604 | 21 | 42 | 211 | 191 | 152 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 27.5 | 27.5 | 2.4 | 29.5 | 23.1 | 23.1 |
| Effective Green, g (s) | 27.5 | 27.5 | 2.4 | 29.5 | 23.1 | 23.1 |
| Actuated g/C Ratio | 0.42 | 0.42 | 0.04 | 0.45 | 0.36 | 0.36 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 710 | 635 | 60 | 829 | 606 | 554 |
| v/s Ratio Prot | c0.36 | | c0.03 | 0.12 | c0.11 | |
| v/s Ratio Perm | | 0.01 | | | | 0.10 |
| v/c Ratio | 0.85 | 0.03 | 0.70 | 0.25 | 0.32 | 0.27 |
| Uniform Delay, d1 | 16.9 | 11.0 | 30.9 | 11.0 | 15.2 | 15.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 9.6 | 0.0 | 30.0 | 0.7 | 1.4 | 1.2 |
| Delay (s) | 26.5 | 11.0 | 61.0 | 11.7 | 16.6 | 16.2 |
| Level of Service | C | B | E | B | B | B |
| Approach Delay (s) | 25.3 | | | 19.9 | 16.3 | |
| Approach LOS | C | | | B | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 20.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.61 | | |
| Actuated Cycle Length (s) | 65.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 57.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 148 | 182 | 132 | 14 | 683 | 196 | 1085 |
| v/c Ratio | 0.39 | 0.50 | 0.30 | 0.07 | 0.40 | 0.57 | 0.64 |
| Control Delay | 17.0 | 21.3 | 5.3 | 8.7 | 8.2 | 19.0 | 11.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.0 | 21.3 | 5.3 | 8.7 | 8.2 | 19.0 | 11.2 |
| Queue Length 50th (ft) | 34 | 50 | 0 | 2 | 50 | 33 | 98 |
| Queue Length 95th (ft) | 73 | 96 | 30 | 12 | 124 | #153 | 236 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 649 | 638 | 680 | 212 | 1822 | 369 | 1832 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 0.29 | 0.19 | 0.07 | 0.37 | 0.53 | 0.59 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 35 | 80 | 21 | 92 | 75 | 121 | 13 | 569 | 60 | 180 | 955 | 43 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | | 0.99 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1529 | | | 1684 | 1307 | 1618 | 3027 | | 1560 | 3054 | |
| Flt Permitted | | 0.89 | | | 0.79 | 1.00 | 0.21 | 1.00 | | 0.38 | 1.00 | |
| Satd. Flow (perm) | | 1373 | | | 1370 | 1307 | 354 | 3027 | | 618 | 3054 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 38 | 87 | 23 | 100 | 82 | 132 | 14 | 618 | 65 | 196 | 1038 | 47 |
| RTOR Reduction (vph) | 0 | 12 | 0 | 0 | 0 | 97 | 0 | 11 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 0 | 136 | 0 | 0 | 182 | 35 | 14 | 672 | 0 | 196 | 1081 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 13.9 | | | 13.9 | 13.9 | 29.1 | 29.1 | | 29.1 | 29.1 | |
| Effective Green, g (s) | | 13.9 | | | 13.9 | 13.9 | 29.1 | 29.1 | | 29.1 | 29.1 | |
| Actuated g/C Ratio | | 0.27 | | | 0.27 | 0.27 | 0.56 | 0.56 | | 0.56 | 0.56 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 366 | | | 365 | 348 | 197 | 1687 | | 345 | 1703 | |
| v/s Ratio Prot | | | | | | | | 0.22 | | | c0.35 | |
| v/s Ratio Perm | | 0.10 | | | c0.13 | 0.03 | 0.04 | | | 0.32 | | |
| v/c Ratio | | 0.37 | | | 0.50 | 0.10 | 0.07 | 0.40 | | 0.57 | 0.63 | |
| Uniform Delay, d1 | | 15.6 | | | 16.2 | 14.4 | 5.3 | 6.6 | | 7.5 | 7.9 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.9 | | | 1.5 | 0.2 | 0.2 | 0.2 | | 2.6 | 0.9 | |
| Delay (s) | | 16.5 | | | 17.7 | 14.6 | 5.5 | 6.8 | | 10.1 | 8.8 | |
| Level of Service | | B | | | B | B | A | A | | B | A | |
| Approach Delay (s) | | 16.5 | | | 16.4 | | | 6.8 | | | 9.0 | |
| Approach LOS | | B | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 9.8 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.59 | | |
| Actuated Cycle Length (s) | 52.2 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 61.6% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 32 | 435 | 332 | 201 | 165 | 26 |
| v/c Ratio | 0.28 | 0.31 | 0.28 | 0.15 | 0.68 | 0.11 |
| Control Delay | 53.9 | 5.1 | 6.0 | 0.3 | 57.8 | 14.2 |
| Queue Delay | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 |
| Total Delay | 53.9 | 5.1 | 6.2 | 0.3 | 57.8 | 14.2 |
| Queue Length 50th (ft) | 22 | 78 | 35 | 0 | 111 | 0 |
| Queue Length 95th (ft) | 53 | 149 | 109 | 0 | 172 | 24 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 148 | 1402 | 1189 | 1496 | 454 | 411 |
| Starvation Cap Reductn | 0 | 0 | 336 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.22 | 0.31 | 0.39 | 0.13 | 0.36 | 0.06 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 29 | 400 | 305 | 185 | 152 | 24 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1570 | 1562 | 1349 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1570 | 1562 | 1349 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 32 | 435 | 332 | 201 | 165 | 26 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 33 | 0 | 22 |
| Lane Group Flow (vph) | 32 | 435 | 332 | 168 | 165 | 4 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 5.3 | 84.4 | 75.1 | 92.1 | 17.0 | 17.0 |
| Effective Green, g (s) | 5.3 | 84.4 | 75.1 | 92.1 | 17.0 | 17.0 |
| Actuated g/C Ratio | 0.05 | 0.77 | 0.68 | 0.84 | 0.15 | 0.15 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 78 | 1402 | 1164 | 1315 | 241 | 208 |
| v/s Ratio Prot | c0.02 | c0.24 | 0.19 | 0.02 | c0.11 | |
| v/s Ratio Perm | | | | 0.09 | | 0.00 |
| v/c Ratio | 0.41 | 0.31 | 0.29 | 0.13 | 0.68 | 0.02 |
| Uniform Delay, d1 | 50.8 | 3.9 | 6.9 | 1.6 | 44.0 | 39.4 |
| Progression Factor | 1.00 | 1.00 | 0.65 | 0.19 | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.5 | 0.6 | 0.6 | 0.0 | 7.8 | 0.0 |
| Delay (s) | 54.3 | 4.5 | 5.0 | 0.4 | 51.8 | 39.5 |
| Level of Service | D | A | A | A | D | D |
| Approach Delay (s) | | 7.9 | 3.3 | | 50.1 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 12.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.37 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 40.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 318 | 273 | 175 | 190 | 329 | 327 | 3 |
| v/c Ratio | 0.41 | 0.34 | 0.75 | 0.18 | 0.71 | 0.57 | 0.04 |
| Control Delay | 18.5 | 1.5 | 64.4 | 10.7 | 36.4 | 11.5 | 45.3 |
| Queue Delay | 0.5 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 19.1 | 1.6 | 64.4 | 10.7 | 36.4 | 11.5 | 45.3 |
| Queue Length 50th (ft) | 100 | 0 | 118 | 50 | 216 | 111 | 1 |
| Queue Length 95th (ft) | 228 | 13 | #208 | 117 | 307 | 164 | 11 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | | 217 |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 | |
| Base Capacity (vph) | 782 | 803 | 263 | 1074 | 566 | 573 | 84 |
| Starvation Cap Reductn | 179 | 105 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.53 | 0.39 | 0.67 | 0.18 | 0.58 | 0.57 | 0.04 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 293 | 251 | 161 | 174 | 1 | 301 | 2 | 301 | 1 | 1 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | 4.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.99 | | 0.90 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | 0.95 | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.98 | |
| Satd. Flow (prot) | | 1759 | 1466 | 1562 | 1703 | | | 1682 | 1729 | | 1538 | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.98 | |
| Satd. Flow (perm) | | 1759 | 1466 | 1562 | 1703 | | | 1682 | 1729 | | 1538 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 318 | 273 | 175 | 189 | 1 | 327 | 2 | 327 | 1 | 1 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 159 | 0 | 0 | 0 | 0 | 0 | 175 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 318 | 114 | 175 | 190 | 0 | 0 | 329 | 152 | 0 | 2 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 45.8 | 45.8 | 16.4 | 66.2 | | | 30.2 | 25.7 | | 1.0 | |
| Effective Green, g (s) | | 45.8 | 45.8 | 16.4 | 66.2 | | | 25.7 | 25.7 | | 1.0 | |
| Actuated g/C Ratio | | 0.42 | 0.42 | 0.15 | 0.60 | | | 0.23 | 0.23 | | 0.01 | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | 4.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | | 732 | 610 | 233 | 1025 | | | 393 | 475 | | 14 | |
| v/s Ratio Prot | | c0.18 | | c0.11 | 0.11 | | | c0.20 | 0.03 | | c0.00 | |
| v/s Ratio Perm | | | 0.08 | | | | | | 0.05 | | | |
| v/c Ratio | | 0.43 | 0.19 | 0.75 | 0.19 | | | 0.84 | 0.32 | | 0.14 | |
| Uniform Delay, d1 | | 22.9 | 20.3 | 44.8 | 9.8 | | | 40.2 | 34.9 | | 54.1 | |
| Progression Factor | | 0.70 | 0.10 | 1.00 | 1.00 | | | 0.81 | 0.82 | | 1.00 | |
| Incremental Delay, d2 | | 1.8 | 0.6 | 12.8 | 0.4 | | | 12.7 | 0.3 | | 4.7 | |
| Delay (s) | | 17.9 | 2.7 | 57.6 | 10.2 | | | 45.2 | 29.0 | | 58.8 | |
| Level of Service | | B | A | E | B | | | D | C | | E | |
| Approach Delay (s) | | 10.9 | | | 32.9 | | | 37.1 | | | 58.8 | |
| Approach LOS | | B | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 26.6 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.60 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 20.6 |
| Intersection Capacity Utilization | 63.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 61 | 140 | 25 | 170 | 249 | 211 | 26 | 373 | 116 | 308 | 779 |
| v/c Ratio | 0.34 | 0.49 | 0.10 | 0.57 | 0.51 | 0.39 | 0.21 | 0.58 | 0.36 | 0.72 | 0.54 |
| Control Delay | 50.0 | 44.9 | 16.3 | 45.2 | 34.9 | 6.9 | 52.9 | 39.0 | 18.1 | 42.4 | 20.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.0 | 44.9 | 16.3 | 45.2 | 34.9 | 6.9 | 52.9 | 39.0 | 18.1 | 42.4 | 20.0 |
| Queue Length 50th (ft) | 31 | 69 | 0 | 84 | 118 | 0 | 13 | 96 | 16 | 150 | 136 |
| Queue Length 95th (ft) | 95 | 170 | 26 | 202 | 253 | 58 | 52 | 196 | 79 | 318 | 299 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 217 | 587 | 506 | 469 | 881 | 807 | 132 | 1172 | 533 | 762 | 2243 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.28 | 0.24 | 0.05 | 0.36 | 0.28 | 0.26 | 0.20 | 0.32 | 0.22 | 0.40 | 0.35 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 56 | 129 | 23 | 156 | 229 | 194 | 24 | 343 | 107 | 283 | 649 | 68 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 3.1 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1446 | 1620 | 1739 | 1400 | 1652 | 3240 | 1332 | 1620 | 3032 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1446 | 1620 | 1739 | 1400 | 1652 | 3240 | 1332 | 1620 | 3032 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 61 | 140 | 25 | 170 | 249 | 211 | 26 | 373 | 116 | 308 | 705 | 74 |
| RTOR Reduction (vph) | 0 | 0 | 21 | 0 | 0 | 153 | 0 | 0 | 63 | 0 | 6 | 0 |
| Lane Group Flow (vph) | 61 | 140 | 4 | 170 | 249 | 58 | 26 | 373 | 53 | 308 | 773 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 7.6 | 15.5 | 15.5 | 16.5 | 25.3 | 25.3 | 2.4 | 20.3 | 20.3 | 24.5 | 42.4 | |
| Effective Green, g (s) | 7.5 | 15.4 | 15.4 | 16.4 | 25.2 | 25.2 | 1.4 | 19.8 | 19.8 | 23.5 | 41.9 | |
| Actuated g/C Ratio | 0.08 | 0.17 | 0.17 | 0.18 | 0.28 | 0.28 | 0.02 | 0.22 | 0.22 | 0.26 | 0.46 | |
| Clearance Time (s) | 3.0 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 136 | 294 | 244 | 292 | 481 | 387 | 25 | 704 | 290 | 418 | 1395 | |
| v/s Ratio Prot | 0.04 | 0.08 | | c0.10 | c0.14 | | 0.02 | 0.12 | | c0.19 | c0.26 | |
| v/s Ratio Perm | | | 0.00 | | | 0.04 | | | 0.04 | | | |
| v/c Ratio | 0.45 | 0.48 | 0.02 | 0.58 | 0.52 | 0.15 | 1.04 | 0.53 | 0.18 | 0.74 | 0.55 | |
| Uniform Delay, d1 | 39.8 | 34.2 | 31.5 | 34.2 | 27.8 | 24.9 | 44.8 | 31.5 | 29.1 | 31.0 | 17.8 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 3.2 | 1.7 | 0.0 | 3.5 | 1.3 | 0.2 | 192.8 | 0.9 | 0.4 | 7.1 | 0.6 | |
| Delay (s) | 43.0 | 35.9 | 31.6 | 37.7 | 29.1 | 25.1 | 237.6 | 32.5 | 29.5 | 38.0 | 18.4 | |
| Level of Service | D | D | C | D | C | C | F | C | C | D | B | |
| Approach Delay (s) | | 37.3 | | | 30.1 | | | 42.2 | | | 24.0 | |
| Approach LOS | | D | | | C | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 30.6 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.58 | | |
| Actuated Cycle Length (s) | 91.1 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 56.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 74 | 690 | 53 | 960 | 826 | 164 | 499 | 1130 | 414 | 242 | 20 |
| v/c Ratio | 0.65 | 0.75 | 0.16 | 1.22 | 0.67 | 1.07 | 0.57 | 0.83 | 0.84 | 0.23 | 0.04 |
| Control Delay | 76.8 | 47.0 | 11.2 | 140.4 | 22.5 | 141.1 | 28.0 | 22.6 | 67.9 | 23.9 | 8.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 76.8 | 47.0 | 11.2 | 140.4 | 22.5 | 141.1 | 28.0 | 22.6 | 67.9 | 23.9 | 8.9 |
| Queue Length 50th (ft) | 52 | 168 | 0 | ~444 | 252 | ~131 | 145 | 290 | 154 | 50 | 1 |
| Queue Length 95th (ft) | #123 | 213 | 34 | #570 | 311 | #263 | 210 | 462 | #226 | 80 | m11 |
| Internal Link Dist (ft) | | 238 | | | 310 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 114 | 952 | 344 | 788 | 1239 | 153 | 878 | 1364 | 503 | 1046 | 490 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.65 | 0.72 | 0.15 | 1.22 | 0.67 | 1.07 | 0.57 | 0.83 | 0.82 | 0.23 | 0.04 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 68 | 635 | 49 | 883 | 575 | 185 | 151 | 459 | 1040 | 381 | 223 | 18 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3109 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1475 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3109 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1475 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 74 | 690 | 53 | 960 | 625 | 201 | 164 | 499 | 1130 | 414 | 242 | 20 |
| RTOR Reduction (vph) | 0 | 0 | 42 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| Lane Group Flow (vph) | 74 | 690 | 11 | 960 | 799 | 0 | 164 | 499 | 1130 | 414 | 242 | 6 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 6.4 | 20.4 | 20.4 | 27.4 | 41.4 | | 10.0 | 26.5 | 53.9 | 16.7 | 33.2 | 33.2 |
| Effective Green, g (s) | 6.4 | 21.9 | 21.9 | 27.4 | 42.9 | | 10.0 | 28.0 | 53.9 | 16.7 | 34.7 | 34.7 |
| Actuated g/C Ratio | 0.06 | 0.20 | 0.20 | 0.25 | 0.39 | | 0.09 | 0.25 | 0.49 | 0.15 | 0.32 | 0.32 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 91 | 927 | 294 | 811 | 1213 | | 153 | 854 | 1326 | 494 | 1022 | 465 |
| v/s Ratio Prot | 0.05 | c0.15 | | c0.29 | 0.26 | | c0.10 | 0.15 | c0.42 | c0.13 | 0.07 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | 0.00 |
| v/c Ratio | 0.81 | 0.74 | 0.04 | 1.18 | 0.66 | | 1.07 | 0.58 | 0.85 | 0.84 | 0.24 | 0.01 |
| Uniform Delay, d1 | 51.2 | 41.4 | 35.5 | 41.3 | 27.5 | | 50.0 | 35.9 | 24.6 | 45.3 | 27.9 | 25.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.84 | 0.74 | | 1.05 | 0.72 | 1.33 | 1.16 | 0.85 | 0.83 |
| Incremental Delay, d2 | 42.1 | 3.5 | 0.1 | 93.0 | 1.2 | | 91.1 | 2.8 | 5.4 | 12.0 | 0.5 | 0.1 |
| Delay (s) | 93.3 | 44.9 | 35.6 | 127.7 | 21.7 | | 143.6 | 28.4 | 38.1 | 64.6 | 24.2 | 21.6 |
| Level of Service | F | D | D | F | C | | F | C | D | E | C | C |
| Approach Delay (s) | | 48.7 | | | 78.6 | | | 45.1 | | | 48.9 | |
| Approach LOS | | D | | | E | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 58.0 | HCM Level of Service | E |
| HCM Volume to Capacity ratio | 0.92 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 82.5% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 235 | 1560 | 225 | 293 | 939 | 207 | 208 | 123 | 175 |
| v/c Ratio | 0.74 | 0.77 | 0.28 | 1.07 | 0.50 | 0.63 | 0.62 | 0.29 | 0.84 |
| Control Delay | 56.1 | 19.9 | 1.0 | 117.4 | 27.3 | 46.7 | 46.3 | 7.0 | 58.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 56.1 | 19.9 | 1.0 | 117.4 | 27.3 | 46.7 | 46.3 | 7.0 | 58.8 |
| Queue Length 50th (ft) | 125 | 199 | 0 | ~229 | 180 | 142 | 143 | 0 | 33 |
| Queue Length 95th (ft) | #281 | #533 | 11 | #400 | 261 | 189 | 190 | 40 | #95 |
| Internal Link Dist (ft) | | 660 | | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 520 | 180 | | 200 | | | |
| Base Capacity (vph) | 326 | 2029 | 794 | 275 | 1874 | 512 | 520 | 586 | 209 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.72 | 0.77 | 0.28 | 1.07 | 0.50 | 0.40 | 0.40 | 0.21 | 0.84 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 216 | 1435 | 207 | 270 | 829 | 35 | 334 | 48 | 113 | 29 | 52 | 79 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.98 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | | 0.93 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | | 0.99 | |
| Satd. Flow (prot) | 1620 | 4655 | 1531 | 1678 | 4622 | | 1539 | 1561 | 1514 | | 3030 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | | 0.99 | |
| Satd. Flow (perm) | 1620 | 4655 | 1531 | 1678 | 4622 | | 1539 | 1561 | 1514 | | 3030 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 235 | 1560 | 225 | 293 | 901 | 38 | 363 | 52 | 123 | 32 | 57 | 86 |
| RTOR Reduction (vph) | 0 | 0 | 127 | 0 | 4 | 0 | 0 | 0 | 97 | 0 | 82 | 0 |
| Lane Group Flow (vph) | 235 | 1560 | 98 | 293 | 935 | 0 | 207 | 208 | 26 | 0 | 93 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | Perm | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Actuated Green, G (s) | 20.4 | 46.9 | 46.9 | 17.0 | 43.5 | | 22.9 | 22.9 | 22.9 | | 4.0 | |
| Effective Green, g (s) | 21.4 | 47.9 | 47.9 | 18.0 | 44.5 | | 23.5 | 23.5 | 23.5 | | 4.6 | |
| Actuated g/C Ratio | 0.19 | 0.44 | 0.44 | 0.16 | 0.40 | | 0.21 | 0.21 | 0.21 | | 0.04 | |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | 6.0 | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 315 | 2027 | 667 | 275 | 1870 | | 329 | 333 | 323 | | 127 | |
| v/s Ratio Prot | 0.15 | c0.34 | | c0.17 | 0.20 | | c0.13 | 0.13 | | | c0.03 | |
| v/s Ratio Perm | | | 0.06 | | | | | | 0.02 | | | |
| v/c Ratio | 0.75 | 0.77 | 0.15 | 1.07 | 0.50 | | 0.63 | 0.62 | 0.08 | | 0.73 | |
| Uniform Delay, d1 | 41.7 | 26.4 | 18.7 | 46.0 | 24.4 | | 39.3 | 39.2 | 34.6 | | 52.1 | |
| Progression Factor | 1.00 | 0.56 | 0.05 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 9.3 | 2.7 | 0.4 | 72.7 | 1.0 | | 4.2 | 4.1 | 0.1 | | 19.9 | |
| Delay (s) | 51.0 | 17.6 | 1.4 | 118.7 | 25.4 | | 43.5 | 43.4 | 34.8 | | 72.0 | |
| Level of Service | D | B | A | F | C | | D | D | C | | E | |
| Approach Delay (s) | | 19.7 | | | 47.6 | | | 41.5 | | | 72.0 | |
| Approach LOS | | B | | | D | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 33.6 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.79 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 72.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 170 | 1695 | 116 | 610 | 230 | 155 | 304 | 85 | 534 |
| v/c Ratio | 0.71 | 0.86 | 0.59 | 0.47 | 0.92 | 0.18 | 0.49 | 0.45 | 0.72 |
| Control Delay | 57.9 | 31.9 | 51.3 | 12.9 | 85.7 | 28.2 | 10.2 | 53.1 | 38.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 57.9 | 31.9 | 51.3 | 12.9 | 85.7 | 28.2 | 10.2 | 53.1 | 38.7 |
| Queue Length 50th (ft) | 104 | 353 | 63 | 100 | 76 | 41 | 34 | 27 | 156 |
| Queue Length 95th (ft) | #199 | #486 | m#118 | m181 | #148 | 61 | 97 | 52 | 192 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 240 | 1976 | 196 | 1285 | 251 | 1056 | 701 | 192 | 980 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.71 | 0.86 | 0.59 | 0.47 | 0.92 | 0.15 | 0.43 | 0.44 | 0.54 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 156 | 1264 | 295 | 107 | 539 | 22 | 212 | 143 | 280 | 78 | 390 | 101 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 3.1 | 4.0 | | 3.1 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.95 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.97 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4594 | | 1652 | 3269 | | 3143 | 3240 | 1660 | 3204 | 3128 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4594 | | 1652 | 3269 | | 3143 | 3240 | 1660 | 3204 | 3128 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 170 | 1374 | 321 | 116 | 586 | 24 | 230 | 155 | 304 | 85 | 424 | 110 |
| RTOR Reduction (vph) | 0 | 36 | 0 | 0 | 2 | 0 | 0 | 0 | 173 | 0 | 25 | 0 |
| Lane Group Flow (vph) | 170 | 1659 | 0 | 116 | 608 | 0 | 230 | 155 | 131 | 85 | 509 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 14.9 | 40.7 | | 11.9 | 37.7 | | 9.0 | 27.2 | 27.2 | 5.6 | 23.8 | |
| Effective Green, g (s) | 14.8 | 41.7 | | 11.8 | 38.7 | | 8.0 | 26.8 | 26.8 | 4.6 | 23.4 | |
| Actuated g/C Ratio | 0.15 | 0.42 | | 0.12 | 0.39 | | 0.08 | 0.27 | 0.27 | 0.05 | 0.23 | |
| Clearance Time (s) | 3.0 | 5.0 | | 3.0 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 240 | 1916 | | 195 | 1265 | | 251 | 868 | 445 | 147 | 732 | |
| v/s Ratio Prot | 0.10 | c0.36 | | c0.07 | 0.19 | | c0.07 | 0.05 | | 0.03 | c0.16 | |
| v/s Ratio Perm | | | | | | | | | c0.08 | | | |
| v/c Ratio | 0.71 | 0.87 | | 0.59 | 0.48 | | 0.92 | 0.18 | 0.29 | 0.58 | 0.69 | |
| Uniform Delay, d1 | 40.5 | 26.6 | | 41.8 | 23.1 | | 45.7 | 28.1 | 29.1 | 46.7 | 35.0 | |
| Progression Factor | 1.00 | 1.00 | | 0.95 | 0.50 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 9.2 | 5.6 | | 4.4 | 1.0 | | 35.4 | 0.1 | 0.5 | 6.5 | 3.1 | |
| Delay (s) | 49.7 | 32.1 | | 44.1 | 12.5 | | 81.1 | 28.3 | 29.6 | 53.2 | 38.1 | |
| Level of Service | D | C | | D | B | | F | C | C | D | D | |
| Approach Delay (s) | | 33.8 | | | 17.5 | | | 46.5 | | | 40.2 | |
| Approach LOS | | C | | | B | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 34.0 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.81 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 19.1 |
| Intersection Capacity Utilization | 71.1% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 82 | 111 | 578 | 2 | 1001 | 55 | 337 | 818 |
| v/c Ratio | 0.52 | 0.62 | 0.66 | 0.02 | 0.59 | 0.07 | 0.79 | 0.31 |
| Control Delay | 48.3 | 59.3 | 7.5 | 44.5 | 14.9 | 4.0 | 52.9 | 5.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 48.3 | 59.3 | 7.5 | 44.5 | 14.9 | 4.0 | 52.9 | 5.6 |
| Queue Length 50th (ft) | 45 | 74 | 0 | 1 | 91 | 0 | 252 | 79 |
| Queue Length 95th (ft) | 94 | 131 | 52 | m3 | 263 | m7 | 338 | 150 |
| Internal Link Dist (ft) | 387 | 336 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 400 | |
| Base Capacity (vph) | 191 | 222 | 939 | 92 | 1690 | 825 | 636 | 2637 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.43 | 0.50 | 0.62 | 0.02 | 0.59 | 0.07 | 0.53 | 0.31 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 55 | 1 | 19 | 102 | 0 | 532 | 2 | 921 | 51 | 310 | 711 | 41 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.97 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.96 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1694 | | | 1770 | 2787 | 1678 | 3355 | 1583 | 1770 | 3438 | |
| Flt Permitted | | 0.63 | | | 0.73 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1102 | | | 1354 | 2787 | 1678 | 3355 | 1583 | 1770 | 3438 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 60 | 1 | 21 | 111 | 0 | 578 | 2 | 1001 | 55 | 337 | 773 | 45 |
| RTOR Reduction (vph) | 0 | 11 | 0 | 0 | 0 | 501 | 0 | 0 | 27 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 71 | 0 | 0 | 111 | 77 | 2 | 1001 | 28 | 337 | 815 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | |
| Actuated Green, G (s) | | 14.6 | | | 14.6 | 14.6 | 1.2 | 55.4 | 55.4 | 26.5 | 80.7 | |
| Effective Green, g (s) | | 14.6 | | | 14.6 | 14.6 | 1.2 | 55.4 | 55.4 | 26.5 | 80.7 | |
| Actuated g/C Ratio | | 0.13 | | | 0.13 | 0.13 | 0.01 | 0.50 | 0.50 | 0.24 | 0.73 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 146 | | | 180 | 370 | 18 | 1690 | 797 | 426 | 2522 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.30 | | c0.19 | 0.24 | |
| v/s Ratio Perm | | 0.06 | | | c0.08 | 0.03 | | | 0.02 | | | |
| v/c Ratio | | 0.48 | | | 0.62 | 0.21 | 0.11 | 0.59 | 0.03 | 0.79 | 0.32 | |
| Uniform Delay, d1 | | 44.2 | | | 45.1 | 42.5 | 53.9 | 19.3 | 13.8 | 39.2 | 5.1 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 0.89 | 0.64 | 0.71 | 1.04 | 1.13 | |
| Incremental Delay, d2 | | 2.5 | | | 6.2 | 0.3 | 2.0 | 1.1 | 0.1 | 9.0 | 0.3 | |
| Delay (s) | | 46.7 | | | 51.2 | 42.8 | 49.9 | 13.5 | 9.9 | 49.7 | 6.1 | |
| Level of Service | | D | | | D | D | D | B | A | D | A | |
| Approach Delay (s) | | 46.7 | | | 44.2 | | | 13.4 | | | 18.8 | |
| Approach LOS | | D | | | D | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 23.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.65 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 64.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 110 | 38 | 110 | 112 | 202 | 50 | 360 | 234 | 623 |
| v/c Ratio | 0.29 | 0.11 | 0.39 | 0.27 | 0.43 | 0.20 | 0.46 | 0.55 | 0.40 |
| Control Delay | 19.3 | 7.6 | 22.2 | 18.8 | 6.5 | 26.9 | 18.7 | 23.7 | 11.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 19.3 | 7.6 | 22.2 | 18.8 | 6.5 | 26.9 | 18.7 | 23.7 | 11.0 |
| Queue Length 50th (ft) | 25 | 0 | 25 | 25 | 0 | 12 | 37 | 53 | 35 |
| Queue Length 95th (ft) | 76 | 20 | 80 | 76 | 44 | 55 | 112 | 165 | 158 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 1018 | 819 | 747 | 1110 | 909 | 327 | 1811 | 896 | 2645 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.11 | 0.05 | 0.15 | 0.10 | 0.22 | 0.15 | 0.20 | 0.26 | 0.24 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 24 | 77 | 35 | 101 | 103 | 186 | 46 | 261 | 70 | 215 | 498 | 75 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.98 | |
| Flt Protected | | 0.99 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1715 | 1259 | 1620 | 1739 | 1317 | 1711 | 2966 | | 1620 | 3014 | |
| Flt Permitted | | 0.92 | 1.00 | 0.69 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1596 | 1259 | 1170 | 1739 | 1317 | 1711 | 2966 | | 1620 | 3014 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 26 | 84 | 38 | 110 | 112 | 202 | 50 | 284 | 76 | 234 | 541 | 82 |
| RTOR Reduction (vph) | 0 | 0 | 29 | 0 | 0 | 155 | 0 | 26 | 0 | 0 | 12 | 0 |
| Lane Group Flow (vph) | 0 | 110 | 9 | 110 | 112 | 47 | 50 | 334 | 0 | 234 | 611 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 12.2 | 12.2 | 12.2 | 12.2 | 12.2 | 2.7 | 15.2 | | 13.4 | 25.9 | |
| Effective Green, g (s) | | 12.2 | 12.2 | 12.2 | 12.2 | 12.2 | 2.7 | 15.2 | | 13.4 | 25.9 | |
| Actuated g/C Ratio | | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.05 | 0.29 | | 0.26 | 0.50 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 372 | 294 | 273 | 406 | 307 | 88 | 862 | | 415 | 1493 | |
| v/s Ratio Prot | | | | | 0.06 | | 0.03 | 0.11 | | c0.14 | c0.20 | |
| v/s Ratio Perm | | 0.07 | 0.01 | c0.09 | | 0.04 | | | | | | |
| v/c Ratio | | 0.30 | 0.03 | 0.40 | 0.28 | 0.15 | 0.57 | 0.39 | | 0.56 | 0.41 | |
| Uniform Delay, d1 | | 16.5 | 15.5 | 17.0 | 16.4 | 15.9 | 24.2 | 14.8 | | 16.9 | 8.4 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.4 | 0.0 | 1.0 | 0.4 | 0.2 | 8.2 | 0.4 | | 1.8 | 0.3 | |
| Delay (s) | | 17.0 | 15.5 | 17.9 | 16.8 | 16.2 | 32.4 | 15.2 | | 18.7 | 8.6 | |
| Level of Service | | B | B | B | B | B | C | B | | B | A | |
| Approach Delay (s) | | 16.6 | | | 16.8 | | | 17.3 | | | 11.4 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 14.4 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.44 | | |
| Actuated Cycle Length (s) | 52.3 | Sum of lost time (s) | 7.0 |
| Intersection Capacity Utilization | 48.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 247 | 308 | 97 | 85 | 304 | 103 | 127 | 870 | 86 | 719 |
| v/c Ratio | 0.82 | 0.54 | 0.21 | 0.58 | 0.88 | 0.28 | 0.66 | 0.70 | 0.58 | 0.64 |
| Control Delay | 64.0 | 36.4 | 6.9 | 70.1 | 84.8 | 25.1 | 67.3 | 29.8 | 55.4 | 29.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 64.0 | 36.4 | 6.9 | 70.1 | 84.8 | 25.1 | 67.3 | 29.8 | 55.4 | 29.0 |
| Queue Length 50th (ft) | 165 | 182 | 0 | 64 | 230 | 0 | 88 | 252 | 48 | 150 |
| Queue Length 95th (ft) | #282 | 273 | 39 | 112 | #369 | 79 | #156 | 307 | 103 | 215 |
| Internal Link Dist (ft) | | 2946 | | | 524 | | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 230 | | | 200 | | 150 | |
| Base Capacity (vph) | 330 | 571 | 472 | 159 | 357 | 382 | 210 | 1250 | 159 | 1117 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.75 | 0.54 | 0.21 | 0.53 | 0.85 | 0.27 | 0.60 | 0.70 | 0.54 | 0.64 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 227 | 283 | 89 | 78 | 280 | 95 | 117 | 669 | 132 | 79 | 604 | 57 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 9 | 12 | 12 | 10 | 10 | 10 | 9 | 10 | 10 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1577 | 1845 | 1306 | 1593 | 1863 | 1559 | 1652 | 3146 | | 1593 | 3178 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1577 | 1845 | 1306 | 1593 | 1863 | 1559 | 1652 | 3146 | | 1593 | 3178 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 247 | 308 | 97 | 85 | 304 | 103 | 127 | 727 | 143 | 86 | 657 | 62 |
| RTOR Reduction (vph) | 0 | 0 | 67 | 0 | 0 | 84 | 0 | 14 | 0 | 0 | 6 | 0 |
| Lane Group Flow (vph) | 247 | 308 | 30 | 85 | 304 | 19 | 127 | 856 | 0 | 86 | 713 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | 4 | | | | | | |
| Actuated Green, G (s) | 21.8 | 33.7 | 33.7 | 8.6 | 20.5 | 20.5 | 12.7 | 41.7 | | 8.8 | 37.8 | |
| Effective Green, g (s) | 21.8 | 33.7 | 33.7 | 8.6 | 20.5 | 20.5 | 12.7 | 41.7 | | 8.8 | 37.8 | |
| Actuated g/C Ratio | 0.20 | 0.31 | 0.31 | 0.08 | 0.19 | 0.19 | 0.12 | 0.38 | | 0.08 | 0.34 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 313 | 565 | 400 | 125 | 347 | 291 | 191 | 1193 | | 127 | 1092 | |
| v/s Ratio Prot | c0.16 | 0.17 | | 0.05 | c0.16 | | 0.08 | c0.27 | | 0.05 | c0.22 | |
| v/s Ratio Perm | | | 0.02 | | | 0.01 | | | | | | |
| v/c Ratio | 0.79 | 0.55 | 0.07 | 0.68 | 0.88 | 0.07 | 0.66 | 0.72 | | 0.68 | 0.65 | |
| Uniform Delay, d1 | 41.9 | 31.8 | 27.1 | 49.4 | 43.5 | 36.9 | 46.6 | 29.1 | | 49.2 | 30.6 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.14 | 1.37 | 3.07 | 1.09 | 0.91 | | 0.85 | 0.84 | |
| Incremental Delay, d2 | 13.1 | 1.4 | 0.1 | 15.2 | 21.5 | 0.1 | 9.1 | 3.7 | | 14.0 | 2.9 | |
| Delay (s) | 55.0 | 33.1 | 27.2 | 71.3 | 81.2 | 113.3 | 59.8 | 30.0 | | 55.7 | 28.7 | |
| Level of Service | E | C | C | E | F | F | E | C | | E | C | |
| Approach Delay (s) | | 40.5 | | | 86.2 | | | 33.8 | | | 31.6 | |
| Approach LOS | | D | | | F | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 43.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.74 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.2 |
| Intersection Capacity Utilization | 69.1% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 11 | 534 | 21 | 367 | 74 | 69 | 149 | 48 | 48 |
| v/c Ratio | 0.11 | 0.46 | 0.20 | 0.29 | 0.38 | 0.23 | 0.75 | 0.17 | 0.37 |
| Control Delay | 59.7 | 9.8 | 52.7 | 11.7 | 46.6 | 11.7 | 67.0 | 13.0 | 51.5 |
| Queue Delay | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 59.7 | 10.1 | 52.7 | 11.7 | 46.6 | 11.7 | 67.0 | 13.0 | 51.5 |
| Queue Length 50th (ft) | 8 | 79 | 14 | 104 | 47 | 1 | 101 | 1 | 29 |
| Queue Length 95th (ft) | 25 | 292 | 40 | 234 | 91 | 39 | 169 | 33 | 66 |
| Internal Link Dist (ft) | | 522 | | 1458 | | 986 | | 464 | |
| Turn Bay Length (ft) | 205 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 104 | 1154 | 104 | 1277 | 239 | 346 | 242 | 329 | 268 |
| Starvation Cap Reductn | 0 | 192 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.11 | 0.56 | 0.20 | 0.29 | 0.31 | 0.20 | 0.62 | 0.15 | 0.18 |

Intersection Summary

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 10 | 478 | 13 | 19 | 323 | 15 | 68 | 1 | 63 | 137 | 1 | 43 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 8 | 9 | 14 | 12 | 11 | 12 | 11 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.99 | | 1.00 | 0.85 | | 1.00 | 0.85 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1854 | | 1593 | 1974 | | 1711 | 1587 | | 1770 | 1589 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.73 | 1.00 | | 0.71 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1854 | | 1593 | 1974 | | 1307 | 1587 | | 1326 | 1589 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 11 | 520 | 14 | 21 | 351 | 16 | 74 | 1 | 68 | 149 | 1 | 47 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 58 | 0 | 0 | 40 | 0 |
| Lane Group Flow (vph) | 11 | 533 | 0 | 21 | 367 | 0 | 74 | 11 | 0 | 149 | 8 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Parking (#/hr) | | | | | | | | | 0 | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 1.5 | 64.8 | | 3.4 | 66.7 | | 16.5 | 16.5 | | 16.5 | 16.5 | |
| Effective Green, g (s) | 1.5 | 64.8 | | 3.4 | 66.7 | | 16.5 | 16.5 | | 16.5 | 16.5 | |
| Actuated g/C Ratio | 0.01 | 0.59 | | 0.03 | 0.61 | | 0.15 | 0.15 | | 0.15 | 0.15 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 24 | 1092 | | 49 | 1197 | | 196 | 238 | | 199 | 238 | |
| v/s Ratio Prot | 0.01 | c0.29 | | c0.01 | 0.19 | | | 0.01 | | | 0.01 | |
| v/s Ratio Perm | | | | | | | 0.06 | | | c0.11 | | |
| v/c Ratio | 0.46 | 0.49 | | 0.43 | 0.31 | | 0.38 | 0.05 | | 0.75 | 0.03 | |
| Uniform Delay, d1 | 53.8 | 13.0 | | 52.3 | 10.5 | | 42.1 | 40.0 | | 44.8 | 39.9 | |
| Progression Factor | 1.18 | 0.57 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 13.0 | 1.5 | | 5.9 | 0.7 | | 1.2 | 0.1 | | 14.3 | 0.1 | |
| Delay (s) | 76.6 | 9.0 | | 58.3 | 11.1 | | 43.3 | 40.1 | | 59.0 | 40.0 | |
| Level of Service | E | A | | E | B | | D | D | | E | D | |
| Approach Delay (s) | | 10.3 | | | 13.7 | | | 41.8 | | | 54.4 | |
| Approach LOS | | B | | | B | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 22.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.53 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 56.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | SWR | SWR2 |
|---|---|---|
| Lane Configurations | | |
| Volume (vph) | 40 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Lane Width | 12 | 12 |
| Total Lost time (s) | 4.5 | |
| Lane Util. Factor | 1.00 | |
| Frpb, ped/bikes | 1.00 | |
| Flpb, ped/bikes | 1.00 | |
| Frt | 0.86 | |
| Flt Protected | 1.00 | |
| Satd. Flow (prot) | 1611 | |
| Flt Permitted | 1.00 | |
| Satd. Flow (perm) | 1611 | |
| Peak-hour factor, PHF | 0.92 | 0.92 |
| Adj. Flow (vph) | 43 | 5 |
| RTOR Reduction (vph) | 5 | 0 |
| Lane Group Flow (vph) | 43 | 0 |
| Confl. Peds. (#/hr) | | |
| Parking (#/hr) | | |
| Turn Type | custom | |
| Protected Phases | 9 | |
| Permitted Phases | 9 | |
| Actuated Green, G (s) | 7.3 | |
| Effective Green, g (s) | 7.3 | |
| Actuated g/C Ratio | 0.07 | |
| Clearance Time (s) | 4.5 | |
| Vehicle Extension (s) | 3.0 | |
| Lane Grp Cap (vph) | 107 | |
| v/s Ratio Prot | c0.03 | |
| v/s Ratio Perm | | |
| v/c Ratio | 0.40 | |
| Uniform Delay, d1 | 49.3 | |
| Progression Factor | 1.00 | |
| Incremental Delay, d2 | 2.5 | |
| Delay (s) | 51.8 | |
| Level of Service | D | |
| Approach Delay (s) | | |
| Approach LOS | | |

Intersection Summary

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 104 | 702 | 7 | 258 | 59 | 110 | 13 | 43 | 367 |
| v/c Ratio | 0.35 | 0.74 | 0.05 | 0.48 | 0.30 | 0.19 | 0.03 | 0.12 | 0.62 |
| Control Delay | 27.5 | 18.6 | 30.5 | 19.6 | 20.4 | 15.7 | 8.2 | 15.6 | 19.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 27.5 | 18.6 | 30.5 | 19.6 | 20.4 | 15.7 | 8.2 | 15.6 | 19.5 |
| Queue Length 50th (ft) | 28 | 135 | 2 | 62 | 14 | 25 | 0 | 9 | 82 |
| Queue Length 95th (ft) | 91 | #483 | 15 | 150 | 48 | 67 | 11 | 34 | 192 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 345 | 1198 | 138 | 823 | 347 | 1033 | 741 | 658 | 1013 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.30 | 0.59 | 0.05 | 0.31 | 0.17 | 0.11 | 0.02 | 0.07 | 0.36 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 96 | 449 | 197 | 6 | 180 | 57 | 54 | 101 | 12 | 40 | 203 | 134 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1925 | | 1711 | 1645 | | 1652 | 1863 | 1327 | 1644 | 1787 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.36 | 1.00 | 1.00 | 0.69 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1925 | | 1711 | 1645 | | 625 | 1863 | 1327 | 1188 | 1787 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 104 | 488 | 214 | 7 | 196 | 62 | 59 | 110 | 13 | 43 | 221 | 146 |
| RTOR Reduction (vph) | 0 | 19 | 0 | 0 | 15 | 0 | 0 | 0 | 9 | 0 | 35 | 0 |
| Lane Group Flow (vph) | 104 | 683 | 0 | 7 | 243 | 0 | 59 | 110 | 4 | 43 | 332 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 7.1 | 25.7 | | 0.6 | 19.2 | | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | |
| Effective Green, g (s) | 7.1 | 25.7 | | 0.6 | 19.2 | | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | |
| Actuated g/C Ratio | 0.13 | 0.46 | | 0.01 | 0.34 | | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 218 | 887 | | 18 | 566 | | 185 | 551 | 392 | 351 | 528 | |
| v/s Ratio Prot | c0.06 | c0.35 | | 0.00 | 0.15 | | | 0.06 | | | c0.19 | |
| v/s Ratio Perm | | | | | | | 0.09 | | 0.00 | 0.04 | | |
| v/c Ratio | 0.48 | 0.77 | | 0.39 | 0.43 | | 0.32 | 0.20 | 0.01 | 0.12 | 0.63 | |
| Uniform Delay, d1 | 22.6 | 12.6 | | 27.4 | 14.1 | | 15.3 | 14.7 | 13.9 | 14.4 | 17.0 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 2.2 | 4.4 | | 17.9 | 0.7 | | 1.4 | 0.2 | 0.0 | 0.2 | 2.7 | |
| Delay (s) | 24.9 | 17.0 | | 45.3 | 14.8 | | 16.6 | 15.0 | 13.9 | 14.6 | 19.7 | |
| Level of Service | C | B | | D | B | | B | B | B | B | B | |
| Approach Delay (s) | | 18.0 | | | 15.6 | | | 15.4 | | | 19.1 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 55.8 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 77.4% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 163 | 328 | 10 | 48 | 102 | 283 | 64 | 20 | 536 |
| v/c Ratio | 0.47 | 0.40 | 0.08 | 0.16 | 0.36 | 0.20 | 0.10 | 0.13 | 0.58 |
| Control Delay | 32.5 | 4.1 | 38.2 | 16.4 | 32.7 | 13.2 | 5.3 | 37.2 | 22.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 32.5 | 4.1 | 38.2 | 16.4 | 32.7 | 13.2 | 5.3 | 37.2 | 22.8 |
| Queue Length 50th (ft) | 49 | 3 | 3 | 8 | 32 | 26 | 0 | 7 | 80 |
| Queue Length 95th (ft) | #177 | 55 | 23 | 36 | 112 | 96 | 28 | 36 | 193 |
| Internal Link Dist (ft) | | 1442 | | 221 | | 1609 | | | 1977 |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | |
| Base Capacity (vph) | 438 | 1202 | 121 | 1000 | 362 | 2071 | 945 | 156 | 1717 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.37 | 0.27 | 0.08 | 0.05 | 0.28 | 0.14 | 0.07 | 0.13 | 0.31 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 150 | 13 | 289 | 9 | 23 | 21 | 95 | 260 | 59 | 18 | 390 | 103 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.86 | | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1510 | | 1652 | 1598 | | 1652 | 3240 | 1453 | 1711 | 3263 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1510 | | 1652 | 1598 | | 1652 | 3240 | 1453 | 1711 | 3263 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 163 | 14 | 314 | 10 | 25 | 23 | 102 | 283 | 64 | 20 | 424 | 112 |
| RTOR Reduction (vph) | 0 | 190 | 0 | 0 | 18 | 0 | 0 | 0 | 39 | 0 | 24 | 0 |
| Lane Group Flow (vph) | 163 | 138 | 0 | 10 | 30 | 0 | 102 | 283 | 25 | 20 | 512 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 12.5 | 25.9 | | 0.5 | 13.9 | | 7.9 | 26.1 | 26.1 | 0.6 | 18.8 | |
| Effective Green, g (s) | 12.5 | 25.9 | | 0.5 | 13.9 | | 7.9 | 26.1 | 26.1 | 0.6 | 18.8 | |
| Actuated g/C Ratio | 0.19 | 0.39 | | 0.01 | 0.21 | | 0.12 | 0.40 | 0.40 | 0.01 | 0.29 | |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 326 | 596 | | 13 | 339 | | 199 | 1289 | 578 | 16 | 935 | |
| v/s Ratio Prot | c0.10 | c0.09 | | 0.01 | 0.02 | | c0.06 | 0.09 | | c0.01 | c0.16 | |
| v/s Ratio Perm | | | | | | | | | 0.02 | | | |
| v/c Ratio | 0.50 | 0.23 | | 0.77 | 0.09 | | 0.51 | 0.22 | 0.04 | 1.25 | 0.55 | |
| Uniform Delay, d1 | 23.8 | 13.2 | | 32.5 | 20.8 | | 27.0 | 13.0 | 12.1 | 32.5 | 19.8 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.6 | 0.3 | | 133.9 | 0.2 | | 2.9 | 0.1 | 0.0 | 314.0 | 0.8 | |
| Delay (s) | 25.4 | 13.5 | | 166.4 | 20.9 | | 30.0 | 13.1 | 12.1 | 346.5 | 20.6 | |
| Level of Service | C | B | | F | C | | C | B | B | F | C | |
| Approach Delay (s) | | 17.4 | | | 46.0 | | | 16.8 | | | 32.4 | |
| Approach LOS | | B | | | D | | | B | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 23.7 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.44 | | |
| Actuated Cycle Length (s) | 65.6 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 48.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 59 | 23 | 5 | 811 | 1033 |
| v/c Ratio | 0.42 | 0.17 | 0.01 | 0.29 | 0.37 |
| Control Delay | 56.1 | 19.9 | 2.2 | 2.3 | 0.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 |
| Total Delay | 56.1 | 19.9 | 2.2 | 3.1 | 0.9 |
| Queue Length 50th (ft) | 40 | 0 | 0 | 48 | 14 |
| Queue Length 95th (ft) | 80 | 25 | 3 | 81 | 26 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 375 | 320 | 403 | 2787 | 2776 |
| Starvation Cap Reductn | 0 | 0 | 0 | 1560 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.16 | 0.07 | 0.01 | 0.66 | 0.37 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 54 | 21 | 5 | 746 | 925 | 26 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3226 | |
| Flt Permitted | 0.95 | 1.00 | 0.27 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 469 | 3240 | 3226 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 59 | 23 | 5 | 811 | 1005 | 28 |
| RTOR Reduction (vph) | 0 | 21 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 59 | 2 | 5 | 811 | 1032 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 8.2 | 8.2 | 92.8 | 92.8 | 92.8 | |
| Effective Green, g (s) | 8.2 | 8.2 | 92.8 | 92.8 | 92.8 | |
| Actuated g/C Ratio | 0.07 | 0.07 | 0.84 | 0.84 | 0.84 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 123 | 99 | 396 | 2733 | 2722 | |
| v/s Ratio Prot | c0.04 | | | 0.25 | c0.32 | |
| v/s Ratio Perm | | 0.00 | 0.01 | | | |
| v/c Ratio | 0.48 | 0.02 | 0.01 | 0.30 | 0.38 | |
| Uniform Delay, d1 | 48.9 | 47.2 | 1.4 | 1.8 | 2.0 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 0.23 | |
| Incremental Delay, d2 | 2.9 | 0.1 | 0.1 | 0.3 | 0.4 | |
| Delay (s) | 51.8 | 47.2 | 1.4 | 2.1 | 0.8 | |
| Level of Service | D | D | A | A | A | |
| Approach Delay (s) | 50.5 | | | 2.1 | 0.8 | |
| Approach LOS | D | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 3.5 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.39 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 37.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1163 | 1126 | 311 | 1265 | 680 | 610 |
| v/c Ratio | 0.84 | 0.64 | 0.48 | 0.57 | 0.40 | 0.73 |
| Control Delay | 27.7 | 2.4 | 52.4 | 13.4 | 0.7 | 33.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 27.7 | 2.4 | 52.4 | 13.4 | 0.7 | 33.7 |
| Queue Length 50th (ft) | 325 | 18 | 121 | 274 | 0 | 171 |
| Queue Length 95th (ft) | 394 | 25 | 165 | 321 | 0 | 244 |
| Internal Link Dist (ft) | 363 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 1418 | 1767 | 644 | 2211 | 1686 | 833 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.82 | 0.64 | 0.48 | 0.57 | 0.40 | 0.73 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1070 | 1036 | 286 | 1164 | 0 | 0 | 0 | 626 | 0 | 0 | 561 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.5 | 4.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | | | 1.00 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2787 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2787 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1163 | 1126 | 311 | 1265 | 0 | 0 | 0 | 680 | 0 | 0 | 610 |
| RTOR Reduction (vph) | 0 | 0 | 660 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 111 |
| Lane Group Flow (vph) | 0 | 1163 | 466 | 311 | 1265 | 0 | 0 | 0 | 680 | 0 | 0 | 499 |
| Confl. Peds. (#/hr) | | | | 4 | | | | | | | | |
| Heavy Vehicles (%) | 2% | 4% | 4% | 4% | 4% | 2% | 2% | 2% | 4% | 2% | 2% | 2% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 | | 1 | 6 | | | | | | | 4 |
| Permitted Phases | | | 2 | | | | | | Free | | | 4 |
| Actuated Green, G (s) | | 45.5 | 45.5 | 22.5 | 72.5 | | | | 110.0 | | | 28.5 |
| Effective Green, g (s) | | 45.5 | 45.5 | 22.5 | 72.5 | | | | 110.0 | | | 28.5 |
| Actuated g/C Ratio | | 0.41 | 0.41 | 0.20 | 0.66 | | | | 1.00 | | | 0.26 |
| Clearance Time (s) | | 4.5 | 4.5 | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 1388 | 1093 | 643 | 2211 | | | | 1686 | | | 722 |
| v/s Ratio Prot | | c0.35 | | 0.10 | c0.38 | | | | | | | c0.18 |
| v/s Ratio Perm | | | 0.18 | | | | | | 0.40 | | | |
| v/c Ratio | | 0.84 | 0.43 | 0.48 | 0.57 | | | | 0.40 | | | 0.69 |
| Uniform Delay, d1 | | 28.9 | 23.0 | 38.6 | 10.3 | | | | 0.0 | | | 36.8 |
| Progression Factor | | 0.81 | 0.94 | 1.27 | 1.19 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 3.1 | 0.2 | 2.5 | 1.0 | | | | 0.7 | | | 5.4 |
| Delay (s) | | 26.4 | 21.7 | 51.4 | 13.2 | | | | 0.7 | | | 42.1 |
| Level of Service | | C | C | D | B | | | | A | | | D |
| Approach Delay (s) | | 24.1 | | | 20.7 | | | 0.7 | | | 42.1 | |
| Approach LOS | | C | | | C | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 22.1 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.71 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 59.3% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 478 | 1374 | 760 | 497 | 549 | 810 |
| v/c Ratio | 0.71 | 0.41 | 0.36 | 0.51 | 0.34 | 0.53 |
| Control Delay | 30.8 | 0.3 | 3.3 | 5.9 | 0.6 | 1.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 30.8 | 0.3 | 3.3 | 5.9 | 0.6 | 1.3 |
| Queue Length 50th (ft) | 146 | 0 | 26 | 5 | 0 | 0 |
| Queue Length 95th (ft) | m179 | 0 | m38 | m72 | 0 | 0 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 714 | 3355 | 2088 | 977 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.67 | 0.41 | 0.36 | 0.51 | 0.34 | 0.53 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 440 | 1264 | 0 | 0 | 699 | 457 | 0 | 0 | 505 | 0 | 0 | 745 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 478 | 1374 | 0 | 0 | 760 | 497 | 0 | 0 | 549 | 0 | 0 | 810 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 478 | 1374 | 0 | 0 | 760 | 472 | 0 | 0 | 549 | 0 | 0 | 810 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 11.8 | 55.0 | | | 34.2 | 34.2 | | | 55.0 | | | 55.0 |
| Effective Green, g (s) | 11.8 | 55.0 | | | 34.2 | 34.2 | | | 55.0 | | | 55.0 |
| Actuated g/C Ratio | 0.21 | 1.00 | | | 0.62 | 0.62 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 674 | 3355 | | | 2086 | 952 | | | 1611 | | | 1528 |
| v/s Ratio Prot | 0.15 | 0.41 | | | 0.23 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.31 | | | 0.34 | | | c0.53 |
| v/c Ratio | 0.71 | 0.41 | | | 0.36 | 0.50 | | | 0.34 | | | 0.53 |
| Uniform Delay, d1 | 20.0 | 0.0 | | | 5.1 | 5.7 | | | 0.0 | | | 0.0 |
| Progression Factor | 1.30 | 1.00 | | | 0.55 | 0.81 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 2.6 | 0.1 | | | 0.4 | 1.6 | | | 0.6 | | | 1.3 |
| Delay (s) | 28.6 | 0.1 | | | 3.2 | 6.2 | | | 0.6 | | | 1.3 |
| Level of Service | C | A | | | A | A | | | A | | | A |
| Approach Delay (s) | | 7.4 | | | 4.4 | | | 0.6 | | | 1.3 | |
| Approach LOS | | A | | | A | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.6 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.53 | | |
| Actuated Cycle Length (s) | 55.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 48.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 447 | 663 | 975 | 231 | 17 | 272 | 558 | 25 | 75 | 798 | 172 |
| v/c Ratio | 1.16 | 0.95 | 0.55 | 0.68 | 0.05 | 0.92 | 0.38 | 0.05 | 0.47 | 0.81 | 0.33 |
| Control Delay | 111.5 | 38.5 | 3.5 | 47.1 | 14.0 | 76.1 | 22.8 | 10.5 | 52.6 | 40.0 | 15.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 111.5 | 38.5 | 3.5 | 47.1 | 14.0 | 76.1 | 22.8 | 10.5 | 52.6 | 40.0 | 15.6 |
| Queue Length 50th (ft) | ~196 | 318 | 52 | 135 | 0 | 172 | 137 | 2 | 46 | 248 | 40 |
| Queue Length 95th (ft) | m#469 | m#583 | m143 | 219 | 18 | #325 | 184 | 20 | 92 | 323 | 95 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 386 | 706 | 1770 | 348 | 347 | 297 | 1450 | 546 | 172 | 991 | 527 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.16 | 0.94 | 0.55 | 0.66 | 0.05 | 0.92 | 0.38 | 0.05 | 0.44 | 0.81 | 0.33 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 411 | 610 | 897 | 8 | 204 | 16 | 250 | 513 | 23 | 69 | 734 | 158 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 3.6 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.96 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1735 | 1475 | 1652 | 3539 | 1337 | 1652 | 3303 | 1551 |
| Flt Permitted | 0.34 | 1.00 | 1.00 | | 0.88 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 597 | 1739 | 1770 | | 1538 | 1475 | 1652 | 3539 | 1337 | 1652 | 3303 | 1551 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 447 | 663 | 975 | 9 | 222 | 17 | 272 | 558 | 25 | 75 | 798 | 172 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 12 | 0 | 0 | 62 |
| Lane Group Flow (vph) | 447 | 663 | 975 | 0 | 231 | 4 | 272 | 558 | 13 | 75 | 798 | 110 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 39.5 | 39.5 | 100.0 | | 21.5 | 21.5 | 17.0 | 39.0 | 39.0 | 7.5 | 29.0 | 29.0 |
| Effective Green, g (s) | 40.0 | 40.0 | 100.0 | | 22.0 | 22.0 | 18.0 | 40.0 | 39.0 | 8.4 | 30.0 | 30.0 |
| Actuated g/C Ratio | 0.40 | 0.40 | 1.00 | | 0.22 | 0.22 | 0.18 | 0.40 | 0.39 | 0.08 | 0.30 | 0.30 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.5 | 5.0 | 5.0 |
| Vehicle Extension (s) | 3.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 387 | 696 | 1770 | | 338 | 325 | 297 | 1416 | 521 | 139 | 991 | 465 |
| v/s Ratio Prot | c0.16 | 0.38 | | | | | c0.16 | 0.16 | | 0.05 | c0.24 | |
| v/s Ratio Perm | c0.30 | | 0.55 | | 0.15 | 0.00 | | | 0.01 | | | 0.07 |
| v/c Ratio | 1.16 | 0.95 | 0.55 | | 0.68 | 0.01 | 0.92 | 0.39 | 0.02 | 0.54 | 0.81 | 0.24 |
| Uniform Delay, d1 | 27.4 | 29.1 | 0.0 | | 35.8 | 30.5 | 40.3 | 21.4 | 18.8 | 43.9 | 32.3 | 26.4 |
| Progression Factor | 0.64 | 0.54 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 90.1 | 19.3 | 0.9 | | 6.1 | 0.0 | 31.0 | 0.8 | 0.1 | 4.5 | 7.0 | 1.2 |
| Delay (s) | 107.7 | 35.1 | 0.9 | | 41.9 | 30.5 | 71.3 | 22.2 | 18.9 | 48.4 | 39.3 | 27.6 |
| Level of Service | F | D | A | | D | C | E | C | B | D | D | C |
| Approach Delay (s) | | 34.7 | | | 41.1 | | | 37.7 | | | 38.0 | |
| Approach LOS | | C | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 36.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.97 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 93.1% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

## 23: Wells Fargo Drwy & Merced St



| Lane Group | WBT | WBR | NBT | SBL | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 48 | 91 | 1674 | 141 | 1243 |
| v/c Ratio | 0.41 | 0.52 | 0.40 | 0.76 | 0.42 |
| Control Delay | 55.7 | 33.5 | 0.9 | 30.5 | 2.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 |
| Total Delay | 55.7 | 33.5 | 0.9 | 30.5 | 2.5 |
| Queue Length 50th (ft) | 33 | 28 | 22 | 58 | 28 |
| Queue Length 95th (ft) | 67 | 75 | 32 | m60 | m32 |
| Internal Link Dist (ft) | 217 | | 650 | | 443 |
| Turn Bay Length (ft) | | | | 115 | |
| Base Capacity (vph) | 260 | 331 | 4217 | 186 | 2965 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 1076 |
| Spillback Cap Reductn | 0 | 3 | 42 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.18 | 0.28 | 0.40 | 0.76 | 0.66 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 44 | 0 | 84 | 0 | 1506 | 34 | 130 | 1143 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.98 | | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1562 | 1395 | | 4935 | | 1619 | 3471 | |
| Flt Permitted | | | | | 0.76 | 1.00 | | 1.00 | | 0.13 | 1.00 | |
| Satd. Flow (perm) | | | | | 1245 | 1395 | | 4935 | | 218 | 3471 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 48 | 0 | 91 | 0 | 1637 | 37 | 141 | 1242 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 46 | 0 | 1 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 48 | 45 | 0 | 1673 | 0 | 141 | 1243 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 9.2 | 9.2 | | 92.2 | | 92.2 | 92.2 | |
| Effective Green, g (s) | | | | | 9.2 | 9.2 | | 92.2 | | 92.2 | 92.2 | |
| Actuated g/C Ratio | | | | | 0.08 | 0.08 | | 0.84 | | 0.84 | 0.84 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 104 | 117 | | 4136 | | 183 | 2909 | |
| v/s Ratio Prot | | | | | | | | 0.34 | | | 0.36 | |
| v/s Ratio Perm | | | | | c0.04 | 0.03 | | | | c0.65 | | |
| v/c Ratio | | | | | 0.46 | 0.39 | | 0.40 | | 0.77 | 0.43 | |
| Uniform Delay, d1 | | | | | 48.0 | 47.7 | | 2.2 | | 4.1 | 2.2 | |
| Progression Factor | | | | | 1.00 | 1.00 | | 0.25 | | 2.05 | 0.69 | |
| Incremental Delay, d2 | | | | | 3.2 | 2.1 | | 0.2 | | 12.6 | 0.2 | |
| Delay (s) | | | | | 51.3 | 49.8 | | 0.8 | | 21.0 | 1.8 | |
| Level of Service | | | | | D | D | | A | | C | A | |
| Approach Delay (s) | | 0.0 | | | 50.3 | | | 0.8 | | | 3.7 | |
| Approach LOS | | A | | | D | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.2 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.74 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 53.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 11 | 410 | 471 | 134 | 54 |
| v/c Ratio | 0.11 | 0.28 | 0.17 | 0.61 | 0.22 |
| Control Delay | 67.4 | 3.2 | 2.7 | 56.7 | 13.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 67.4 | 3.2 | 2.7 | 56.7 | 13.2 |
| Queue Length 50th (ft) | 8 | 51 | 17 | 91 | 0 |
| Queue Length 95th (ft) | m14 | 68 | 24 | 148 | 35 |
| Internal Link Dist (ft) | | 524 | 522 | 183 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 386 | 1479 | 2708 | 579 | 554 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.03 | 0.28 | 0.17 | 0.23 | 0.10 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 10 | 377 | 408 | 26 | 123 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.99 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3508 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3508 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 11 | 410 | 443 | 28 | 134 | 54 |
| RTOR Reduction (vph) | 0 | 0 | 2 | 0 | 0 | 47 |
| Lane Group Flow (vph) | 11 | 410 | 469 | 0 | 134 | 7 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 1.5 | 87.3 | 81.3 | | 13.7 | 13.7 |
| Effective Green, g (s) | 1.5 | 87.3 | 81.3 | | 13.7 | 13.7 |
| Actuated g/C Ratio | 0.01 | 0.79 | 0.74 | | 0.12 | 0.12 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 24 | 1479 | 2593 | | 220 | 197 |
| v/s Ratio Prot | 0.01 | c0.22 | 0.13 | | c0.08 | |
| v/s Ratio Perm | | | | | | 0.00 |
| v/c Ratio | 0.46 | 0.28 | 0.18 | | 0.61 | 0.03 |
| Uniform Delay, d1 | 53.8 | 3.0 | 4.3 | | 45.6 | 42.3 |
| Progression Factor | 1.35 | 0.82 | 0.62 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 10.9 | 0.4 | 0.1 | | 4.7 | 0.1 |
| Delay (s) | 83.4 | 2.9 | 2.8 | | 50.3 | 42.4 |
| Level of Service | F | A | A | | D | D |
| Approach Delay (s) | | 5.0 | 2.8 | | 48.1 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 11.5 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.32 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 34.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 74 | 221 | 249 | 205 | 876 | 34 | 550 | 187 | 382 | 411 | 54 |
| v/c Ratio | 0.74 | 0.55 | 0.18 | 0.25 | 0.87 | 0.45 | 0.62 | 0.20 | 0.81 | 0.39 | 0.10 |
| Control Delay | 100.1 | 51.9 | 25.8 | 21.5 | 27.6 | 80.5 | 50.5 | 1.3 | 67.7 | 36.3 | 9.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 100.1 | 51.9 | 25.8 | 21.5 | 27.6 | 80.5 | 50.5 | 1.3 | 67.7 | 36.3 | 9.0 |
| Queue Length 50th (ft) | 62 | 83 | 62 | 96 | 481 | 28 | 158 | 0 | 162 | 150 | 0 |
| Queue Length 95th (ft) | #160 | 125 | 121 | 174 | #990 | 69 | 199 | 18 | #276 | 201 | 32 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 107 | 1368 | 1349 | 870 | 1012 | 96 | 1309 | 1060 | 472 | 1205 | 596 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.69 | 0.16 | 0.18 | 0.24 | 0.87 | 0.35 | 0.42 | 0.18 | 0.81 | 0.34 | 0.09 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 68 | 162 | 41 | 229 | 189 | 806 | 31 | 506 | 172 | 351 | 378 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | 4.5 | 3.5 | 3.8 | 3.8 | 3.5 | 3.8 | 3.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.97 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3093 | | 3255 | 1689 | 1501 | 1620 | 4655 | 1449 | 3143 | 3240 | 1510 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3093 | | 3255 | 1689 | 1501 | 1620 | 4655 | 1449 | 3143 | 3240 | 1510 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 74 | 176 | 45 | 249 | 205 | 876 | 34 | 550 | 187 | 382 | 411 | 54 |
| RTOR Reduction (vph) | 0 | 23 | 0 | 0 | 0 | 28 | 0 | 0 | 73 | 0 | 0 | 37 |
| Lane Group Flow (vph) | 74 | 198 | 0 | 249 | 205 | 848 | 34 | 550 | 114 | 382 | 411 | 17 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 7.5 | 15.4 | | 52.3 | 60.2 | 83.6 | 3.9 | 25.5 | 77.8 | 18.9 | 40.5 | 40.5 |
| Effective Green, g (s) | 7.5 | 15.4 | | 52.3 | 60.2 | 83.6 | 3.9 | 25.5 | 77.8 | 18.9 | 40.5 | 40.5 |
| Actuated g/C Ratio | 0.06 | 0.12 | | 0.41 | 0.47 | 0.66 | 0.03 | 0.20 | 0.61 | 0.15 | 0.32 | 0.32 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 3.0 | | 2.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 99 | 374 | | 1336 | 798 | 985 | 50 | 932 | 885 | 466 | 1030 | 480 |
| v/s Ratio Prot | c0.04 | 0.06 | | 0.08 | 0.12 | c0.57 | 0.02 | c0.12 | 0.08 | 0.12 | 0.13 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.01 |
| v/c Ratio | 0.75 | 0.53 | | 0.19 | 0.26 | 0.86 | 0.68 | 0.59 | 0.13 | 0.82 | 0.40 | 0.04 |
| Uniform Delay, d1 | 59.0 | 52.6 | | 24.0 | 20.2 | 17.3 | 61.1 | 46.2 | 10.5 | 52.6 | 33.9 | 30.0 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 23.2 | 2.2 | | 0.0 | 0.2 | 8.1 | 26.2 | 1.0 | 0.1 | 10.3 | 0.3 | 0.0 |
| Delay (s) | 82.3 | 54.8 | | 24.0 | 20.4 | 25.4 | 87.3 | 47.2 | 10.5 | 62.9 | 34.2 | 30.0 |
| Level of Service | F | D | | C | C | C | F | D | B | E | C | C |
| Approach Delay (s) | | 61.7 | | | 24.4 | | | 40.1 | | | 46.9 | |
| Approach LOS | | E | | | C | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 37.4 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.80 | | |
| Actuated Cycle Length (s) | 127.4 | Sum of lost time (s) | 11.8 |
| Intersection Capacity Utilization | 75.4% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 154 | 673 | 105 | 1472 | 633 | 54 | 235 | 563 | 278 |
| v/c Ratio | 0.86 | 0.39 | 0.65 | 0.90 | 0.63 | 0.56 | 0.80 | 0.95 | 0.65 |
| Control Delay | 91.8 | 17.1 | 74.5 | 19.6 | 1.7 | 76.7 | 28.1 | 74.7 | 22.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 30.8 | 2.3 | 0.0 | 3.1 | 0.0 | 0.0 |
| Total Delay | 91.8 | 17.1 | 74.5 | 50.4 | 4.0 | 76.7 | 31.1 | 74.7 | 22.1 |
| Queue Length 50th (ft) | 117 | 150 | 87 | 397 | 0 | 42 | 7 | 223 | 58 |
| Queue Length 95th (ft) | #244 | 216 | m93 | m#718 | m9 | 84 | #112 | #330 | 155 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 185 | 1731 | 203 | 1627 | 1000 | 126 | 317 | 602 | 433 |
| Starvation Cap Reductn | 0 | 0 | 0 | 242 | 233 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 27 | 0 | 0 | 0 | 0 | 30 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.83 | 0.39 | 0.52 | 1.06 | 0.83 | 0.43 | 0.82 | 0.94 | 0.64 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 142 | 604 | 15 | 97 | 1217 | 719 | 50 | 8 | 208 | 518 | 41 | 214 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.91 | 0.91 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.98 | | 1.00 | 0.97 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.98 | 0.85 | 1.00 | 0.86 | | 1.00 | 0.87 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3166 | | 1620 | 3025 | 1318 | 1678 | 1437 | | 3143 | 1451 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3166 | | 1620 | 3025 | 1318 | 1678 | 1437 | | 3143 | 1451 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 154 | 657 | 16 | 105 | 1323 | 782 | 54 | 9 | 226 | 563 | 45 | 233 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 6 | 294 | 0 | 213 | 0 | 0 | 156 | 0 |
| Lane Group Flow (vph) | 154 | 672 | 0 | 105 | 1466 | 339 | 54 | 22 | 0 | 563 | 122 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 13.2 | 65.6 | | 11.9 | 64.3 | 64.3 | 6.8 | 6.8 | | 22.7 | 22.7 | |
| Effective Green, g (s) | 13.2 | 65.6 | | 11.9 | 64.3 | 64.3 | 6.8 | 6.8 | | 22.7 | 22.7 | |
| Actuated g/C Ratio | 0.11 | 0.55 | | 0.10 | 0.54 | 0.54 | 0.06 | 0.06 | | 0.19 | 0.19 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 178 | 1731 | | 161 | 1621 | 706 | 95 | 81 | | 595 | 274 | |
| v/s Ratio Prot | c0.10 | 0.21 | | 0.06 | c0.48 | | c0.03 | 0.02 | | c0.18 | 0.08 | |
| v/s Ratio Perm | | | | | | 0.26 | | | | | | |
| v/c Ratio | 0.87 | 0.39 | | 0.65 | 0.90 | 0.48 | 0.57 | 0.27 | | 0.95 | 0.45 | |
| Uniform Delay, d1 | 52.5 | 15.7 | | 52.1 | 25.1 | 17.4 | 55.2 | 54.2 | | 48.0 | 43.1 | |
| Progression Factor | 1.00 | 1.00 | | 1.26 | 0.55 | 0.19 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 31.8 | 0.7 | | 3.4 | 4.5 | 1.1 | 4.6 | 0.7 | | 24.1 | 1.2 | |
| Delay (s) | 84.4 | 16.3 | | 68.7 | 18.3 | 4.4 | 59.8 | 54.9 | | 72.2 | 44.2 | |
| Level of Service | F | B | | E | B | A | E | D | | E | D | |
| Approach Delay (s) | | 29.0 | | | 16.7 | | | 55.8 | | | 62.9 | |
| Approach LOS | | C | | | B | | | E | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 31.2 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 90.6% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 55 | 1477 | 676 | 1979 | 267 | 559 | 67 | 46 |
| v/c Ratio | 0.81 | 0.76 | 0.87 | 0.92 | 0.93 | 0.48 | 0.87 | 0.49 |
| Control Delay | 105.7 | 26.3 | 48.2 | 20.2 | 87.0 | 18.1 | 127.4 | 52.4 |
| Queue Delay | 0.0 | 2.5 | 0.0 | 12.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 105.7 | 28.8 | 48.2 | 32.9 | 87.0 | 18.1 | 127.4 | 52.4 |
| Queue Length 50th (ft) | 45 | 290 | 262 | 583 | 205 | 126 | 53 | 18 |
| Queue Length 95th (ft) | m#86 | m326 | m#322 | #926 | #358 | 171 | #142 | #62 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 68 | 1956 | 773 | 2157 | 302 | 1164 | 78 | 94 |
| Starvation Cap Reductn | 0 | 344 | 0 | 193 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 208 | 0 | 31 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.81 | 0.92 | 0.87 | 1.02 | 0.88 | 0.49 | 0.86 | 0.49 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 51 | 1190 | 169 | 622 | 1709 | 111 | 216 | 29 | 514 | 62 | 22 | 20 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.95 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.96 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.98 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4483 | | 3143 | 3289 | | | 1808 | 2810 | 1562 | 1461 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4483 | | 3143 | 3289 | | | 1808 | 2810 | 1562 | 1461 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 55 | 1293 | 184 | 676 | 1858 | 121 | 235 | 32 | 559 | 67 | 24 | 22 |
| RTOR Reduction (vph) | 0 | 15 | 0 | 0 | 4 | 0 | 0 | 0 | 37 | 0 | 21 | 0 |
| Lane Group Flow (vph) | 55 | 1462 | 0 | 676 | 1975 | 0 | 0 | 267 | 522 | 67 | 25 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 4.0 | 51.4 | | 30.1 | 78.0 | | | 19.1 | 49.2 | 5.9 | 5.9 | |
| Effective Green, g (s) | 4.0 | 51.4 | | 30.1 | 78.0 | | | 19.1 | 49.2 | 5.9 | 5.9 | |
| Actuated g/C Ratio | 0.03 | 0.43 | | 0.25 | 0.65 | | | 0.16 | 0.41 | 0.05 | 0.05 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 54 | 1920 | | 788 | 2138 | | | 288 | 1152 | 77 | 72 | |
| v/s Ratio Prot | c0.03 | 0.33 | | 0.22 | c0.60 | | | c0.15 | 0.11 | c0.04 | 0.02 | |
| v/s Ratio Perm | | | | | | | | | 0.07 | | | |
| v/c Ratio | 1.02 | 0.76 | | 0.86 | 0.92 | | | 0.93 | 0.45 | 0.87 | 0.35 | |
| Uniform Delay, d1 | 58.0 | 29.1 | | 42.9 | 18.4 | | | 49.8 | 25.6 | 56.7 | 55.2 | |
| Progression Factor | 0.87 | 0.84 | | 0.90 | 0.77 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 113.7 | 2.3 | | 5.6 | 5.4 | | | 33.6 | 0.1 | 59.5 | 1.1 | |
| Delay (s) | 164.5 | 26.8 | | 44.2 | 19.6 | | | 83.4 | 25.8 | 116.1 | 56.3 | |
| Level of Service | F | C | | D | B | | | F | C | F | E | |
| Approach Delay (s) | | 31.7 | | | 25.8 | | | 44.4 | | | 91.8 | |
| Approach LOS | | C | | | C | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 32.0 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.93 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 84.3% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1162 | 1046 | 1849 | 776 | 368 | 345 | 337 |
| v/c Ratio | 0.54 | 0.73 | 0.88 | 0.53 | 0.78 | 0.72 | 0.71 |
| Control Delay | 6.2 | 8.7 | 22.6 | 1.3 | 51.6 | 45.6 | 44.9 |
| Queue Delay | 0.5 | 0.0 | 13.0 | 0.0 | 0.0 | 0.1 | 0.1 |
| Total Delay | 6.7 | 8.7 | 35.7 | 1.3 | 51.6 | 45.7 | 45.0 |
| Queue Length 50th (ft) | 100 | 233 | 559 | 0 | 274 | 247 | 229 |
| Queue Length 95th (ft) | 130 | 476 | 691 | 0 | #424 | 370 | 346 |
| Internal Link Dist (ft) | 509 | | 1069 | | | 1128 | |
| Turn Bay Length (ft) | | | | 75 | | | 80 |
| Base Capacity (vph) | 2167 | 1439 | 2113 | 1478 | 474 | 480 | 472 |
| Starvation Cap Reductn | 514 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 287 | 0 | 0 | 2 | 2 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.70 | 0.73 | 1.01 | 0.53 | 0.78 | 0.72 | 0.72 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1069 | 962 | 0 | 1701 | 714 | 0 | 0 | 0 | 403 | 0 | 563 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | 4.0 | 3.0 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.95 | 1.00 | | | | 0.95 | 0.91 | 0.95 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | 0.88 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 0.99 | 1.00 |
| Satd. Flow (prot) | | 3292 | 1439 | | 3209 | 1478 | | | | 1625 | 1636 | 1559 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 0.99 | 1.00 |
| Satd. Flow (perm) | | 3292 | 1439 | | 3209 | 1478 | | | | 1625 | 1636 | 1559 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1162 | 1046 | 0 | 1849 | 776 | 0 | 0 | 0 | 438 | 0 | 612 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 17 |
| Lane Group Flow (vph) | 0 | 1162 | 1046 | 0 | 1849 | 776 | 0 | 0 | 0 | 368 | 328 | 320 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Free | | | | custom | | Perm |
| Protected Phases | | 2 | | | 6 | | | | | 4 | 4 | |
| Permitted Phases | | | 2 4 | | | Free | | | | 4 | | 4 |
| Actuated Green, G (s) | | 78.0 | 120.0 | | 78.0 | 120.0 | | | | 34.0 | 34.0 | 34.0 |
| Effective Green, g (s) | | 79.0 | 120.0 | | 79.0 | 120.0 | | | | 35.0 | 34.0 | 35.0 |
| Actuated g/C Ratio | | 0.66 | 1.00 | | 0.66 | 1.00 | | | | 0.29 | 0.28 | 0.29 |
| Clearance Time (s) | | 4.0 | | | 4.0 | | | | | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | | | | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | | 2167 | 1439 | | 2113 | 1478 | | | | 474 | 464 | 455 |
| v/s Ratio Prot | | 0.35 | | | c0.58 | | | | | 0.23 | 0.20 | |
| v/s Ratio Perm | | | c0.73 | | | 0.53 | | | | | | 0.21 |
| v/c Ratio | | 0.54 | 0.73 | | 0.88 | 0.53 | | | | 0.78 | 0.71 | 0.70 |
| Uniform Delay, d1 | | 10.8 | 0.0 | | 16.5 | 0.0 | | | | 38.9 | 38.5 | 37.9 |
| Progression Factor | | 0.49 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.8 | 1.6 | | 5.4 | 1.3 | | | | 8.3 | 5.2 | 5.2 |
| Delay (s) | | 6.1 | 1.6 | | 22.0 | 1.3 | | | | 47.2 | 43.7 | 43.1 |
| Level of Service | | A | A | | C | A | | | | D | D | D |
| Approach Delay (s) | | 4.0 | | | 15.9 | | | 0.0 | | | 44.7 | |
| Approach LOS | | A | | | B | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 16.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.83 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 3.0 |
| Intersection Capacity Utilization | 83.6% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 604 | 61 | 61 | 211 | 260 | 428 |
| v/c Ratio | 0.79 | 0.09 | 0.40 | 0.32 | 0.55 | 0.58 |
| Control Delay | 22.3 | 3.6 | 37.1 | 12.9 | 22.1 | 5.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 22.3 | 3.6 | 37.1 | 12.9 | 22.1 | 5.8 |
| Queue Length 50th (ft) | 162 | 0 | 21 | 47 | 78 | 0 |
| Queue Length 95th (ft) | #348 | 17 | #71 | 89 | 143 | 57 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 1066 | 976 | 153 | 1079 | 685 | 882 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.57 | 0.06 | 0.40 | 0.20 | 0.38 | 0.49 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 556 | 56 | 56 | 194 | 239 | 394 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1559 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1559 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 604 | 61 | 61 | 211 | 260 | 428 |
| RTOR Reduction (vph) | 0 | 34 | 0 | 0 | 0 | 313 |
| Lane Group Flow (vph) | 604 | 27 | 61 | 211 | 260 | 115 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 21.6 | 21.6 | 1.9 | 18.9 | 13.0 | 13.0 |
| Effective Green, g (s) | 21.6 | 21.6 | 1.9 | 18.9 | 13.0 | 13.0 |
| Actuated g/C Ratio | 0.45 | 0.45 | 0.04 | 0.39 | 0.27 | 0.27 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 747 | 668 | 63 | 712 | 457 | 418 |
| v/s Ratio Prot | c0.36 | | c0.04 | 0.12 | c0.15 | |
| v/s Ratio Perm | | 0.02 | | | | 0.07 |
| v/c Ratio | 0.81 | 0.04 | 0.97 | 0.30 | 0.57 | 0.27 |
| Uniform Delay, d1 | 11.7 | 7.6 | 23.3 | 10.2 | 15.3 | 14.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 6.4 | 0.0 | 101.0 | 0.2 | 1.6 | 0.4 |
| Delay (s) | 18.1 | 7.6 | 124.3 | 10.4 | 17.0 | 14.4 |
| Level of Service | B | A | F | B | B | B |
| Approach Delay (s) | 17.1 | | | 36.0 | 15.4 | |
| Approach LOS | B | | | D | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 19.5 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 48.5 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 56.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 84 | 117 | 104 | 26 | 712 | 66 | 462 |
| v/c Ratio | 0.21 | 0.30 | 0.23 | 0.05 | 0.41 | 0.19 | 0.26 |
| Control Delay | 11.6 | 13.7 | 4.7 | 7.8 | 8.1 | 9.5 | 7.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 11.6 | 13.7 | 4.7 | 7.8 | 8.1 | 9.5 | 7.2 |
| Queue Length 50th (ft) | 10 | 17 | 0 | 2 | 41 | 6 | 24 |
| Queue Length 95th (ft) | 42 | 60 | 25 | 17 | 132 | 38 | 81 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 997 | 1004 | 976 | 644 | 2371 | 482 | 2378 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.08 | 0.12 | 0.11 | 0.04 | 0.30 | 0.14 | 0.19 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 24 | 44 | 9 | 55 | 52 | 96 | 24 | 597 | 58 | 61 | 396 | 29 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | | 0.98 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1534 | | | 1687 | 1309 | 1615 | 3031 | | 1561 | 3040 | |
| Flt Permitted | | 0.88 | | | 0.80 | 1.00 | 0.49 | 1.00 | | 0.38 | 1.00 | |
| Satd. Flow (perm) | | 1370 | | | 1383 | 1309 | 827 | 3031 | | 618 | 3040 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 26 | 48 | 10 | 60 | 57 | 104 | 26 | 649 | 63 | 66 | 430 | 32 |
| RTOR Reduction (vph) | 0 | 8 | 0 | 0 | 0 | 80 | 0 | 9 | 0 | 0 | 7 | 0 |
| Lane Group Flow (vph) | 0 | 76 | 0 | 0 | 117 | 24 | 26 | 703 | 0 | 66 | 455 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 9.3 | | | 9.3 | 9.3 | 21.1 | 21.1 | | 21.1 | 21.1 | |
| Effective Green, g (s) | | 9.3 | | | 9.3 | 9.3 | 21.1 | 21.1 | | 21.1 | 21.1 | |
| Actuated g/C Ratio | | 0.23 | | | 0.23 | 0.23 | 0.53 | 0.53 | | 0.53 | 0.53 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 322 | | | 325 | 307 | 441 | 1615 | | 329 | 1620 | |
| v/s Ratio Prot | | | | | | | | c0.23 | | | 0.15 | |
| v/s Ratio Perm | | 0.06 | | | c0.08 | 0.02 | 0.03 | | | 0.11 | | |
| v/c Ratio | | 0.24 | | | 0.36 | 0.08 | 0.06 | 0.44 | | 0.20 | 0.28 | |
| Uniform Delay, d1 | | 12.3 | | | 12.7 | 11.8 | 4.5 | 5.6 | | 4.8 | 5.1 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.5 | | | 0.9 | 0.2 | 0.1 | 0.3 | | 0.4 | 0.1 | |
| Delay (s) | | 12.8 | | | 13.6 | 12.0 | 4.5 | 5.9 | | 5.2 | 5.2 | |
| Level of Service | | B | | | B | B | A | A | | A | A | |
| Approach Delay (s) | | 12.8 | | | 12.8 | | | 5.8 | | | 5.2 | |
| Approach LOS | | B | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 7.0 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.41 | | |
| Actuated Cycle Length (s) | 39.6 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 48.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 20 | 195 | 311 | 163 | 178 | 34 |
| v/c Ratio | 0.07 | 0.24 | 0.45 | 0.14 | 0.38 | 0.08 |
| Control Delay | 18.3 | 7.3 | 12.1 | 0.7 | 14.4 | 6.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 18.3 | 7.3 | 12.1 | 0.7 | 14.4 | 6.2 |
| Queue Length 50th (ft) | 2 | 18 | 31 | 0 | 19 | 0 |
| Queue Length 95th (ft) | 23 | 59 | 150 | 10 | 97 | 16 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 483 | 1827 | 1646 | 1582 | 1358 | 1178 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.04 | 0.11 | 0.19 | 0.10 | 0.13 | 0.03 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 18 | 179 | 286 | 150 | 164 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.98 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1620 | 1562 | 1362 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1620 | 1562 | 1362 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 20 | 195 | 311 | 163 | 178 | 34 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 56 | 0 | 25 |
| Lane Group Flow (vph) | 20 | 195 | 311 | 107 | 178 | 9 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 0.9 | 19.8 | 14.9 | 25.8 | 10.9 | 10.9 |
| Effective Green, g (s) | 0.9 | 19.8 | 14.9 | 25.8 | 10.9 | 10.9 |
| Actuated g/C Ratio | 0.02 | 0.50 | 0.38 | 0.66 | 0.28 | 0.28 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 37 | 920 | 646 | 1064 | 433 | 378 |
| v/s Ratio Prot | 0.01 | c0.11 | c0.18 | 0.03 | c0.11 | |
| v/s Ratio Perm | | | | 0.04 | | 0.01 |
| v/c Ratio | 0.54 | 0.21 | 0.48 | 0.10 | 0.41 | 0.02 |
| Uniform Delay, d1 | 19.0 | 5.4 | 9.3 | 2.5 | 11.6 | 10.3 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 15.1 | 0.1 | 0.6 | 0.0 | 0.6 | 0.0 |
| Delay (s) | 34.1 | 5.5 | 9.8 | 2.5 | 12.2 | 10.4 |
| Level of Service | C | A | A | A | B | B |
| Approach Delay (s) | | 8.2 | 7.3 | | 11.9 | |
| Approach LOS | | A | A | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 8.6 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.47 | | |
| Actuated Cycle Length (s) | 39.3 | Sum of lost time (s) | 13.2 |
| Intersection Capacity Utilization | 32.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 205 | 158 | 215 | 249 | 253 | 207 |
| v/c Ratio | 0.52 | 0.35 | 0.58 | 0.28 | 0.42 | 0.35 |
| Control Delay | 31.9 | 7.4 | 33.6 | 10.9 | 22.7 | 9.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 31.9 | 7.4 | 33.6 | 10.9 | 22.7 | 9.0 |
| Queue Length 50th (ft) | 76 | 0 | 79 | 54 | 80 | 17 |
| Queue Length 95th (ft) | 181 | 48 | 197 | 122 | 201 | 79 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 |
| Base Capacity (vph) | 984 | 889 | 797 | 1607 | 808 | 804 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.21 | 0.18 | 0.27 | 0.15 | 0.31 | 0.26 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1 | 188 | 145 | 198 | 228 | 1 | 231 | 2 | 190 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.98 | | | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | | 1758 | 1461 | 1562 | 1704 | | | 1683 | 1725 | | | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | | 1757 | 1461 | 1562 | 1704 | | | 1683 | 1725 | | | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1 | 204 | 158 | 215 | 248 | 1 | 251 | 2 | 207 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 122 | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 205 | 36 | 215 | 249 | 0 | 0 | 253 | 103 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 16.5 | 16.5 | 17.2 | 37.7 | | | 25.0 | 21.0 | | | |
| Effective Green, g (s) | | 16.5 | 16.5 | 17.2 | 37.7 | | | 25.0 | 21.0 | | | |
| Actuated g/C Ratio | | 0.23 | 0.23 | 0.24 | 0.53 | | | 0.35 | 0.29 | | | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | | |
| Lane Grp Cap (vph) | | 404 | 336 | 374 | 895 | | | 586 | 505 | | | |
| v/s Ratio Prot | | | | c0.14 | 0.15 | | | c0.15 | 0.02 | | | |
| v/s Ratio Perm | | c0.12 | 0.02 | | | | | | 0.04 | | | |
| v/c Ratio | | 0.51 | 0.11 | 0.57 | 0.28 | | | 0.43 | 0.20 | | | |
| Uniform Delay, d1 | | 24.1 | 21.8 | 24.1 | 9.5 | | | 18.0 | 19.1 | | | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 1.0 | 0.1 | 2.1 | 0.2 | | | 0.5 | 0.2 | | | |
| Delay (s) | | 25.1 | 22.0 | 26.2 | 9.7 | | | 18.5 | 19.3 | | | |
| Level of Service | | C | C | C | A | | | B | B | | | |
| Approach Delay (s) | | 23.7 | | | 17.3 | | | 18.8 | | | 0.0 | |
| Approach LOS | | C | | | B | | | B | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 19.7 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.49 | | |
| Actuated Cycle Length (s) | 71.8 | Sum of lost time (s) | 12.6 |
| Intersection Capacity Utilization | 53.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 166 | 408 | 64 | 229 | 386 | 425 | 24 | 374 | 130 | 204 | 458 |
| v/c Ratio | 0.63 | 0.80 | 0.14 | 0.72 | 0.67 | 0.57 | 0.24 | 0.64 | 0.42 | 0.72 | 0.44 |
| Control Delay | 58.1 | 50.5 | 22.5 | 57.9 | 39.9 | 6.3 | 64.5 | 49.2 | 21.6 | 61.5 | 29.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 58.1 | 50.5 | 22.5 | 57.9 | 39.9 | 6.3 | 64.5 | 49.2 | 21.6 | 61.5 | 29.5 |
| Queue Length 50th (ft) | 112 | 267 | 20 | 153 | 233 | 0 | 17 | 133 | 26 | 138 | 131 |
| Queue Length 95th (ft) | 217 | 460 | 62 | 287 | 412 | 81 | 53 | 212 | 92 | #276 | 205 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 373 | 697 | 597 | 427 | 766 | 849 | 105 | 918 | 440 | 380 | 1362 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.45 | 0.59 | 0.11 | 0.54 | 0.50 | 0.50 | 0.23 | 0.41 | 0.30 | 0.54 | 0.34 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 153 | 375 | 59 | 211 | 355 | 391 | 22 | 344 | 120 | 188 | 315 | 107 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.99 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1452 | 1620 | 1739 | 1396 | 1652 | 3240 | 1332 | 1620 | 2954 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1452 | 1620 | 1739 | 1396 | 1652 | 3240 | 1332 | 1620 | 2954 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 166 | 408 | 64 | 229 | 386 | 425 | 24 | 374 | 130 | 204 | 342 | 116 |
| RTOR Reduction (vph) | 0 | 0 | 18 | 0 | 0 | 285 | 0 | 0 | 71 | 0 | 24 | 0 |
| Lane Group Flow (vph) | 166 | 408 | 46 | 229 | 386 | 140 | 24 | 374 | 59 | 204 | 434 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 17.4 | 31.9 | 31.9 | 21.5 | 36.0 | 36.0 | 3.9 | 21.7 | 21.7 | 19.9 | 37.7 | |
| Effective Green, g (s) | 17.3 | 31.8 | 31.8 | 21.4 | 35.9 | 35.9 | 2.9 | 21.2 | 21.2 | 18.9 | 37.2 | |
| Actuated g/C Ratio | 0.16 | 0.29 | 0.29 | 0.20 | 0.33 | 0.33 | 0.03 | 0.19 | 0.19 | 0.17 | 0.34 | |
| Clearance Time (s) | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 261 | 506 | 422 | 317 | 571 | 459 | 44 | 628 | 258 | 280 | 1005 | |
| v/s Ratio Prot | 0.10 | c0.23 | | c0.14 | 0.22 | | 0.01 | c0.12 | | c0.13 | 0.15 | |
| v/s Ratio Perm | | | 0.03 | | | 0.10 | | | 0.04 | | | |
| v/c Ratio | 0.64 | 0.81 | 0.11 | 0.72 | 0.68 | 0.30 | 0.55 | 0.60 | 0.23 | 0.73 | 0.43 | |
| Uniform Delay, d1 | 43.1 | 35.9 | 28.4 | 41.2 | 31.7 | 27.4 | 52.5 | 40.1 | 37.2 | 42.8 | 27.9 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 5.6 | 9.6 | 0.2 | 8.4 | 3.5 | 0.5 | 16.2 | 1.8 | 0.6 | 9.7 | 0.4 | |
| Delay (s) | 48.7 | 45.5 | 28.5 | 49.6 | 35.1 | 27.9 | 68.7 | 41.9 | 37.8 | 52.5 | 28.3 | |
| Level of Service | D | D | C | D | D | C | E | D | D | D | C | |
| Approach Delay (s) | | 44.6 | | | 35.4 | | | 42.1 | | | 35.7 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 38.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 109.3 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 65.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 55 | 557 | 57 | 792 | 1052 | 96 | 253 | 557 | 183 | 163 | 17 |
| v/c Ratio | 0.47 | 0.58 | 0.16 | 0.88 | 0.77 | 0.82 | 0.26 | 0.34 | 0.80 | 0.17 | 0.04 |
| Control Delay | 58.1 | 37.8 | 9.4 | 40.4 | 21.0 | 92.9 | 27.7 | 10.7 | 71.9 | 26.8 | 11.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 58.1 | 37.8 | 9.4 | 40.4 | 21.0 | 92.9 | 27.7 | 10.7 | 71.9 | 26.8 | 11.6 |
| Queue Length 50th (ft) | 34 | 118 | 0 | 247 | 242 | 62 | 64 | 89 | 60 | 40 | 0 |
| Queue Length 95th (ft) | 75 | 146 | 31 | #403 | 325 | #154 | 97 | 143 | #117 | 66 | 16 |
| Internal Link Dist (ft) | | 238 | | | 310 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 117 | 1187 | 419 | 902 | 1368 | 117 | 990 | 1657 | 228 | 956 | 447 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.47 | 0.47 | 0.14 | 0.88 | 0.77 | 0.82 | 0.26 | 0.34 | 0.80 | 0.17 | 0.04 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 51 | 512 | 52 | 729 | 724 | 244 | 88 | 233 | 512 | 168 | 150 | 16 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 3.1 | 4.0 | 4.0 | 3.1 | 4.0 | | 4.0 | 4.0 | 3.1 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3105 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1475 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3105 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1475 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 55 | 557 | 57 | 792 | 787 | 265 | 96 | 253 | 557 | 183 | 163 | 17 |
| RTOR Reduction (vph) | 0 | 0 | 45 | 0 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| Lane Group Flow (vph) | 55 | 557 | 12 | 792 | 1020 | 0 | 96 | 253 | 557 | 183 | 163 | 5 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 5.3 | 19.2 | 19.2 | 27.6 | 41.5 | | 7.0 | 27.2 | 58.8 | 7.0 | 27.2 | 27.2 |
| Effective Green, g (s) | 6.2 | 20.7 | 20.7 | 28.5 | 43.0 | | 7.0 | 28.7 | 59.7 | 7.0 | 28.7 | 28.7 |
| Actuated g/C Ratio | 0.06 | 0.21 | 0.21 | 0.28 | 0.43 | | 0.07 | 0.29 | 0.60 | 0.07 | 0.29 | 0.29 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 97 | 964 | 306 | 928 | 1335 | | 117 | 963 | 1615 | 228 | 930 | 423 |
| v/s Ratio Prot | 0.04 | c0.12 | | c0.24 | c0.33 | | c0.06 | 0.08 | c0.21 | c0.06 | 0.05 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | 0.00 |
| v/c Ratio | 0.57 | 0.58 | 0.04 | 0.85 | 0.76 | | 0.82 | 0.26 | 0.34 | 0.80 | 0.18 | 0.01 |
| Uniform Delay, d1 | 45.6 | 35.7 | 31.7 | 33.8 | 24.2 | | 45.9 | 27.5 | 10.2 | 45.8 | 26.8 | 25.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.82 | 0.73 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 8.9 | 1.0 | 0.1 | 6.5 | 2.3 | | 36.3 | 0.7 | 0.2 | 19.0 | 0.4 | 0.0 |
| Delay (s) | 54.5 | 36.7 | 31.8 | 34.3 | 20.1 | | 82.2 | 28.2 | 10.4 | 64.9 | 27.2 | 25.6 |
| Level of Service | D | D | C | C | C | | F | C | B | E | C | C |
| Approach Delay (s) | | 37.8 | | | 26.2 | | | 23.0 | | | 46.1 | |
| Approach LOS | | D | | | C | | | C | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 29.4 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.69 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 19.1 |
| Intersection Capacity Utilization | 70.2% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 300 | 1349 | 400 | 192 | 725 | 224 | 226 | 120 | 127 |
| v/c Ratio | 0.68 | 0.79 | 0.49 | 0.60 | 0.54 | 0.62 | 0.62 | 0.27 | 0.64 |
| Control Delay | 41.1 | 29.7 | 3.6 | 47.8 | 32.2 | 40.5 | 40.2 | 6.1 | 42.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 41.1 | 29.7 | 3.6 | 47.8 | 32.2 | 40.5 | 40.2 | 6.1 | 42.1 |
| Queue Length 50th (ft) | 129 | 303 | 26 | 109 | 143 | 137 | 138 | 0 | 22 |
| Queue Length 95th (ft) | #378 | #395 | 53 | #272 | 190 | 180 | 180 | 36 | #61 |
| Internal Link Dist (ft) | | 660 | | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 520 | 180 | | 200 | | | |
| Base Capacity (vph) | 438 | 1716 | 817 | 320 | 1339 | 563 | 572 | 631 | 197 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.68 | 0.79 | 0.49 | 0.60 | 0.54 | 0.40 | 0.40 | 0.19 | 0.64 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 276 | 1241 | 368 | 177 | 642 | 25 | 355 | 59 | 110 | 18 | 44 | 54 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | | 0.93 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 0.99 | |
| Satd. Flow (prot) | 1620 | 4655 | 1531 | 1678 | 4624 | | 1539 | 1564 | 1515 | | 3052 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 0.99 | |
| Satd. Flow (perm) | 1620 | 4655 | 1531 | 1678 | 4624 | | 1539 | 1564 | 1515 | | 3052 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 300 | 1349 | 400 | 192 | 698 | 27 | 386 | 64 | 120 | 20 | 48 | 59 |
| RTOR Reduction (vph) | 0 | 0 | 253 | 0 | 4 | 0 | 0 | 0 | 92 | 0 | 56 | 0 |
| Lane Group Flow (vph) | 300 | 1349 | 147 | 192 | 721 | 0 | 224 | 226 | 28 | 0 | 71 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | Perm | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Actuated Green, G (s) | 26.0 | 35.8 | 35.8 | 18.1 | 27.9 | | 22.9 | 22.9 | 22.9 | | 4.0 | |
| Effective Green, g (s) | 27.0 | 36.8 | 36.8 | 19.1 | 28.9 | | 23.5 | 23.5 | 23.5 | | 4.6 | |
| Actuated g/C Ratio | 0.27 | 0.37 | 0.37 | 0.19 | 0.29 | | 0.24 | 0.24 | 0.24 | | 0.05 | |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | 6.0 | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 437 | 1713 | 563 | 320 | 1336 | | 362 | 368 | 356 | | 140 | |
| v/s Ratio Prot | c0.19 | c0.29 | | 0.11 | 0.16 | | c0.15 | 0.14 | | | c0.02 | |
| v/s Ratio Perm | | | 0.10 | | | | | | 0.02 | | | |
| v/c Ratio | 0.69 | 0.79 | 0.26 | 0.60 | 0.54 | | 0.62 | 0.61 | 0.08 | | 0.51 | |
| Uniform Delay, d1 | 32.7 | 28.1 | 22.1 | 37.0 | 30.0 | | 34.2 | 34.2 | 29.8 | | 46.6 | |
| Progression Factor | 0.91 | 0.87 | 0.55 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 4.7 | 3.7 | 1.1 | 3.5 | 1.6 | | 3.6 | 3.5 | 0.1 | | 3.9 | |
| Delay (s) | 34.4 | 28.2 | 13.4 | 40.5 | 31.5 | | 37.8 | 37.7 | 29.9 | | 50.5 | |
| Level of Service | C | C | B | D | C | | D | D | C | | D | |
| Approach Delay (s) | | 26.2 | | | 33.4 | | | 36.1 | | | 50.5 | |
| Approach LOS | | C | | | C | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 30.4 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.68 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 64.1% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 165 | 1388 | 126 | 545 | 161 | 120 | 166 | 23 | 192 |
| v/c Ratio | 0.35 | 0.72 | 0.53 | 0.63 | 0.52 | 0.14 | 0.29 | 0.19 | 0.37 |
| Control Delay | 28.8 | 21.9 | 44.6 | 30.3 | 44.5 | 24.7 | 5.8 | 47.0 | 20.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.8 | 21.9 | 44.6 | 30.3 | 44.5 | 24.7 | 5.8 | 47.0 | 20.9 |
| Queue Length 50th (ft) | 60 | 183 | 58 | 126 | 40 | 24 | 0 | 5 | 28 |
| Queue Length 95th (ft) | 169 | 350 | #152 | 214 | #96 | 49 | 44 | 21 | 57 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 482 | 2237 | 274 | 1308 | 324 | 1484 | 851 | 124 | 1238 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.34 | 0.62 | 0.46 | 0.42 | 0.50 | 0.08 | 0.20 | 0.19 | 0.16 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 152 | 990 | 287 | 116 | 487 | 15 | 148 | 110 | 153 | 21 | 107 | 70 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 3.1 | 4.0 | | 3.1 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.95 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.97 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4566 | | 1652 | 3274 | | 3143 | 3240 | 1661 | 3204 | 3025 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4566 | | 1652 | 3274 | | 3143 | 3240 | 1661 | 3204 | 3025 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 165 | 1076 | 312 | 126 | 529 | 16 | 161 | 120 | 166 | 23 | 116 | 76 |
| RTOR Reduction (vph) | 0 | 46 | 0 | 0 | 2 | 0 | 0 | 0 | 122 | 0 | 63 | 0 |
| Lane Group Flow (vph) | 165 | 1342 | 0 | 126 | 543 | 0 | 161 | 120 | 44 | 23 | 129 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 23.6 | 32.2 | | 11.5 | 20.1 | | 9.0 | 22.0 | 22.0 | 1.4 | 14.4 | |
| Effective Green, g (s) | 23.5 | 33.2 | | 11.4 | 21.1 | | 8.0 | 21.6 | 21.6 | 0.4 | 14.0 | |
| Actuated g/C Ratio | 0.29 | 0.41 | | 0.14 | 0.26 | | 0.10 | 0.26 | 0.26 | 0.00 | 0.17 | |
| Clearance Time (s) | 3.0 | 5.0 | | 3.0 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 466 | 1855 | | 231 | 846 | | 308 | 857 | 439 | 16 | 518 | |
| v/s Ratio Prot | 0.10 | c0.29 | | 0.08 | c0.17 | | c0.05 | 0.04 | | 0.01 | c0.04 | |
| v/s Ratio Perm | | | | | | | | | 0.03 | | | |
| v/c Ratio | 0.35 | 0.72 | | 0.55 | 0.64 | | 0.52 | 0.14 | 0.10 | 1.44 | 0.25 | |
| Uniform Delay, d1 | 23.1 | 20.4 | | 32.7 | 26.9 | | 35.0 | 23.0 | 22.7 | 40.6 | 29.3 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.5 | 1.5 | | 3.3 | 1.9 | | 2.1 | 0.1 | 0.1 | 385.6 | 0.3 | |
| Delay (s) | 23.5 | 21.9 | | 36.0 | 28.8 | | 37.1 | 23.1 | 22.8 | 426.3 | 29.6 | |
| Level of Service | C | C | | D | C | | D | C | C | F | C | |
| Approach Delay (s) | | 22.1 | | | 30.2 | | | 28.0 | | | 72.1 | |
| Approach LOS | | C | | | C | | | C | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 28.6 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.60 | | |
| Actuated Cycle Length (s) | 81.7 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 56.1% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 20 | 30 | 199 | 4 | 646 | 89 | 124 | 627 |
| v/c Ratio | 0.20 | 0.30 | 0.51 | 0.01 | 0.26 | 0.07 | 0.19 | 0.22 |
| Control Delay | 44.7 | 55.1 | 11.6 | 1.0 | 3.2 | 0.5 | 2.3 | 2.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 44.7 | 55.1 | 11.6 | 1.0 | 3.2 | 0.5 | 2.3 | 2.7 |
| Queue Length 50th (ft) | 11 | 20 | 0 | 0 | 10 | 0 | 10 | 29 |
| Queue Length 95th (ft) | 35 | 51 | 38 | m1 | 57 | 1 | 23 | 87 |
| Internal Link Dist (ft) | 387 | 325 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 400 | |
| Base Capacity (vph) | 264 | 271 | 705 | 686 | 2489 | 1198 | 800 | 2832 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.08 | 0.11 | 0.28 | 0.01 | 0.26 | 0.07 | 0.15 | 0.22 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 15 | 0 | 4 | 28 | 0 | 183 | 4 | 594 | 82 | 114 | 533 | 44 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.97 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.96 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1701 | | | 1770 | 2787 | 1676 | 3355 | 1583 | 1770 | 3424 | |
| Flt Permitted | | 0.75 | | | 0.74 | 1.00 | 0.41 | 1.00 | 1.00 | 0.38 | 1.00 | |
| Satd. Flow (perm) | | 1331 | | | 1386 | 2787 | 730 | 3355 | 1583 | 699 | 3424 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 16 | 0 | 4 | 30 | 0 | 199 | 4 | 646 | 89 | 124 | 579 | 48 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 0 | 185 | 0 | 0 | 23 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 16 | 0 | 0 | 30 | 14 | 4 | 646 | 66 | 124 | 624 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | pm+pt | | Perm | pm+pt | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | 2 | 6 | | |
| Actuated Green, G (s) | | 8.0 | | | 8.0 | 8.0 | 82.8 | 81.6 | 81.6 | 93.0 | 87.3 | |
| Effective Green, g (s) | | 8.0 | | | 8.0 | 8.0 | 82.8 | 81.6 | 81.6 | 93.0 | 87.3 | |
| Actuated g/C Ratio | | 0.07 | | | 0.07 | 0.07 | 0.75 | 0.74 | 0.74 | 0.85 | 0.79 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 97 | | | 101 | 203 | 560 | 2489 | 1174 | 658 | 2717 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.19 | | c0.01 | 0.18 | |
| v/s Ratio Perm | | 0.01 | | | c0.02 | 0.01 | 0.01 | | 0.04 | 0.15 | | |
| v/c Ratio | | 0.17 | | | 0.30 | 0.07 | 0.01 | 0.26 | 0.06 | 0.19 | 0.23 | |
| Uniform Delay, d1 | | 47.9 | | | 48.3 | 47.5 | 3.4 | 4.5 | 3.8 | 1.7 | 2.9 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 0.60 | 0.61 | 0.34 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.8 | | | 1.6 | 0.1 | 0.0 | 0.2 | 0.1 | 0.1 | 0.2 | |
| Delay (s) | | 48.7 | | | 50.0 | 47.7 | 2.0 | 3.0 | 1.4 | 1.8 | 3.1 | |
| Level of Service | | D | | | D | D | A | A | A | A | A | |
| Approach Delay (s) | | 48.7 | | | 48.0 | | | 2.8 | | | 2.9 | |
| Approach LOS | | D | | | D | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 9.3 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.26 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 41.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 213 | 67 | 75 | 126 | 167 | 60 | 353 | 120 | 297 |
| v/c Ratio | 0.47 | 0.15 | 0.23 | 0.23 | 0.32 | 0.21 | 0.42 | 0.35 | 0.27 |
| Control Delay | 18.3 | 5.3 | 15.7 | 14.8 | 4.8 | 23.6 | 17.1 | 22.9 | 13.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 18.3 | 5.3 | 15.7 | 14.8 | 4.8 | 23.6 | 17.1 | 22.9 | 13.1 |
| Queue Length 50th (ft) | 46 | 0 | 15 | 25 | 0 | 14 | 37 | 28 | 28 |
| Queue Length 95th (ft) | 117 | 22 | 49 | 69 | 34 | 55 | 97 | 89 | 75 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 1131 | 997 | 809 | 1353 | 1056 | 538 | 2016 | 743 | 2311 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.19 | 0.07 | 0.09 | 0.09 | 0.16 | 0.11 | 0.18 | 0.16 | 0.13 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 77 | 119 | 62 | 69 | 116 | 154 | 55 | 265 | 60 | 110 | 226 | 47 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.97 | |
| Flt Protected | | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1701 | 1261 | 1620 | 1739 | 1320 | 1711 | 2981 | | 1620 | 2995 | |
| Flt Permitted | | 0.84 | 1.00 | 0.61 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1456 | 1261 | 1041 | 1739 | 1320 | 1711 | 2981 | | 1620 | 2995 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 84 | 129 | 67 | 75 | 126 | 167 | 60 | 288 | 65 | 120 | 246 | 51 |
| RTOR Reduction (vph) | 0 | 0 | 46 | 0 | 0 | 115 | 0 | 21 | 0 | 0 | 19 | 0 |
| Lane Group Flow (vph) | 0 | 213 | 21 | 75 | 126 | 52 | 60 | 332 | 0 | 120 | 278 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 4.3 | 13.3 | | 7.5 | 16.5 | |
| Effective Green, g (s) | | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 4.3 | 13.3 | | 7.5 | 16.5 | |
| Actuated g/C Ratio | | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.09 | 0.28 | | 0.16 | 0.35 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 453 | 393 | 324 | 541 | 411 | 157 | 845 | | 259 | 1054 | |
| v/s Ratio Prot | | | | | 0.07 | | 0.04 | c0.11 | | c0.07 | 0.09 | |
| v/s Ratio Perm | | c0.15 | 0.02 | 0.07 | | 0.04 | | | | | | |
| v/c Ratio | | 0.47 | 0.05 | 0.23 | 0.23 | 0.13 | 0.38 | 0.39 | | 0.46 | 0.26 | |
| Uniform Delay, d1 | | 13.0 | 11.3 | 12.0 | 12.0 | 11.6 | 20.0 | 13.5 | | 17.9 | 10.9 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.8 | 0.1 | 0.4 | 0.2 | 0.1 | 1.6 | 0.4 | | 1.3 | 0.2 | |
| Delay (s) | | 13.8 | 11.4 | 12.4 | 12.2 | 11.7 | 21.6 | 14.0 | | 19.2 | 11.0 | |
| Level of Service | | B | B | B | B | B | C | B | | B | B | |
| Approach Delay (s) | | 13.2 | | | 12.0 | | | 15.1 | | | 13.4 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 13.5 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.44 | | |
| Actuated Cycle Length (s) | 46.9 | Sum of lost time (s) | 11.5 |
| Intersection Capacity Utilization | 45.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 120 | 151 | 64 | 60 | 155 | 129 | 92 | 590 | 55 | 602 |
| v/c Ratio | 0.58 | 0.42 | 0.21 | 0.40 | 0.60 | 0.39 | 0.49 | 0.37 | 0.38 | 0.39 |
| Control Delay | 55.2 | 42.3 | 10.4 | 48.3 | 50.0 | 8.8 | 54.3 | 19.8 | 59.9 | 19.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 55.2 | 42.3 | 10.4 | 48.3 | 50.0 | 8.8 | 54.3 | 19.8 | 59.9 | 19.7 |
| Queue Length 50th (ft) | 81 | 97 | 0 | 41 | 104 | 4 | 62 | 129 | 38 | 124 |
| Queue Length 95th (ft) | 135 | 149 | 35 | 53 | 165 | 64 | 110 | 222 | 85 | 243 |
| Internal Link Dist (ft) | | 2946 | | | 525 | | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 230 | | | 200 | | 150 | |
| Base Capacity (vph) | 263 | 493 | 396 | 180 | 396 | 433 | 230 | 1594 | 169 | 1533 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.46 | 0.31 | 0.16 | 0.33 | 0.39 | 0.30 | 0.40 | 0.37 | 0.33 | 0.39 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 110 | 139 | 59 | 55 | 143 | 119 | 85 | 455 | 87 | 51 | 477 | 77 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 9 | 12 | 12 | 10 | 10 | 10 | 9 | 10 | 10 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1577 | 1845 | 1306 | 1593 | 1863 | 1559 | 1652 | 3149 | | 1593 | 3155 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1577 | 1845 | 1306 | 1593 | 1863 | 1559 | 1652 | 3149 | | 1593 | 3155 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 120 | 151 | 64 | 60 | 155 | 129 | 92 | 495 | 95 | 55 | 518 | 84 |
| RTOR Reduction (vph) | 0 | 0 | 51 | 0 | 0 | 110 | 0 | 12 | 0 | 0 | 10 | 0 |
| Lane Group Flow (vph) | 120 | 151 | 13 | 60 | 155 | 19 | 92 | 578 | 0 | 55 | 592 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | 4 | | | | | | |
| Actuated Green, G (s) | 14.5 | 21.5 | 21.5 | 9.1 | 16.1 | 16.1 | 10.8 | 53.4 | | 8.8 | 51.4 | |
| Effective Green, g (s) | 14.5 | 21.5 | 21.5 | 9.1 | 16.1 | 16.1 | 10.8 | 53.4 | | 8.8 | 51.4 | |
| Actuated g/C Ratio | 0.13 | 0.20 | 0.20 | 0.08 | 0.15 | 0.15 | 0.10 | 0.49 | | 0.08 | 0.47 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 208 | 361 | 255 | 132 | 273 | 228 | 162 | 1529 | | 127 | 1474 | |
| v/s Ratio Prot | c0.08 | 0.08 | | 0.04 | c0.08 | | c0.06 | 0.18 | | 0.03 | c0.19 | |
| v/s Ratio Perm | | | 0.01 | | | 0.01 | | | | | | |
| v/c Ratio | 0.58 | 0.42 | 0.05 | 0.45 | 0.57 | 0.08 | 0.57 | 0.38 | | 0.43 | 0.40 | |
| Uniform Delay, d1 | 44.9 | 38.8 | 35.9 | 48.1 | 43.7 | 40.6 | 47.4 | 17.8 | | 48.2 | 19.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.89 | 0.92 | 0.74 | 1.00 | 1.00 | | 1.14 | 0.90 | |
| Incremental Delay, d2 | 4.6 | 1.1 | 0.1 | 3.4 | 3.3 | 0.2 | 5.5 | 0.7 | | 3.2 | 0.8 | |
| Delay (s) | 49.5 | 39.8 | 36.1 | 45.9 | 43.5 | 30.4 | 52.8 | 18.5 | | 58.2 | 18.1 | |
| Level of Service | D | D | D | D | D | C | D | B | | E | B | |
| Approach Delay (s) | | 42.6 | | | 39.0 | | | 23.2 | | | 21.5 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 28.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.47 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 17.2 |
| Intersection Capacity Utilization | 49.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1 | 233 | 30 | 310 | 10 | 11 | 5 | 7 | 11 |
| v/c Ratio | 0.01 | 0.15 | 0.27 | 0.17 | 0.09 | 0.01 | 0.04 | 0.01 | 0.11 |
| Control Delay | 45.0 | 3.6 | 53.8 | 3.2 | 50.1 | 0.0 | 49.0 | 0.0 | 51.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 45.0 | 3.6 | 53.8 | 3.2 | 50.1 | 0.0 | 49.0 | 0.0 | 51.2 |
| Queue Length 50th (ft) | 1 | 3 | 20 | 0 | 7 | 0 | 3 | 0 | 8 |
| Queue Length 95th (ft) | m5 | 72 | 51 | 129 | 25 | 0 | 16 | 0 | 26 |
| Internal Link Dist (ft) | | 522 | | 1458 | | 986 | | 413 | |
| Turn Bay Length (ft) | 205 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 97 | 1545 | 167 | 1778 | 319 | 884 | 330 | 821 | 271 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.01 | 0.15 | 0.18 | 0.17 | 0.03 | 0.01 | 0.02 | 0.01 | 0.04 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1 | 202 | 12 | 28 | 277 | 8 | 9 | 0 | 10 | 5 | 0 | 6 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 8 | 9 | 14 | 12 | 11 | 12 | 11 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 0.85 | | 1.00 | 0.85 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1844 | | 1593 | 1978 | | 1711 | 1583 | | 1770 | 1583 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1844 | | 1593 | 1978 | | 1801 | 1583 | | 1863 | 1583 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1 | 220 | 13 | 30 | 301 | 9 | 10 | 0 | 11 | 5 | 0 | 7 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 7 | 0 |
| Lane Group Flow (vph) | 1 | 232 | 0 | 30 | 310 | 0 | 10 | 0 | 0 | 5 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Parking (#/hr) | | | | | | | | | 0 | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 1.2 | 82.2 | | 5.2 | 86.2 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Effective Green, g (s) | 1.2 | 82.2 | | 5.2 | 86.2 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Actuated g/C Ratio | 0.01 | 0.75 | | 0.05 | 0.78 | | 0.03 | 0.03 | | 0.03 | 0.03 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 19 | 1378 | | 75 | 1550 | | 49 | 43 | | 51 | 43 | |
| v/s Ratio Prot | 0.00 | 0.13 | | c0.02 | c0.16 | | | 0.00 | | | 0.00 | |
| v/s Ratio Perm | | | | | | | c0.01 | | | 0.00 | | |
| v/c Ratio | 0.05 | 0.17 | | 0.40 | 0.20 | | 0.20 | 0.01 | | 0.10 | 0.00 | |
| Uniform Delay, d1 | 53.8 | 4.0 | | 50.9 | 3.1 | | 52.3 | 52.1 | | 52.2 | 52.0 | |
| Progression Factor | 0.91 | 0.76 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.2 | 0.3 | | 3.5 | 0.3 | | 2.1 | 0.1 | | 0.8 | 0.0 | |
| Delay (s) | 50.2 | 3.3 | | 54.4 | 3.3 | | 54.4 | 52.1 | | 53.0 | 52.1 | |
| Level of Service | D | A | | D | A | | D | D | | D | D | |
| Approach Delay (s) | | 3.5 | | | 7.8 | | | 53.2 | | | 52.5 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 9.7 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.22 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 46.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | SWR |
|---|---|
| Lane Configurations | |
| Volume (vph) | 10 |
| Ideal Flow (vphpl) | 1900 |
| Lane Width | 12 |
| Total Lost time (s) | 4.5 |
| Lane Util. Factor | 1.00 |
| Frpb, ped/bikes | 1.00 |
| Flpb, ped/bikes | 1.00 |
| Frt | 0.86 |
| Flt Protected | 1.00 |
| Satd. Flow (prot) | 1611 |
| Flt Permitted | 1.00 |
| Satd. Flow (perm) | 1611 |
| Peak-hour factor, PHF | 0.92 |
| Adj. Flow (vph) | 11 |
| RTOR Reduction (vph) | 0 |
| Lane Group Flow (vph) | 11 |
| Confl. Peds. (#/hr) | |
| Parking (#/hr) | |
| Turn Type | custom |
| Protected Phases | 9 |
| Permitted Phases | |
| Actuated Green, G (s) | 1.6 |
| Effective Green, g (s) | 1.6 |
| Actuated g/C Ratio | 0.01 |
| Clearance Time (s) | 4.5 |
| Vehicle Extension (s) | 3.0 |
| Lane Grp Cap (vph) | 23 |
| v/s Ratio Prot | c0.01 |
| v/s Ratio Perm | |
| v/c Ratio | 0.48 |
| Uniform Delay, d1 | 53.8 |
| Progression Factor | 1.00 |
| Incremental Delay, d2 | 14.8 |
| Delay (s) | 68.6 |
| Level of Service | E |
| Approach Delay (s) | |
| Approach LOS | |

Intersection Summary

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 55 | 228 | 7 | 256 | 41 | 59 | 7 | 36 | 276 |
| v/c Ratio | 0.17 | 0.28 | 0.03 | 0.41 | 0.14 | 0.10 | 0.02 | 0.09 | 0.47 |
| Control Delay | 20.9 | 8.3 | 22.7 | 13.5 | 14.4 | 13.0 | 9.2 | 13.5 | 13.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 20.9 | 8.3 | 22.7 | 13.5 | 14.4 | 13.0 | 9.2 | 13.5 | 13.7 |
| Queue Length 50th (ft) | 8 | 22 | 1 | 29 | 5 | 7 | 0 | 4 | 28 |
| Queue Length 95th (ft) | 48 | 87 | 13 | 119 | 31 | 38 | 8 | 28 | 125 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 325 | 1471 | 233 | 1206 | 719 | 1426 | 1016 | 951 | 1379 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.17 | 0.15 | 0.03 | 0.21 | 0.06 | 0.04 | 0.01 | 0.04 | 0.20 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 51 | 137 | 73 | 6 | 197 | 39 | 38 | 54 | 6 | 33 | 152 | 102 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1909 | | 1711 | 1671 | | 1652 | 1863 | 1329 | 1646 | 1785 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.54 | 1.00 | 1.00 | 0.72 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1909 | | 1711 | 1671 | | 939 | 1863 | 1329 | 1245 | 1785 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 55 | 149 | 79 | 7 | 214 | 42 | 41 | 59 | 7 | 36 | 165 | 111 |
| RTOR Reduction (vph) | 0 | 25 | 0 | 0 | 10 | 0 | 0 | 0 | 5 | 0 | 37 | 0 |
| Lane Group Flow (vph) | 55 | 203 | 0 | 7 | 246 | 0 | 41 | 59 | 2 | 36 | 239 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 2.1 | 16.9 | | 0.7 | 15.5 | | 12.4 | 12.4 | 12.4 | 12.4 | 12.4 | |
| Effective Green, g (s) | 2.1 | 16.9 | | 0.7 | 15.5 | | 12.4 | 12.4 | 12.4 | 12.4 | 12.4 | |
| Actuated g/C Ratio | 0.05 | 0.39 | | 0.02 | 0.36 | | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 84 | 750 | | 28 | 602 | | 271 | 537 | 383 | 359 | 515 | |
| v/s Ratio Prot | c0.03 | 0.11 | | 0.00 | c0.15 | | | 0.03 | | | c0.13 | |
| v/s Ratio Perm | | | | | | | 0.04 | | 0.00 | 0.03 | | |
| v/c Ratio | 0.65 | 0.27 | | 0.25 | 0.41 | | 0.15 | 0.11 | 0.01 | 0.10 | 0.46 | |
| Uniform Delay, d1 | 20.1 | 8.9 | | 20.9 | 10.3 | | 11.4 | 11.2 | 10.9 | 11.2 | 12.6 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 18.5 | 0.3 | | 6.3 | 0.6 | | 0.4 | 0.1 | 0.0 | 0.2 | 0.9 | |
| Delay (s) | 38.6 | 9.1 | | 27.2 | 10.9 | | 11.7 | 11.4 | 10.9 | 11.4 | 13.5 | |
| Level of Service | D | A | | C | B | | B | B | B | B | B | |
| Approach Delay (s) | | 14.9 | | | 11.4 | | | 11.5 | | | 13.2 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 13.0 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.45 | | |
| Actuated Cycle Length (s) | 43.0 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 51.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 79 | 67 | 3 | 10 | 247 | 433 | 40 | 24 | 490 |
| v/c Ratio | 0.30 | 0.13 | 0.03 | 0.04 | 0.59 | 0.26 | 0.05 | 0.15 | 0.56 |
| Control Delay | 33.9 | 7.5 | 38.3 | 19.2 | 30.8 | 11.8 | 6.8 | 38.1 | 21.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 33.9 | 7.5 | 38.3 | 19.2 | 30.8 | 11.8 | 6.8 | 38.1 | 21.1 |
| Queue Length 50th (ft) | 25 | 2 | 1 | 2 | 76 | 35 | 1 | 8 | 62 |
| Queue Length 95th (ft) | 96 | 32 | 11 | 14 | 232 | 133 | 23 | 42 | 168 |
| Internal Link Dist (ft) | | 1442 | | 221 | | 1609 | | | 1977 |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | |
| Base Capacity (vph) | 311 | 1047 | 120 | 927 | 660 | 2303 | 1035 | 156 | 1477 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.25 | 0.06 | 0.03 | 0.01 | 0.37 | 0.19 | 0.04 | 0.15 | 0.33 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 73 | 9 | 52 | 3 | 5 | 5 | 227 | 398 | 37 | 22 | 292 | 159 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.87 | | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.95 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1541 | | 1652 | 1592 | | 1652 | 3240 | 1454 | 1711 | 3199 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1541 | | 1652 | 1592 | | 1652 | 3240 | 1454 | 1711 | 3199 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 79 | 10 | 57 | 3 | 5 | 5 | 247 | 433 | 40 | 24 | 317 | 173 |
| RTOR Reduction (vph) | 0 | 41 | 0 | 0 | 4 | 0 | 0 | 0 | 16 | 0 | 70 | 0 |
| Lane Group Flow (vph) | 79 | 26 | 0 | 3 | 6 | 0 | 247 | 433 | 24 | 24 | 420 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 7.1 | 19.0 | | 0.5 | 12.4 | | 15.8 | 32.2 | 32.2 | 1.6 | 18.0 | |
| Effective Green, g (s) | 7.1 | 19.0 | | 0.5 | 12.4 | | 15.8 | 32.2 | 32.2 | 1.6 | 18.0 | |
| Actuated g/C Ratio | 0.11 | 0.29 | | 0.01 | 0.19 | | 0.24 | 0.49 | 0.49 | 0.02 | 0.27 | |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 185 | 445 | | 13 | 300 | | 397 | 1586 | 712 | 42 | 875 | |
| v/s Ratio Prot | c0.05 | c0.02 | | 0.00 | 0.00 | | c0.15 | 0.13 | | 0.01 | c0.13 | |
| v/s Ratio Perm | | | | | | | | | 0.02 | | | |
| v/c Ratio | 0.43 | 0.06 | | 0.23 | 0.02 | | 0.62 | 0.27 | 0.03 | 0.57 | 0.48 | |
| Uniform Delay, d1 | 27.4 | 16.9 | | 32.5 | 21.7 | | 22.3 | 9.9 | 8.7 | 31.8 | 20.0 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 2.2 | 0.1 | | 12.0 | 0.0 | | 3.4 | 0.1 | 0.0 | 20.6 | 0.6 | |
| Delay (s) | 29.6 | 17.0 | | 44.5 | 21.8 | | 25.8 | 10.0 | 8.7 | 52.3 | 20.6 | |
| Level of Service | C | B | | D | C | | C | B | A | D | C | |
| Approach Delay (s) | | 23.8 | | | 27.0 | | | 15.4 | | | 22.0 | |
| Approach LOS | | C | | | C | | | B | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 18.8 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.40 | | |
| Actuated Cycle Length (s) | 65.8 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 47.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 58 | 16 | 16 | 614 | 611 |
| v/c Ratio | 0.17 | 0.05 | 0.03 | 0.25 | 0.26 |
| Control Delay | 14.8 | 7.3 | 5.6 | 4.7 | 4.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 14.8 | 7.3 | 5.6 | 4.7 | 4.6 |
| Queue Length 50th (ft) | 14 | 0 | 1 | 27 | 26 |
| Queue Length 95th (ft) | 32 | 10 | 10 | 88 | 86 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 853 | 694 | 553 | 2449 | 2427 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.07 | 0.02 | 0.03 | 0.25 | 0.25 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 53 | 15 | 15 | 565 | 526 | 36 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3208 | |
| Flt Permitted | 0.95 | 1.00 | 0.42 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 731 | 3240 | 3208 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 58 | 16 | 16 | 614 | 572 | 39 |
| RTOR Reduction (vph) | 0 | 14 | 0 | 0 | 6 | 0 |
| Lane Group Flow (vph) | 58 | 2 | 16 | 614 | 605 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 5.5 | 5.5 | 27.6 | 27.6 | 27.6 | |
| Effective Green, g (s) | 5.5 | 5.5 | 27.6 | 27.6 | 27.6 | |
| Actuated g/C Ratio | 0.13 | 0.13 | 0.66 | 0.66 | 0.66 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 216 | 174 | 479 | 2124 | 2103 | |
| v/s Ratio Prot | c0.04 | | | c0.19 | 0.19 | |
| v/s Ratio Perm | | 0.00 | 0.02 | | | |
| v/c Ratio | 0.27 | 0.01 | 0.03 | 0.29 | 0.29 | |
| Uniform Delay, d1 | 16.5 | 15.9 | 2.6 | 3.1 | 3.1 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.7 | 0.0 | 0.1 | 0.2 | 0.2 | |
| Delay (s) | 17.2 | 16.0 | 2.6 | 3.3 | 3.3 | |
| Level of Service | B | B | A | A | A | |
| Approach Delay (s) | 16.9 | | | 3.3 | 3.3 | |
| Approach LOS | B | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.1 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.29 | | |
| Actuated Cycle Length (s) | 42.1 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 26.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 854 | 679 | 490 | 1257 | 678 | 742 |
| v/c Ratio | 0.73 | 0.50 | 0.64 | 0.59 | 0.40 | 0.87 |
| Control Delay | 28.0 | 3.1 | 42.8 | 12.6 | 0.7 | 40.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.0 | 3.1 | 42.8 | 12.6 | 0.7 | 40.9 |
| Queue Length 50th (ft) | 189 | 12 | 172 | 244 | 0 | 213 |
| Queue Length 95th (ft) | 321 | 28 | 224 | 309 | 0 | 289 |
| Internal Link Dist (ft) | 364 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 1163 | 1359 | 770 | 2136 | 1686 | 933 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.73 | 0.50 | 0.64 | 0.59 | 0.40 | 0.80 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 786 | 625 | 451 | 1156 | 0 | 0 | 0 | 624 | 0 | 0 | 683 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.5 | 4.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | | | 1.00 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2787 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2787 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 854 | 679 | 490 | 1257 | 0 | 0 | 0 | 678 | 0 | 0 | 742 |
| RTOR Reduction (vph) | 0 | 0 | 443 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 87 |
| Lane Group Flow (vph) | 0 | 854 | 236 | 490 | 1257 | 0 | 0 | 0 | 678 | 0 | 0 | 655 |
| Confl. Peds. (#/hr) | | | | 4 | | | | | | | | |
| Heavy Vehicles (%) | 2% | 4% | 4% | 4% | 4% | 2% | 2% | 2% | 4% | 2% | 2% | 2% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 | | 1 | 6 | | | | | | | 4 |
| Permitted Phases | | | 2 | | | | | | Free | | | 4 |
| Actuated Green, G (s) | | 34.7 | 34.7 | 24.5 | 63.7 | | | | 100.0 | | | 27.3 |
| Effective Green, g (s) | | 34.7 | 34.7 | 24.5 | 63.7 | | | | 100.0 | | | 27.3 |
| Actuated g/C Ratio | | 0.35 | 0.35 | 0.24 | 0.64 | | | | 1.00 | | | 0.27 |
| Clearance Time (s) | | 4.5 | 4.5 | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 1164 | 917 | 770 | 2137 | | | | 1686 | | | 761 |
| v/s Ratio Prot | | c0.25 | | 0.16 | c0.37 | | | | | | | c0.23 |
| v/s Ratio Perm | | | 0.09 | | | | | | 0.40 | | | |
| v/c Ratio | | 0.73 | 0.26 | 0.64 | 0.59 | | | | 0.40 | | | 0.86 |
| Uniform Delay, d1 | | 28.6 | 23.4 | 33.8 | 10.5 | | | | 0.0 | | | 34.5 |
| Progression Factor | | 0.80 | 0.86 | 1.14 | 1.03 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 3.9 | 0.6 | 3.7 | 1.0 | | | | 0.7 | | | 9.8 |
| Delay (s) | | 26.9 | 20.8 | 42.3 | 11.8 | | | | 0.7 | | | 44.3 |
| Level of Service | | C | C | D | B | | | | A | | | D |
| Approach Delay (s) | | 24.2 | | | 20.4 | | | 0.7 | | | 44.3 | |
| Approach LOS | | C | | | C | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 22.6 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.71 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 63.3% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 505 | 1028 | 801 | 521 | 658 | 992 |
| v/c Ratio | 0.68 | 0.31 | 0.41 | 0.56 | 0.41 | 0.65 |
| Control Delay | 23.6 | 0.2 | 2.7 | 6.2 | 0.8 | 2.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.6 | 0.2 | 2.7 | 6.2 | 0.8 | 2.2 |
| Queue Length 50th (ft) | 132 | 0 | 27 | 25 | 0 | 0 |
| Queue Length 95th (ft) | 173 | 0 | 43 | 150 | 0 | 0 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 798 | 3355 | 1959 | 926 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.63 | 0.31 | 0.41 | 0.56 | 0.41 | 0.65 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 465 | 946 | 0 | 0 | 737 | 479 | 0 | 0 | 605 | 0 | 0 | 913 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 505 | 1028 | 0 | 0 | 801 | 521 | 0 | 0 | 658 | 0 | 0 | 992 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 32 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 505 | 1028 | 0 | 0 | 801 | 489 | 0 | 0 | 658 | 0 | 0 | 992 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 11.8 | 50.0 | | | 29.2 | 29.2 | | | 50.0 | | | 50.0 |
| Effective Green, g (s) | 11.8 | 50.0 | | | 29.2 | 29.2 | | | 50.0 | | | 50.0 |
| Actuated g/C Ratio | 0.24 | 1.00 | | | 0.58 | 0.58 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 742 | 3355 | | | 1959 | 894 | | | 1611 | | | 1528 |
| v/s Ratio Prot | 0.16 | 0.31 | | | 0.24 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.32 | | | 0.41 | | | c0.65 |
| v/c Ratio | 0.68 | 0.31 | | | 0.41 | 0.55 | | | 0.41 | | | 0.65 |
| Uniform Delay, d1 | 17.4 | 0.0 | | | 5.7 | 6.4 | | | 0.0 | | | 0.0 |
| Progression Factor | 1.12 | 1.00 | | | 0.37 | 0.68 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 2.1 | 0.2 | | | 0.6 | 2.2 | | | 0.8 | | | 2.2 |
| Delay (s) | 21.7 | 0.2 | | | 2.7 | 6.5 | | | 0.8 | | | 2.2 |
| Level of Service | C | A | | | A | A | | | A | | | A |
| Approach Delay (s) | | 7.3 | | | 4.2 | | | 0.8 | | | 2.2 | |
| Approach LOS | | A | | | A | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.3 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.65 | | |
| Actuated Cycle Length (s) | 50.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 50.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 267 | 325 | 458 | 256 | 13 | 278 | 537 | 15 | 42 | 516 | 172 |
| v/c Ratio | 0.68 | 0.45 | 0.26 | 0.72 | 0.04 | 0.76 | 0.34 | 0.03 | 0.35 | 0.64 | 0.37 |
| Control Delay | 33.0 | 25.7 | 0.4 | 52.0 | 21.3 | 52.2 | 20.5 | 11.2 | 58.5 | 39.9 | 16.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 33.0 | 25.7 | 0.4 | 52.0 | 21.3 | 52.2 | 20.5 | 11.2 | 58.5 | 39.9 | 16.6 |
| Queue Length 50th (ft) | 129 | 162 | 0 | 165 | 2 | 180 | 131 | 1 | 28 | 164 | 34 |
| Queue Length 95th (ft) | #224 | 259 | 0 | 268 | 19 | 286 | 184 | 14 | 69 | 243 | 100 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 394 | 816 | 1770 | 448 | 389 | 478 | 1749 | 653 | 124 | 923 | 511 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.68 | 0.40 | 0.26 | 0.57 | 0.03 | 0.58 | 0.31 | 0.02 | 0.34 | 0.56 | 0.34 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 246 | 299 | 421 | 4 | 232 | 12 | 256 | 494 | 14 | 39 | 475 | 158 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.96 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1737 | 1473 | 1652 | 3539 | 1337 | 1652 | 3303 | 1551 |
| Flt Permitted | 0.27 | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 469 | 1739 | 1770 | | 1728 | 1473 | 1652 | 3539 | 1337 | 1652 | 3303 | 1551 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 267 | 325 | 458 | 4 | 252 | 13 | 278 | 537 | 15 | 42 | 516 | 172 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 7 | 0 | 0 | 80 |
| Lane Group Flow (vph) | 267 | 325 | 458 | 0 | 256 | 5 | 278 | 537 | 8 | 42 | 516 | 92 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 41.7 | 41.7 | 104.5 | | 20.6 | 20.6 | 21.8 | 44.8 | 44.8 | 3.6 | 26.5 | 26.5 |
| Effective Green, g (s) | 42.2 | 42.2 | 104.5 | | 21.1 | 21.1 | 22.8 | 45.8 | 44.8 | 4.5 | 27.5 | 27.5 |
| Actuated g/C Ratio | 0.40 | 0.40 | 1.00 | | 0.20 | 0.20 | 0.22 | 0.44 | 0.43 | 0.04 | 0.26 | 0.26 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.9 | 5.0 | 5.0 |
| Vehicle Extension (s) | 4.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 383 | 702 | 1770 | | 349 | 297 | 360 | 1551 | 573 | 71 | 869 | 408 |
| v/s Ratio Prot | c0.11 | 0.19 | | | | | c0.17 | 0.15 | | 0.03 | c0.16 | |
| v/s Ratio Perm | c0.17 | | 0.26 | | 0.15 | 0.00 | | | 0.01 | | | 0.06 |
| v/c Ratio | 0.70 | 0.46 | 0.26 | | 0.73 | 0.02 | 0.77 | 0.35 | 0.01 | 0.59 | 0.59 | 0.22 |
| Uniform Delay, d1 | 23.4 | 22.8 | 0.0 | | 39.1 | 33.4 | 38.4 | 19.4 | 17.2 | 49.1 | 33.6 | 30.2 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 5.9 | 0.7 | 0.4 | | 8.3 | 0.0 | 9.9 | 0.4 | 0.0 | 13.2 | 2.0 | 0.8 |
| Delay (s) | 29.3 | 23.5 | 0.4 | | 47.3 | 33.4 | 48.3 | 19.8 | 17.2 | 62.3 | 35.6 | 30.9 |
| Level of Service | C | C | A | | D | C | D | B | B | E | D | C |
| Approach Delay (s) | | 14.9 | | | 46.7 | | | 29.3 | | | 36.1 | |
| Approach LOS | | B | | | D | | | C | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 27.4 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.68 | | |
| Actuated Cycle Length (s) | 104.5 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 71.0% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBT | WBR | NBT | SBL | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 29 | 90 | 789 | 160 | 741 |
| v/c Ratio | 0.10 | 0.23 | 0.22 | 0.37 | 0.29 |
| Control Delay | 13.9 | 5.6 | 3.9 | 9.5 | 4.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 13.9 | 5.6 | 3.9 | 9.5 | 4.6 |
| Queue Length 50th (ft) | 5 | 0 | 20 | 14 | 30 |
| Queue Length 95th (ft) | 22 | 25 | 67 | 85 | 103 |
| Internal Link Dist (ft) | 217 | | 650 | | 443 |
| Turn Bay Length (ft) | | | | 115 | |
| Base Capacity (vph) | 733 | 817 | 4079 | 482 | 2882 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.04 | 0.11 | 0.19 | 0.33 | 0.26 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 26 | 1 | 83 | 0 | 688 | 38 | 147 | 680 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.99 | | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | | 0.99 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1570 | 1401 | | 4910 | | 1619 | 3470 | |
| Flt Permitted | | | | | 0.80 | 1.00 | | 1.00 | | 0.34 | 1.00 | |
| Satd. Flow (perm) | | | | | 1320 | 1401 | | 4910 | | 582 | 3470 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 28 | 1 | 90 | 0 | 748 | 41 | 160 | 739 | 2 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 78 | 0 | 8 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 29 | 12 | 0 | 781 | 0 | 160 | 741 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 4.9 | 4.9 | | 24.3 | | 24.3 | 24.3 | |
| Effective Green, g (s) | | | | | 4.9 | 4.9 | | 24.3 | | 24.3 | 24.3 | |
| Actuated g/C Ratio | | | | | 0.13 | 0.13 | | 0.64 | | 0.64 | 0.64 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 171 | 182 | | 3156 | | 374 | 2231 | |
| v/s Ratio Prot | | | | | | | | 0.16 | | | 0.21 | |
| v/s Ratio Perm | | | | | c0.02 | 0.01 | | | | c0.28 | | |
| v/c Ratio | | | | | 0.17 | 0.06 | | 0.25 | | 0.43 | 0.33 | |
| Uniform Delay, d1 | | | | | 14.6 | 14.4 | | 2.9 | | 3.3 | 3.1 | |
| Progression Factor | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | | | | 0.5 | 0.1 | | 0.0 | | 0.3 | 0.0 | |
| Delay (s) | | | | | 15.1 | 14.6 | | 2.9 | | 3.6 | 3.1 | |
| Level of Service | | | | | B | B | | A | | A | A | |
| Approach Delay (s) | | 0.0 | | | 14.7 | | | 2.9 | | | 3.2 | |
| Approach LOS | | A | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 3.8 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.38 | | |
| Actuated Cycle Length (s) | 37.8 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 39.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1 | 226 | 317 | 9 | 7 |
| v/c Ratio | 0.01 | 0.13 | 0.10 | 0.09 | 0.07 |
| Control Delay | 45.0 | 0.9 | 1.3 | 50.6 | 28.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 45.0 | 0.9 | 1.3 | 50.6 | 28.8 |
| Queue Length 50th (ft) | 0 | 0 | 0 | 6 | 0 |
| Queue Length 95th (ft) | m3 | 40 | 6 | 23 | 15 |
| Internal Link Dist (ft) | | 525 | 522 | 196 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 378 | 1755 | 3244 | 410 | 372 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.00 | 0.13 | 0.10 | 0.02 | 0.02 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 1 | 208 | 279 | 13 | 8 | 6 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.99 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3516 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3516 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1 | 226 | 303 | 14 | 9 | 7 |
| RTOR Reduction (vph) | 0 | 0 | 1 | 0 | 0 | 7 |
| Lane Group Flow (vph) | 1 | 226 | 316 | 0 | 9 | 0 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 1.2 | 98.2 | 92.5 | | 2.8 | 2.8 |
| Effective Green, g (s) | 1.2 | 98.2 | 92.5 | | 2.8 | 2.8 |
| Actuated g/C Ratio | 0.01 | 0.89 | 0.84 | | 0.03 | 0.03 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 19 | 1663 | 2957 | | 45 | 40 |
| v/s Ratio Prot | 0.00 | c0.12 | 0.09 | | c0.01 | |
| v/s Ratio Perm | | | | | | 0.00 |
| v/c Ratio | 0.05 | 0.14 | 0.11 | | 0.20 | 0.00 |
| Uniform Delay, d1 | 53.8 | 0.7 | 1.5 | | 52.5 | 52.2 |
| Progression Factor | 0.90 | 0.95 | 0.92 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.1 | 0.2 | 0.1 | | 2.2 | 0.0 |
| Delay (s) | 49.7 | 0.9 | 1.5 | | 54.7 | 52.3 |
| Level of Service | D | A | A | | D | D |
| Approach Delay (s) | | 1.1 | 1.5 | | 53.6 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 2.8 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.14 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 23.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 85 | 183 | 276 | 65 | 1098 | 46 | 691 | 350 | 727 | 892 | 53 |
| v/c Ratio | 1.08 | 0.50 | 0.24 | 0.09 | 1.14 | 0.54 | 0.63 | 0.35 | 1.16 | 0.70 | 0.09 |
| Control Delay | 185.3 | 47.8 | 34.3 | 26.5 | 100.6 | 87.2 | 50.5 | 1.8 | 138.6 | 39.7 | 8.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 185.3 | 47.8 | 34.3 | 26.5 | 100.6 | 87.2 | 50.5 | 1.8 | 138.6 | 39.7 | 8.0 |
| Queue Length 50th (ft) | ~88 | 64 | 90 | 37 | ~1180 | 42 | 206 | 0 | ~412 | 360 | 1 |
| Queue Length 95th (ft) | #204 | 94 | 147 | 70 | #1447 | 85 | 252 | 23 | #539 | 453 | 31 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 79 | 1015 | 1145 | 692 | 964 | 117 | 1177 | 1012 | 625 | 1270 | 623 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.08 | 0.18 | 0.24 | 0.09 | 1.14 | 0.39 | 0.59 | 0.35 | 1.16 | 0.70 | 0.09 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 78 | 120 | 49 | 254 | 60 | 1010 | 42 | 636 | 322 | 669 | 821 | 49 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | 4.5 | 3.5 | 3.8 | 3.8 | 3.5 | 3.8 | 3.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3057 | | 3255 | 1689 | 1501 | 1620 | 4655 | 1449 | 3143 | 3240 | 1512 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3057 | | 3255 | 1689 | 1501 | 1620 | 4655 | 1449 | 3143 | 3240 | 1512 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 85 | 130 | 53 | 276 | 65 | 1098 | 46 | 691 | 350 | 727 | 892 | 53 |
| RTOR Reduction (vph) | 0 | 41 | 0 | 0 | 0 | 13 | 0 | 0 | 144 | 0 | 0 | 31 |
| Lane Group Flow (vph) | 85 | 142 | 0 | 276 | 65 | 1085 | 46 | 691 | 206 | 727 | 892 | 22 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 6.5 | 14.5 | | 48.7 | 56.7 | 88.7 | 6.4 | 33.2 | 81.9 | 27.5 | 54.3 | 54.3 |
| Effective Green, g (s) | 6.5 | 14.5 | | 48.7 | 56.7 | 88.7 | 6.4 | 33.2 | 81.9 | 27.5 | 54.3 | 54.3 |
| Actuated g/C Ratio | 0.05 | 0.10 | | 0.35 | 0.41 | 0.64 | 0.05 | 0.24 | 0.59 | 0.20 | 0.39 | 0.39 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 4.0 | | 2.0 | 4.5 | 4.5 |
| Lane Grp Cap (vph) | 78 | 318 | | 1139 | 688 | 956 | 74 | 1110 | 853 | 621 | 1264 | 590 |
| v/s Ratio Prot | c0.05 | 0.05 | | 0.08 | 0.04 | c0.72 | 0.03 | 0.15 | 0.14 | c0.23 | c0.28 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.01 |
| v/c Ratio | 1.09 | 0.45 | | 0.24 | 0.09 | 1.14 | 0.62 | 0.62 | 0.24 | 1.17 | 0.71 | 0.04 |
| Uniform Delay, d1 | 66.3 | 58.6 | | 32.1 | 25.4 | 25.2 | 65.2 | 47.4 | 13.7 | 55.8 | 35.7 | 26.3 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 128.5 | 1.7 | | 0.0 | 0.1 | 73.9 | 11.1 | 1.2 | 0.2 | 93.2 | 2.1 | 0.0 |
| Delay (s) | 194.8 | 60.3 | | 32.2 | 25.5 | 99.1 | 76.3 | 48.6 | 13.9 | 149.0 | 37.8 | 26.3 |
| Level of Service | F | E | | C | C | F | E | D | B | F | D | C |
| Approach Delay (s) | | 103.0 | | | 83.0 | | | 38.6 | | | 85.8 | |
| Approach LOS | | F | | | F | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 74.4 | HCM Level of Service | E |
| HCM Volume to Capacity ratio | 1.02 | | |
| Actuated Cycle Length (s) | 139.2 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 91.0% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 179 | 988 | 157 | 1184 | 508 | 76 | 289 | 878 | 550 |
| v/c Ratio | 0.97 | 0.79 | 0.80 | 0.97 | 0.60 | 0.59 | 0.95 | 0.98 | 0.91 |
| Control Delay | 106.1 | 34.1 | 73.0 | 39.4 | 3.8 | 66.6 | 55.5 | 63.1 | 39.6 |
| Queue Delay | 0.0 | 7.4 | 0.0 | 34.1 | 1.0 | 0.0 | 29.8 | 23.4 | 0.0 |
| Total Delay | 106.1 | 41.5 | 73.0 | 73.5 | 4.8 | 66.6 | 85.3 | 86.4 | 39.6 |
| Queue Length 50th (ft) | 122 | 308 | 95 | 304 | 0 | 50 | 52 | 301 | 200 |
| Queue Length 95th (ft) | #259 | 395 | m126 | m#557 | m52 | #112 | #219 | #432 | #419 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 185 | 1247 | 216 | 1218 | 840 | 128 | 305 | 898 | 604 |
| Starvation Cap Reductn | 0 | 0 | 0 | 125 | 138 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 222 | 0 | 0 | 0 | 0 | 33 | 69 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.97 | 0.96 | 0.73 | 1.08 | 0.72 | 0.59 | 1.06 | 1.06 | 0.91 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 165 | 899 | 10 | 144 | 980 | 577 | 70 | 3 | 263 | 808 | 57 | 449 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.91 | 0.91 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.99 | 1.00 | 0.99 | | 1.00 | 0.98 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.98 | 0.85 | 1.00 | 0.85 | | 1.00 | 0.87 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3173 | | 1620 | 3026 | 1319 | 1678 | 1431 | | 3143 | 1445 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3173 | | 1620 | 3026 | 1319 | 1678 | 1431 | | 3143 | 1445 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 179 | 977 | 11 | 157 | 1065 | 627 | 76 | 3 | 286 | 878 | 62 | 488 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 8 | 300 | 0 | 196 | 0 | 0 | 191 | 0 |
| Lane Group Flow (vph) | 179 | 987 | 0 | 157 | 1176 | 208 | 76 | 93 | 0 | 878 | 359 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 12.0 | 41.3 | | 12.7 | 42.0 | 42.0 | 8.0 | 8.0 | | 30.0 | 30.0 | |
| Effective Green, g (s) | 12.0 | 41.3 | | 12.7 | 42.0 | 43.0 | 8.0 | 8.0 | | 30.0 | 30.0 | |
| Actuated g/C Ratio | 0.11 | 0.39 | | 0.12 | 0.40 | 0.41 | 0.08 | 0.08 | | 0.29 | 0.29 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 185 | 1248 | | 196 | 1210 | 540 | 128 | 109 | | 898 | 413 | |
| v/s Ratio Prot | c0.11 | 0.31 | | 0.10 | c0.39 | | 0.05 | c0.07 | | c0.28 | 0.25 | |
| v/s Ratio Perm | | | | | | 0.16 | | | | | | |
| v/c Ratio | 0.97 | 0.79 | | 0.80 | 0.97 | 0.39 | 0.59 | 0.85 | | 0.98 | 0.87 | |
| Uniform Delay, d1 | 46.3 | 28.1 | | 44.9 | 30.9 | 21.7 | 46.9 | 47.9 | | 37.2 | 35.6 | |
| Progression Factor | 1.00 | 1.00 | | 1.21 | 0.77 | 0.86 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 55.8 | 5.2 | | 12.8 | 14.7 | 1.3 | 4.8 | 42.8 | | 24.4 | 17.3 | |
| Delay (s) | 102.1 | 33.2 | | 67.1 | 38.5 | 20.0 | 51.8 | 90.8 | | 61.6 | 52.9 | |
| Level of Service | F | C | | E | D | C | D | F | | E | D | |
| Approach Delay (s) | | 43.8 | | | 35.8 | | | 82.6 | | | 58.2 | |
| Approach LOS | | D | | | D | | | F | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 48.0 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.96 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 95.2% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 85 | 2162 | 322 | 1527 | 330 | 789 | 78 | 51 |
| v/c Ratio | 0.75 | 0.95 | 0.84 | 0.81 | 0.97 | 0.89 | 0.88 | 0.46 |
| Control Delay | 65.0 | 27.1 | 68.2 | 15.6 | 84.4 | 38.9 | 117.3 | 39.7 |
| Queue Delay | 0.0 | 34.3 | 0.0 | 1.4 | 0.0 | 0.0 | 0.0 | 0.1 |
| Total Delay | 65.0 | 61.4 | 68.2 | 17.0 | 84.4 | 38.9 | 117.3 | 39.8 |
| Queue Length 50th (ft) | 54 | 364 | 118 | 286 | 222 | 217 | 53 | 14 |
| Queue Length 95th (ft) | m64 | m#546 | m#169 | 392 | #397 | #314 | #144 | 53 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 123 | 2282 | 410 | 1894 | 345 | 909 | 89 | 110 |
| Starvation Cap Reductn | 0 | 274 | 0 | 111 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 189 | 0 | 0 | 0 | 1 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.69 | 1.08 | 0.79 | 0.90 | 0.96 | 0.87 | 0.88 | 0.47 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 78 | 1800 | 189 | 296 | 1289 | 116 | 266 | 38 | 726 | 72 | 19 | 28 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.95 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.99 | 1.00 | 0.95 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4503 | | 3143 | 3277 | | | 1809 | 2802 | 1562 | 1430 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4503 | | 3143 | 3277 | | | 1809 | 2802 | 1562 | 1430 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 85 | 1957 | 205 | 322 | 1401 | 126 | 289 | 41 | 789 | 78 | 21 | 30 |
| RTOR Reduction (vph) | 0 | 12 | 0 | 0 | 6 | 0 | 0 | 0 | 28 | 0 | 28 | 0 |
| Lane Group Flow (vph) | 85 | 2150 | 0 | 322 | 1521 | 0 | 0 | 330 | 761 | 78 | 23 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 6.3 | 52.9 | | 12.8 | 59.9 | | | 19.8 | 32.6 | 6.0 | 6.0 | |
| Effective Green, g (s) | 6.3 | 52.9 | | 12.8 | 59.9 | | | 19.8 | 32.6 | 6.0 | 6.0 | |
| Actuated g/C Ratio | 0.06 | 0.50 | | 0.12 | 0.57 | | | 0.19 | 0.31 | 0.06 | 0.06 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 97 | 2269 | | 383 | 1869 | | | 341 | 870 | 89 | 82 | |
| v/s Ratio Prot | 0.05 | c0.48 | | 0.10 | 0.46 | | | c0.18 | c0.11 | c0.05 | 0.02 | |
| v/s Ratio Perm | | | | | | | | | 0.17 | | | |
| v/c Ratio | 0.88 | 0.95 | | 0.84 | 0.81 | | | 0.97 | 0.88 | 0.88 | 0.28 | |
| Uniform Delay, d1 | 49.0 | 24.7 | | 45.1 | 18.1 | | | 42.3 | 34.3 | 49.1 | 47.4 | |
| Progression Factor | 0.91 | 0.83 | | 1.20 | 0.69 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 32.1 | 5.8 | | 10.6 | 2.8 | | | 39.5 | 9.5 | 55.2 | 0.7 | |
| Delay (s) | 76.6 | 26.4 | | 64.6 | 15.3 | | | 81.8 | 43.8 | 104.3 | 48.1 | |
| Level of Service | E | C | | E | B | | | F | D | F | D | |
| Approach Delay (s) | | 28.3 | | | 23.9 | | | 55.0 | | | 82.1 | |
| Approach LOS | | C | | | C | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 33.6 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.94 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 81.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1392 | 547 | 1666 | 442 | 268 | 257 | 243 |
| v/c Ratio | 0.61 | 0.38 | 0.75 | 0.30 | 0.66 | 0.58 | 0.58 |
| Control Delay | 5.5 | 0.3 | 13.6 | 0.5 | 43.3 | 34.8 | 34.0 |
| Queue Delay | 0.3 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 5.8 | 0.3 | 13.7 | 0.5 | 43.3 | 34.8 | 34.0 |
| Queue Length 50th (ft) | 129 | 0 | 355 | 0 | 166 | 138 | 123 |
| Queue Length 95th (ft) | m118 | m0 | 448 | 0 | 260 | 229 | 208 |
| Internal Link Dist (ft) | 509 | | 867 | | | 1128 | |
| Turn Bay Length (ft) | | | | 75 | | | 80 |
| Base Capacity (vph) | 2275 | 1439 | 2218 | 1478 | 433 | 467 | 445 |
| Starvation Cap Reductn | 322 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 50 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.71 | 0.38 | 0.77 | 0.30 | 0.62 | 0.55 | 0.55 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1281 | 503 | 0 | 1533 | 407 | 0 | 0 | 0 | 358 | 0 | 349 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | 4.0 | 3.0 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.95 | 1.00 | | | | 0.95 | 0.91 | 0.95 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | 0.92 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 0.98 | 1.00 |
| Satd. Flow (prot) | | 3292 | 1439 | | 3209 | 1478 | | | | 1625 | 1701 | 1559 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 0.98 | 1.00 |
| Satd. Flow (perm) | | 3292 | 1439 | | 3209 | 1478 | | | | 1625 | 1701 | 1559 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1392 | 547 | 0 | 1666 | 442 | 0 | 0 | 0 | 389 | 0 | 379 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 30 |
| Lane Group Flow (vph) | 0 | 1392 | 547 | 0 | 1666 | 442 | 0 | 0 | 0 | 268 | 227 | 213 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Free | | | | custom | | Prot |
| Protected Phases | | 2 | | | 6 | | | | | 4 | 4 | 4 |
| Permitted Phases | | | 2 4 | | | Free | | | | 4 | | |
| Actuated Green, G (s) | | 71.6 | 105.0 | | 71.6 | 105.0 | | | | 25.4 | 25.4 | 25.4 |
| Effective Green, g (s) | | 72.6 | 105.0 | | 72.6 | 105.0 | | | | 26.4 | 25.4 | 26.4 |
| Actuated g/C Ratio | | 0.69 | 1.00 | | 0.69 | 1.00 | | | | 0.25 | 0.24 | 0.25 |
| Clearance Time (s) | | 4.0 | | | 4.0 | | | | | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | | | | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | | 2276 | 1439 | | 2219 | 1478 | | | | 409 | 411 | 392 |
| v/s Ratio Prot | | 0.42 | | | c0.52 | | | | | c0.16 | 0.13 | 0.14 |
| v/s Ratio Perm | | | 0.38 | | | 0.30 | | | | | | |
| v/c Ratio | | 0.61 | 0.38 | | 0.75 | 0.30 | | | | 0.66 | 0.55 | 0.54 |
| Uniform Delay, d1 | | 8.7 | 0.0 | | 10.4 | 0.0 | | | | 35.2 | 34.8 | 34.1 |
| Progression Factor | | 0.54 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.5 | 0.1 | | 2.4 | 0.5 | | | | 4.2 | 2.0 | 1.9 |
| Delay (s) | | 5.1 | 0.1 | | 12.8 | 0.5 | | | | 39.4 | 36.8 | 36.0 |
| Level of Service | | A | A | | B | A | | | | D | D | D |
| Approach Delay (s) | | 3.7 | | | 10.2 | | | 0.0 | | | 37.4 | |
| Approach LOS | | A | | | B | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 11.9 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 6.0 |
| Intersection Capacity Utilization | 63.4% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 604 | 50 | 42 | 211 | 191 | 428 |
| v/c Ratio | 0.85 | 0.08 | 0.42 | 0.25 | 0.30 | 0.50 |
| Control Delay | 29.2 | 3.5 | 42.9 | 13.3 | 18.7 | 4.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.2 | 3.5 | 42.9 | 13.3 | 18.7 | 4.7 |
| Queue Length 50th (ft) | 194 | 0 | 17 | 52 | 59 | 0 |
| Queue Length 95th (ft) | #320 | 15 | #50 | 99 | 114 | 60 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 800 | 742 | 100 | 828 | 647 | 857 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.76 | 0.07 | 0.42 | 0.25 | 0.30 | 0.50 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 556 | 46 | 39 | 194 | 176 | 394 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1560 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1560 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 604 | 50 | 42 | 211 | 191 | 428 |
| RTOR Reduction (vph) | 0 | 29 | 0 | 0 | 0 | 276 |
| Lane Group Flow (vph) | 604 | 21 | 42 | 211 | 191 | 152 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 27.5 | 27.5 | 2.4 | 29.5 | 23.1 | 23.1 |
| Effective Green, g (s) | 27.5 | 27.5 | 2.4 | 29.5 | 23.1 | 23.1 |
| Actuated g/C Ratio | 0.42 | 0.42 | 0.04 | 0.45 | 0.36 | 0.36 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 710 | 635 | 60 | 829 | 606 | 554 |
| v/s Ratio Prot | c0.36 | | c0.03 | 0.12 | c0.11 | |
| v/s Ratio Perm | | 0.01 | | | | 0.10 |
| v/c Ratio | 0.85 | 0.03 | 0.70 | 0.25 | 0.32 | 0.27 |
| Uniform Delay, d1 | 16.9 | 11.0 | 30.9 | 11.0 | 15.2 | 15.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 9.6 | 0.0 | 30.0 | 0.7 | 1.4 | 1.2 |
| Delay (s) | 26.5 | 11.0 | 61.0 | 11.7 | 16.6 | 16.2 |
| Level of Service | C | B | E | B | B | B |
| Approach Delay (s) | 25.3 | | | 19.9 | 16.3 | |
| Approach LOS | C | | | B | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 20.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.61 | | |
| Actuated Cycle Length (s) | 65.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 57.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 148 | 182 | 132 | 14 | 683 | 196 | 1085 |
| v/c Ratio | 0.39 | 0.50 | 0.30 | 0.07 | 0.40 | 0.57 | 0.64 |
| Control Delay | 17.0 | 21.3 | 5.3 | 8.7 | 8.2 | 19.0 | 11.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.0 | 21.3 | 5.3 | 8.7 | 8.2 | 19.0 | 11.2 |
| Queue Length 50th (ft) | 34 | 50 | 0 | 2 | 50 | 33 | 98 |
| Queue Length 95th (ft) | 73 | 96 | 30 | 12 | 124 | #153 | 236 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 649 | 638 | 680 | 212 | 1822 | 369 | 1832 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 0.29 | 0.19 | 0.07 | 0.37 | 0.53 | 0.59 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 35 | 80 | 21 | 92 | 75 | 121 | 13 | 569 | 60 | 180 | 955 | 43 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | | 0.99 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1529 | | | 1684 | 1307 | 1618 | 3027 | | 1560 | 3054 | |
| Flt Permitted | | 0.89 | | | 0.79 | 1.00 | 0.21 | 1.00 | | 0.38 | 1.00 | |
| Satd. Flow (perm) | | 1373 | | | 1370 | 1307 | 354 | 3027 | | 618 | 3054 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 38 | 87 | 23 | 100 | 82 | 132 | 14 | 618 | 65 | 196 | 1038 | 47 |
| RTOR Reduction (vph) | 0 | 12 | 0 | 0 | 0 | 97 | 0 | 11 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 0 | 136 | 0 | 0 | 182 | 35 | 14 | 672 | 0 | 196 | 1081 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 13.9 | | | 13.9 | 13.9 | 29.1 | 29.1 | | 29.1 | 29.1 | |
| Effective Green, g (s) | | 13.9 | | | 13.9 | 13.9 | 29.1 | 29.1 | | 29.1 | 29.1 | |
| Actuated g/C Ratio | | 0.27 | | | 0.27 | 0.27 | 0.56 | 0.56 | | 0.56 | 0.56 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 366 | | | 365 | 348 | 197 | 1687 | | 345 | 1703 | |
| v/s Ratio Prot | | | | | | | | 0.22 | | | c0.35 | |
| v/s Ratio Perm | | 0.10 | | | c0.13 | 0.03 | 0.04 | | | 0.32 | | |
| v/c Ratio | | 0.37 | | | 0.50 | 0.10 | 0.07 | 0.40 | | 0.57 | 0.63 | |
| Uniform Delay, d1 | | 15.6 | | | 16.2 | 14.4 | 5.3 | 6.6 | | 7.5 | 7.9 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.9 | | | 1.5 | 0.2 | 0.2 | 0.2 | | 2.6 | 0.9 | |
| Delay (s) | | 16.5 | | | 17.7 | 14.6 | 5.5 | 6.8 | | 10.1 | 8.8 | |
| Level of Service | | B | | | B | B | A | A | | B | A | |
| Approach Delay (s) | | 16.5 | | | 16.4 | | | 6.8 | | | 9.0 | |
| Approach LOS | | B | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 9.8 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.59 | | |
| Actuated Cycle Length (s) | 52.2 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 61.6% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 32 | 435 | 332 | 201 | 165 | 26 |
| v/c Ratio | 0.28 | 0.31 | 0.28 | 0.15 | 0.68 | 0.11 |
| Control Delay | 53.9 | 5.1 | 5.9 | 0.3 | 57.8 | 14.2 |
| Queue Delay | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 |
| Total Delay | 53.9 | 5.1 | 6.2 | 0.3 | 57.8 | 14.2 |
| Queue Length 50th (ft) | 22 | 78 | 35 | 0 | 111 | 0 |
| Queue Length 95th (ft) | 53 | 149 | 109 | 0 | 172 | 24 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 148 | 1402 | 1189 | 1496 | 454 | 411 |
| Starvation Cap Reductn | 0 | 0 | 336 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.22 | 0.31 | 0.39 | 0.13 | 0.36 | 0.06 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 29 | 400 | 305 | 185 | 152 | 24 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1570 | 1562 | 1349 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1570 | 1562 | 1349 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 32 | 435 | 332 | 201 | 165 | 26 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 33 | 0 | 22 |
| Lane Group Flow (vph) | 32 | 435 | 332 | 168 | 165 | 4 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 5.3 | 84.4 | 75.1 | 92.1 | 17.0 | 17.0 |
| Effective Green, g (s) | 5.3 | 84.4 | 75.1 | 92.1 | 17.0 | 17.0 |
| Actuated g/C Ratio | 0.05 | 0.77 | 0.68 | 0.84 | 0.15 | 0.15 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 78 | 1402 | 1164 | 1315 | 241 | 208 |
| v/s Ratio Prot | c0.02 | c0.24 | 0.19 | 0.02 | c0.11 | |
| v/s Ratio Perm | | | | 0.09 | | 0.00 |
| v/c Ratio | 0.41 | 0.31 | 0.29 | 0.13 | 0.68 | 0.02 |
| Uniform Delay, d1 | 50.8 | 3.9 | 6.9 | 1.6 | 44.0 | 39.4 |
| Progression Factor | 1.00 | 1.00 | 0.65 | 0.19 | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.5 | 0.6 | 0.6 | 0.0 | 7.8 | 0.0 |
| Delay (s) | 54.3 | 4.5 | 5.0 | 0.4 | 51.8 | 39.5 |
| Level of Service | D | A | A | A | D | D |
| Approach Delay (s) | | 7.9 | 3.3 | | 50.1 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 12.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.37 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 40.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 318 | 273 | 175 | 190 | 329 | 327 | 3 |
| v/c Ratio | 0.41 | 0.34 | 0.75 | 0.18 | 0.71 | 0.57 | 0.04 |
| Control Delay | 18.5 | 1.5 | 64.4 | 10.7 | 44.2 | 13.7 | 45.3 |
| Queue Delay | 0.5 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 19.1 | 1.6 | 64.4 | 10.7 | 44.2 | 13.7 | 45.3 |
| Queue Length 50th (ft) | 100 | 0 | 118 | 50 | 208 | 53 | 1 |
| Queue Length 95th (ft) | 228 | 13 | #208 | 117 | 286 | 124 | 11 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | | 217 |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 | |
| Base Capacity (vph) | 782 | 803 | 263 | 1074 | 566 | 573 | 84 |
| Starvation Cap Reductn | 179 | 105 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.53 | 0.39 | 0.67 | 0.18 | 0.58 | 0.57 | 0.04 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 293 | 251 | 161 | 174 | 1 | 301 | 2 | 301 | 1 | 1 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | 4.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.99 | | 0.90 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | 0.95 | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.98 | |
| Satd. Flow (prot) | | 1759 | 1466 | 1562 | 1703 | | | 1682 | 1729 | | 1538 | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.98 | |
| Satd. Flow (perm) | | 1759 | 1466 | 1562 | 1703 | | | 1682 | 1729 | | 1538 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 318 | 273 | 175 | 189 | 1 | 327 | 2 | 327 | 1 | 1 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 159 | 0 | 0 | 0 | 0 | 0 | 175 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 318 | 114 | 175 | 190 | 0 | 0 | 329 | 152 | 0 | 2 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 45.8 | 45.8 | 16.4 | 66.2 | | | 30.2 | 25.7 | | 1.0 | |
| Effective Green, g (s) | | 45.8 | 45.8 | 16.4 | 66.2 | | | 25.7 | 25.7 | | 1.0 | |
| Actuated g/C Ratio | | 0.42 | 0.42 | 0.15 | 0.60 | | | 0.23 | 0.23 | | 0.01 | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | 4.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | | 732 | 610 | 233 | 1025 | | | 393 | 475 | | 14 | |
| v/s Ratio Prot | | c0.18 | | c0.11 | 0.11 | | | c0.20 | 0.03 | | c0.00 | |
| v/s Ratio Perm | | | 0.08 | | | | | | 0.05 | | | |
| v/c Ratio | | 0.43 | 0.19 | 0.75 | 0.19 | | | 0.84 | 0.32 | | 0.14 | |
| Uniform Delay, d1 | | 22.9 | 20.3 | 44.8 | 9.8 | | | 40.2 | 34.9 | | 54.1 | |
| Progression Factor | | 0.70 | 0.10 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | | 1.8 | 0.6 | 12.8 | 0.4 | | | 14.3 | 0.4 | | 4.7 | |
| Delay (s) | | 17.9 | 2.7 | 57.6 | 10.2 | | | 54.5 | 35.3 | | 58.8 | |
| Level of Service | | B | A | E | B | | | D | D | | E | |
| Approach Delay (s) | | 10.9 | | | 32.9 | | | 44.9 | | | 58.8 | |
| Approach LOS | | B | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 29.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.60 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 20.6 |
| Intersection Capacity Utilization | 63.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 61 | 140 | 25 | 170 | 249 | 211 | 26 | 373 | 116 | 308 | 779 |
| v/c Ratio | 0.34 | 0.49 | 0.10 | 0.57 | 0.51 | 0.39 | 0.21 | 0.58 | 0.36 | 0.72 | 0.54 |
| Control Delay | 50.0 | 44.9 | 16.3 | 45.2 | 34.9 | 6.9 | 52.9 | 39.0 | 18.1 | 42.4 | 20.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.0 | 44.9 | 16.3 | 45.2 | 34.9 | 6.9 | 52.9 | 39.0 | 18.1 | 42.4 | 20.0 |
| Queue Length 50th (ft) | 31 | 69 | 0 | 84 | 118 | 0 | 13 | 96 | 16 | 150 | 136 |
| Queue Length 95th (ft) | 95 | 170 | 26 | 202 | 253 | 58 | 52 | 196 | 79 | 318 | 299 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 217 | 587 | 506 | 469 | 881 | 807 | 132 | 1172 | 533 | 762 | 2243 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.28 | 0.24 | 0.05 | 0.36 | 0.28 | 0.26 | 0.20 | 0.32 | 0.22 | 0.40 | 0.35 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 56 | 129 | 23 | 156 | 229 | 194 | 24 | 343 | 107 | 283 | 649 | 68 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 3.1 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1446 | 1620 | 1739 | 1400 | 1652 | 3240 | 1332 | 1620 | 3032 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1446 | 1620 | 1739 | 1400 | 1652 | 3240 | 1332 | 1620 | 3032 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 61 | 140 | 25 | 170 | 249 | 211 | 26 | 373 | 116 | 308 | 705 | 74 |
| RTOR Reduction (vph) | 0 | 0 | 21 | 0 | 0 | 153 | 0 | 0 | 63 | 0 | 6 | 0 |
| Lane Group Flow (vph) | 61 | 140 | 4 | 170 | 249 | 58 | 26 | 373 | 53 | 308 | 773 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 7.6 | 15.5 | 15.5 | 16.5 | 25.3 | 25.3 | 2.4 | 20.3 | 20.3 | 24.5 | 42.4 | |
| Effective Green, g (s) | 7.5 | 15.4 | 15.4 | 16.4 | 25.2 | 25.2 | 1.4 | 19.8 | 19.8 | 23.5 | 41.9 | |
| Actuated g/C Ratio | 0.08 | 0.17 | 0.17 | 0.18 | 0.28 | 0.28 | 0.02 | 0.22 | 0.22 | 0.26 | 0.46 | |
| Clearance Time (s) | 3.0 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 136 | 294 | 244 | 292 | 481 | 387 | 25 | 704 | 290 | 418 | 1395 | |
| v/s Ratio Prot | 0.04 | 0.08 | | c0.10 | c0.14 | | 0.02 | 0.12 | | c0.19 | c0.26 | |
| v/s Ratio Perm | | | 0.00 | | | 0.04 | | | 0.04 | | | |
| v/c Ratio | 0.45 | 0.48 | 0.02 | 0.58 | 0.52 | 0.15 | 1.04 | 0.53 | 0.18 | 0.74 | 0.55 | |
| Uniform Delay, d1 | 39.8 | 34.2 | 31.5 | 34.2 | 27.8 | 24.9 | 44.8 | 31.5 | 29.1 | 31.0 | 17.8 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 3.2 | 1.7 | 0.0 | 3.5 | 1.3 | 0.2 | 192.8 | 0.9 | 0.4 | 7.1 | 0.6 | |
| Delay (s) | 43.0 | 35.9 | 31.6 | 37.7 | 29.1 | 25.1 | 237.6 | 32.5 | 29.5 | 38.0 | 18.4 | |
| Level of Service | D | D | C | D | C | C | F | C | C | D | B | |
| Approach Delay (s) | | 37.3 | | | 30.1 | | | 42.2 | | | 24.0 | |
| Approach LOS | | D | | | C | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 30.6 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.58 | | |
| Actuated Cycle Length (s) | 91.1 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 56.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 74 | 690 | 53 | 960 | 826 | 164 | 499 | 1130 | 414 | 242 | 20 |
| v/c Ratio | 0.36 | 0.80 | 0.17 | 0.93 | 0.67 | 0.78 | 0.65 | 0.72 | 0.94 | 0.31 | 0.05 |
| Control Delay | 52.7 | 54.5 | 12.2 | 45.5 | 24.1 | 69.7 | 40.6 | 12.7 | 82.5 | 39.0 | 14.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Total Delay | 52.7 | 54.5 | 12.2 | 45.5 | 24.1 | 69.7 | 40.6 | 12.8 | 82.5 | 39.0 | 14.3 |
| Queue Length 50th (ft) | 51 | 188 | 0 | 297 | 201 | 114 | 163 | 282 | 166 | 81 | 0 |
| Queue Length 95th (ft) | 106 | 236 | 36 | #491 | 242 | #232 | 206 | 180 | #265 | 120 | 21 |
| Internal Link Dist (ft) | | 238 | | | 310 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 217 | 873 | 320 | 1031 | 1379 | 210 | 769 | 1567 | 439 | 775 | 367 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.34 | 0.79 | 0.17 | 0.93 | 0.60 | 0.78 | 0.65 | 0.73 | 0.94 | 0.31 | 0.05 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 68 | 635 | 49 | 883 | 575 | 185 | 151 | 459 | 1040 | 381 | 223 | 18 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3109 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1473 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3109 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1473 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 74 | 690 | 53 | 960 | 625 | 201 | 164 | 499 | 1130 | 414 | 242 | 20 |
| RTOR Reduction (vph) | 0 | 0 | 43 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 15 |
| Lane Group Flow (vph) | 74 | 690 | 10 | 960 | 799 | 0 | 164 | 499 | 1130 | 414 | 242 | 5 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 14.5 | 21.6 | 21.6 | 38.0 | 45.1 | | 15.0 | 25.2 | 68.7 | 16.2 | 26.4 | 26.4 |
| Effective Green, g (s) | 14.5 | 23.1 | 23.1 | 38.0 | 46.6 | | 15.0 | 26.7 | 63.2 | 16.2 | 27.9 | 27.9 |
| Actuated g/C Ratio | 0.12 | 0.19 | 0.19 | 0.32 | 0.39 | | 0.12 | 0.22 | 0.53 | 0.13 | 0.23 | 0.23 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 189 | 896 | 284 | 1031 | 1207 | | 210 | 746 | 1425 | 439 | 753 | 342 |
| v/s Ratio Prot | 0.05 | c0.15 | | c0.29 | c0.26 | | 0.10 | 0.15 | c0.42 | c0.13 | 0.07 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | 0.00 |
| v/c Ratio | 0.39 | 0.77 | 0.04 | 0.93 | 0.66 | | 0.78 | 0.67 | 0.79 | 0.94 | 0.32 | 0.01 |
| Uniform Delay, d1 | 48.7 | 45.9 | 39.4 | 39.7 | 30.2 | | 50.9 | 42.6 | 23.1 | 51.4 | 38.2 | 35.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.78 | 0.73 | | 0.89 | 0.87 | 0.54 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.8 | 4.4 | 0.1 | 12.4 | 1.2 | | 17.0 | 4.5 | 3.1 | 29.1 | 1.1 | 0.1 |
| Delay (s) | 50.5 | 50.3 | 39.5 | 43.6 | 23.2 | | 62.4 | 41.4 | 15.5 | 80.6 | 39.3 | 35.5 |
| Level of Service | D | D | D | D | C | | E | D | B | F | D | D |
| Approach Delay (s) | | 49.6 | | | 34.2 | | | 27.0 | | | 64.5 | |
| Approach LOS | | D | | | C | | | C | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 38.2 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.82 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 82.5% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 235 | 1560 | 225 | 293 | 939 | 207 | 208 | 123 | 175 |
| v/c Ratio | 0.74 | 0.75 | 0.28 | 1.00 | 0.48 | 0.66 | 0.65 | 0.30 | 0.82 |
| Control Delay | 56.9 | 20.5 | 1.0 | 86.8 | 14.1 | 52.9 | 52.4 | 7.7 | 57.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 56.9 | 20.5 | 1.0 | 86.8 | 14.1 | 52.9 | 52.4 | 7.7 | 57.5 |
| Queue Length 50th (ft) | 144 | 239 | 0 | 234 | 124 | 157 | 157 | 0 | 36 |
| Queue Length 95th (ft) | 229 | #543 | 10 | #417 | 285 | 213 | 213 | 44 | #98 |
| Internal Link Dist (ft) | | 660 | | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 520 | 180 | | 200 | | | |
| Base Capacity (vph) | 378 | 2068 | 805 | 294 | 1958 | 469 | 476 | 548 | 214 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.62 | 0.75 | 0.28 | 1.00 | 0.48 | 0.44 | 0.44 | 0.22 | 0.82 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 216 | 1435 | 207 | 270 | 829 | 35 | 334 | 48 | 113 | 29 | 52 | 79 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.98 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | | 0.93 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | | 0.99 | |
| Satd. Flow (prot) | 1620 | 4655 | 1530 | 1678 | 4622 | | 1539 | 1561 | 1514 | | 3031 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | | 0.99 | |
| Satd. Flow (perm) | 1620 | 4655 | 1530 | 1678 | 4622 | | 1539 | 1561 | 1514 | | 3031 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 235 | 1560 | 225 | 293 | 901 | 38 | 363 | 52 | 123 | 32 | 57 | 86 |
| RTOR Reduction (vph) | 0 | 0 | 125 | 0 | 3 | 0 | 0 | 0 | 98 | 0 | 82 | 0 |
| Lane Group Flow (vph) | 235 | 1560 | 100 | 293 | 936 | 0 | 207 | 208 | 25 | 0 | 93 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | Perm | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Actuated Green, G (s) | 22.6 | 52.2 | 52.2 | 20.1 | 49.7 | | 23.9 | 23.9 | 23.9 | | 4.6 | |
| Effective Green, g (s) | 23.6 | 53.2 | 53.2 | 21.1 | 50.7 | | 24.5 | 24.5 | 24.5 | | 5.2 | |
| Actuated g/C Ratio | 0.20 | 0.44 | 0.44 | 0.18 | 0.42 | | 0.20 | 0.20 | 0.20 | | 0.04 | |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | 6.0 | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 319 | 2064 | 678 | 295 | 1953 | | 314 | 319 | 309 | | 131 | |
| v/s Ratio Prot | 0.15 | c0.34 | | c0.17 | 0.20 | | c0.13 | 0.13 | | | c0.03 | |
| v/s Ratio Perm | | | 0.07 | | | | | | 0.02 | | | |
| v/c Ratio | 0.74 | 0.76 | 0.15 | 0.99 | 0.48 | | 0.66 | 0.65 | 0.08 | | 0.71 | |
| Uniform Delay, d1 | 45.3 | 28.0 | 19.9 | 49.4 | 25.1 | | 43.9 | 43.8 | 38.6 | | 56.7 | |
| Progression Factor | 0.97 | 0.59 | 0.05 | 0.71 | 0.49 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 8.7 | 2.5 | 0.4 | 48.3 | 0.8 | | 5.5 | 5.2 | 0.2 | | 17.1 | |
| Delay (s) | 52.4 | 18.9 | 1.5 | 83.1 | 13.0 | | 49.4 | 49.1 | 38.8 | | 73.7 | |
| Level of Service | D | B | A | F | B | | D | D | D | | E | |
| Approach Delay (s) | | 20.9 | | | 29.7 | | | 46.8 | | | 73.7 | |
| Approach LOS | | C | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 29.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.78 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 72.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 170 | 1695 | 116 | 610 | 230 | 155 | 304 | 85 | 534 |
| v/c Ratio | 0.56 | 0.80 | 0.68 | 0.50 | 0.71 | 0.17 | 0.48 | 0.46 | 0.78 |
| Control Delay | 27.5 | 9.3 | 72.0 | 31.4 | 64.8 | 33.4 | 10.5 | 63.3 | 50.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 27.5 | 9.3 | 72.0 | 31.4 | 64.8 | 33.4 | 10.5 | 63.3 | 50.6 |
| Queue Length 50th (ft) | 118 | 397 | 87 | 195 | 88 | 47 | 34 | 33 | 196 |
| Queue Length 95th (ft) | m137 | 51 | #166 | 258 | #154 | 75 | 111 | 60 | 247 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 301 | 2124 | 181 | 1221 | 327 | 937 | 654 | 187 | 820 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.56 | 0.80 | 0.64 | 0.50 | 0.70 | 0.17 | 0.46 | 0.45 | 0.65 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 156 | 1264 | 295 | 107 | 539 | 22 | 212 | 143 | 280 | 78 | 390 | 101 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 3.1 | 4.0 | | 3.1 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.95 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.97 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4594 | | 1652 | 3268 | | 3143 | 3240 | 1659 | 3204 | 3128 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4594 | | 1652 | 3268 | | 3143 | 3240 | 1659 | 3204 | 3128 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 170 | 1374 | 321 | 116 | 586 | 24 | 230 | 155 | 304 | 85 | 424 | 110 |
| RTOR Reduction (vph) | 0 | 30 | 0 | 0 | 3 | 0 | 0 | 0 | 178 | 0 | 20 | 0 |
| Lane Group Flow (vph) | 170 | 1665 | 0 | 116 | 607 | 0 | 230 | 155 | 126 | 85 | 514 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 22.4 | 53.1 | | 12.5 | 43.2 | | 13.9 | 33.4 | 33.4 | 6.4 | 25.9 | |
| Effective Green, g (s) | 22.3 | 54.1 | | 12.4 | 44.2 | | 12.9 | 33.0 | 33.0 | 5.4 | 25.5 | |
| Actuated g/C Ratio | 0.19 | 0.45 | | 0.10 | 0.37 | | 0.11 | 0.28 | 0.28 | 0.05 | 0.21 | |
| Clearance Time (s) | 3.0 | 5.0 | | 3.0 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 301 | 2071 | | 171 | 1204 | | 338 | 891 | 456 | 144 | 665 | |
| v/s Ratio Prot | 0.10 | c0.36 | | c0.07 | 0.19 | | c0.07 | 0.05 | | 0.03 | c0.16 | |
| v/s Ratio Perm | | | | | | | | | 0.08 | | | |
| v/c Ratio | 0.56 | 0.80 | | 0.68 | 0.50 | | 0.68 | 0.17 | 0.28 | 0.59 | 0.77 | |
| Uniform Delay, d1 | 44.4 | 28.4 | | 51.9 | 29.4 | | 51.6 | 33.1 | 34.1 | 56.2 | 44.5 | |
| Progression Factor | 0.48 | 0.24 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.8 | 2.6 | | 11.1 | 1.5 | | 6.0 | 0.1 | 0.5 | 7.4 | 5.9 | |
| Delay (s) | 23.3 | 9.3 | | 63.0 | 30.9 | | 57.6 | 33.2 | 34.6 | 63.6 | 50.4 | |
| Level of Service | C | A | | E | C | | E | C | C | E | D | |
| Approach Delay (s) | | 10.6 | | | 36.0 | | | 42.0 | | | 52.2 | |
| Approach LOS | | B | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 27.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.77 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 15.1 |
| Intersection Capacity Utilization | 71.1% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 82 | 111 | 578 | 2 | 1001 | 55 | 337 | 818 |
| v/c Ratio | 0.53 | 0.62 | 0.66 | 0.02 | 0.57 | 0.06 | 0.82 | 0.31 |
| Control Delay | 52.8 | 63.0 | 7.6 | 62.0 | 5.7 | 0.9 | 44.9 | 2.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 52.8 | 63.0 | 7.6 | 62.0 | 5.7 | 0.9 | 44.9 | 2.4 |
| Queue Length 50th (ft) | 51 | 82 | 0 | 1 | 93 | 1 | 164 | 8 |
| Queue Length 95th (ft) | 102 | 139 | 53 | m3 | 158 | m4 | 228 | 206 |
| Internal Link Dist (ft) | 387 | 336 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 400 | |
| Base Capacity (vph) | 193 | 230 | 955 | 84 | 1750 | 852 | 524 | 2662 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.42 | 0.48 | 0.61 | 0.02 | 0.57 | 0.06 | 0.64 | 0.31 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 55 | 1 | 19 | 102 | 0 | 532 | 2 | 921 | 51 | 310 | 711 | 41 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.97 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.96 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1694 | | | 1770 | 2787 | 1678 | 3355 | 1583 | 1770 | 3437 | |
| Flt Permitted | | 0.61 | | | 0.72 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1071 | | | 1346 | 2787 | 1678 | 3355 | 1583 | 1770 | 3437 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 60 | 1 | 21 | 111 | 0 | 578 | 2 | 1001 | 55 | 337 | 773 | 45 |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 0 | 501 | 0 | 0 | 26 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 72 | 0 | 0 | 111 | 77 | 2 | 1001 | 29 | 337 | 815 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | |
| Actuated Green, G (s) | | 16.0 | | | 16.0 | 16.0 | 1.2 | 62.6 | 62.6 | 27.9 | 89.3 | |
| Effective Green, g (s) | | 16.0 | | | 16.0 | 16.0 | 1.2 | 62.6 | 62.6 | 27.9 | 89.3 | |
| Actuated g/C Ratio | | 0.13 | | | 0.13 | 0.13 | 0.01 | 0.52 | 0.52 | 0.23 | 0.74 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 143 | | | 179 | 372 | 17 | 1750 | 826 | 412 | 2558 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.30 | | c0.19 | 0.24 | |
| v/s Ratio Perm | | 0.07 | | | c0.08 | 0.03 | | | 0.02 | | | |
| v/c Ratio | | 0.50 | | | 0.62 | 0.21 | 0.12 | 0.57 | 0.03 | 0.82 | 0.32 | |
| Uniform Delay, d1 | | 48.3 | | | 49.1 | 46.3 | 58.9 | 19.6 | 14.0 | 43.6 | 5.1 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.13 | 0.21 | 0.15 | 0.69 | 0.45 | |
| Incremental Delay, d2 | | 2.7 | | | 6.5 | 0.3 | 2.3 | 1.0 | 0.1 | 11.1 | 0.3 | |
| Delay (s) | | 51.0 | | | 55.6 | 46.6 | 68.9 | 5.2 | 2.2 | 41.1 | 2.6 | |
| Level of Service | | D | | | E | D | E | A | A | D | A | |
| Approach Delay (s) | | 51.0 | | | 48.1 | | | 5.1 | | | 13.8 | |
| Approach LOS | | D | | | D | | | A | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 19.7 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.64 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 64.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 110 | 38 | 110 | 112 | 202 | 50 | 360 | 234 | 623 |
| v/c Ratio | 0.29 | 0.11 | 0.39 | 0.27 | 0.43 | 0.20 | 0.46 | 0.55 | 0.40 |
| Control Delay | 19.3 | 7.6 | 22.2 | 18.8 | 6.5 | 26.9 | 18.7 | 23.7 | 11.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 19.3 | 7.6 | 22.2 | 18.8 | 6.5 | 26.9 | 18.7 | 23.7 | 11.0 |
| Queue Length 50th (ft) | 25 | 0 | 25 | 25 | 0 | 12 | 37 | 53 | 35 |
| Queue Length 95th (ft) | 76 | 20 | 80 | 76 | 44 | 55 | 112 | 165 | 158 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 1018 | 819 | 747 | 1110 | 909 | 327 | 1811 | 896 | 2645 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.11 | 0.05 | 0.15 | 0.10 | 0.22 | 0.15 | 0.20 | 0.26 | 0.24 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 24 | 77 | 35 | 101 | 103 | 186 | 46 | 261 | 70 | 215 | 498 | 75 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.98 | |
| Flt Protected | | 0.99 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1715 | 1259 | 1620 | 1739 | 1317 | 1711 | 2966 | | 1620 | 3014 | |
| Flt Permitted | | 0.92 | 1.00 | 0.69 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1596 | 1259 | 1170 | 1739 | 1317 | 1711 | 2966 | | 1620 | 3014 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 26 | 84 | 38 | 110 | 112 | 202 | 50 | 284 | 76 | 234 | 541 | 82 |
| RTOR Reduction (vph) | 0 | 0 | 29 | 0 | 0 | 155 | 0 | 26 | 0 | 0 | 12 | 0 |
| Lane Group Flow (vph) | 0 | 110 | 9 | 110 | 112 | 47 | 50 | 334 | 0 | 234 | 611 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 12.2 | 12.2 | 12.2 | 12.2 | 12.2 | 2.7 | 15.2 | | 13.4 | 25.9 | |
| Effective Green, g (s) | | 12.2 | 12.2 | 12.2 | 12.2 | 12.2 | 2.7 | 15.2 | | 13.4 | 25.9 | |
| Actuated g/C Ratio | | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.05 | 0.29 | | 0.26 | 0.50 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 372 | 294 | 273 | 406 | 307 | 88 | 862 | | 415 | 1493 | |
| v/s Ratio Prot | | | | | 0.06 | | 0.03 | 0.11 | | c0.14 | c0.20 | |
| v/s Ratio Perm | | 0.07 | 0.01 | c0.09 | | 0.04 | | | | | | |
| v/c Ratio | | 0.30 | 0.03 | 0.40 | 0.28 | 0.15 | 0.57 | 0.39 | | 0.56 | 0.41 | |
| Uniform Delay, d1 | | 16.5 | 15.5 | 17.0 | 16.4 | 15.9 | 24.2 | 14.8 | | 16.9 | 8.4 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.4 | 0.0 | 1.0 | 0.4 | 0.2 | 8.2 | 0.4 | | 1.8 | 0.3 | |
| Delay (s) | | 17.0 | 15.5 | 17.9 | 16.8 | 16.2 | 32.4 | 15.2 | | 18.7 | 8.6 | |
| Level of Service | | B | B | B | B | B | C | B | | B | A | |
| Approach Delay (s) | | 16.6 | | | 16.8 | | | 17.3 | | | 11.4 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 14.4 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.44 | | |
| Actuated Cycle Length (s) | 52.3 | Sum of lost time (s) | 7.0 |
| Intersection Capacity Utilization | 48.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 247 | 308 | 97 | 85 | 304 | 103 | 127 | 870 | 86 | 719 |
| v/c Ratio | 0.82 | 0.53 | 0.20 | 0.56 | 0.82 | 0.26 | 0.73 | 0.70 | 0.72 | 0.62 |
| Control Delay | 68.5 | 37.9 | 6.8 | 65.8 | 64.2 | 9.0 | 75.6 | 34.5 | 81.5 | 31.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 68.5 | 37.9 | 6.8 | 65.8 | 64.2 | 9.0 | 75.6 | 34.5 | 81.5 | 31.6 |
| Queue Length 50th (ft) | 181 | 194 | 0 | 63 | 223 | 0 | 96 | 304 | 62 | 265 |
| Queue Length 95th (ft) | #299 | 285 | 39 | 117 | #330 | 46 | #188 | 387 | #150 | 330 |
| Internal Link Dist (ft) | | 2946 | | | 524 | | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 230 | | | 200 | | 150 | |
| Base Capacity (vph) | 329 | 593 | 486 | 173 | 410 | 423 | 182 | 1247 | 119 | 1156 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.75 | 0.52 | 0.20 | 0.49 | 0.74 | 0.24 | 0.70 | 0.70 | 0.72 | 0.62 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 227 | 283 | 89 | 78 | 280 | 95 | 117 | 669 | 132 | 79 | 604 | 57 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 9 | 12 | 12 | 10 | 10 | 10 | 9 | 10 | 10 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1577 | 1845 | 1306 | 1593 | 1863 | 1559 | 1652 | 3145 | | 1593 | 3178 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1577 | 1845 | 1306 | 1593 | 1863 | 1559 | 1652 | 3145 | | 1593 | 3178 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 247 | 308 | 97 | 85 | 304 | 103 | 127 | 727 | 143 | 86 | 657 | 62 |
| RTOR Reduction (vph) | 0 | 0 | 67 | 0 | 0 | 83 | 0 | 13 | 0 | 0 | 6 | 0 |
| Lane Group Flow (vph) | 247 | 308 | 30 | 85 | 304 | 20 | 127 | 857 | 0 | 86 | 713 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | 4 | | | | | | |
| Actuated Green, G (s) | 23.7 | 37.6 | 37.6 | 9.9 | 23.8 | 23.8 | 12.7 | 46.3 | | 9.0 | 42.6 | |
| Effective Green, g (s) | 23.7 | 37.6 | 37.6 | 9.9 | 23.8 | 23.8 | 12.7 | 46.3 | | 9.0 | 42.6 | |
| Actuated g/C Ratio | 0.20 | 0.31 | 0.31 | 0.08 | 0.20 | 0.20 | 0.11 | 0.39 | | 0.08 | 0.36 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 311 | 578 | 409 | 131 | 369 | 309 | 175 | 1213 | | 119 | 1128 | |
| v/s Ratio Prot | c0.16 | 0.17 | | 0.05 | c0.16 | | 0.08 | c0.27 | | 0.05 | c0.22 | |
| v/s Ratio Perm | | | 0.02 | | | 0.01 | | | | | | |
| v/c Ratio | 0.79 | 0.53 | 0.07 | 0.65 | 0.82 | 0.07 | 0.73 | 0.71 | | 0.72 | 0.63 | |
| Uniform Delay, d1 | 45.8 | 34.0 | 29.0 | 53.4 | 46.1 | 39.1 | 52.0 | 31.1 | | 54.3 | 32.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 0.92 | 0.89 | |
| Incremental Delay, d2 | 13.7 | 1.2 | 0.1 | 11.7 | 14.4 | 0.1 | 14.8 | 3.5 | | 19.8 | 2.6 | |
| Delay (s) | 59.6 | 35.2 | 29.1 | 65.1 | 60.5 | 39.2 | 66.7 | 34.6 | | 69.9 | 31.2 | |
| Level of Service | E | D | C | E | E | D | E | C | | E | C | |
| Approach Delay (s) | | 43.5 | | | 56.8 | | | 38.7 | | | 35.3 | |
| Approach LOS | | D | | | E | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 41.9 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 13.2 |
| Intersection Capacity Utilization | 69.1% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 11 | 534 | 21 | 367 | 74 | 69 | 149 | 48 | 48 |
| v/c Ratio | 0.12 | 0.46 | 0.23 | 0.28 | 0.39 | 0.24 | 0.77 | 0.18 | 0.41 |
| Control Delay | 55.4 | 14.9 | 61.7 | 11.3 | 53.5 | 12.5 | 76.4 | 14.0 | 61.2 |
| Queue Delay | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 55.4 | 15.1 | 61.7 | 11.3 | 53.5 | 12.5 | 76.4 | 14.0 | 61.2 |
| Queue Length 50th (ft) | 8 | 242 | 17 | 112 | 55 | 1 | 117 | 1 | 35 |
| Queue Length 95th (ft) | 26 | 365 | 44 | 243 | 102 | 42 | 189 | 36 | 75 |
| Internal Link Dist (ft) | | 522 | | 1458 | | 986 | | 464 | |
| Turn Bay Length (ft) | 205 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 92 | 1172 | 95 | 1328 | 233 | 339 | 237 | 322 | 240 |
| Starvation Cap Reductn | 0 | 187 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.12 | 0.54 | 0.22 | 0.28 | 0.32 | 0.20 | 0.63 | 0.15 | 0.20 |

Intersection Summary

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 10 | 478 | 13 | 19 | 323 | 15 | 68 | 1 | 63 | 137 | 1 | 43 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 8 | 9 | 14 | 12 | 11 | 12 | 11 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.99 | | 1.00 | 0.85 | | 1.00 | 0.85 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1854 | | 1593 | 1974 | | 1711 | 1587 | | 1770 | 1589 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.73 | 1.00 | | 0.71 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1854 | | 1593 | 1974 | | 1307 | 1587 | | 1326 | 1589 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 11 | 520 | 14 | 21 | 351 | 16 | 74 | 1 | 68 | 149 | 1 | 47 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 58 | 0 | 0 | 40 | 0 |
| Lane Group Flow (vph) | 11 | 534 | 0 | 21 | 367 | 0 | 74 | 11 | 0 | 149 | 8 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Parking (#/hr) | | | | | | | | | 0 | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 1.6 | 76.9 | | 4.9 | 80.2 | | 18.4 | 18.4 | | 18.4 | 18.4 | |
| Effective Green, g (s) | 1.6 | 76.9 | | 4.9 | 80.2 | | 18.4 | 18.4 | | 18.4 | 18.4 | |
| Actuated g/C Ratio | 0.01 | 0.61 | | 0.04 | 0.64 | | 0.15 | 0.15 | | 0.15 | 0.15 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 22 | 1132 | | 62 | 1256 | | 191 | 232 | | 194 | 232 | |
| v/s Ratio Prot | 0.01 | c0.29 | | c0.01 | c0.19 | | | 0.01 | | | 0.00 | |
| v/s Ratio Perm | | | | | | | 0.06 | | | c0.11 | | |
| v/c Ratio | 0.50 | 0.47 | | 0.34 | 0.29 | | 0.39 | 0.05 | | 0.77 | 0.03 | |
| Uniform Delay, d1 | 61.8 | 13.4 | | 59.0 | 10.2 | | 48.7 | 46.3 | | 51.7 | 46.2 | |
| Progression Factor | 0.93 | 0.87 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 16.4 | 1.4 | | 3.2 | 0.6 | | 1.3 | 0.1 | | 16.5 | 0.1 | |
| Delay (s) | 73.9 | 13.1 | | 62.2 | 10.8 | | 50.0 | 46.3 | | 68.3 | 46.2 | |
| Level of Service | E | B | | E | B | | D | D | | E | D | |
| Approach Delay (s) | | 14.3 | | | 13.6 | | | 48.2 | | | 62.9 | |
| Approach LOS | | B | | | B | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 26.7 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.53 | | |
| Actuated Cycle Length (s) | 126.0 | Sum of lost time (s) | 22.5 |
| Intersection Capacity Utilization | 56.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | SWR | SWR2 |
|---|---|---|
| Lane Configurations | | |
| Volume (vph) | 40 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Lane Width | 12 | 12 |
| Total Lost time (s) | 4.5 | |
| Lane Util. Factor | 1.00 | |
| Frpb, ped/bikes | 1.00 | |
| Flpb, ped/bikes | 1.00 | |
| Frt | 0.86 | |
| Flt Protected | 1.00 | |
| Satd. Flow (prot) | 1611 | |
| Flt Permitted | 1.00 | |
| Satd. Flow (perm) | 1611 | |
| Peak-hour factor, PHF | 0.92 | 0.92 |
| Adj. Flow (vph) | 43 | 5 |
| RTOR Reduction (vph) | 4 | 0 |
| Lane Group Flow (vph) | 44 | 0 |
| Confl. Peds. (#/hr) | | |
| Parking (#/hr) | | |
| Turn Type | custom | |
| Protected Phases | 9 | |
| Permitted Phases | 9 | |
| Actuated Green, G (s) | 7.8 | |
| Effective Green, g (s) | 7.8 | |
| Actuated g/C Ratio | 0.06 | |
| Clearance Time (s) | 4.5 | |
| Vehicle Extension (s) | 3.0 | |
| Lane Grp Cap (vph) | 100 | |
| v/s Ratio Prot | c0.03 | |
| v/s Ratio Perm | | |
| v/c Ratio | 0.44 | |
| Uniform Delay, d1 | 57.0 | |
| Progression Factor | 1.00 | |
| Incremental Delay, d2 | 3.1 | |
| Delay (s) | 60.1 | |
| Level of Service | E | |
| Approach Delay (s) | | |
| Approach LOS | | |

Intersection Summary

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 104 | 702 | 7 | 258 | 59 | 110 | 13 | 43 | 367 |
| v/c Ratio | 0.35 | 0.74 | 0.05 | 0.48 | 0.30 | 0.19 | 0.03 | 0.12 | 0.62 |
| Control Delay | 27.5 | 18.6 | 30.5 | 19.6 | 20.4 | 15.7 | 8.2 | 15.6 | 19.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 27.5 | 18.6 | 30.5 | 19.6 | 20.4 | 15.7 | 8.2 | 15.6 | 19.5 |
| Queue Length 50th (ft) | 28 | 135 | 2 | 62 | 14 | 25 | 0 | 9 | 82 |
| Queue Length 95th (ft) | 91 | #483 | 15 | 150 | 48 | 67 | 11 | 34 | 192 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 345 | 1198 | 138 | 823 | 347 | 1033 | 741 | 658 | 1013 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.30 | 0.59 | 0.05 | 0.31 | 0.17 | 0.11 | 0.02 | 0.07 | 0.36 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 96 | 449 | 197 | 6 | 180 | 57 | 54 | 101 | 12 | 40 | 203 | 134 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1925 | | 1711 | 1645 | | 1652 | 1863 | 1327 | 1644 | 1787 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.36 | 1.00 | 1.00 | 0.69 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1925 | | 1711 | 1645 | | 625 | 1863 | 1327 | 1188 | 1787 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 104 | 488 | 214 | 7 | 196 | 62 | 59 | 110 | 13 | 43 | 221 | 146 |
| RTOR Reduction (vph) | 0 | 19 | 0 | 0 | 15 | 0 | 0 | 0 | 9 | 0 | 35 | 0 |
| Lane Group Flow (vph) | 104 | 683 | 0 | 7 | 243 | 0 | 59 | 110 | 4 | 43 | 332 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 7.1 | 25.7 | | 0.6 | 19.2 | | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | |
| Effective Green, g (s) | 7.1 | 25.7 | | 0.6 | 19.2 | | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | |
| Actuated g/C Ratio | 0.13 | 0.46 | | 0.01 | 0.34 | | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 218 | 887 | | 18 | 566 | | 185 | 551 | 392 | 351 | 528 | |
| v/s Ratio Prot | c0.06 | c0.35 | | 0.00 | 0.15 | | | 0.06 | | | c0.19 | |
| v/s Ratio Perm | | | | | | | 0.09 | | 0.00 | 0.04 | | |
| v/c Ratio | 0.48 | 0.77 | | 0.39 | 0.43 | | 0.32 | 0.20 | 0.01 | 0.12 | 0.63 | |
| Uniform Delay, d1 | 22.6 | 12.6 | | 27.4 | 14.1 | | 15.3 | 14.7 | 13.9 | 14.4 | 17.0 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 2.2 | 4.4 | | 17.9 | 0.7 | | 1.4 | 0.2 | 0.0 | 0.2 | 2.7 | |
| Delay (s) | 24.9 | 17.0 | | 45.3 | 14.8 | | 16.6 | 15.0 | 13.9 | 14.6 | 19.7 | |
| Level of Service | C | B | | D | B | | B | B | B | B | B | |
| Approach Delay (s) | | 18.0 | | | 15.6 | | | 15.4 | | | 19.1 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 55.8 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 77.4% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 163 | 328 | 10 | 48 | 102 | 283 | 64 | 20 | 536 |
| v/c Ratio | 0.47 | 0.40 | 0.08 | 0.16 | 0.36 | 0.20 | 0.10 | 0.13 | 0.58 |
| Control Delay | 32.5 | 4.1 | 38.2 | 16.4 | 32.7 | 13.2 | 5.3 | 37.2 | 22.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 32.5 | 4.1 | 38.2 | 16.4 | 32.7 | 13.2 | 5.3 | 37.2 | 22.8 |
| Queue Length 50th (ft) | 49 | 3 | 3 | 8 | 32 | 26 | 0 | 7 | 80 |
| Queue Length 95th (ft) | #177 | 55 | 23 | 36 | 112 | 96 | 28 | 36 | 193 |
| Internal Link Dist (ft) | | 1442 | | 221 | | 1609 | | | 1977 |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | |
| Base Capacity (vph) | 438 | 1202 | 121 | 1000 | 362 | 2071 | 945 | 156 | 1717 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.37 | 0.27 | 0.08 | 0.05 | 0.28 | 0.14 | 0.07 | 0.13 | 0.31 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 150 | 13 | 289 | 9 | 23 | 21 | 95 | 260 | 59 | 18 | 390 | 103 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.86 | | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1510 | | 1652 | 1598 | | 1652 | 3240 | 1453 | 1711 | 3263 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1510 | | 1652 | 1598 | | 1652 | 3240 | 1453 | 1711 | 3263 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 163 | 14 | 314 | 10 | 25 | 23 | 102 | 283 | 64 | 20 | 424 | 112 |
| RTOR Reduction (vph) | 0 | 190 | 0 | 0 | 18 | 0 | 0 | 0 | 39 | 0 | 24 | 0 |
| Lane Group Flow (vph) | 163 | 138 | 0 | 10 | 30 | 0 | 102 | 283 | 25 | 20 | 512 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 12.5 | 25.9 | | 0.5 | 13.9 | | 7.9 | 26.1 | 26.1 | 0.6 | 18.8 | |
| Effective Green, g (s) | 12.5 | 25.9 | | 0.5 | 13.9 | | 7.9 | 26.1 | 26.1 | 0.6 | 18.8 | |
| Actuated g/C Ratio | 0.19 | 0.39 | | 0.01 | 0.21 | | 0.12 | 0.40 | 0.40 | 0.01 | 0.29 | |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 326 | 596 | | 13 | 339 | | 199 | 1289 | 578 | 16 | 935 | |
| v/s Ratio Prot | c0.10 | c0.09 | | 0.01 | 0.02 | | c0.06 | 0.09 | | c0.01 | c0.16 | |
| v/s Ratio Perm | | | | | | | | | 0.02 | | | |
| v/c Ratio | 0.50 | 0.23 | | 0.77 | 0.09 | | 0.51 | 0.22 | 0.04 | 1.25 | 0.55 | |
| Uniform Delay, d1 | 23.8 | 13.2 | | 32.5 | 20.8 | | 27.0 | 13.0 | 12.1 | 32.5 | 19.8 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.6 | 0.3 | | 133.9 | 0.2 | | 2.9 | 0.1 | 0.0 | 314.0 | 0.8 | |
| Delay (s) | 25.4 | 13.5 | | 166.4 | 20.9 | | 30.0 | 13.1 | 12.1 | 346.5 | 20.6 | |
| Level of Service | C | B | | F | C | | C | B | B | F | C | |
| Approach Delay (s) | | 17.4 | | | 46.0 | | | 16.8 | | | 32.4 | |
| Approach LOS | | B | | | D | | | B | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 23.7 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.44 | | |
| Actuated Cycle Length (s) | 65.6 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 48.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 59 | 23 | 5 | 811 | 1033 |
| v/c Ratio | 0.42 | 0.17 | 0.01 | 0.29 | 0.37 |
| Control Delay | 56.1 | 19.9 | 2.2 | 2.3 | 2.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 |
| Total Delay | 56.1 | 19.9 | 2.2 | 3.1 | 2.6 |
| Queue Length 50th (ft) | 40 | 0 | 0 | 48 | 67 |
| Queue Length 95th (ft) | 80 | 25 | 3 | 81 | 111 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 375 | 320 | 403 | 2787 | 2776 |
| Starvation Cap Reductn | 0 | 0 | 0 | 1560 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.16 | 0.07 | 0.01 | 0.66 | 0.37 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 54 | 21 | 5 | 746 | 925 | 26 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3226 | |
| Flt Permitted | 0.95 | 1.00 | 0.27 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 469 | 3240 | 3226 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 59 | 23 | 5 | 811 | 1005 | 28 |
| RTOR Reduction (vph) | 0 | 21 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 59 | 2 | 5 | 811 | 1032 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 8.2 | 8.2 | 92.8 | 92.8 | 92.8 | |
| Effective Green, g (s) | 8.2 | 8.2 | 92.8 | 92.8 | 92.8 | |
| Actuated g/C Ratio | 0.07 | 0.07 | 0.84 | 0.84 | 0.84 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 123 | 99 | 396 | 2733 | 2722 | |
| v/s Ratio Prot | c0.04 | | | 0.25 | c0.32 | |
| v/s Ratio Perm | | 0.00 | 0.01 | | | |
| v/c Ratio | 0.48 | 0.02 | 0.01 | 0.30 | 0.38 | |
| Uniform Delay, d1 | 48.9 | 47.2 | 1.4 | 1.8 | 2.0 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 2.9 | 0.1 | 0.1 | 0.3 | 0.4 | |
| Delay (s) | 51.8 | 47.2 | 1.4 | 2.1 | 2.4 | |
| Level of Service | D | D | A | A | A | |
| Approach Delay (s) | 50.5 | | | 2.1 | 2.4 | |
| Approach LOS | D | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.3 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.39 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 37.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1163 | 1126 | 311 | 1265 | 680 | 610 |
| v/c Ratio | 0.77 | 0.63 | 0.56 | 0.57 | 0.40 | 0.72 |
| Control Delay | 30.2 | 4.6 | 41.3 | 9.7 | 0.7 | 35.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 30.2 | 4.6 | 41.3 | 9.7 | 0.7 | 35.5 |
| Queue Length 50th (ft) | 347 | 48 | 92 | 274 | 0 | 186 |
| Queue Length 95th (ft) | m410 | m48 | 121 | 186 | 0 | 261 |
| Internal Link Dist (ft) | 363 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 1507 | 1794 | 553 | 2223 | 1686 | 844 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.77 | 0.63 | 0.56 | 0.57 | 0.40 | 0.72 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1070 | 1036 | 286 | 1164 | 0 | 0 | 0 | 626 | 0 | 0 | 561 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.5 | 4.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | | | 1.00 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2787 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2787 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1163 | 1126 | 311 | 1265 | 0 | 0 | 0 | 680 | 0 | 0 | 610 |
| RTOR Reduction (vph) | 0 | 0 | 607 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 112 |
| Lane Group Flow (vph) | 0 | 1163 | 519 | 311 | 1265 | 0 | 0 | 0 | 680 | 0 | 0 | 498 |
| Confl. Peds. (#/hr) | | | | 4 | | | | | | | | |
| Heavy Vehicles (%) | 2% | 4% | 4% | 4% | 4% | 2% | 2% | 2% | 4% | 2% | 2% | 2% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 | | 1 | 6 | | | | | | | 4 |
| Permitted Phases | | | 2 | | | | | | Free | | | 4 |
| Actuated Green, G (s) | | 53.9 | 53.9 | 21.1 | 79.5 | | | | 120.0 | | | 31.5 |
| Effective Green, g (s) | | 53.9 | 53.9 | 21.1 | 79.5 | | | | 120.0 | | | 31.5 |
| Actuated g/C Ratio | | 0.45 | 0.45 | 0.18 | 0.66 | | | | 1.00 | | | 0.26 |
| Clearance Time (s) | | 4.5 | 4.5 | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 1507 | 1187 | 553 | 2223 | | | | 1686 | | | 732 |
| v/s Ratio Prot | | c0.35 | | 0.10 | c0.38 | | | | | | | c0.18 |
| v/s Ratio Perm | | | 0.20 | | | | | | 0.40 | | | |
| v/c Ratio | | 0.77 | 0.44 | 0.56 | 0.57 | | | | 0.40 | | | 0.68 |
| Uniform Delay, d1 | | 27.9 | 22.7 | 45.2 | 11.0 | | | | 0.0 | | | 39.7 |
| Progression Factor | | 0.98 | 2.31 | 0.82 | 0.78 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 1.7 | 0.2 | 4.0 | 1.0 | | | | 0.7 | | | 5.1 |
| Delay (s) | | 28.9 | 52.5 | 41.0 | 9.6 | | | | 0.7 | | | 44.8 |
| Level of Service | | C | D | D | A | | | | A | | | D |
| Approach Delay (s) | | 40.5 | | | 15.8 | | | 0.7 | | | 44.8 | |
| Approach LOS | | D | | | B | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 28.2 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 59.3% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 478 | 1374 | 760 | 497 | 549 | 810 |
| v/c Ratio | 0.77 | 0.41 | 0.31 | 0.43 | 0.34 | 0.53 |
| Control Delay | 33.1 | 0.3 | 1.8 | 2.8 | 0.6 | 1.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 33.1 | 0.3 | 1.8 | 2.8 | 0.6 | 1.3 |
| Queue Length 50th (ft) | 161 | 0 | 2 | 0 | 0 | 0 |
| Queue Length 95th (ft) | 209 | 0 | 11 | m29 | 0 | 0 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 982 | 3355 | 2442 | 1154 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.49 | 0.41 | 0.31 | 0.43 | 0.34 | 0.53 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 440 | 1264 | 0 | 0 | 699 | 457 | 0 | 0 | 505 | 0 | 0 | 745 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 478 | 1374 | 0 | 0 | 760 | 497 | 0 | 0 | 549 | 0 | 0 | 810 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 478 | 1374 | 0 | 0 | 760 | 457 | 0 | 0 | 549 | 0 | 0 | 810 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 23.7 | 120.0 | | | 87.3 | 87.3 | | | 120.0 | | | 120.0 |
| Effective Green, g (s) | 23.7 | 120.0 | | | 87.3 | 87.3 | | | 120.0 | | | 120.0 |
| Actuated g/C Ratio | 0.20 | 1.00 | | | 0.73 | 0.73 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 621 | 3355 | | | 2441 | 1114 | | | 1611 | | | 1528 |
| v/s Ratio Prot | c0.15 | 0.41 | | | 0.23 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.30 | | | 0.34 | | | c0.53 |
| v/c Ratio | 0.77 | 0.41 | | | 0.31 | 0.41 | | | 0.34 | | | 0.53 |
| Uniform Delay, d1 | 45.6 | 0.0 | | | 5.8 | 6.4 | | | 0.0 | | | 0.0 |
| Progression Factor | 0.58 | 1.00 | | | 0.25 | 0.37 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 4.5 | 0.1 | | | 0.3 | 1.0 | | | 0.6 | | | 1.3 |
| Delay (s) | 30.7 | 0.1 | | | 1.7 | 3.3 | | | 0.6 | | | 1.3 |
| Level of Service | C | A | | | A | A | | | A | | | A |
| Approach Delay (s) | | 8.0 | | | 2.4 | | | 0.6 | | | 1.3 | |
| Approach LOS | | A | | | A | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.3 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.58 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 4.5 |
| Intersection Capacity Utilization | 48.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 447 | 663 | 975 | 231 | 17 | 272 | 558 | 25 | 75 | 798 | 172 |
| v/c Ratio | 1.16 | 0.95 | 0.55 | 0.68 | 0.05 | 0.92 | 0.38 | 0.05 | 0.47 | 0.81 | 0.33 |
| Control Delay | 122.7 | 54.8 | 1.2 | 47.1 | 14.0 | 76.1 | 22.8 | 10.5 | 52.6 | 40.0 | 15.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 122.7 | 54.8 | 1.2 | 47.1 | 14.0 | 76.1 | 22.8 | 10.5 | 52.6 | 40.0 | 15.6 |
| Queue Length 50th (ft) | ~276 | 398 | 0 | 135 | 0 | 172 | 137 | 2 | 46 | 248 | 40 |
| Queue Length 95th (ft) | #527 | #630 | 0 | 219 | 18 | #325 | 184 | 20 | 92 | 323 | 95 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 386 | 706 | 1770 | 348 | 347 | 297 | 1450 | 546 | 172 | 991 | 527 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.16 | 0.94 | 0.55 | 0.66 | 0.05 | 0.92 | 0.38 | 0.05 | 0.44 | 0.81 | 0.33 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 411 | 610 | 897 | 8 | 204 | 16 | 250 | 513 | 23 | 69 | 734 | 158 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 3.6 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.96 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1735 | 1475 | 1652 | 3539 | 1337 | 1652 | 3303 | 1551 |
| Flt Permitted | 0.34 | 1.00 | 1.00 | | 0.88 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 597 | 1739 | 1770 | | 1538 | 1475 | 1652 | 3539 | 1337 | 1652 | 3303 | 1551 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 447 | 663 | 975 | 9 | 222 | 17 | 272 | 558 | 25 | 75 | 798 | 172 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 12 | 0 | 0 | 62 |
| Lane Group Flow (vph) | 447 | 663 | 975 | 0 | 231 | 4 | 272 | 558 | 13 | 75 | 798 | 110 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 39.5 | 39.5 | 100.0 | | 21.5 | 21.5 | 17.0 | 39.0 | 39.0 | 7.5 | 29.0 | 29.0 |
| Effective Green, g (s) | 40.0 | 40.0 | 100.0 | | 22.0 | 22.0 | 18.0 | 40.0 | 39.0 | 8.4 | 30.0 | 30.0 |
| Actuated g/C Ratio | 0.40 | 0.40 | 1.00 | | 0.22 | 0.22 | 0.18 | 0.40 | 0.39 | 0.08 | 0.30 | 0.30 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.5 | 5.0 | 5.0 |
| Vehicle Extension (s) | 3.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 387 | 696 | 1770 | | 338 | 325 | 297 | 1416 | 521 | 139 | 991 | 465 |
| v/s Ratio Prot | c0.16 | 0.38 | | | | | c0.16 | 0.16 | | 0.05 | c0.24 | |
| v/s Ratio Perm | c0.30 | | 0.55 | | 0.15 | 0.00 | | | 0.01 | | | 0.07 |
| v/c Ratio | 1.16 | 0.95 | 0.55 | | 0.68 | 0.01 | 0.92 | 0.39 | 0.02 | 0.54 | 0.81 | 0.24 |
| Uniform Delay, d1 | 27.4 | 29.1 | 0.0 | | 35.8 | 30.5 | 40.3 | 21.4 | 18.8 | 43.9 | 32.3 | 26.4 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 95.2 | 23.2 | 1.2 | | 6.1 | 0.0 | 31.0 | 0.8 | 0.1 | 4.5 | 7.0 | 1.2 |
| Delay (s) | 122.5 | 52.2 | 1.2 | | 41.9 | 30.5 | 71.3 | 22.2 | 18.9 | 48.4 | 39.3 | 27.6 |
| Level of Service | F | D | A | | D | C | E | C | B | D | D | C |
| Approach Delay (s) | | 43.5 | | | 41.1 | | | 37.7 | | | 38.0 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 40.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.97 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 93.1% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBT | WBR | NBT | SBL | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 48 | 91 | 1674 | 141 | 1243 |
| v/c Ratio | 0.44 | 0.52 | 0.40 | 0.77 | 0.43 |
| Control Delay | 62.6 | 33.3 | 1.4 | 40.3 | 0.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| Total Delay | 62.6 | 33.3 | 1.4 | 40.3 | 0.9 |
| Queue Length 50th (ft) | 36 | 26 | 22 | 47 | 7 |
| Queue Length 95th (ft) | 72 | 76 | 29 | m#82 | m22 |
| Internal Link Dist (ft) | 217 | | 650 | | 443 |
| Turn Bay Length (ft) | | | | | |
| Base Capacity (vph) | 233 | 307 | 4147 | 183 | 2916 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 842 |
| Spillback Cap Reductn | 0 | 0 | 26 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.21 | 0.30 | 0.41 | 0.77 | 0.60 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 44 | 0 | 84 | 0 | 1506 | 34 | 130 | 1143 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.98 | | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1562 | 1394 | | 4935 | | 1619 | 3471 | |
| Flt Permitted | | | | | 0.76 | 1.00 | | 1.00 | | 0.13 | 1.00 | |
| Satd. Flow (perm) | | | | | 1245 | 1394 | | 4935 | | 217 | 3471 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 48 | 0 | 91 | 0 | 1637 | 37 | 141 | 1242 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 51 | 0 | 1 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 48 | 40 | 0 | 1673 | 0 | 141 | 1243 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 10.6 | 10.6 | | 100.8 | | 100.8 | 100.8 | |
| Effective Green, g (s) | | | | | 10.6 | 10.6 | | 100.8 | | 100.8 | 100.8 | |
| Actuated g/C Ratio | | | | | 0.09 | 0.09 | | 0.84 | | 0.84 | 0.84 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 110 | 123 | | 4145 | | 182 | 2916 | |
| v/s Ratio Prot | | | | | | | | 0.34 | | | 0.36 | |
| v/s Ratio Perm | | | | | c0.04 | 0.03 | | | | c0.65 | | |
| v/c Ratio | | | | | 0.44 | 0.32 | | 0.40 | | 0.77 | 0.43 | |
| Uniform Delay, d1 | | | | | 51.9 | 51.3 | | 2.3 | | 4.4 | 2.4 | |
| Progression Factor | | | | | 1.00 | 1.00 | | 0.46 | | 2.53 | 0.14 | |
| Incremental Delay, d2 | | | | | 2.8 | 1.5 | | 0.2 | | 19.7 | 0.3 | |
| Delay (s) | | | | | 54.6 | 52.9 | | 1.3 | | 30.9 | 0.7 | |
| Level of Service | | | | | D | D | | A | | C | A | |
| Approach Delay (s) | | 0.0 | | | 53.5 | | | 1.3 | | | 3.7 | |
| Approach LOS | | A | | | D | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.6 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.74 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 53.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 11 | 410 | 471 | 134 | 54 |
| v/c Ratio | 0.06 | 0.30 | 0.19 | 0.47 | 0.18 |
| Control Delay | 26.4 | 4.7 | 7.3 | 28.8 | 8.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.4 | 4.7 | 7.3 | 28.8 | 8.4 |
| Queue Length 50th (ft) | 4 | 48 | 32 | 47 | 0 |
| Queue Length 95th (ft) | 17 | 104 | 122 | 87 | 24 |
| Internal Link Dist (ft) | | 524 | 522 | 183 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 211 | 1388 | 2489 | 576 | 552 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.05 | 0.30 | 0.19 | 0.23 | 0.10 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 10 | 377 | 408 | 26 | 123 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.99 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3508 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3508 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 11 | 410 | 443 | 28 | 134 | 54 |
| RTOR Reduction (vph) | 0 | 0 | 4 | 0 | 0 | 46 |
| Lane Group Flow (vph) | 11 | 410 | 467 | 0 | 134 | 8 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 1.4 | 45.1 | 39.2 | | 8.9 | 8.9 |
| Effective Green, g (s) | 1.4 | 45.1 | 39.2 | | 8.9 | 8.9 |
| Actuated g/C Ratio | 0.02 | 0.72 | 0.62 | | 0.14 | 0.14 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 39 | 1334 | 2183 | | 250 | 224 |
| v/s Ratio Prot | 0.01 | c0.22 | 0.13 | | c0.08 | |
| v/s Ratio Perm | | | | | | 0.00 |
| v/c Ratio | 0.28 | 0.31 | 0.21 | | 0.54 | 0.03 |
| Uniform Delay, d1 | 30.3 | 3.3 | 5.2 | | 25.1 | 23.3 |
| Progression Factor | 1.00 | 1.00 | 1.44 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.9 | 0.6 | 0.2 | | 2.2 | 0.1 |
| Delay (s) | 34.2 | 3.9 | 7.7 | | 27.3 | 23.4 |
| Level of Service | C | A | A | | C | C |
| Approach Delay (s) | | 4.7 | 7.7 | | 26.2 | |
| Approach LOS | | A | A | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 9.7 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.35 | | |
| Actuated Cycle Length (s) | 63.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 34.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 42 | 178 | 293 | 166 | 863 | 27 | 914 | 245 | 674 | 689 | 68 |
| v/c Ratio | 0.56 | 0.44 | 0.29 | 0.24 | 0.87 | 0.36 | 0.74 | 0.26 | 0.94 | 0.45 | 0.09 |
| Control Delay | 93.2 | 53.2 | 37.3 | 28.4 | 29.6 | 78.9 | 50.5 | 1.6 | 74.3 | 26.9 | 5.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 93.2 | 53.2 | 37.3 | 28.4 | 29.6 | 78.9 | 50.5 | 1.6 | 74.3 | 26.9 | 5.5 |
| Queue Length 50th (ft) | 39 | 74 | 99 | 99 | 582 | 24 | 283 | 0 | 319 | 236 | 0 |
| Queue Length 95th (ft) | #91 | 103 | 158 | 155 | #889 | 58 | 337 | 20 | #447 | 295 | 29 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 79 | 1031 | 1017 | 715 | 996 | 82 | 1271 | 956 | 717 | 1530 | 750 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.53 | 0.17 | 0.29 | 0.23 | 0.87 | 0.33 | 0.72 | 0.26 | 0.94 | 0.45 | 0.09 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 39 | 137 | 27 | 270 | 153 | 794 | 25 | 841 | 225 | 620 | 634 | 63 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 2.5 | 2.5 | | 2.5 | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 2.5 | 1.8 | 1.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3110 | | 3255 | 1689 | 1501 | 1620 | 4655 | 1449 | 3143 | 3240 | 1514 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3110 | | 3255 | 1689 | 1501 | 1620 | 4655 | 1449 | 3143 | 3240 | 1514 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 42 | 149 | 29 | 293 | 166 | 863 | 27 | 914 | 245 | 674 | 689 | 68 |
| RTOR Reduction (vph) | 0 | 15 | 0 | 0 | 0 | 18 | 0 | 0 | 100 | 0 | 0 | 36 |
| Lane Group Flow (vph) | 42 | 163 | 0 | 293 | 166 | 845 | 27 | 914 | 145 | 674 | 689 | 32 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 4.2 | 15.1 | | 42.4 | 53.3 | 87.9 | 3.4 | 35.7 | 78.1 | 30.1 | 62.4 | 62.4 |
| Effective Green, g (s) | 5.2 | 17.1 | | 43.4 | 55.3 | 89.9 | 4.4 | 37.7 | 82.1 | 31.1 | 64.4 | 64.4 |
| Actuated g/C Ratio | 0.04 | 0.12 | | 0.31 | 0.40 | 0.65 | 0.03 | 0.27 | 0.59 | 0.22 | 0.46 | 0.46 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 4.0 | | 2.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 63 | 384 | | 1019 | 674 | 974 | 51 | 1266 | 858 | 705 | 1505 | 703 |
| v/s Ratio Prot | c0.03 | 0.05 | | 0.09 | 0.10 | c0.56 | 0.02 | c0.20 | 0.10 | c0.21 | 0.21 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.02 |
| v/c Ratio | 0.67 | 0.42 | | 0.29 | 0.25 | 0.87 | 0.53 | 0.72 | 0.17 | 0.96 | 0.46 | 0.04 |
| Uniform Delay, d1 | 65.8 | 56.2 | | 35.9 | 27.8 | 19.6 | 66.1 | 45.7 | 12.8 | 53.1 | 25.2 | 20.3 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 18.7 | 1.3 | | 0.1 | 0.3 | 8.5 | 4.5 | 2.2 | 0.1 | 23.2 | 0.2 | 0.0 |
| Delay (s) | 84.5 | 57.5 | | 36.0 | 28.0 | 28.1 | 70.6 | 47.9 | 12.9 | 76.3 | 25.5 | 20.3 |
| Level of Service | F | E | | D | C | C | E | D | B | E | C | C |
| Approach Delay (s) | | 62.7 | | | 29.8 | | | 41.2 | | | 49.2 | |
| Approach LOS | | E | | | C | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 41.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.83 | | |
| Actuated Cycle Length (s) | 138.6 | Sum of lost time (s) | 6.8 |
| Intersection Capacity Utilization | 79.9% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 135 | 946 | 25 | 1217 | 153 | 28 | 149 | 182 | 124 |
| v/c Ratio | 0.71 | 0.43 | 0.15 | 0.65 | 0.18 | 0.25 | 0.64 | 0.48 | 0.51 |
| Control Delay | 63.9 | 9.9 | 59.8 | 8.0 | 0.5 | 50.7 | 21.2 | 46.6 | 28.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 63.9 | 9.9 | 59.8 | 8.1 | 0.5 | 50.7 | 21.2 | 46.6 | 28.4 |
| Queue Length 50th (ft) | 88 | 87 | 17 | 60 | 1 | 18 | 1 | 60 | 36 |
| Queue Length 95th (ft) | 150 | 258 | m29 | 202 | 2 | 45 | 60 | 92 | 92 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 222 | 2208 | 170 | 1869 | 864 | 224 | 318 | 461 | 278 |
| Starvation Cap Reductn | 0 | 0 | 0 | 114 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.61 | 0.43 | 0.15 | 0.69 | 0.18 | 0.13 | 0.47 | 0.39 | 0.45 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 124 | 852 | 18 | 23 | 1104 | 156 | 26 | 2 | 135 | 167 | 42 | 72 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 2.0 | 3.0 | | 2.0 | 3.0 | 3.0 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.91 | 0.91 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.99 | 1.00 | 0.98 | | 1.00 | 0.97 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3168 | | 1620 | 3067 | 1319 | 1678 | 1431 | | 3143 | 1502 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3168 | | 1620 | 3067 | 1319 | 1678 | 1431 | | 3143 | 1502 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 135 | 926 | 20 | 25 | 1200 | 170 | 28 | 2 | 147 | 182 | 46 | 78 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 1 | 60 | 0 | 137 | 0 | 0 | 59 | 0 |
| Lane Group Flow (vph) | 135 | 945 | 0 | 25 | 1216 | 93 | 28 | 12 | 0 | 182 | 65 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 11.4 | 70.3 | | 4.0 | 62.9 | 62.9 | 6.0 | 6.0 | | 11.7 | 11.7 | |
| Effective Green, g (s) | 12.4 | 71.3 | | 5.0 | 63.9 | 63.9 | 7.0 | 7.0 | | 12.7 | 12.7 | |
| Actuated g/C Ratio | 0.12 | 0.68 | | 0.05 | 0.61 | 0.61 | 0.07 | 0.07 | | 0.12 | 0.12 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 191 | 2151 | | 77 | 1866 | 803 | 112 | 95 | | 380 | 182 | |
| v/s Ratio Prot | c0.08 | 0.30 | | 0.02 | c0.40 | | c0.02 | 0.01 | | c0.06 | 0.04 | |
| v/s Ratio Perm | | | | | | 0.07 | | | | | | |
| v/c Ratio | 0.71 | 0.44 | | 0.32 | 0.65 | 0.12 | 0.25 | 0.12 | | 0.48 | 0.36 | |
| Uniform Delay, d1 | 44.6 | 7.7 | | 48.4 | 13.3 | 8.7 | 46.5 | 46.1 | | 43.1 | 42.4 | |
| Progression Factor | 1.00 | 1.00 | | 1.35 | 0.42 | 0.07 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 9.3 | 0.7 | | 0.7 | 1.4 | 0.2 | 0.4 | 0.2 | | 1.0 | 1.2 | |
| Delay (s) | 53.9 | 8.4 | | 65.9 | 7.0 | 0.9 | 46.9 | 46.3 | | 44.0 | 43.6 | |
| Level of Service | D | A | | E | A | A | D | D | | D | D | |
| Approach Delay (s) | | 14.0 | | | 7.4 | | | 46.4 | | | 43.9 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 15.9 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.60 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 65.9% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 28 | 1183 | 325 | 1294 | 171 | 229 | 121 | 101 |
| v/c Ratio | 0.30 | 0.50 | 0.75 | 0.61 | 0.71 | 0.25 | 0.69 | 0.54 |
| Control Delay | 60.4 | 13.9 | 53.9 | 11.5 | 59.6 | 4.0 | 64.0 | 47.4 |
| Queue Delay | 0.0 | 0.2 | 0.0 | 0.1 | 0.0 | 0.0 | 1.4 | 0.0 |
| Total Delay | 60.4 | 14.1 | 53.9 | 11.6 | 59.6 | 4.0 | 65.4 | 47.4 |
| Queue Length 50th (ft) | 18 | 205 | 108 | 239 | 111 | 0 | 79 | 56 |
| Queue Length 95th (ft) | m47 | 159 | 153 | 300 | 176 | 28 | 135 | 106 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 98 | 2375 | 474 | 2110 | 310 | 947 | 238 | 250 |
| Starvation Cap Reductn | 0 | 411 | 0 | 114 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 132 | 0 | 39 | 0 | 17 | 33 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.29 | 0.60 | 0.69 | 0.65 | 0.55 | 0.25 | 0.59 | 0.40 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 26 | 954 | 134 | 299 | 1136 | 54 | 139 | 18 | 211 | 111 | 69 | 24 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 2.0 | 3.0 | | 2.5 | 3.0 | | | 2.0 | 2.5 | 2.0 | 2.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.95 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.99 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.98 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.96 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4484 | | 3143 | 3298 | | | 1808 | 2806 | 1562 | 1562 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4484 | | 3143 | 3298 | | | 1808 | 2806 | 1562 | 1562 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 28 | 1037 | 146 | 325 | 1235 | 59 | 151 | 20 | 229 | 121 | 75 | 26 |
| RTOR Reduction (vph) | 0 | 15 | 0 | 0 | 3 | 0 | 0 | 0 | 167 | 0 | 12 | 0 |
| Lane Group Flow (vph) | 28 | 1168 | 0 | 325 | 1291 | 0 | 0 | 171 | 62 | 121 | 89 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 3.3 | 54.3 | | 13.5 | 65.0 | | | 12.9 | 26.4 | 10.8 | 10.8 | |
| Effective Green, g (s) | 4.3 | 55.3 | | 14.5 | 66.0 | | | 13.9 | 28.4 | 11.8 | 11.8 | |
| Actuated g/C Ratio | 0.04 | 0.53 | | 0.14 | 0.63 | | | 0.13 | 0.27 | 0.11 | 0.11 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 66 | 2362 | | 434 | 2073 | | | 239 | 759 | 176 | 176 | |
| v/s Ratio Prot | 0.02 | 0.26 | | c0.10 | c0.39 | | | c0.09 | 0.01 | c0.08 | 0.06 | |
| v/s Ratio Perm | | | | | | | | | 0.01 | | | |
| v/c Ratio | 0.42 | 0.49 | | 0.75 | 0.62 | | | 0.72 | 0.08 | 0.69 | 0.50 | |
| Uniform Delay, d1 | 49.1 | 15.9 | | 43.5 | 11.9 | | | 43.7 | 28.6 | 44.8 | 43.8 | |
| Progression Factor | 1.11 | 0.77 | | 1.01 | 0.76 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.5 | 0.7 | | 5.2 | 1.2 | | | 8.2 | 0.0 | 8.6 | 0.8 | |
| Delay (s) | 55.8 | 13.0 | | 49.3 | 10.3 | | | 51.8 | 28.6 | 53.4 | 44.7 | |
| Level of Service | E | B | | D | B | | | D | C | D | D | |
| Approach Delay (s) | | 14.0 | | | 18.1 | | | 38.5 | | | 49.4 | |
| Approach LOS | | B | | | B | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 21.1 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.65 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 6.5 |
| Intersection Capacity Utilization | 61.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 582 | 1486 | 1225 | 446 | 191 | 250 | 249 |
| v/c Ratio | 0.25 | 1.03 | 0.53 | 0.30 | 0.51 | 0.57 | 0.56 |
| Control Delay | 3.3 | 49.1 | 8.0 | 0.5 | 41.1 | 25.3 | 24.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 3.3 | 49.1 | 8.0 | 0.5 | 41.1 | 25.3 | 24.6 |
| Queue Length 50th (ft) | 25 | ~903 | 173 | 0 | 118 | 87 | 83 |
| Queue Length 95th (ft) | 40 | #1335 | 219 | 0 | 194 | 180 | 170 |
| Internal Link Dist (ft) | 509 | | 867 | | | 1128 | |
| Turn Bay Length (ft) | | | | 75 | | | 80 |
| Base Capacity (vph) | 2351 | 1439 | 2292 | 1478 | 371 | 440 | 444 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.25 | 1.03 | 0.53 | 0.30 | 0.51 | 0.57 | 0.56 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 535 | 1367 | 0 | 1127 | 410 | 0 | 0 | 0 | 195 | 0 | 440 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | 4.0 | 3.0 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.95 | 1.00 | | | | 0.95 | 0.91 | 0.95 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | 0.86 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | | 3292 | 1439 | | 3209 | 1478 | | | | 1625 | 1607 | 1559 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | | 3292 | 1439 | | 3209 | 1478 | | | | 1625 | 1607 | 1559 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 582 | 1486 | 0 | 1225 | 446 | 0 | 0 | 0 | 212 | 0 | 478 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 88 | 87 |
| Lane Group Flow (vph) | 0 | 582 | 1486 | 0 | 1225 | 446 | 0 | 0 | 0 | 191 | 162 | 162 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Free | | | | custom | | Prot |
| Protected Phases | | 2 | | | 6 | | | | | 4 | 4 | 4 |
| Permitted Phases | | | 2 4 | | | Free | | | | 4 | | |
| Actuated Green, G (s) | | 74.0 | 105.0 | | 74.0 | 105.0 | | | | 23.0 | 23.0 | 23.0 |
| Effective Green, g (s) | | 75.0 | 105.0 | | 75.0 | 105.0 | | | | 24.0 | 23.0 | 24.0 |
| Actuated g/C Ratio | | 0.71 | 1.00 | | 0.71 | 1.00 | | | | 0.23 | 0.22 | 0.23 |
| Clearance Time (s) | | 4.0 | | | 4.0 | | | | | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | | | | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | | 2351 | 1439 | | 2292 | 1478 | | | | 371 | 352 | 356 |
| v/s Ratio Prot | | 0.18 | | | 0.38 | | | | | 0.12 | 0.10 | 0.10 |
| v/s Ratio Perm | | | c1.03 | | | 0.30 | | | | | | |
| v/c Ratio | | 0.25 | 1.03 | | 0.53 | 0.30 | | | | 0.51 | 0.46 | 0.45 |
| Uniform Delay, d1 | | 5.2 | 52.5 | | 6.9 | 0.0 | | | | 35.4 | 35.6 | 34.9 |
| Progression Factor | | 0.57 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.2 | 32.2 | | 0.9 | 0.5 | | | | 1.6 | 1.3 | 1.3 |
| Delay (s) | | 3.2 | 84.7 | | 7.8 | 0.5 | | | | 37.0 | 36.9 | 36.1 |
| Level of Service | | A | F | | A | A | | | | D | D | D |
| Approach Delay (s) | | 61.8 | | | 5.9 | | | 0.0 | | | 36.7 | |
| Approach LOS | | E | | | A | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 36.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.03 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 101.6% | ICU Level of Service | G |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 196 | 27 | 42 | 116 | 287 | 122 |
| v/c Ratio | 0.53 | 0.08 | 0.21 | 0.09 | 0.28 | 0.12 |
| Control Delay | 25.2 | 7.6 | 26.1 | 4.4 | 9.1 | 2.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 25.2 | 7.6 | 26.1 | 4.4 | 9.1 | 2.9 |
| Queue Length 50th (ft) | 63 | 0 | 14 | 11 | 32 | 0 |
| Queue Length 95th (ft) | 105 | 15 | 39 | 33 | 124 | 25 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 587 | 543 | 216 | 1242 | 1034 | 994 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.33 | 0.05 | 0.19 | 0.09 | 0.28 | 0.12 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 180 | 25 | 39 | 107 | 264 | 112 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1562 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1562 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 196 | 27 | 42 | 116 | 287 | 122 |
| RTOR Reduction (vph) | 0 | 21 | 0 | 0 | 0 | 53 |
| Lane Group Flow (vph) | 196 | 6 | 42 | 116 | 287 | 69 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 12.2 | 12.2 | 2.8 | 39.8 | 33.0 | 33.0 |
| Effective Green, g (s) | 13.2 | 13.2 | 3.8 | 40.8 | 34.0 | 34.0 |
| Actuated g/C Ratio | 0.22 | 0.22 | 0.06 | 0.68 | 0.57 | 0.57 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 369 | 330 | 103 | 1242 | 966 | 885 |
| v/s Ratio Prot | c0.12 | | c0.03 | 0.06 | c0.17 | |
| v/s Ratio Perm | | 0.00 | | | | 0.04 |
| v/c Ratio | 0.53 | 0.02 | 0.41 | 0.09 | 0.30 | 0.08 |
| Uniform Delay, d1 | 20.7 | 18.3 | 27.0 | 3.3 | 6.8 | 5.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.5 | 0.0 | 2.6 | 0.1 | 0.8 | 0.2 |
| Delay (s) | 22.1 | 18.3 | 29.6 | 3.4 | 7.6 | 6.1 |
| Level of Service | C | B | C | A | A | A |
| Approach Delay (s) | 21.7 | | | 10.4 | 7.1 | |
| Approach LOS | C | | | B | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 11.9 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.37 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 37.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 213 | 250 | 249 | 30 | 989 | 49 | 757 |
| v/c Ratio | 0.48 | 0.61 | 0.51 | 0.11 | 0.68 | 0.28 | 0.52 |
| Control Delay | 18.0 | 22.4 | 13.6 | 10.0 | 13.4 | 14.8 | 11.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 18.0 | 22.4 | 13.6 | 10.0 | 13.4 | 14.8 | 11.1 |
| Queue Length 50th (ft) | 49 | 65 | 38 | 5 | 110 | 8 | 75 |
| Queue Length 95th (ft) | 110 | 139 | 100 | 20 | 203 | 35 | 142 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 661 | 625 | 697 | 352 | 1949 | 231 | 1953 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.32 | 0.40 | 0.36 | 0.09 | 0.51 | 0.21 | 0.39 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 59 | 116 | 21 | 137 | 93 | 229 | 28 | 827 | 83 | 45 | 647 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | | 0.99 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1537 | | | 1681 | 1308 | 1616 | 3029 | | 1561 | 3039 | |
| Flt Permitted | | 0.84 | | | 0.72 | 1.00 | 0.32 | 1.00 | | 0.22 | 1.00 | |
| Satd. Flow (perm) | | 1314 | | | 1252 | 1308 | 549 | 3029 | | 359 | 3039 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 64 | 126 | 23 | 149 | 101 | 249 | 30 | 899 | 90 | 49 | 703 | 54 |
| RTOR Reduction (vph) | 0 | 7 | 0 | 0 | 0 | 60 | 0 | 12 | 0 | 0 | 9 | 0 |
| Lane Group Flow (vph) | 0 | 206 | 0 | 0 | 250 | 189 | 30 | 977 | 0 | 49 | 748 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 16.9 | | | 16.9 | 16.9 | 24.5 | 24.5 | | 24.5 | 24.5 | |
| Effective Green, g (s) | | 16.9 | | | 16.9 | 16.9 | 24.5 | 24.5 | | 24.5 | 24.5 | |
| Actuated g/C Ratio | | 0.33 | | | 0.33 | 0.33 | 0.48 | 0.48 | | 0.48 | 0.48 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 439 | | | 418 | 437 | 266 | 1467 | | 174 | 1471 | |
| v/s Ratio Prot | | | | | | | | c0.32 | | | 0.25 | |
| v/s Ratio Perm | | 0.16 | | | c0.20 | 0.14 | 0.05 | | | 0.14 | | |
| v/c Ratio | | 0.47 | | | 0.60 | 0.43 | 0.11 | 0.67 | | 0.28 | 0.51 | |
| Uniform Delay, d1 | | 13.3 | | | 14.0 | 13.1 | 7.1 | 9.9 | | 7.8 | 8.9 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.1 | | | 2.7 | 0.9 | 0.3 | 1.3 | | 1.2 | 0.4 | |
| Delay (s) | | 14.4 | | | 16.7 | 14.1 | 7.4 | 11.2 | | 9.0 | 9.3 | |
| Level of Service | | B | | | B | B | A | B | | A | A | |
| Approach Delay (s) | | 14.4 | | | 15.4 | | | 11.1 | | | 9.3 | |
| Approach LOS | | B | | | B | | | B | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 11.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.64 | | |
| Actuated Cycle Length (s) | 50.6 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 65.3% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 28 | 289 | 598 | 182 | 278 | 28 |
| v/c Ratio | 0.27 | 0.22 | 0.54 | 0.13 | 0.88 | 0.10 |
| Control Delay | 55.2 | 5.9 | 12.3 | 0.3 | 70.1 | 18.0 |
| Queue Delay | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 | 0.0 |
| Total Delay | 55.2 | 5.9 | 13.0 | 0.3 | 70.1 | 18.0 |
| Queue Length 50th (ft) | 19 | 64 | 143 | 0 | 188 | 4 |
| Queue Length 95th (ft) | 49 | 96 | 303 | m0 | #326 | 28 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 118 | 1314 | 1117 | 1400 | 341 | 311 |
| Starvation Cap Reductn | 0 | 0 | 240 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 5 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.24 | 0.22 | 0.68 | 0.13 | 0.82 | 0.09 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 26 | 266 | 550 | 167 | 256 | 26 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1576 | 1562 | 1349 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1576 | 1562 | 1349 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 28 | 289 | 598 | 182 | 278 | 28 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 29 | 0 | 17 |
| Lane Group Flow (vph) | 28 | 289 | 598 | 153 | 278 | 11 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 4.7 | 79.1 | 70.4 | 92.7 | 22.3 | 22.3 |
| Effective Green, g (s) | 4.7 | 79.1 | 70.4 | 92.7 | 22.3 | 22.3 |
| Actuated g/C Ratio | 0.04 | 0.72 | 0.64 | 0.84 | 0.20 | 0.20 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 69 | 1314 | 1091 | 1328 | 317 | 273 |
| v/s Ratio Prot | c0.02 | 0.16 | c0.35 | 0.02 | c0.18 | |
| v/s Ratio Perm | | | | 0.07 | | 0.01 |
| v/c Ratio | 0.41 | 0.22 | 0.55 | 0.12 | 0.88 | 0.04 |
| Uniform Delay, d1 | 51.3 | 5.2 | 11.0 | 1.5 | 42.5 | 35.3 |
| Progression Factor | 1.00 | 1.00 | 0.89 | 0.53 | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.9 | 0.4 | 1.7 | 0.0 | 22.7 | 0.1 |
| Delay (s) | 55.2 | 5.5 | 11.5 | 0.8 | 65.2 | 35.3 |
| Level of Service | E | A | B | A | E | D |
| Approach Delay (s) | | 9.9 | 9.0 | | 62.5 | |
| Approach LOS | | A | A | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 20.9 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.62 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 12.6 |
| Intersection Capacity Utilization | 50.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 354 | 295 | 260 | 415 | 383 | 262 | 3 |
| v/c Ratio | 0.57 | 0.42 | 0.77 | 0.40 | 0.76 | 0.47 | 0.04 |
| Control Delay | 22.0 | 1.8 | 57.3 | 14.3 | 44.9 | 14.2 | 51.0 |
| Queue Delay | 1.1 | 0.1 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Total Delay | 23.1 | 1.9 | 57.3 | 14.3 | 45.5 | 14.2 | 51.0 |
| Queue Length 50th (ft) | 111 | 0 | 168 | 140 | 241 | 53 | 2 |
| Queue Length 95th (ft) | m272 | m0 | #348 | 274 | 338 | 118 | 12 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | | 217 |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 | |
| Base Capacity (vph) | 622 | 709 | 337 | 1033 | 574 | 557 | 85 |
| Starvation Cap Reductn | 107 | 39 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 34 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.69 | 0.44 | 0.77 | 0.40 | 0.71 | 0.47 | 0.04 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1 | 325 | 271 | 239 | 381 | 1 | 350 | 3 | 241 | 2 | 1 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | 4.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.99 | | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | 1.00 | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.97 | |
| Satd. Flow (prot) | | 1759 | 1464 | 1562 | 1704 | | | 1683 | 1727 | | 1754 | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.97 | |
| Satd. Flow (perm) | | 1758 | 1464 | 1562 | 1704 | | | 1683 | 1727 | | 1754 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1 | 353 | 295 | 260 | 414 | 1 | 380 | 3 | 262 | 2 | 1 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 199 | 0 | 0 | 0 | 0 | 0 | 118 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 354 | 96 | 260 | 415 | 0 | 0 | 383 | 144 | 0 | 3 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 35.8 | 35.8 | 23.7 | 63.5 | | | 32.9 | 28.4 | | 1.0 | |
| Effective Green, g (s) | | 35.8 | 35.8 | 23.7 | 63.5 | | | 28.4 | 28.4 | | 1.0 | |
| Actuated g/C Ratio | | 0.33 | 0.33 | 0.22 | 0.58 | | | 0.26 | 0.26 | | 0.01 | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | 4.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | | 572 | 476 | 337 | 984 | | | 435 | 517 | | 16 | |
| v/s Ratio Prot | | | | c0.17 | 0.24 | | | c0.23 | 0.03 | | c0.00 | |
| v/s Ratio Perm | | c0.20 | 0.07 | | | | | | 0.05 | | | |
| v/c Ratio | | 0.62 | 0.20 | 0.77 | 0.42 | | | 0.88 | 0.28 | | 0.19 | |
| Uniform Delay, d1 | | 31.3 | 26.8 | 40.6 | 13.0 | | | 39.2 | 32.6 | | 54.1 | |
| Progression Factor | | 0.59 | 0.04 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | | 4.5 | 0.9 | 10.4 | 1.3 | | | 18.4 | 0.3 | | 5.6 | |
| Delay (s) | | 23.0 | 2.0 | 51.0 | 14.3 | | | 57.5 | 32.9 | | 59.7 | |
| Level of Service | | C | A | D | B | | | E | C | | E | |
| Approach Delay (s) | | 13.4 | | | 28.5 | | | 47.5 | | | 59.7 | |
| Approach LOS | | B | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 29.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 20.6 |
| Intersection Capacity Utilization | 74.5% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 85 | 160 | 27 | 142 | 121 | 257 | 15 | 641 | 139 | 236 | 413 |
| v/c Ratio | 0.47 | 0.56 | 0.10 | 0.57 | 0.29 | 0.48 | 0.12 | 0.68 | 0.32 | 0.70 | 0.27 |
| Control Delay | 55.2 | 48.4 | 19.0 | 51.4 | 37.1 | 8.1 | 54.1 | 35.4 | 19.7 | 49.5 | 15.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 55.2 | 48.4 | 19.0 | 51.4 | 37.1 | 8.1 | 54.1 | 35.4 | 19.7 | 49.5 | 15.3 |
| Queue Length 50th (ft) | 47 | 86 | 2 | 77 | 61 | 0 | 8 | 172 | 34 | 127 | 58 |
| Queue Length 95th (ft) | 127 | 199 | 30 | 184 | 141 | 72 | 36 | 314 | 105 | 279 | 145 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 245 | 577 | 497 | 407 | 756 | 749 | 208 | 1519 | 657 | 537 | 2043 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.35 | 0.28 | 0.05 | 0.35 | 0.16 | 0.34 | 0.07 | 0.42 | 0.21 | 0.44 | 0.20 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 78 | 147 | 25 | 131 | 111 | 236 | 14 | 590 | 128 | 217 | 325 | 55 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1447 | 1620 | 1739 | 1398 | 1652 | 3240 | 1332 | 1620 | 3007 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1447 | 1620 | 1739 | 1398 | 1652 | 3240 | 1332 | 1620 | 3007 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 85 | 160 | 27 | 142 | 121 | 257 | 15 | 641 | 139 | 236 | 353 | 60 |
| RTOR Reduction (vph) | 0 | 0 | 20 | 0 | 0 | 196 | 0 | 0 | 43 | 0 | 9 | 0 |
| Lane Group Flow (vph) | 85 | 160 | 7 | 142 | 121 | 61 | 15 | 641 | 96 | 236 | 404 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 9.1 | 17.0 | 17.0 | 15.5 | 23.4 | 23.4 | 2.8 | 30.0 | 30.0 | 20.8 | 48.0 | |
| Effective Green, g (s) | 8.1 | 16.5 | 16.5 | 14.5 | 22.9 | 22.9 | 1.8 | 29.5 | 29.5 | 19.8 | 47.5 | |
| Actuated g/C Ratio | 0.08 | 0.17 | 0.17 | 0.15 | 0.24 | 0.24 | 0.02 | 0.31 | 0.31 | 0.21 | 0.49 | |
| Clearance Time (s) | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 139 | 298 | 248 | 244 | 414 | 332 | 31 | 993 | 408 | 333 | 1483 | |
| v/s Ratio Prot | 0.05 | c0.09 | | c0.09 | 0.07 | | 0.01 | c0.20 | | c0.15 | 0.13 | |
| v/s Ratio Perm | | | 0.00 | | | 0.04 | | | 0.07 | | | |
| v/c Ratio | 0.61 | 0.54 | 0.03 | 0.58 | 0.29 | 0.18 | 0.48 | 0.65 | 0.24 | 0.71 | 0.27 | |
| Uniform Delay, d1 | 42.6 | 36.4 | 33.2 | 38.1 | 30.1 | 29.3 | 46.8 | 28.9 | 25.0 | 35.6 | 14.3 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 8.8 | 2.4 | 0.1 | 4.1 | 0.5 | 0.4 | 15.3 | 1.6 | 0.4 | 7.2 | 0.1 | |
| Delay (s) | 51.4 | 38.8 | 33.3 | 42.2 | 30.6 | 29.6 | 62.1 | 30.5 | 25.4 | 42.8 | 14.4 | |
| Level of Service | D | D | C | D | C | C | E | C | C | D | B | |
| Approach Delay (s) | | 42.2 | | | 33.3 | | | 30.2 | | | 24.7 | |
| Approach LOS | | D | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 30.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.63 | | |
| Actuated Cycle Length (s) | 96.3 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 57.1% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 33 | 579 | 98 | 799 | 1031 | 72 | 388 | 760 | 220 | 428 | 27 |
| v/c Ratio | 0.35 | 0.61 | 0.26 | 0.93 | 0.73 | 0.47 | 0.44 | 0.49 | 0.61 | 0.43 | 0.06 |
| Control Delay | 55.8 | 39.1 | 8.5 | 48.7 | 19.4 | 53.1 | 32.4 | 14.8 | 50.5 | 30.6 | 10.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 55.8 | 39.1 | 8.5 | 48.7 | 19.6 | 53.1 | 32.4 | 14.8 | 50.5 | 30.6 | 10.4 |
| Queue Length 50th (ft) | 21 | 123 | 0 | 240 | 235 | 44 | 108 | 157 | 70 | 120 | 0 |
| Queue Length 95th (ft) | 52 | 158 | 41 | #396 | 322 | 89 | 153 | 220 | 108 | 167 | 20 |
| Internal Link Dist (ft) | | 238 | | | 388 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 94 | 1047 | 408 | 855 | 1412 | 168 | 889 | 1536 | 358 | 988 | 468 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 58 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.35 | 0.55 | 0.24 | 0.93 | 0.76 | 0.43 | 0.44 | 0.49 | 0.61 | 0.43 | 0.06 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 30 | 533 | 90 | 735 | 718 | 231 | 66 | 357 | 699 | 202 | 394 | 25 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3109 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1475 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3109 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1475 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 33 | 579 | 98 | 799 | 780 | 251 | 72 | 388 | 760 | 220 | 428 | 27 |
| RTOR Reduction (vph) | 0 | 0 | 78 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 19 |
| Lane Group Flow (vph) | 33 | 579 | 20 | 799 | 1002 | 0 | 72 | 388 | 760 | 220 | 428 | 8 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 3.6 | 18.7 | 18.7 | 27.9 | 43.0 | | 7.8 | 22.6 | 54.5 | 11.8 | 26.6 | 26.6 |
| Effective Green, g (s) | 3.6 | 20.2 | 20.2 | 27.9 | 44.5 | | 7.8 | 24.1 | 54.5 | 11.8 | 28.1 | 28.1 |
| Actuated g/C Ratio | 0.04 | 0.20 | 0.20 | 0.28 | 0.44 | | 0.08 | 0.24 | 0.54 | 0.12 | 0.28 | 0.28 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 56 | 940 | 298 | 908 | 1384 | | 131 | 809 | 1475 | 384 | 910 | 414 |
| v/s Ratio Prot | 0.02 | c0.12 | | c0.25 | c0.32 | | 0.04 | c0.12 | c0.28 | c0.07 | 0.13 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | 0.01 |
| v/c Ratio | 0.59 | 0.62 | 0.07 | 0.88 | 0.72 | | 0.55 | 0.48 | 0.52 | 0.57 | 0.47 | 0.02 |
| Uniform Delay, d1 | 47.5 | 36.4 | 32.3 | 34.4 | 22.7 | | 44.4 | 32.6 | 14.4 | 41.7 | 29.8 | 26.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.79 | 0.71 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 17.4 | 1.4 | 0.1 | 9.6 | 1.9 | | 5.8 | 2.0 | 0.4 | 2.5 | 1.7 | 0.1 |
| Delay (s) | 64.8 | 37.7 | 32.4 | 36.9 | 18.0 | | 50.2 | 34.6 | 14.8 | 44.2 | 31.5 | 26.1 |
| Level of Service | E | D | C | D | B | | D | C | B | D | C | C |
| Approach Delay (s) | | 38.3 | | | 26.2 | | | 23.2 | | | 35.4 | |
| Approach LOS | | D | | | C | | | C | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 28.7 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.69 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 71.2% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 201 | 870 | 388 | 214 | 876 | 149 | 153 | 85 | 300 |
| v/c Ratio | 0.89 | 0.49 | 0.47 | 0.64 | 0.43 | 0.50 | 0.50 | 0.23 | 0.90 |
| Control Delay | 67.0 | 14.4 | 2.2 | 48.1 | 21.7 | 39.6 | 39.6 | 7.3 | 54.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 67.0 | 14.4 | 2.2 | 48.1 | 21.7 | 39.6 | 39.6 | 7.3 | 54.3 |
| Queue Length 50th (ft) | 124 | 74 | 0 | 122 | 128 | 93 | 95 | 0 | 51 |
| Queue Length 95th (ft) | #254 | 178 | 25 | #284 | 230 | 121 | 123 | 31 | #131 |
| Internal Link Dist (ft) | | 660 | | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 520 | 180 | | 200 | | | |
| Base Capacity (vph) | 227 | 1783 | 826 | 334 | 2044 | 563 | 576 | 609 | 333 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.89 | 0.49 | 0.47 | 0.64 | 0.43 | 0.26 | 0.27 | 0.14 | 0.90 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 185 | 800 | 357 | 197 | 770 | 36 | 221 | 57 | 78 | 25 | 116 | 135 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | | 0.93 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 1.00 | |
| Satd. Flow (prot) | 1620 | 4655 | 1531 | 1678 | 4619 | | 1539 | 1573 | 1514 | | 3056 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 1.00 | |
| Satd. Flow (perm) | 1620 | 4655 | 1531 | 1678 | 4619 | | 1539 | 1573 | 1514 | | 3056 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 201 | 870 | 388 | 214 | 837 | 39 | 240 | 62 | 85 | 27 | 126 | 147 |
| RTOR Reduction (vph) | 0 | 0 | 239 | 0 | 4 | 0 | 0 | 0 | 69 | 0 | 138 | 0 |
| Lane Group Flow (vph) | 201 | 870 | 149 | 214 | 872 | 0 | 149 | 153 | 16 | 0 | 162 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | Perm | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Actuated Green, G (s) | 13.0 | 37.3 | 37.3 | 18.9 | 43.2 | | 18.8 | 18.8 | 18.8 | | 5.8 | |
| Effective Green, g (s) | 14.0 | 38.3 | 38.3 | 19.9 | 44.2 | | 19.4 | 19.4 | 19.4 | | 6.4 | |
| Actuated g/C Ratio | 0.14 | 0.38 | 0.38 | 0.20 | 0.44 | | 0.19 | 0.19 | 0.19 | | 0.06 | |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | 6.0 | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 227 | 1783 | 586 | 334 | 2042 | | 299 | 305 | 294 | | 196 | |
| v/s Ratio Prot | c0.12 | c0.19 | | c0.13 | 0.19 | | 0.10 | c0.10 | | | c0.05 | |
| v/s Ratio Perm | | | 0.10 | | | | | | 0.01 | | | |
| v/c Ratio | 0.89 | 0.49 | 0.25 | 0.64 | 0.43 | | 0.50 | 0.50 | 0.06 | | 0.83 | |
| Uniform Delay, d1 | 42.2 | 23.4 | 21.1 | 36.8 | 19.2 | | 36.0 | 36.0 | 32.8 | | 46.3 | |
| Progression Factor | 0.68 | 0.54 | 0.10 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 30.9 | 0.9 | 1.0 | 4.6 | 0.7 | | 1.8 | 1.8 | 0.1 | | 25.1 | |
| Delay (s) | 59.6 | 13.5 | 3.2 | 41.4 | 19.8 | | 37.7 | 37.8 | 32.9 | | 71.3 | |
| Level of Service | E | B | A | D | B | | D | D | C | | E | |
| Approach Delay (s) | | 17.1 | | | 24.1 | | | 36.7 | | | 71.3 | |
| Approach LOS | | B | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 26.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.64 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 20.0 |
| Intersection Capacity Utilization | 64.1% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 122 | 952 | 289 | 767 | 148 | 162 | 178 | 49 | 348 |
| v/c Ratio | 0.51 | 0.58 | 0.62 | 0.49 | 1.12 | 0.26 | 0.38 | 0.36 | 0.57 |
| Control Delay | 45.7 | 23.3 | 34.4 | 8.3 | 158.2 | 32.5 | 6.8 | 52.0 | 24.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 45.7 | 23.3 | 34.4 | 8.3 | 158.2 | 32.5 | 6.8 | 52.0 | 24.3 |
| Queue Length 50th (ft) | 69 | 146 | 116 | 36 | ~53 | 47 | 0 | 14 | 62 |
| Queue Length 95th (ft) | 126 | 190 | m#236 | m146 | #115 | 61 | 45 | 34 | 84 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 239 | 1648 | 463 | 1576 | 132 | 1044 | 656 | 135 | 1069 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.51 | 0.58 | 0.62 | 0.49 | 1.12 | 0.16 | 0.27 | 0.36 | 0.33 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 112 | 608 | 268 | 266 | 690 | 16 | 136 | 149 | 164 | 45 | 193 | 127 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.95 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4502 | | 1652 | 3278 | | 3143 | 3240 | 1659 | 3204 | 3024 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4502 | | 1652 | 3278 | | 3143 | 3240 | 1659 | 3204 | 3024 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 122 | 661 | 291 | 289 | 750 | 17 | 148 | 162 | 178 | 49 | 210 | 138 |
| RTOR Reduction (vph) | 0 | 85 | 0 | 0 | 1 | 0 | 0 | 0 | 143 | 0 | 114 | 0 |
| Lane Group Flow (vph) | 122 | 867 | 0 | 289 | 766 | 0 | 148 | 162 | 35 | 49 | 234 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 14.1 | 30.8 | | 26.7 | 43.4 | | 5.0 | 19.0 | 19.0 | 3.0 | 17.0 | |
| Effective Green, g (s) | 14.0 | 31.8 | | 26.6 | 44.4 | | 4.0 | 18.6 | 18.6 | 2.0 | 16.6 | |
| Actuated g/C Ratio | 0.15 | 0.33 | | 0.28 | 0.47 | | 0.04 | 0.20 | 0.20 | 0.02 | 0.17 | |
| Clearance Time (s) | 3.9 | 5.0 | | 3.9 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 239 | 1507 | | 463 | 1532 | | 132 | 634 | 325 | 67 | 528 | |
| v/s Ratio Prot | 0.08 | c0.19 | | c0.17 | 0.23 | | c0.05 | 0.05 | | 0.02 | c0.08 | |
| v/s Ratio Perm | | | | | | | | | 0.02 | | | |
| v/c Ratio | 0.51 | 0.58 | | 0.62 | 0.50 | | 1.12 | 0.26 | 0.11 | 0.73 | 0.44 | |
| Uniform Delay, d1 | 37.3 | 26.0 | | 29.8 | 17.6 | | 45.5 | 32.3 | 31.4 | 46.2 | 35.1 | |
| Progression Factor | 1.00 | 1.00 | | 0.98 | 0.44 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.8 | 1.6 | | 0.3 | 0.1 | | 114.6 | 0.3 | 0.2 | 35.2 | 0.8 | |
| Delay (s) | 39.2 | 27.6 | | 29.7 | 7.8 | | 160.1 | 32.6 | 31.6 | 81.5 | 35.9 | |
| Level of Service | D | C | | C | A | | F | C | C | F | D | |
| Approach Delay (s) | | 29.0 | | | 13.8 | | | 70.9 | | | 41.5 | |
| Approach LOS | | C | | | B | | | E | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 32.1 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.58 | | |
| Actuated Cycle Length (s) | 95.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 60.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 45 | 49 | 196 | 27 | 893 | 123 | 448 | 858 |
| v/c Ratio | 0.37 | 0.40 | 0.47 | 0.06 | 0.43 | 0.12 | 0.73 | 0.32 |
| Control Delay | 46.7 | 55.8 | 10.3 | 1.6 | 4.9 | 0.3 | 52.0 | 3.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 46.7 | 55.8 | 10.3 | 1.6 | 4.9 | 0.3 | 52.0 | 3.0 |
| Queue Length 50th (ft) | 24 | 33 | 0 | 1 | 42 | 1 | 132 | 16 |
| Queue Length 95th (ft) | 59 | 71 | 36 | m3 | 101 | m0 | 200 | 40 |
| Internal Link Dist (ft) | 387 | 350 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 350 | |
| Base Capacity (vph) | 228 | 244 | 632 | 456 | 2054 | 1017 | 1046 | 2647 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.20 | 0.20 | 0.31 | 0.06 | 0.43 | 0.12 | 0.43 | 0.32 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 32 | 0 | 9 | 42 | 3 | 180 | 25 | 822 | 113 | 412 | 712 | 77 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.97 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.96 | | | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1697 | | | 1779 | 2787 | 1677 | 3355 | 1583 | 3433 | 3411 | |
| Flt Permitted | | 0.74 | | | 0.78 | 1.00 | 0.33 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1307 | | | 1452 | 2787 | 582 | 3355 | 1583 | 3433 | 3411 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 35 | 0 | 10 | 46 | 3 | 196 | 27 | 893 | 123 | 448 | 774 | 84 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 0 | 179 | 0 | 0 | 48 | 0 | 5 | 0 |
| Lane Group Flow (vph) | 0 | 36 | 0 | 0 | 49 | 17 | 27 | 893 | 75 | 448 | 853 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | pm+pt | | Perm | Prot | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | 2 | | | |
| Actuated Green, G (s) | | 9.4 | | | 9.4 | 9.4 | 71.1 | 67.4 | 67.4 | 19.7 | 83.4 | |
| Effective Green, g (s) | | 9.4 | | | 9.4 | 9.4 | 71.1 | 67.4 | 67.4 | 19.7 | 83.4 | |
| Actuated g/C Ratio | | 0.09 | | | 0.09 | 0.09 | 0.65 | 0.61 | 0.61 | 0.18 | 0.76 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 112 | | | 124 | 238 | 413 | 2056 | 970 | 615 | 2586 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.27 | | c0.13 | 0.25 | |
| v/s Ratio Perm | | 0.03 | | | c0.03 | 0.01 | 0.04 | | 0.05 | | | |
| v/c Ratio | | 0.32 | | | 0.40 | 0.07 | 0.07 | 0.43 | 0.08 | 0.73 | 0.33 | |
| Uniform Delay, d1 | | 47.3 | | | 47.6 | 46.3 | 7.2 | 11.2 | 8.7 | 42.6 | 4.3 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 0.33 | 0.35 | 0.03 | 1.07 | 0.61 | |
| Incremental Delay, d2 | | 1.7 | | | 2.1 | 0.1 | 0.1 | 0.5 | 0.1 | 4.0 | 0.3 | |
| Delay (s) | | 49.0 | | | 49.7 | 46.4 | 2.4 | 4.5 | 0.4 | 49.6 | 2.9 | |
| Level of Service | | D | | | D | D | A | A | A | D | A | |
| Approach Delay (s) | | 49.0 | | | 47.1 | | | 4.0 | | | 19.0 | |
| Approach LOS | | D | | | D | | | A | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 16.2 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.49 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 54.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 220 | 26 | 68 | 92 | 314 | 32 | 495 | 209 | 333 |
| v/c Ratio | 0.58 | 0.07 | 0.26 | 0.19 | 0.53 | 0.16 | 0.58 | 0.56 | 0.22 |
| Control Delay | 26.5 | 8.4 | 21.5 | 18.9 | 6.4 | 32.4 | 22.1 | 29.5 | 10.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.5 | 8.4 | 21.5 | 18.9 | 6.4 | 32.4 | 22.1 | 29.5 | 10.5 |
| Queue Length 50th (ft) | 63 | 0 | 18 | 23 | 0 | 10 | 70 | 62 | 23 |
| Queue Length 95th (ft) | 162 | 17 | 59 | 69 | 55 | 44 | 163 | 169 | 83 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 794 | 747 | 538 | 1016 | 896 | 250 | 1728 | 621 | 2367 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.28 | 0.03 | 0.13 | 0.09 | 0.35 | 0.13 | 0.29 | 0.34 | 0.14 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 109 | 94 | 24 | 63 | 85 | 289 | 29 | 377 | 78 | 192 | 277 | 29 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.99 | |
| Flt Protected | | 0.97 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1685 | 1260 | 1620 | 1739 | 1316 | 1711 | 2987 | | 1620 | 3031 | |
| Flt Permitted | | 0.79 | 1.00 | 0.54 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1364 | 1260 | 923 | 1739 | 1316 | 1711 | 2987 | | 1620 | 3031 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 118 | 102 | 26 | 68 | 92 | 314 | 32 | 410 | 85 | 209 | 301 | 32 |
| RTOR Reduction (vph) | 0 | 0 | 19 | 0 | 0 | 228 | 0 | 19 | 0 | 0 | 8 | 0 |
| Lane Group Flow (vph) | 0 | 220 | 7 | 68 | 92 | 86 | 32 | 476 | 0 | 209 | 325 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 2.4 | 18.9 | | 13.6 | 30.1 | |
| Effective Green, g (s) | | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 2.4 | 18.9 | | 13.6 | 30.1 | |
| Actuated g/C Ratio | | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.04 | 0.31 | | 0.22 | 0.50 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 374 | 345 | 253 | 476 | 360 | 68 | 932 | | 364 | 1505 | |
| v/s Ratio Prot | | | | | 0.05 | | 0.02 | c0.16 | | c0.13 | 0.11 | |
| v/s Ratio Perm | | c0.16 | 0.01 | 0.07 | | 0.07 | | | | | | |
| v/c Ratio | | 0.59 | 0.02 | 0.27 | 0.19 | 0.24 | 0.47 | 0.51 | | 0.57 | 0.22 | |
| Uniform Delay, d1 | | 19.0 | 16.1 | 17.2 | 16.9 | 17.1 | 28.5 | 17.1 | | 20.9 | 8.6 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 2.4 | 0.0 | 0.6 | 0.2 | 0.3 | 5.1 | 0.6 | | 2.2 | 0.1 | |
| Delay (s) | | 21.4 | 16.1 | 17.8 | 17.1 | 17.4 | 33.5 | 17.7 | | 23.1 | 8.7 | |
| Level of Service | | C | B | B | B | B | C | B | | C | A | |
| Approach Delay (s) | | 20.8 | | | 17.4 | | | 18.7 | | | 14.3 | |
| Approach LOS | | C | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.3 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.56 | | |
| Actuated Cycle Length (s) | 60.6 | Sum of lost time (s) | 11.5 |
| Intersection Capacity Utilization | 54.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 146 | 211 | 145 | 114 | 380 | 177 | 118 | 911 | 43 | 760 |
| v/c Ratio | 0.68 | 0.46 | 0.33 | 0.63 | 0.89 | 0.36 | 0.62 | 0.63 | 0.42 | 0.65 |
| Control Delay | 61.5 | 38.3 | 7.5 | 76.3 | 59.8 | 8.1 | 63.1 | 23.7 | 64.1 | 29.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 61.5 | 38.3 | 7.5 | 76.3 | 59.8 | 8.1 | 63.1 | 23.7 | 64.1 | 29.0 |
| Queue Length 50th (ft) | 98 | 125 | 0 | 78 | 216 | 7 | 84 | 214 | 31 | 247 |
| Queue Length 95th (ft) | 166 | 198 | 49 | 147 | #420 | 56 | 148 | 254 | 69 | 231 |
| Internal Link Dist (ft) | | 2946 | | | 561 | | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 230 | | | 200 | | 150 | |
| Base Capacity (vph) | 244 | 480 | 447 | 203 | 439 | 503 | 210 | 1444 | 104 | 1164 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.60 | 0.44 | 0.32 | 0.56 | 0.87 | 0.35 | 0.56 | 0.63 | 0.41 | 0.65 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 134 | 194 | 133 | 105 | 350 | 163 | 109 | 681 | 157 | 40 | 615 | 85 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 9 | 12 | 12 | 10 | 10 | 10 | 9 | 10 | 10 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1577 | 1845 | 1306 | 1593 | 1863 | 1559 | 1652 | 3133 | | 1593 | 3163 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1577 | 1845 | 1306 | 1593 | 1863 | 1559 | 1652 | 3133 | | 1593 | 3163 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 146 | 211 | 145 | 114 | 380 | 177 | 118 | 740 | 171 | 43 | 668 | 92 |
| RTOR Reduction (vph) | 0 | 0 | 109 | 0 | 0 | 136 | 0 | 17 | 0 | 0 | 10 | 0 |
| Lane Group Flow (vph) | 146 | 211 | 36 | 114 | 380 | 41 | 118 | 894 | 0 | 43 | 750 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | 4 | | | | | | |
| Actuated Green, G (s) | 14.9 | 27.5 | 27.5 | 12.6 | 25.2 | 25.2 | 12.6 | 48.5 | | 4.2 | 40.1 | |
| Effective Green, g (s) | 14.9 | 27.5 | 27.5 | 12.6 | 25.2 | 25.2 | 12.6 | 48.5 | | 4.2 | 40.1 | |
| Actuated g/C Ratio | 0.14 | 0.25 | 0.25 | 0.11 | 0.23 | 0.23 | 0.11 | 0.44 | | 0.04 | 0.36 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 214 | 461 | 327 | 182 | 427 | 357 | 189 | 1381 | | 61 | 1153 | |
| v/s Ratio Prot | c0.09 | 0.11 | | 0.07 | c0.20 | | c0.07 | c0.29 | | 0.03 | 0.24 | |
| v/s Ratio Perm | | | 0.03 | | | 0.03 | | | | | | |
| v/c Ratio | 0.68 | 0.46 | 0.11 | 0.63 | 0.89 | 0.11 | 0.62 | 0.65 | | 0.70 | 0.65 | |
| Uniform Delay, d1 | 45.3 | 34.9 | 31.8 | 46.5 | 41.1 | 33.6 | 46.4 | 24.1 | | 52.3 | 29.1 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.32 | 0.88 | 1.15 | 1.06 | 0.90 | | 1.04 | 0.88 | |
| Incremental Delay, d2 | 9.4 | 1.0 | 0.2 | 7.2 | 19.6 | 0.2 | 6.8 | 2.3 | | 31.8 | 2.8 | |
| Delay (s) | 54.7 | 35.9 | 32.0 | 68.7 | 55.7 | 38.8 | 55.8 | 23.9 | | 86.4 | 28.3 | |
| Level of Service | D | D | C | E | E | D | E | C | | F | C | |
| Approach Delay (s) | | 40.2 | | | 53.5 | | | 27.5 | | | 31.4 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 36.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.69 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 12.6 |
| Intersection Capacity Utilization | 67.5% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 48 | 348 | 86 | 983 | 13 | 14 | 30 | 26 | 48 |
| v/c Ratio | 0.35 | 0.31 | 0.44 | 0.75 | 0.13 | 0.12 | 0.29 | 0.19 | 0.37 |
| Control Delay | 49.3 | 11.7 | 52.0 | 22.0 | 49.6 | 48.8 | 55.0 | 22.0 | 51.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 49.3 | 11.7 | 52.0 | 22.0 | 49.6 | 48.8 | 55.0 | 22.0 | 51.5 |
| Queue Length 50th (ft) | 33 | 130 | 57 | 505 | 9 | 9 | 20 | 1 | 29 |
| Queue Length 95th (ft) | 59 | 197 | 106 | #938 | 28 | 29 | 51 | 29 | 66 |
| Internal Link Dist (ft) | | 485 | | 1458 | | 986 | | 702 | |
| Turn Bay Length (ft) | 205 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 137 | 1105 | 194 | 1310 | 218 | 262 | 228 | 283 | 268 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.35 | 0.31 | 0.44 | 0.75 | 0.06 | 0.05 | 0.13 | 0.09 | 0.18 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 44 | 289 | 31 | 79 | 771 | 133 | 12 | 1 | 12 | 28 | 2 | 22 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 8 | 9 | 14 | 12 | 11 | 12 | 12 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.98 | | 1.00 | 0.86 | | 1.00 | 0.86 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1831 | | 1593 | 1943 | | 1711 | 1603 | | 1770 | 1605 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.74 | 1.00 | | 0.75 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1831 | | 1593 | 1943 | | 1333 | 1603 | | 1394 | 1605 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 48 | 314 | 34 | 86 | 838 | 145 | 13 | 1 | 13 | 30 | 2 | 24 |
| RTOR Reduction (vph) | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 |
| Lane Group Flow (vph) | 48 | 346 | 0 | 86 | 983 | 0 | 13 | 14 | 0 | 30 | 3 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Parking (#/hr) | | | | | | | | | | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 7.3 | 64.5 | | 13.4 | 70.6 | | 6.8 | 6.8 | | 6.8 | 6.8 | |
| Effective Green, g (s) | 7.3 | 64.5 | | 13.4 | 70.6 | | 6.8 | 6.8 | | 6.8 | 6.8 | |
| Actuated g/C Ratio | 0.07 | 0.59 | | 0.12 | 0.64 | | 0.06 | 0.06 | | 0.06 | 0.06 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 117 | 1074 | | 194 | 1247 | | 82 | 99 | | 86 | 99 | |
| v/s Ratio Prot | 0.03 | 0.19 | | c0.05 | c0.51 | | | 0.01 | | | 0.00 | |
| v/s Ratio Perm | | | | | | | 0.01 | | | c0.02 | | |
| v/c Ratio | 0.41 | 0.32 | | 0.44 | 0.79 | | 0.16 | 0.14 | | 0.35 | 0.04 | |
| Uniform Delay, d1 | 49.3 | 11.6 | | 44.8 | 14.3 | | 48.9 | 48.8 | | 49.5 | 48.5 | |
| Progression Factor | 0.89 | 0.83 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 2.3 | 0.8 | | 1.6 | 5.1 | | 0.9 | 0.7 | | 2.4 | 0.1 | |
| Delay (s) | 46.3 | 10.4 | | 46.5 | 19.4 | | 49.8 | 49.5 | | 51.9 | 48.7 | |
| Level of Service | D | B | | D | B | | D | D | | D | D | |
| Approach Delay (s) | | 14.7 | | | 21.6 | | | 49.6 | | | 50.4 | |
| Approach LOS | | B | | | C | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 22.3 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.71 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 81.9% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | SWR | SWR2 |
|---|---|---|
| Lane Configurations | | |
| Volume (vph) | 40 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Lane Width | 12 | 12 |
| Total Lost time (s) | 4.5 | |
| Lane Util. Factor | 1.00 | |
| Frpb, ped/bikes | 1.00 | |
| Flpb, ped/bikes | 1.00 | |
| Frt | 0.86 | |
| Flt Protected | 1.00 | |
| Satd. Flow (prot) | 1611 | |
| Flt Permitted | 1.00 | |
| Satd. Flow (perm) | 1611 | |
| Peak-hour factor, PHF | 0.92 | 0.92 |
| Adj. Flow (vph) | 43 | 5 |
| RTOR Reduction (vph) | 5 | 0 |
| Lane Group Flow (vph) | 43 | 0 |
| Confl. Peds. (#/hr) | | |
| Parking (#/hr) | | |
| Turn Type | custom | |
| Protected Phases | 9 | |
| Permitted Phases | | |
| Actuated Green, G (s) | 7.3 | |
| Effective Green, g (s) | 7.3 | |
| Actuated g/C Ratio | 0.07 | |
| Clearance Time (s) | 4.5 | |
| Vehicle Extension (s) | 3.0 | |
| Lane Grp Cap (vph) | 107 | |
| v/s Ratio Prot | c0.03 | |
| v/s Ratio Perm | | |
| v/c Ratio | 0.40 | |
| Uniform Delay, d1 | 49.3 | |
| Progression Factor | 1.00 | |
| Incremental Delay, d2 | 2.5 | |
| Delay (s) | 51.8 | |
| Level of Service | D | |
| Approach Delay (s) | | |
| Approach LOS | | |

Intersection Summary

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 86 | 274 | 12 | 849 | 66 | 126 | 14 | 78 | 424 |
| v/c Ratio | 0.54 | 0.26 | 0.11 | 1.11 | 0.56 | 0.23 | 0.03 | 0.23 | 0.75 |
| Control Delay | 46.4 | 9.2 | 35.5 | 89.3 | 39.3 | 18.7 | 8.5 | 19.3 | 26.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 46.4 | 9.2 | 35.5 | 89.3 | 39.3 | 18.7 | 8.5 | 19.3 | 26.4 |
| Queue Length 50th (ft) | 35 | 41 | 5 | ~432 | 23 | 39 | 0 | 24 | 133 |
| Queue Length 95th (ft) | #103 | 123 | 21 | #733 | 65 | 76 | 11 | 54 | 226 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 160 | 1070 | 106 | 768 | 169 | 786 | 567 | 493 | 783 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.54 | 0.26 | 0.11 | 1.11 | 0.39 | 0.16 | 0.02 | 0.16 | 0.54 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 79 | 160 | 92 | 11 | 726 | 55 | 61 | 116 | 13 | 72 | 206 | 184 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1904 | | 1711 | 1701 | | 1652 | 1863 | 1326 | 1643 | 1766 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.23 | 1.00 | 1.00 | 0.68 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1904 | | 1711 | 1701 | | 401 | 1863 | 1326 | 1169 | 1766 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 86 | 174 | 100 | 12 | 789 | 60 | 66 | 126 | 14 | 78 | 224 | 200 |
| RTOR Reduction (vph) | 0 | 23 | 0 | 0 | 3 | 0 | 0 | 0 | 10 | 0 | 48 | 0 |
| Lane Group Flow (vph) | 86 | 251 | 0 | 12 | 846 | 0 | 66 | 126 | 4 | 78 | 376 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 4.5 | 35.7 | | 0.7 | 31.9 | | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | |
| Effective Green, g (s) | 4.5 | 35.7 | | 0.7 | 31.9 | | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | |
| Actuated g/C Ratio | 0.07 | 0.52 | | 0.01 | 0.46 | | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 112 | 988 | | 17 | 789 | | 113 | 525 | 374 | 330 | 498 | |
| v/s Ratio Prot | c0.05 | c0.13 | | 0.01 | c0.50 | | | 0.07 | | | c0.21 | |
| v/s Ratio Perm | | | | | | | 0.16 | | 0.00 | 0.07 | | |
| v/c Ratio | 0.77 | 0.25 | | 0.71 | 1.07 | | 0.58 | 0.24 | 0.01 | 0.24 | 0.75 | |
| Uniform Delay, d1 | 31.6 | 9.2 | | 33.9 | 18.4 | | 21.2 | 19.0 | 17.8 | 19.0 | 22.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 27.9 | 0.2 | | 88.4 | 53.1 | | 8.8 | 0.3 | 0.0 | 0.5 | 6.8 | |
| Delay (s) | 59.5 | 9.4 | | 122.3 | 71.6 | | 30.0 | 19.3 | 17.8 | 19.5 | 29.3 | |
| Level of Service | E | A | | F | E | | C | B | B | B | C | |
| Approach Delay (s) | | 21.3 | | | 72.3 | | | 22.7 | | | 27.8 | |
| Approach LOS | | C | | | E | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 45.9 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.99 | | |
| Actuated Cycle Length (s) | 68.8 | Sum of lost time (s) | 17.5 |
| Intersection Capacity Utilization | 87.7% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 174 | 56 | 4 | 28 | 586 | 460 | 13 | 27 | 603 |
| v/c Ratio | 0.91 | 0.12 | 0.04 | 0.12 | 1.01 | 0.25 | 0.02 | 0.19 | 0.69 |
| Control Delay | 81.8 | 9.3 | 40.5 | 17.8 | 67.7 | 10.8 | 8.4 | 39.8 | 19.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 81.8 | 9.3 | 40.5 | 17.8 | 67.7 | 10.8 | 8.4 | 39.8 | 19.8 |
| Queue Length 50th (ft) | 72 | 3 | 2 | 5 | 230 | 36 | 1 | 11 | 65 |
| Queue Length 95th (ft) | #276 | 31 | 14 | 26 | #720 | 139 | 12 | 45 | 163 |
| Internal Link Dist (ft) | | 1442 | | 221 | | 1609 | | | 1977 |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | |
| Base Capacity (vph) | 192 | 797 | 93 | 705 | 581 | 1959 | 876 | 144 | 1225 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.91 | 0.07 | 0.04 | 0.04 | 1.01 | 0.23 | 0.01 | 0.19 | 0.49 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 160 | 10 | 41 | 4 | 11 | 15 | 545 | 423 | 12 | 25 | 265 | 290 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.88 | | 1.00 | 0.91 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.92 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1554 | | 1652 | 1572 | | 1652 | 3240 | 1450 | 1711 | 3124 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1554 | | 1652 | 1572 | | 1652 | 3240 | 1450 | 1711 | 3124 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 174 | 11 | 45 | 4 | 12 | 16 | 586 | 460 | 13 | 27 | 288 | 315 |
| RTOR Reduction (vph) | 0 | 33 | 0 | 0 | 13 | 0 | 0 | 0 | 5 | 0 | 199 | 0 |
| Lane Group Flow (vph) | 174 | 23 | 0 | 4 | 15 | 0 | 586 | 460 | 8 | 27 | 404 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 8.2 | 20.9 | | 0.6 | 13.3 | | 25.7 | 41.4 | 41.4 | 2.1 | 17.8 | |
| Effective Green, g (s) | 8.2 | 20.9 | | 0.6 | 13.3 | | 25.7 | 41.4 | 41.4 | 2.1 | 17.8 | |
| Actuated g/C Ratio | 0.11 | 0.27 | | 0.01 | 0.17 | | 0.33 | 0.53 | 0.53 | 0.03 | 0.23 | |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 181 | 419 | | 13 | 270 | | 548 | 1731 | 775 | 46 | 718 | |
| v/s Ratio Prot | c0.10 | c0.01 | | 0.00 | 0.01 | | c0.35 | 0.14 | | 0.02 | c0.13 | |
| v/s Ratio Perm | | | | | | | | | 0.01 | | | |
| v/c Ratio | 0.96 | 0.06 | | 0.31 | 0.05 | | 1.07 | 0.27 | 0.01 | 0.59 | 0.56 | |
| Uniform Delay, d1 | 34.5 | 21.0 | | 38.2 | 26.8 | | 25.9 | 9.8 | 8.5 | 37.3 | 26.4 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 55.6 | 0.1 | | 17.5 | 0.1 | | 58.3 | 0.1 | 0.0 | 20.6 | 1.2 | |
| Delay (s) | 90.1 | 21.1 | | 55.7 | 27.0 | | 84.2 | 9.9 | 8.5 | 57.9 | 27.6 | |
| Level of Service | F | C | | E | C | | F | A | A | E | C | |
| Approach Delay (s) | | 73.3 | | | 30.6 | | | 51.0 | | | 28.9 | |
| Approach LOS | | E | | | C | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 46.2 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.68 | | |
| Actuated Cycle Length (s) | 77.5 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 72.9% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 38 | 7 | 17 | 1032 | 861 |
| v/c Ratio | 0.27 | 0.06 | 0.03 | 0.36 | 0.30 |
| Control Delay | 49.5 | 24.2 | 2.6 | 2.6 | 0.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.7 | 0.0 |
| Total Delay | 49.5 | 24.2 | 2.6 | 3.3 | 0.7 |
| Queue Length 50th (ft) | 26 | 0 | 1 | 60 | 5 |
| Queue Length 95th (ft) | 54 | 13 | 8 | 146 | 25 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 345 | 284 | 506 | 2874 | 2837 |
| Starvation Cap Reductn | 0 | 0 | 0 | 1397 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.11 | 0.02 | 0.03 | 0.70 | 0.30 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 35 | 6 | 16 | 949 | 724 | 68 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3196 | |
| Flt Permitted | 0.95 | 1.00 | 0.33 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 570 | 3240 | 3196 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 38 | 7 | 17 | 1032 | 787 | 74 |
| RTOR Reduction (vph) | 0 | 7 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 38 | 0 | 17 | 1032 | 858 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 7.0 | 7.0 | 94.0 | 94.0 | 94.0 | |
| Effective Green, g (s) | 7.0 | 7.0 | 94.0 | 94.0 | 94.0 | |
| Actuated g/C Ratio | 0.06 | 0.06 | 0.85 | 0.85 | 0.85 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 105 | 85 | 487 | 2769 | 2731 | |
| v/s Ratio Prot | c0.02 | | | c0.32 | 0.27 | |
| v/s Ratio Perm | | 0.00 | 0.03 | | | |
| v/c Ratio | 0.36 | 0.01 | 0.03 | 0.37 | 0.31 | |
| Uniform Delay, d1 | 49.4 | 48.2 | 1.2 | 1.7 | 1.6 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 0.22 | |
| Incremental Delay, d2 | 2.1 | 0.0 | 0.1 | 0.4 | 0.2 | |
| Delay (s) | 51.5 | 48.3 | 1.3 | 2.1 | 0.6 | |
| Level of Service | D | D | A | A | A | |
| Approach Delay (s) | 51.0 | | | 2.1 | 0.6 | |
| Approach LOS | D | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 2.6 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.37 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 37.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1155 | 662 | 362 | 1236 | 643 | 766 |
| v/c Ratio | 0.91 | 0.47 | 0.60 | 0.60 | 0.38 | 0.93 |
| Control Delay | 29.2 | 3.0 | 32.9 | 12.3 | 0.7 | 53.8 |
| Queue Delay | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.2 | 3.2 | 32.9 | 12.3 | 0.7 | 53.8 |
| Queue Length 50th (ft) | 187 | 1 | 60 | 188 | 0 | 269 |
| Queue Length 95th (ft) | #484 | 22 | 119 | 303 | 0 | #397 |
| Internal Link Dist (ft) | 252 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 1292 | 1424 | 599 | 2063 | 1686 | 822 |
| Starvation Cap Reductn | 0 | 172 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.89 | 0.53 | 0.60 | 0.60 | 0.38 | 0.93 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1063 | 609 | 333 | 1137 | 0 | 0 | 0 | 592 | 0 | 0 | 705 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.5 | 4.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | | | 1.00 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2787 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2787 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1155 | 662 | 362 | 1236 | 0 | 0 | 0 | 643 | 0 | 0 | 766 |
| RTOR Reduction (vph) | 0 | 0 | 411 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1155 | 251 | 362 | 1236 | 0 | 0 | 0 | 643 | 0 | 0 | 766 |
| Confl. Peds. (#/hr) | | | | 4 | | | | | | | | |
| Heavy Vehicles (%) | 2% | 4% | 4% | 4% | 4% | 2% | 2% | 2% | 4% | 2% | 2% | 2% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 | | 1 | 6 | | | | | | | |
| Permitted Phases | | | 2 | | | | | | Free | | | 4 |
| Actuated Green, G (s) | | 37.9 | 37.9 | 19.1 | 61.5 | | | | 100.0 | | | 29.5 |
| Effective Green, g (s) | | 37.9 | 37.9 | 19.1 | 61.5 | | | | 100.0 | | | 29.5 |
| Actuated g/C Ratio | | 0.38 | 0.38 | 0.19 | 0.62 | | | | 1.00 | | | 0.29 |
| Clearance Time (s) | | 4.5 | 4.5 | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 1272 | 1001 | 600 | 2063 | | | | 1686 | | | 822 |
| v/s Ratio Prot | | c0.34 | | 0.12 | c0.37 | | | | | | | |
| v/s Ratio Perm | | | 0.09 | | | | | | 0.38 | | | c0.27 |
| v/c Ratio | | 0.91 | 0.25 | 0.60 | 0.60 | | | | 0.38 | | | 0.93 |
| Uniform Delay, d1 | | 29.4 | 21.3 | 37.0 | 11.7 | | | | 0.0 | | | 34.3 |
| Progression Factor | | 0.61 | 1.13 | 0.76 | 0.93 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 9.1 | 0.1 | 4.2 | 1.1 | | | | 0.7 | | | 18.6 |
| Delay (s) | | 26.9 | 24.3 | 32.4 | 12.0 | | | | 0.7 | | | 52.9 |
| Level of Service | | C | C | C | B | | | | A | | | D |
| Approach Delay (s) | | 26.0 | | | 16.7 | | | 0.7 | | | 52.9 | |
| Approach LOS | | C | | | B | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 23.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.82 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 63.6% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 645 | 1087 | 728 | 520 | 423 | 915 |
| v/c Ratio | 0.75 | 0.32 | 0.40 | 0.60 | 0.26 | 0.60 |
| Control Delay | 24.4 | 0.2 | 7.6 | 12.1 | 0.4 | 1.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 24.4 | 0.2 | 7.6 | 12.1 | 0.4 | 1.7 |
| Queue Length 50th (ft) | 132 | 0 | 142 | 204 | 0 | 0 |
| Queue Length 95th (ft) | m163 | m0 | m16 | m57 | 0 | 0 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 911 | 3355 | 1837 | 863 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.71 | 0.32 | 0.40 | 0.60 | 0.26 | 0.60 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 593 | 1000 | 0 | 0 | 670 | 478 | 0 | 0 | 389 | 0 | 0 | 842 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 645 | 1087 | 0 | 0 | 728 | 520 | 0 | 0 | 423 | 0 | 0 | 915 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 645 | 1087 | 0 | 0 | 728 | 495 | 0 | 0 | 423 | 0 | 0 | 915 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 13.6 | 50.0 | | | 27.4 | 27.4 | | | 50.0 | | | 50.0 |
| Effective Green, g (s) | 13.6 | 50.0 | | | 27.4 | 27.4 | | | 50.0 | | | 50.0 |
| Actuated g/C Ratio | 0.27 | 1.00 | | | 0.55 | 0.55 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 855 | 3355 | | | 1839 | 839 | | | 1611 | | | 1528 |
| v/s Ratio Prot | 0.21 | 0.32 | | | 0.22 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.32 | | | 0.26 | | | c0.60 |
| v/c Ratio | 0.75 | 0.32 | | | 0.40 | 0.59 | | | 0.26 | | | 0.60 |
| Uniform Delay, d1 | 16.7 | 0.0 | | | 6.5 | 7.5 | | | 0.0 | | | 0.0 |
| Progression Factor | 1.21 | 1.00 | | | 1.03 | 1.28 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 2.7 | 0.0 | | | 0.6 | 2.8 | | | 0.4 | | | 1.7 |
| Delay (s) | 22.8 | 0.0 | | | 7.3 | 12.4 | | | 0.4 | | | 1.7 |
| Level of Service | C | A | | | A | B | | | A | | | A |
| Approach Delay (s) | | 8.5 | | | 9.4 | | | 0.4 | | | 1.7 | |
| Approach LOS | | A | | | A | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 6.6 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.60 | | |
| Actuated Cycle Length (s) | 50.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 54.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 315 | 323 | 440 | 462 | 20 | 478 | 892 | 9 | 41 | 614 | 210 |
| v/c Ratio | 1.09 | 0.46 | 0.25 | 1.14 | 0.06 | 1.10 | 0.57 | 0.02 | 0.35 | 0.91 | 0.50 |
| Control Delay | 98.7 | 12.5 | 0.3 | 123.2 | 19.2 | 108.6 | 17.2 | 9.8 | 51.3 | 52.1 | 17.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 98.7 | 12.5 | 0.3 | 123.2 | 19.2 | 108.6 | 17.2 | 9.8 | 51.3 | 52.1 | 17.2 |
| Queue Length 50th (ft) | ~149 | 53 | 0 | ~328 | 4 | ~333 | 178 | 1 | 19 | 199 | 70 |
| Queue Length 95th (ft) | #318 | 115 | 0 | #517 | 23 | #514 | 261 | m3 | m47 | #301 | m97 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 289 | 707 | 1770 | 406 | 354 | 435 | 1562 | 579 | 118 | 675 | 420 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.09 | 0.46 | 0.25 | 1.14 | 0.06 | 1.10 | 0.57 | 0.02 | 0.35 | 0.91 | 0.50 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 290 | 297 | 405 | 2 | 423 | 18 | 440 | 821 | 8 | 38 | 565 | 193 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.96 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1738 | 1477 | 1652 | 3539 | 1338 | 1652 | 3303 | 1552 |
| Flt Permitted | 0.15 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 265 | 1739 | 1770 | | 1736 | 1477 | 1652 | 3539 | 1338 | 1652 | 3303 | 1552 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 315 | 323 | 440 | 2 | 460 | 20 | 478 | 892 | 9 | 41 | 614 | 210 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 3 | 0 | 0 | 103 |
| Lane Group Flow (vph) | 315 | 323 | 440 | 0 | 462 | 12 | 478 | 892 | 6 | 41 | 614 | 107 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 38.1 | 38.1 | 95.0 | | 21.7 | 21.7 | 24.0 | 39.1 | 39.1 | 3.8 | 18.4 | 18.4 |
| Effective Green, g (s) | 38.6 | 38.6 | 95.0 | | 22.2 | 22.2 | 25.0 | 40.1 | 39.1 | 4.3 | 19.4 | 19.4 |
| Actuated g/C Ratio | 0.41 | 0.41 | 1.00 | | 0.23 | 0.23 | 0.26 | 0.42 | 0.41 | 0.05 | 0.20 | 0.20 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.5 | 5.0 | 5.0 |
| Vehicle Extension (s) | 3.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 289 | 707 | 1770 | | 406 | 345 | 435 | 1494 | 551 | 75 | 675 | 317 |
| v/s Ratio Prot | c0.14 | 0.19 | | | | | c0.29 | 0.25 | | 0.02 | c0.19 | |
| v/s Ratio Perm | c0.30 | | 0.25 | | 0.27 | 0.01 | | | 0.00 | | | 0.07 |
| v/c Ratio | 1.09 | 0.46 | 0.25 | | 1.14 | 0.03 | 1.10 | 0.60 | 0.01 | 0.55 | 0.91 | 0.34 |
| Uniform Delay, d1 | 24.9 | 20.6 | 0.0 | | 36.4 | 28.1 | 35.0 | 21.2 | 16.5 | 44.4 | 36.9 | 32.3 |
| Progression Factor | 0.74 | 0.50 | 1.00 | | 1.00 | 1.00 | 1.07 | 0.75 | 0.71 | 1.02 | 0.89 | 0.95 |
| Incremental Delay, d2 | 77.2 | 0.6 | 0.3 | | 87.9 | 0.1 | 71.9 | 1.7 | 0.0 | 8.5 | 18.0 | 2.8 |
| Delay (s) | 95.7 | 10.9 | 0.3 | | 124.3 | 28.2 | 109.3 | 17.5 | 11.8 | 53.7 | 50.9 | 33.4 |
| Level of Service | F | B | A | | F | C | F | B | B | D | D | C |
| Approach Delay (s) | | 31.3 | | | 120.3 | | | 49.3 | | | 46.8 | |
| Approach LOS | | C | | | F | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 52.6 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.03 | | |
| Actuated Cycle Length (s) | 95.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 91.8% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 18 | 14 | 1 | 1152 | 82 | 1282 |
| v/c Ratio | 0.17 | 0.10 | 0.00 | 0.26 | 0.23 | 0.42 |
| Control Delay | 46.4 | 19.5 | 2.0 | 1.6 | 4.7 | 3.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| Total Delay | 46.4 | 19.5 | 2.0 | 1.6 | 4.7 | 3.4 |
| Queue Length 50th (ft) | 12 | 0 | 0 | 37 | 7 | 70 |
| Queue Length 95th (ft) | 31 | 18 | m0 | 84 | 41 | 225 |
| Internal Link Dist (ft) | 217 | | | 650 | | 443 |
| Turn Bay Length (ft) | | | 115 | | 150 | |
| Base Capacity (vph) | 278 | 328 | 316 | 4372 | 352 | 3077 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 1044 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.06 | 0.04 | 0.00 | 0.26 | 0.23 | 0.63 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 16 | 1 | 13 | 1 | 1029 | 31 | 75 | 1176 | 4 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | 1.00 | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1572 | 1397 | 1650 | 4928 | | 1618 | 3469 | |
| Flt Permitted | | | | | 0.74 | 1.00 | 0.20 | 1.00 | | 0.23 | 1.00 | |
| Satd. Flow (perm) | | | | | 1222 | 1397 | 356 | 4928 | | 398 | 3469 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 17 | 1 | 14 | 1 | 1118 | 34 | 82 | 1278 | 4 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 1 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 18 | 1 | 1 | 1151 | 0 | 82 | 1282 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 7.3 | 7.3 | 94.1 | 94.1 | | 94.1 | 94.1 | |
| Effective Green, g (s) | | | | | 7.3 | 7.3 | 94.1 | 94.1 | | 94.1 | 94.1 | |
| Actuated g/C Ratio | | | | | 0.07 | 0.07 | 0.86 | 0.86 | | 0.86 | 0.86 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 81 | 93 | 305 | 4216 | | 340 | 2968 | |
| v/s Ratio Prot | | | | | | | | 0.23 | | | c0.37 | |
| v/s Ratio Perm | | | | | c0.01 | 0.00 | 0.00 | | | 0.21 | | |
| v/c Ratio | | | | | 0.22 | 0.01 | 0.00 | 0.27 | | 0.24 | 0.43 | |
| Uniform Delay, d1 | | | | | 48.7 | 48.0 | 1.2 | 1.5 | | 1.4 | 1.8 | |
| Progression Factor | | | | | 1.00 | 1.00 | 0.76 | 0.72 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | | | | 1.4 | 0.0 | 0.0 | 0.1 | | 1.7 | 0.5 | |
| Delay (s) | | | | | 50.1 | 48.0 | 0.9 | 1.2 | | 3.1 | 2.3 | |
| Level of Service | | | | | D | D | A | A | | A | A | |
| Approach Delay (s) | | 0.0 | | | 49.2 | | | 1.2 | | | 2.3 | |
| Approach LOS | | A | | | D | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 2.4 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.42 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 53.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 48 | 410 | 875 | 28 | 29 |
| v/c Ratio | 0.35 | 0.25 | 0.32 | 0.24 | 0.22 |
| Control Delay | 49.0 | 1.8 | 1.1 | 52.8 | 20.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 49.0 | 1.8 | 1.1 | 52.8 | 20.5 |
| Queue Length 50th (ft) | 31 | 17 | 18 | 19 | 0 |
| Queue Length 95th (ft) | m62 | 62 | 28 | 48 | 29 |
| Internal Link Dist (ft) | | 561 | 485 | 363 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 201 | 1636 | 2697 | 394 | 375 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.24 | 0.25 | 0.32 | 0.07 | 0.08 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 44 | 377 | 672 | 133 | 26 | 27 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.98 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3451 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3451 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 48 | 410 | 730 | 145 | 28 | 29 |
| RTOR Reduction (vph) | 0 | 0 | 8 | 0 | 0 | 27 |
| Lane Group Flow (vph) | 48 | 410 | 867 | 0 | 28 | 2 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 7.3 | 94.8 | 83.0 | | 6.2 | 6.2 |
| Effective Green, g (s) | 7.3 | 94.8 | 83.0 | | 6.2 | 6.2 |
| Actuated g/C Ratio | 0.07 | 0.86 | 0.75 | | 0.06 | 0.06 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 117 | 1606 | 2604 | | 100 | 89 |
| v/s Ratio Prot | c0.03 | 0.22 | c0.25 | | c0.02 | |
| v/s Ratio Perm | | | | | | 0.00 |
| v/c Ratio | 0.41 | 0.26 | 0.33 | | 0.28 | 0.02 |
| Uniform Delay, d1 | 49.3 | 1.3 | 4.4 | | 49.8 | 49.0 |
| Progression Factor | 0.90 | 0.96 | 0.19 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 2.1 | 0.3 | 0.2 | | 1.5 | 0.1 |
| Delay (s) | 46.4 | 1.6 | 1.1 | | 51.3 | 49.1 |
| Level of Service | D | A | A | | D | D |
| Approach Delay (s) | | 6.3 | 1.1 | | 50.2 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.8 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.34 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 44.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBL | WBT | NBR |
|---|---|---|---|---|
| Lane Group Flow (vph) | 1570 | 217 | 1830 | 164 |
| v/c Ratio | 0.41 | 0.54 | 0.36 | 0.44 |
| Control Delay | 6.8 | 22.1 | 0.1 | 18.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 6.8 | 22.1 | 0.1 | 18.0 |
| Queue Length 50th (ft) | 113 | 63 | 0 | 38 |
| Queue Length 95th (ft) | 142 | m88 | m0 | 72 |
| Internal Link Dist (ft) | 388 | | 252 | |
| Turn Bay Length (ft) | | | | |
| Base Capacity (vph) | 3806 | 584 | 5085 | 541 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 85 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.42 | 0.37 | 0.36 | 0.30 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 1434 | 10 | 200 | 1684 | 0 | 151 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Lane Util. Factor | 0.86 | | 1.00 | 0.91 | | 1.00 |
| Frt | 1.00 | | 1.00 | 1.00 | | 0.86 |
| Flt Protected | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 6401 | | 1770 | 5085 | | 1611 |
| Flt Permitted | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 6401 | | 1770 | 5085 | | 1611 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1559 | 11 | 217 | 1830 | 0 | 164 |
| RTOR Reduction (vph) | 1 | 0 | 0 | 0 | 0 | 11 |
| Lane Group Flow (vph) | 1569 | 0 | 217 | 1830 | 0 | 153 |
| Turn Type | | | Prot | | | Over |
| Protected Phases | 2 | | 1 | 6 | | 1 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 29.7 | | 11.3 | 50.0 | | 11.3 |
| Effective Green, g (s) | 29.7 | | 11.3 | 50.0 | | 11.3 |
| Actuated g/C Ratio | 0.59 | | 0.23 | 1.00 | | 0.23 |
| Clearance Time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 3802 | | 400 | 5085 | | 364 |
| v/s Ratio Prot | 0.25 | | c0.12 | c0.36 | | 0.10 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.41 | | 0.54 | 0.36 | | 0.42 |
| Uniform Delay, d1 | 5.5 | | 17.1 | 0.0 | | 16.6 |
| Progression Factor | 1.12 | | 1.12 | 1.00 | | 1.00 |
| Incremental Delay, d2 | 0.3 | | 1.0 | 0.1 | | 0.8 |
| Delay (s) | 6.4 | | 20.2 | 0.1 | | 17.3 |
| Level of Service | A | | C | A | | B |
| Approach Delay (s) | 6.4 | | | 2.3 | 17.3 | |
| Approach LOS | A | | | A | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.6 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.41 | | |
| Actuated Cycle Length (s) | 50.0 | Sum of lost time (s) | 4.5 |
| Intersection Capacity Utilization | 39.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 85 | 183 | 278 | 65 | 1101 | 46 | 748 | 353 | 727 | 892 | 53 |
| v/c Ratio | 1.09 | 0.51 | 0.25 | 0.09 | 1.15 | 0.54 | 0.67 | 0.35 | 1.17 | 0.70 | 0.08 |
| Control Delay | 188.1 | 48.1 | 34.7 | 26.7 | 106.8 | 87.5 | 51.3 | 1.8 | 142.4 | 39.3 | 8.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 188.1 | 48.1 | 34.7 | 26.7 | 106.8 | 87.5 | 51.3 | 1.8 | 142.4 | 39.3 | 8.0 |
| Queue Length 50th (ft) | ~88 | 64 | 91 | 37 | ~1190 | 42 | 226 | 0 | ~412 | 360 | 1 |
| Queue Length 95th (ft) | #204 | 94 | 148 | 70 | #1457 | 85 | 275 | 23 | #539 | 453 | 31 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 78 | 1007 | 1134 | 686 | 955 | 116 | 1168 | 1008 | 620 | 1283 | 630 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.09 | 0.18 | 0.25 | 0.09 | 1.15 | 0.40 | 0.64 | 0.35 | 1.17 | 0.70 | 0.08 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 78 | 120 | 49 | 256 | 60 | 1013 | 42 | 688 | 325 | 669 | 821 | 49 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | 4.5 | 3.5 | 3.8 | 3.8 | 3.5 | 3.8 | 3.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3057 | | 3255 | 1689 | 1501 | 1620 | 4655 | 1449 | 3143 | 3240 | 1512 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3057 | | 3255 | 1689 | 1501 | 1620 | 4655 | 1449 | 3143 | 3240 | 1512 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 85 | 130 | 53 | 278 | 65 | 1101 | 46 | 748 | 353 | 727 | 892 | 53 |
| RTOR Reduction (vph) | 0 | 41 | 0 | 0 | 0 | 11 | 0 | 0 | 144 | 0 | 0 | 31 |
| Lane Group Flow (vph) | 85 | 142 | 0 | 278 | 65 | 1090 | 46 | 748 | 209 | 727 | 892 | 22 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 6.5 | 14.6 | | 48.6 | 56.7 | 88.7 | 6.5 | 34.3 | 82.9 | 27.5 | 55.3 | 55.3 |
| Effective Green, g (s) | 6.5 | 14.6 | | 48.6 | 56.7 | 88.7 | 6.5 | 34.3 | 82.9 | 27.5 | 55.3 | 55.3 |
| Actuated g/C Ratio | 0.05 | 0.10 | | 0.35 | 0.40 | 0.63 | 0.05 | 0.24 | 0.59 | 0.20 | 0.39 | 0.39 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 4.0 | | 2.0 | 4.5 | 4.5 |
| Lane Grp Cap (vph) | 78 | 318 | | 1128 | 683 | 949 | 75 | 1138 | 856 | 616 | 1277 | 596 |
| v/s Ratio Prot | c0.05 | 0.05 | | 0.09 | 0.04 | c0.73 | 0.03 | 0.16 | 0.14 | c0.23 | c0.28 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.01 |
| v/c Ratio | 1.09 | 0.45 | | 0.25 | 0.10 | 1.15 | 0.61 | 0.66 | 0.24 | 1.18 | 0.70 | 0.04 |
| Uniform Delay, d1 | 66.9 | 59.0 | | 32.8 | 25.9 | 25.8 | 65.7 | 47.7 | 13.7 | 56.4 | 35.5 | 26.1 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 128.5 | 1.7 | | 0.0 | 0.1 | 79.4 | 10.0 | 1.5 | 0.2 | 97.1 | 2.0 | 0.0 |
| Delay (s) | 195.4 | 60.8 | | 32.8 | 26.0 | 105.2 | 75.7 | 49.2 | 13.9 | 153.5 | 37.5 | 26.2 |
| Level of Service | F | E | | C | C | F | E | D | B | F | D | C |
| Approach Delay (s) | | 103.5 | | | 87.7 | | | 39.4 | | | 87.6 | |
| Approach LOS | | F | | | F | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 76.4 | HCM Level of Service | E |
| HCM Volume to Capacity ratio | 1.02 | | |
| Actuated Cycle Length (s) | 140.3 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 92.1% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 179 | 988 | 157 | 1183 | 514 | 76 | 289 | 878 | 553 |
| v/c Ratio | 0.97 | 0.79 | 0.80 | 0.97 | 0.61 | 0.59 | 0.95 | 0.98 | 0.92 |
| Control Delay | 106.1 | 34.1 | 72.3 | 39.0 | 3.8 | 66.6 | 55.5 | 63.1 | 40.5 |
| Queue Delay | 0.0 | 7.4 | 0.0 | 35.5 | 1.0 | 0.0 | 29.8 | 23.4 | 0.0 |
| Total Delay | 106.1 | 41.5 | 72.3 | 74.5 | 4.8 | 66.6 | 85.3 | 86.4 | 40.5 |
| Queue Length 50th (ft) | 122 | 308 | 95 | 308 | 0 | 50 | 52 | 301 | 204 |
| Queue Length 95th (ft) | #259 | 395 | m123 | m#548 | m50 | #112 | #219 | #432 | #425 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 185 | 1247 | 216 | 1219 | 844 | 128 | 305 | 898 | 604 |
| Starvation Cap Reductn | 0 | 0 | 0 | 130 | 139 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 222 | 0 | 0 | 0 | 0 | 33 | 69 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.97 | 0.96 | 0.73 | 1.09 | 0.73 | 0.59 | 1.06 | 1.06 | 0.92 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 165 | 899 | 10 | 144 | 984 | 577 | 70 | 3 | 263 | 808 | 57 | 452 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.91 | 0.91 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.99 | 1.00 | 0.99 | | 1.00 | 0.98 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.99 | 0.85 | 1.00 | 0.85 | | 1.00 | 0.87 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3173 | | 1620 | 3028 | 1319 | 1678 | 1431 | | 3143 | 1445 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3173 | | 1620 | 3028 | 1319 | 1678 | 1431 | | 3143 | 1445 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 179 | 977 | 11 | 157 | 1070 | 627 | 76 | 3 | 286 | 878 | 62 | 491 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 7 | 304 | 0 | 196 | 0 | 0 | 191 | 0 |
| Lane Group Flow (vph) | 179 | 987 | 0 | 157 | 1176 | 210 | 76 | 93 | 0 | 878 | 362 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 12.0 | 41.3 | | 12.7 | 42.0 | 42.0 | 8.0 | 8.0 | | 30.0 | 30.0 | |
| Effective Green, g (s) | 12.0 | 41.3 | | 12.7 | 42.0 | 43.0 | 8.0 | 8.0 | | 30.0 | 30.0 | |
| Actuated g/C Ratio | 0.11 | 0.39 | | 0.12 | 0.40 | 0.41 | 0.08 | 0.08 | | 0.29 | 0.29 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 185 | 1248 | | 196 | 1211 | 540 | 128 | 109 | | 898 | 413 | |
| v/s Ratio Prot | c0.11 | 0.31 | | 0.10 | c0.39 | | 0.05 | c0.07 | | c0.28 | 0.25 | |
| v/s Ratio Perm | | | | | | 0.16 | | | | | | |
| v/c Ratio | 0.97 | 0.79 | | 0.80 | 0.97 | 0.39 | 0.59 | 0.85 | | 0.98 | 0.88 | |
| Uniform Delay, d1 | 46.3 | 28.1 | | 44.9 | 30.9 | 21.8 | 46.9 | 47.9 | | 37.2 | 35.7 | |
| Progression Factor | 1.00 | 1.00 | | 1.21 | 0.77 | 0.88 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 55.8 | 5.2 | | 12.4 | 14.2 | 1.3 | 4.8 | 42.8 | | 24.4 | 18.5 | |
| Delay (s) | 102.1 | 33.2 | | 66.6 | 38.1 | 20.5 | 51.8 | 90.8 | | 61.6 | 54.2 | |
| Level of Service | F | C | | E | D | C | D | F | | E | D | |
| Approach Delay (s) | | 43.8 | | | 35.6 | | | 82.6 | | | 58.7 | |
| Approach LOS | | D | | | D | | | F | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 48.0 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.96 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 95.4% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 85 | 2162 | 322 | 1536 | 343 | 789 | 79 | 51 |
| v/c Ratio | 0.75 | 0.95 | 0.84 | 0.81 | 0.99 | 0.89 | 0.89 | 0.46 |
| Control Delay | 64.9 | 27.6 | 68.2 | 15.9 | 90.8 | 38.4 | 119.2 | 39.6 |
| Queue Delay | 0.0 | 36.1 | 0.0 | 1.6 | 0.0 | 0.0 | 0.0 | 0.1 |
| Total Delay | 64.9 | 63.7 | 68.2 | 17.6 | 90.8 | 38.4 | 119.2 | 39.7 |
| Queue Length 50th (ft) | 54 | 364 | 119 | 291 | 232 | 218 | 54 | 14 |
| Queue Length 95th (ft) | m64 | m#546 | m#169 | 403 | #416 | #315 | #147 | 53 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 123 | 2273 | 410 | 1886 | 345 | 913 | 89 | 110 |
| Starvation Cap Reductn | 0 | 274 | 0 | 109 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 191 | 0 | 0 | 0 | 1 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.69 | 1.08 | 0.79 | 0.91 | 0.99 | 0.86 | 0.89 | 0.47 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 78 | 1800 | 189 | 296 | 1289 | 124 | 278 | 38 | 726 | 73 | 19 | 28 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.95 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.99 | 1.00 | 0.95 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4503 | | 3143 | 3274 | | | 1808 | 2802 | 1562 | 1430 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4503 | | 3143 | 3274 | | | 1808 | 2802 | 1562 | 1430 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 85 | 1957 | 205 | 322 | 1401 | 135 | 302 | 41 | 789 | 79 | 21 | 30 |
| RTOR Reduction (vph) | 0 | 12 | 0 | 0 | 6 | 0 | 0 | 0 | 27 | 0 | 28 | 0 |
| Lane Group Flow (vph) | 85 | 2150 | 0 | 322 | 1530 | 0 | 0 | 343 | 762 | 79 | 23 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 6.3 | 52.7 | | 12.8 | 59.7 | | | 20.0 | 32.8 | 6.0 | 6.0 | |
| Effective Green, g (s) | 6.3 | 52.7 | | 12.8 | 59.7 | | | 20.0 | 32.8 | 6.0 | 6.0 | |
| Actuated g/C Ratio | 0.06 | 0.50 | | 0.12 | 0.57 | | | 0.19 | 0.31 | 0.06 | 0.06 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 97 | 2260 | | 383 | 1862 | | | 344 | 875 | 89 | 82 | |
| v/s Ratio Prot | 0.05 | c0.48 | | 0.10 | 0.47 | | | c0.19 | c0.11 | c0.05 | 0.02 | |
| v/s Ratio Perm | | | | | | | | | 0.17 | | | |
| v/c Ratio | 0.88 | 0.95 | | 0.84 | 0.82 | | | 1.00 | 0.87 | 0.89 | 0.28 | |
| Uniform Delay, d1 | 49.0 | 24.9 | | 45.1 | 18.3 | | | 42.5 | 34.1 | 49.2 | 47.4 | |
| Progression Factor | 0.91 | 0.83 | | 1.20 | 0.69 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 32.1 | 6.1 | | 10.5 | 2.9 | | | 47.4 | 9.2 | 58.2 | 0.7 | |
| Delay (s) | 76.6 | 26.9 | | 64.6 | 15.6 | | | 89.8 | 43.3 | 107.4 | 48.1 | |
| Level of Service | E | C | | E | B | | | F | D | F | D | |
| Approach Delay (s) | | 28.8 | | | 24.1 | | | 57.4 | | | 84.1 | |
| Approach LOS | | C | | | C | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 34.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.95 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 81.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1392 | 557 | 1674 | 453 | 270 | 257 | 243 |
| v/c Ratio | 0.61 | 0.39 | 0.76 | 0.31 | 0.66 | 0.58 | 0.58 |
| Control Delay | 5.5 | 0.3 | 13.7 | 0.5 | 43.4 | 34.9 | 34.2 |
| Queue Delay | 0.3 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 5.8 | 0.3 | 13.8 | 0.5 | 43.4 | 34.9 | 34.2 |
| Queue Length 50th (ft) | 129 | 0 | 358 | 0 | 168 | 138 | 123 |
| Queue Length 95th (ft) | m118 | m0 | 454 | 0 | 262 | 230 | 209 |
| Internal Link Dist (ft) | 509 | | 867 | | | 1128 | |
| Turn Bay Length (ft) | | | | 75 | | | 80 |
| Base Capacity (vph) | 2274 | 1439 | 2217 | 1478 | 433 | 467 | 444 |
| Starvation Cap Reductn | 323 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 54 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.71 | 0.39 | 0.77 | 0.31 | 0.62 | 0.55 | 0.55 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1281 | 512 | 0 | 1540 | 417 | 0 | 0 | 0 | 360 | 0 | 349 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | 4.0 | 3.0 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.95 | 1.00 | | | | 0.95 | 0.91 | 0.95 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | 0.92 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 0.98 | 1.00 |
| Satd. Flow (prot) | | 3292 | 1439 | | 3209 | 1478 | | | | 1625 | 1701 | 1559 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 0.98 | 1.00 |
| Satd. Flow (perm) | | 3292 | 1439 | | 3209 | 1478 | | | | 1625 | 1701 | 1559 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1392 | 557 | 0 | 1674 | 453 | 0 | 0 | 0 | 391 | 0 | 379 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 29 |
| Lane Group Flow (vph) | 0 | 1392 | 557 | 0 | 1674 | 453 | 0 | 0 | 0 | 270 | 227 | 214 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Free | | | | custom | | Prot |
| Protected Phases | | 2 | | | 6 | | | | | 4 | 4 | 4 |
| Permitted Phases | | | 2 4 | | | Free | | | | 4 | | |
| Actuated Green, G (s) | | 71.5 | 105.0 | | 71.5 | 105.0 | | | | 25.5 | 25.5 | 25.5 |
| Effective Green, g (s) | | 72.5 | 105.0 | | 72.5 | 105.0 | | | | 26.5 | 25.5 | 26.5 |
| Actuated g/C Ratio | | 0.69 | 1.00 | | 0.69 | 1.00 | | | | 0.25 | 0.24 | 0.25 |
| Clearance Time (s) | | 4.0 | | | 4.0 | | | | | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | | | | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | | 2273 | 1439 | | 2216 | 1478 | | | | 410 | 413 | 393 |
| v/s Ratio Prot | | 0.42 | | | c0.52 | | | | | c0.17 | 0.13 | 0.14 |
| v/s Ratio Perm | | | 0.39 | | | 0.31 | | | | | | |
| v/c Ratio | | 0.61 | 0.39 | | 0.76 | 0.31 | | | | 0.66 | 0.55 | 0.54 |
| Uniform Delay, d1 | | 8.7 | 0.0 | | 10.5 | 0.0 | | | | 35.2 | 34.7 | 34.0 |
| Progression Factor | | 0.54 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.5 | 0.1 | | 2.5 | 0.5 | | | | 4.2 | 2.0 | 1.9 |
| Delay (s) | | 5.2 | 0.1 | | 13.0 | 0.5 | | | | 39.4 | 36.7 | 35.9 |
| Level of Service | | A | A | | B | A | | | | D | D | D |
| Approach Delay (s) | | 3.7 | | | 10.3 | | | 0.0 | | | 37.4 | |
| Approach LOS | | A | | | B | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 12.0 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 6.0 |
| Intersection Capacity Utilization | 63.6% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 604 | 50 | 42 | 217 | 192 | 428 |
| v/c Ratio | 0.85 | 0.08 | 0.42 | 0.26 | 0.30 | 0.50 |
| Control Delay | 29.2 | 3.5 | 42.9 | 13.4 | 18.7 | 4.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.2 | 3.5 | 42.9 | 13.4 | 18.7 | 4.7 |
| Queue Length 50th (ft) | 194 | 0 | 17 | 54 | 59 | 0 |
| Queue Length 95th (ft) | #320 | 15 | #50 | 102 | 115 | 60 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 800 | 742 | 100 | 828 | 647 | 857 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.76 | 0.07 | 0.42 | 0.26 | 0.30 | 0.50 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 556 | 46 | 39 | 200 | 177 | 394 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1560 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1560 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 604 | 50 | 42 | 217 | 192 | 428 |
| RTOR Reduction (vph) | 0 | 29 | 0 | 0 | 0 | 276 |
| Lane Group Flow (vph) | 604 | 21 | 42 | 217 | 192 | 152 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 27.5 | 27.5 | 2.4 | 29.5 | 23.1 | 23.1 |
| Effective Green, g (s) | 27.5 | 27.5 | 2.4 | 29.5 | 23.1 | 23.1 |
| Actuated g/C Ratio | 0.42 | 0.42 | 0.04 | 0.45 | 0.36 | 0.36 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 710 | 635 | 60 | 829 | 606 | 554 |
| v/s Ratio Prot | c0.36 | | c0.03 | 0.12 | c0.11 | |
| v/s Ratio Perm | | 0.01 | | | | 0.10 |
| v/c Ratio | 0.85 | 0.03 | 0.70 | 0.26 | 0.32 | 0.27 |
| Uniform Delay, d1 | 16.9 | 11.0 | 30.9 | 11.0 | 15.2 | 15.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 9.6 | 0.0 | 30.0 | 0.8 | 1.4 | 1.2 |
| Delay (s) | 26.5 | 11.0 | 61.0 | 11.8 | 16.6 | 16.2 |
| Level of Service | C | B | E | B | B | B |
| Approach Delay (s) | 25.3 | | | 19.7 | 16.3 | |
| Approach LOS | C | | | B | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 20.7 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.61 | | |
| Actuated Cycle Length (s) | 65.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 57.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 148 | 185 | 133 | 14 | 741 | 196 | 1086 |
| v/c Ratio | 0.39 | 0.51 | 0.30 | 0.07 | 0.43 | 0.61 | 0.63 |
| Control Delay | 17.2 | 21.8 | 5.3 | 8.7 | 8.5 | 22.1 | 11.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.2 | 21.8 | 5.3 | 8.7 | 8.5 | 22.1 | 11.1 |
| Queue Length 50th (ft) | 34 | 51 | 0 | 2 | 56 | 34 | 100 |
| Queue Length 95th (ft) | 73 | 98 | 30 | 12 | 137 | #163 | 236 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 638 | 623 | 671 | 208 | 1791 | 335 | 1801 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 0.30 | 0.20 | 0.07 | 0.41 | 0.59 | 0.60 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 35 | 80 | 21 | 95 | 75 | 122 | 13 | 619 | 63 | 180 | 956 | 43 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | | 0.99 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1529 | | | 1684 | 1306 | 1618 | 3029 | | 1560 | 3054 | |
| Flt Permitted | | 0.89 | | | 0.79 | 1.00 | 0.21 | 1.00 | | 0.35 | 1.00 | |
| Satd. Flow (perm) | | 1372 | | | 1359 | 1306 | 354 | 3029 | | 570 | 3054 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 38 | 87 | 23 | 103 | 82 | 133 | 14 | 673 | 68 | 196 | 1039 | 47 |
| RTOR Reduction (vph) | 0 | 12 | 0 | 0 | 0 | 98 | 0 | 10 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 0 | 136 | 0 | 0 | 185 | 35 | 14 | 731 | 0 | 196 | 1082 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 14.1 | | | 14.1 | 14.1 | 29.7 | 29.7 | | 29.7 | 29.7 | |
| Effective Green, g (s) | | 14.1 | | | 14.1 | 14.1 | 29.7 | 29.7 | | 29.7 | 29.7 | |
| Actuated g/C Ratio | | 0.27 | | | 0.27 | 0.27 | 0.56 | 0.56 | | 0.56 | 0.56 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 365 | | | 362 | 347 | 198 | 1697 | | 319 | 1711 | |
| v/s Ratio Prot | | | | | | | | 0.24 | | | c0.35 | |
| v/s Ratio Perm | | 0.10 | | | c0.14 | 0.03 | 0.04 | | | 0.34 | | |
| v/c Ratio | | 0.37 | | | 0.51 | 0.10 | 0.07 | 0.43 | | 0.61 | 0.63 | |
| Uniform Delay, d1 | | 15.8 | | | 16.5 | 14.7 | 5.3 | 6.8 | | 7.8 | 7.9 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.9 | | | 1.6 | 0.2 | 0.2 | 0.2 | | 4.0 | 0.9 | |
| Delay (s) | | 16.7 | | | 18.1 | 14.9 | 5.5 | 7.0 | | 11.8 | 8.8 | |
| Level of Service | | B | | | B | B | A | A | | B | A | |
| Approach Delay (s) | | 16.7 | | | 16.8 | | | 7.0 | | | 9.3 | |
| Approach LOS | | B | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 10.0 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.59 | | |
| Actuated Cycle Length (s) | 53.0 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 61.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 32 | 438 | 334 | 205 | 167 | 26 |
| v/c Ratio | 0.28 | 0.31 | 0.28 | 0.15 | 0.69 | 0.11 |
| Control Delay | 53.9 | 5.2 | 6.1 | 0.3 | 57.8 | 14.1 |
| Queue Delay | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 |
| Total Delay | 53.9 | 5.2 | 6.3 | 0.3 | 57.8 | 14.1 |
| Queue Length 50th (ft) | 22 | 79 | 37 | 0 | 113 | 0 |
| Queue Length 95th (ft) | 53 | 152 | 109 | 0 | 174 | 24 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 148 | 1400 | 1187 | 1495 | 454 | 411 |
| Starvation Cap Reductn | 0 | 0 | 334 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.22 | 0.31 | 0.39 | 0.14 | 0.37 | 0.06 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 29 | 403 | 307 | 189 | 154 | 24 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1570 | 1562 | 1349 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1570 | 1562 | 1349 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 32 | 438 | 334 | 205 | 167 | 26 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 33 | 0 | 22 |
| Lane Group Flow (vph) | 32 | 438 | 334 | 172 | 167 | 4 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 5.3 | 84.3 | 75.0 | 92.1 | 17.1 | 17.1 |
| Effective Green, g (s) | 5.3 | 84.3 | 75.0 | 92.1 | 17.1 | 17.1 |
| Actuated g/C Ratio | 0.05 | 0.77 | 0.68 | 0.84 | 0.16 | 0.16 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 78 | 1400 | 1163 | 1315 | 243 | 210 |
| v/s Ratio Prot | c0.02 | c0.24 | 0.20 | 0.02 | c0.11 | |
| v/s Ratio Perm | | | | 0.09 | | 0.00 |
| v/c Ratio | 0.41 | 0.31 | 0.29 | 0.13 | 0.69 | 0.02 |
| Uniform Delay, d1 | 50.8 | 3.9 | 6.9 | 1.6 | 43.9 | 39.3 |
| Progression Factor | 1.00 | 1.00 | 0.66 | 0.20 | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.5 | 0.6 | 0.6 | 0.0 | 7.8 | 0.0 |
| Delay (s) | 54.3 | 4.5 | 5.1 | 0.4 | 51.8 | 39.4 |
| Level of Service | D | A | A | A | D | D |
| Approach Delay (s) | | 7.9 | 3.3 | | 50.1 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 12.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.37 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 40.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 327 | 273 | 175 | 190 | 336 | 334 | 3 |
| v/c Ratio | 0.42 | 0.34 | 0.75 | 0.18 | 0.72 | 0.58 | 0.04 |
| Control Delay | 18.8 | 1.5 | 64.4 | 10.8 | 44.4 | 14.2 | 45.3 |
| Queue Delay | 0.5 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 19.4 | 1.6 | 64.4 | 10.8 | 44.4 | 14.2 | 45.3 |
| Queue Length 50th (ft) | 103 | 0 | 118 | 50 | 212 | 57 | 1 |
| Queue Length 95th (ft) | 234 | 13 | #208 | 117 | 293 | 130 | 11 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | | 217 |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 | |
| Base Capacity (vph) | 777 | 799 | 263 | 1069 | 566 | 577 | 84 |
| Starvation Cap Reductn | 173 | 102 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.54 | 0.39 | 0.67 | 0.18 | 0.59 | 0.58 | 0.04 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 301 | 251 | 161 | 174 | 1 | 307 | 2 | 307 | 1 | 1 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | 4.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.99 | | 0.90 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | 0.95 | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.98 | |
| Satd. Flow (prot) | | 1759 | 1466 | 1562 | 1703 | | | 1682 | 1728 | | 1538 | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.98 | |
| Satd. Flow (perm) | | 1759 | 1466 | 1562 | 1703 | | | 1682 | 1728 | | 1538 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 327 | 273 | 175 | 189 | 1 | 334 | 2 | 334 | 1 | 1 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 160 | 0 | 0 | 0 | 0 | 0 | 175 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 327 | 113 | 175 | 190 | 0 | 0 | 336 | 159 | 0 | 2 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 45.4 | 45.4 | 16.4 | 65.8 | | | 30.6 | 26.1 | | 1.0 | |
| Effective Green, g (s) | | 45.4 | 45.4 | 16.4 | 65.8 | | | 26.1 | 26.1 | | 1.0 | |
| Actuated g/C Ratio | | 0.41 | 0.41 | 0.15 | 0.60 | | | 0.24 | 0.24 | | 0.01 | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | 4.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | | 726 | 605 | 233 | 1019 | | | 399 | 481 | | 14 | |
| v/s Ratio Prot | | c0.19 | | c0.11 | 0.11 | | | c0.20 | 0.03 | | c0.00 | |
| v/s Ratio Perm | | | 0.08 | | | | | | 0.06 | | | |
| v/c Ratio | | 0.45 | 0.19 | 0.75 | 0.19 | | | 0.84 | 0.33 | | 0.14 | |
| Uniform Delay, d1 | | 23.3 | 20.5 | 44.8 | 10.0 | | | 40.0 | 34.7 | | 54.1 | |
| Progression Factor | | 0.70 | 0.10 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | | 1.9 | 0.7 | 12.8 | 0.4 | | | 14.8 | 0.4 | | 4.7 | |
| Delay (s) | | 18.3 | 2.7 | 57.6 | 10.4 | | | 54.8 | 35.1 | | 58.8 | |
| Level of Service | | B | A | E | B | | | D | D | | E | |
| Approach Delay (s) | | 11.2 | | | 33.0 | | | 45.0 | | | 58.8 | |
| Approach LOS | | B | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 30.0 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.61 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 20.6 |
| Intersection Capacity Utilization | 64.0% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 61 | 140 | 25 | 170 | 249 | 246 | 26 | 387 | 116 | 321 | 808 |
| v/c Ratio | 0.35 | 0.50 | 0.10 | 0.58 | 0.51 | 0.43 | 0.22 | 0.60 | 0.35 | 0.74 | 0.58 |
| Control Delay | 51.7 | 46.3 | 16.7 | 46.7 | 36.0 | 7.0 | 54.5 | 39.8 | 18.8 | 43.6 | 21.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 51.7 | 46.3 | 16.7 | 46.7 | 36.0 | 7.0 | 54.5 | 39.8 | 18.8 | 43.6 | 21.9 |
| Queue Length 50th (ft) | 31 | 71 | 0 | 86 | 121 | 0 | 14 | 103 | 18 | 160 | 186 |
| Queue Length 95th (ft) | 97 | 175 | 27 | 207 | 260 | 66 | 53 | 206 | 83 | 339 | 313 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 212 | 574 | 495 | 459 | 862 | 812 | 129 | 1147 | 521 | 745 | 2203 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.29 | 0.24 | 0.05 | 0.37 | 0.29 | 0.30 | 0.20 | 0.34 | 0.22 | 0.43 | 0.37 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 56 | 129 | 23 | 156 | 229 | 226 | 24 | 356 | 107 | 295 | 675 | 68 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 3.1 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1446 | 1620 | 1739 | 1400 | 1652 | 3240 | 1332 | 1620 | 3033 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1446 | 1620 | 1739 | 1400 | 1652 | 3240 | 1332 | 1620 | 3033 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 61 | 140 | 25 | 170 | 249 | 246 | 26 | 387 | 116 | 321 | 734 | 74 |
| RTOR Reduction (vph) | 0 | 0 | 21 | 0 | 0 | 178 | 0 | 0 | 60 | 0 | 6 | 0 |
| Lane Group Flow (vph) | 61 | 140 | 4 | 170 | 249 | 68 | 26 | 387 | 56 | 321 | 802 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 7.6 | 15.6 | 15.6 | 16.7 | 25.6 | 25.6 | 4.0 | 20.5 | 20.5 | 25.5 | 42.0 | |
| Effective Green, g (s) | 7.5 | 15.5 | 15.5 | 16.6 | 25.5 | 25.5 | 3.0 | 20.0 | 20.0 | 24.5 | 41.5 | |
| Actuated g/C Ratio | 0.08 | 0.17 | 0.17 | 0.18 | 0.28 | 0.28 | 0.03 | 0.22 | 0.22 | 0.26 | 0.45 | |
| Clearance Time (s) | 3.0 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 134 | 291 | 242 | 290 | 479 | 386 | 54 | 700 | 288 | 429 | 1359 | |
| v/s Ratio Prot | 0.04 | 0.08 | | c0.10 | c0.14 | | 0.02 | 0.12 | | c0.20 | c0.26 | |
| v/s Ratio Perm | | | 0.00 | | | 0.05 | | | 0.04 | | | |
| v/c Ratio | 0.46 | 0.48 | 0.02 | 0.59 | 0.52 | 0.18 | 0.48 | 0.55 | 0.19 | 0.75 | 0.59 | |
| Uniform Delay, d1 | 40.6 | 34.9 | 32.2 | 34.9 | 28.4 | 25.5 | 44.0 | 32.3 | 29.7 | 31.2 | 19.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 3.3 | 1.7 | 0.0 | 3.6 | 1.3 | 0.3 | 8.9 | 1.2 | 0.4 | 7.4 | 0.8 | |
| Delay (s) | 43.9 | 36.6 | 32.2 | 38.4 | 29.6 | 25.8 | 53.0 | 33.5 | 30.1 | 38.7 | 20.0 | |
| Level of Service | D | D | C | D | C | C | D | C | C | D | B | |
| Approach Delay (s) | | 38.1 | | | 30.5 | | | 33.7 | | | 25.3 | |
| Approach LOS | | D | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 29.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.60 | | |
| Actuated Cycle Length (s) | 92.6 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 57.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 74 | 723 | 43 | 1134 | 826 | 237 | 543 | 921 | 414 | 248 | 20 |
| v/c Ratio | 0.56 | 0.83 | 0.14 | 1.04 | 0.57 | 1.00 | 0.73 | 0.61 | 1.02 | 0.37 | 0.06 |
| Control Delay | 69.2 | 56.2 | 13.1 | 80.4 | 26.8 | 109.2 | 50.2 | 11.3 | 101.0 | 43.1 | 15.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 21.1 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 69.2 | 56.2 | 13.1 | 101.5 | 27.2 | 109.2 | 50.2 | 11.3 | 101.0 | 43.1 | 15.7 |
| Queue Length 50th (ft) | 56 | 199 | 0 | ~500 | 277 | 186 | 207 | 135 | ~171 | 87 | 0 |
| Queue Length 95th (ft) | 107 | 248 | 32 | #633 | 342 | #353 | 271 | 172 | #277 | 128 | 22 |
| Internal Link Dist (ft) | | 238 | | | 390 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 143 | 873 | 312 | 1086 | 1440 | 238 | 741 | 1500 | 407 | 662 | 316 |
| Starvation Cap Reductn | 0 | 0 | 0 | 53 | 196 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.52 | 0.83 | 0.14 | 1.10 | 0.66 | 1.00 | 0.73 | 0.61 | 1.02 | 0.37 | 0.06 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 68 | 665 | 40 | 1043 | 575 | 185 | 218 | 500 | 847 | 381 | 228 | 18 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3109 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1472 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3109 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1472 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 74 | 723 | 43 | 1134 | 625 | 201 | 237 | 543 | 921 | 414 | 248 | 20 |
| RTOR Reduction (vph) | 0 | 0 | 35 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| Lane Group Flow (vph) | 74 | 723 | 8 | 1134 | 802 | 0 | 237 | 543 | 921 | 414 | 248 | 4 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 8.6 | 21.0 | 21.0 | 40.8 | 53.2 | | 17.0 | 24.2 | 65.0 | 15.0 | 22.2 | 22.2 |
| Effective Green, g (s) | 8.6 | 22.5 | 22.5 | 40.8 | 54.7 | | 17.0 | 25.7 | 65.0 | 15.0 | 23.7 | 23.7 |
| Actuated g/C Ratio | 0.07 | 0.19 | 0.19 | 0.34 | 0.46 | | 0.14 | 0.21 | 0.54 | 0.12 | 0.20 | 0.20 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 112 | 873 | 277 | 1107 | 1417 | | 238 | 719 | 1466 | 407 | 640 | 291 |
| v/s Ratio Prot | 0.05 | c0.16 | | c0.35 | 0.26 | | c0.14 | c0.16 | 0.34 | c0.13 | 0.08 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | 0.00 |
| v/c Ratio | 0.66 | 0.83 | 0.03 | 1.02 | 0.57 | | 1.00 | 0.76 | 0.63 | 1.02 | 0.39 | 0.01 |
| Uniform Delay, d1 | 54.3 | 46.9 | 39.8 | 39.6 | 23.9 | | 51.5 | 44.2 | 19.1 | 52.5 | 41.8 | 38.7 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.07 | 1.06 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 14.9 | 6.8 | 0.1 | 32.6 | 0.6 | | 56.9 | 7.2 | 1.0 | 49.0 | 1.8 | 0.1 |
| Delay (s) | 69.2 | 53.7 | 39.9 | 74.8 | 26.1 | | 108.3 | 51.4 | 20.1 | 101.5 | 43.6 | 38.8 |
| Level of Service | E | D | D | E | C | | F | D | C | F | D | D |
| Approach Delay (s) | | 54.4 | | | 54.3 | | | 42.4 | | | 78.6 | |
| Approach LOS | | D | | | D | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 53.6 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.97 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 20.0 |
| Intersection Capacity Utilization | 87.6% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 237 | 1730 | 237 | 293 | 981 | 207 | 208 | 128 | 194 |
| v/c Ratio | 0.76 | 0.80 | 0.28 | 1.10 | 0.49 | 0.66 | 0.65 | 0.31 | 0.90 |
| Control Delay | 52.4 | 27.1 | 3.1 | 118.5 | 13.0 | 52.9 | 52.4 | 7.7 | 68.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 52.4 | 27.1 | 3.1 | 118.5 | 13.0 | 52.9 | 52.4 | 7.7 | 68.0 |
| Queue Length 50th (ft) | 168 | 441 | 17 | ~261 | 131 | 157 | 157 | 0 | 38 |
| Queue Length 95th (ft) | #291 | #630 | 63 | m#439 | 234 | 213 | 213 | 45 | #111 |
| Internal Link Dist (ft) | | 660 | | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 520 | 180 | | 200 | | | |
| Base Capacity (vph) | 330 | 2161 | 837 | 266 | 1993 | 469 | 476 | 551 | 216 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.72 | 0.80 | 0.28 | 1.10 | 0.49 | 0.44 | 0.44 | 0.23 | 0.90 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 218 | 1592 | 218 | 270 | 868 | 35 | 334 | 48 | 118 | 35 | 52 | 91 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.98 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | | 0.92 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | | 0.99 | |
| Satd. Flow (prot) | 1620 | 4655 | 1530 | 1678 | 4623 | | 1539 | 1561 | 1514 | | 3015 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | | 0.99 | |
| Satd. Flow (perm) | 1620 | 4655 | 1530 | 1678 | 4623 | | 1539 | 1561 | 1514 | | 3015 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 237 | 1730 | 237 | 293 | 943 | 38 | 363 | 52 | 128 | 38 | 57 | 99 |
| RTOR Reduction (vph) | 0 | 0 | 127 | 0 | 3 | 0 | 0 | 0 | 102 | 0 | 95 | 0 |
| Lane Group Flow (vph) | 237 | 1730 | 110 | 293 | 978 | 0 | 207 | 208 | 26 | 0 | 99 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | Perm | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Actuated Green, G (s) | 22.1 | 54.6 | 54.6 | 18.1 | 50.6 | | 23.9 | 23.9 | 23.9 | | 4.2 | |
| Effective Green, g (s) | 23.1 | 55.6 | 55.6 | 19.1 | 51.6 | | 24.5 | 24.5 | 24.5 | | 4.8 | |
| Actuated g/C Ratio | 0.19 | 0.46 | 0.46 | 0.16 | 0.43 | | 0.20 | 0.20 | 0.20 | | 0.04 | |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | 6.0 | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 312 | 2157 | 709 | 267 | 1988 | | 314 | 319 | 309 | | 121 | |
| v/s Ratio Prot | 0.15 | c0.37 | | c0.17 | 0.21 | | c0.13 | 0.13 | | | c0.03 | |
| v/s Ratio Perm | | | 0.07 | | | | | | 0.02 | | | |
| v/c Ratio | 0.76 | 0.80 | 0.15 | 1.10 | 0.49 | | 0.66 | 0.65 | 0.08 | | 0.82 | |
| Uniform Delay, d1 | 45.8 | 27.5 | 18.6 | 50.5 | 24.7 | | 43.9 | 43.8 | 38.7 | | 57.2 | |
| Progression Factor | 0.81 | 0.82 | 0.74 | 0.71 | 0.46 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 10.2 | 3.1 | 0.4 | 81.2 | 0.8 | | 5.5 | 5.2 | 0.2 | | 34.5 | |
| Delay (s) | 47.1 | 25.6 | 14.2 | 116.8 | 12.2 | | 49.4 | 49.1 | 38.8 | | 91.7 | |
| Level of Service | D | C | B | F | B | | D | D | D | | F | |
| Approach Delay (s) | | 26.7 | | | 36.3 | | | 46.8 | | | 91.7 | |
| Approach LOS | | C | | | D | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 35.1 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.82 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 76.2% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 170 | 1803 | 130 | 634 | 238 | 158 | 353 | 90 | 549 |
| v/c Ratio | 0.57 | 0.85 | 0.77 | 0.52 | 0.74 | 0.19 | 0.59 | 0.49 | 0.79 |
| Control Delay | 26.3 | 11.1 | 82.2 | 31.8 | 66.8 | 34.3 | 17.7 | 64.3 | 50.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.3 | 11.1 | 82.2 | 31.8 | 66.8 | 34.3 | 17.7 | 64.3 | 50.9 |
| Queue Length 50th (ft) | 131 | 501 | 100 | 205 | 92 | 48 | 81 | 35 | 202 |
| Queue Length 95th (ft) | m121 | 70 | #206 | 266 | #172 | 77 | 180 | 63 | 255 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 300 | 2117 | 170 | 1214 | 323 | 910 | 626 | 187 | 820 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.57 | 0.85 | 0.76 | 0.52 | 0.74 | 0.17 | 0.56 | 0.48 | 0.67 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 156 | 1363 | 295 | 120 | 560 | 23 | 219 | 145 | 325 | 83 | 404 | 101 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 3.1 | 4.0 | | 3.1 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.95 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.97 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4603 | | 1652 | 3268 | | 3143 | 3240 | 1659 | 3204 | 3131 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4603 | | 1652 | 3268 | | 3143 | 3240 | 1659 | 3204 | 3131 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 170 | 1482 | 321 | 130 | 609 | 25 | 238 | 158 | 353 | 90 | 439 | 110 |
| RTOR Reduction (vph) | 0 | 27 | 0 | 0 | 3 | 0 | 0 | 0 | 164 | 0 | 20 | 0 |
| Lane Group Flow (vph) | 170 | 1776 | 0 | 130 | 631 | 0 | 238 | 158 | 189 | 90 | 529 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 22.3 | 53.4 | | 12.3 | 43.4 | | 13.4 | 31.8 | 31.8 | 7.9 | 26.3 | |
| Effective Green, g (s) | 22.2 | 54.4 | | 12.2 | 44.4 | | 12.4 | 31.4 | 31.4 | 6.9 | 25.9 | |
| Actuated g/C Ratio | 0.18 | 0.45 | | 0.10 | 0.37 | | 0.10 | 0.26 | 0.26 | 0.06 | 0.22 | |
| Clearance Time (s) | 3.0 | 5.0 | | 3.0 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 300 | 2087 | | 168 | 1209 | | 325 | 848 | 434 | 184 | 676 | |
| v/s Ratio Prot | 0.10 | c0.39 | | c0.08 | 0.19 | | c0.08 | 0.05 | | 0.03 | c0.17 | |
| v/s Ratio Perm | | | | | | | | | 0.11 | | | |
| v/c Ratio | 0.57 | 0.85 | | 0.77 | 0.52 | | 0.73 | 0.19 | 0.44 | 0.49 | 0.78 | |
| Uniform Delay, d1 | 44.5 | 29.2 | | 52.6 | 29.5 | | 52.2 | 34.4 | 36.9 | 54.8 | 44.4 | |
| Progression Factor | 0.47 | 0.26 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.6 | 3.1 | | 20.7 | 1.6 | | 8.8 | 0.1 | 1.0 | 2.8 | 6.3 | |
| Delay (s) | 22.5 | 10.7 | | 73.2 | 31.1 | | 61.0 | 34.5 | 37.9 | 57.6 | 50.7 | |
| Level of Service | C | B | | E | C | | E | C | D | E | D | |
| Approach Delay (s) | | 11.8 | | | 38.3 | | | 44.5 | | | 51.6 | |
| Approach LOS | | B | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 28.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.81 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 15.1 |
| Intersection Capacity Utilization | 74.3% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 89 | 199 | 508 | 2 | 1004 | 176 | 553 | 818 |
| v/c Ratio | 0.45 | 0.76 | 0.53 | 0.02 | 0.62 | 0.21 | 0.81 | 0.34 |
| Control Delay | 37.6 | 59.3 | 5.2 | 60.0 | 7.5 | 1.1 | 57.6 | 6.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 37.6 | 59.3 | 5.2 | 60.0 | 7.5 | 1.1 | 57.6 | 6.5 |
| Queue Length 50th (ft) | 44 | 131 | 0 | 1 | 116 | 6 | 185 | 86 |
| Queue Length 95th (ft) | 93 | 208 | 44 | m3 | 154 | m9 | 253 | 115 |
| Internal Link Dist (ft) | 387 | 336 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 350 | |
| Base Capacity (vph) | 239 | 320 | 1057 | 92 | 1610 | 852 | 765 | 2414 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.37 | 0.62 | 0.48 | 0.02 | 0.62 | 0.21 | 0.72 | 0.34 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 58 | 2 | 22 | 183 | 0 | 467 | 2 | 924 | 162 | 509 | 711 | 41 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.96 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.97 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1693 | | | 1770 | 2787 | 1678 | 3355 | 1583 | 3433 | 3438 | |
| Flt Permitted | | 0.54 | | | 0.71 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 939 | | | 1329 | 2787 | 1678 | 3355 | 1583 | 3433 | 3438 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 63 | 2 | 24 | 199 | 0 | 508 | 2 | 1004 | 176 | 553 | 773 | 45 |
| RTOR Reduction (vph) | 0 | 13 | 0 | 0 | 0 | 408 | 0 | 0 | 92 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 76 | 0 | 0 | 199 | 100 | 2 | 1004 | 84 | 553 | 815 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | |
| Actuated Green, G (s) | | 21.7 | | | 21.7 | 21.7 | 1.2 | 52.8 | 52.8 | 22.0 | 73.6 | |
| Effective Green, g (s) | | 21.7 | | | 21.7 | 21.7 | 1.2 | 52.8 | 52.8 | 22.0 | 73.6 | |
| Actuated g/C Ratio | | 0.20 | | | 0.20 | 0.20 | 0.01 | 0.48 | 0.48 | 0.20 | 0.67 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 185 | | | 262 | 550 | 18 | 1610 | 760 | 687 | 2300 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.30 | | c0.16 | 0.24 | |
| v/s Ratio Perm | | 0.08 | | | c0.15 | 0.04 | | | 0.05 | | | |
| v/c Ratio | | 0.41 | | | 0.76 | 0.18 | 0.11 | 0.62 | 0.11 | 0.80 | 0.35 | |
| Uniform Delay, d1 | | 38.6 | | | 41.7 | 36.8 | 53.9 | 21.2 | 15.7 | 42.0 | 7.9 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.21 | 0.27 | 0.22 | 1.16 | 0.82 | |
| Incremental Delay, d2 | | 1.5 | | | 11.9 | 0.2 | 1.8 | 1.2 | 0.2 | 6.2 | 0.4 | |
| Delay (s) | | 40.1 | | | 53.6 | 36.9 | 67.2 | 7.0 | 3.7 | 55.0 | 6.8 | |
| Level of Service | | D | | | D | D | E | A | A | D | A | |
| Approach Delay (s) | | 40.1 | | | 41.6 | | | 6.6 | | | 26.2 | |
| Approach LOS | | D | | | D | | | A | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 22.9 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.70 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 64.4% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 110 | 38 | 123 | 112 | 215 | 50 | 401 | 288 | 625 |
| v/c Ratio | 0.29 | 0.11 | 0.44 | 0.27 | 0.45 | 0.22 | 0.52 | 0.62 | 0.42 |
| Control Delay | 21.1 | 8.3 | 25.2 | 20.7 | 6.8 | 29.8 | 19.9 | 25.8 | 12.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 21.1 | 8.3 | 25.2 | 20.7 | 6.8 | 29.8 | 19.9 | 25.8 | 12.1 |
| Queue Length 50th (ft) | 28 | 0 | 32 | 28 | 0 | 14 | 46 | 76 | 68 |
| Queue Length 95th (ft) | 83 | 21 | 97 | 83 | 48 | 58 | 126 | 207 | 157 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 939 | 758 | 689 | 1024 | 859 | 302 | 1663 | 826 | 2506 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.12 | 0.05 | 0.18 | 0.11 | 0.25 | 0.17 | 0.24 | 0.35 | 0.25 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 24 | 77 | 35 | 113 | 103 | 198 | 46 | 267 | 102 | 265 | 500 | 75 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 0.98 | |
| Flt Protected | | 0.99 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1715 | 1259 | 1620 | 1739 | 1317 | 1711 | 2931 | | 1620 | 3014 | |
| Flt Permitted | | 0.92 | 1.00 | 0.69 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1598 | 1259 | 1170 | 1739 | 1317 | 1711 | 2931 | | 1620 | 3014 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 26 | 84 | 38 | 123 | 112 | 215 | 50 | 290 | 111 | 288 | 543 | 82 |
| RTOR Reduction (vph) | 0 | 0 | 29 | 0 | 0 | 164 | 0 | 43 | 0 | 0 | 12 | 0 |
| Lane Group Flow (vph) | 0 | 110 | 9 | 123 | 112 | 51 | 50 | 358 | 0 | 288 | 613 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | 4.2 | 15.5 | | 15.8 | 27.1 | |
| Effective Green, g (s) | | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | 4.2 | 15.5 | | 15.8 | 27.1 | |
| Actuated g/C Ratio | | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.07 | 0.28 | | 0.28 | 0.48 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 379 | 298 | 277 | 412 | 312 | 128 | 810 | | 456 | 1456 | |
| v/s Ratio Prot | | | | | 0.06 | | 0.03 | 0.12 | | c0.18 | c0.20 | |
| v/s Ratio Perm | | 0.07 | 0.01 | c0.11 | | 0.04 | | | | | | |
| v/c Ratio | | 0.29 | 0.03 | 0.44 | 0.27 | 0.16 | 0.39 | 0.44 | | 0.63 | 0.42 | |
| Uniform Delay, d1 | | 17.5 | 16.4 | 18.2 | 17.5 | 17.0 | 24.7 | 16.7 | | 17.6 | 9.4 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.4 | 0.0 | 1.1 | 0.4 | 0.2 | 2.0 | 0.5 | | 2.8 | 0.3 | |
| Delay (s) | | 18.0 | 16.5 | 19.4 | 17.8 | 17.2 | 26.7 | 17.3 | | 20.5 | 9.7 | |
| Level of Service | | B | B | B | B | B | C | B | | C | A | |
| Approach Delay (s) | | 17.6 | | | 18.0 | | | 18.3 | | | 13.1 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 15.7 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.48 | | |
| Actuated Cycle Length (s) | 56.1 | Sum of lost time (s) | 7.0 |
| Intersection Capacity Utilization | 52.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 262 | 347 | 124 | 93 | 388 | 108 | 127 | 962 | 86 | 757 |
| v/c Ratio | 0.85 | 0.60 | 0.25 | 0.62 | 1.09 | 0.28 | 0.66 | 0.79 | 0.58 | 0.70 |
| Control Delay | 67.1 | 37.6 | 6.5 | 60.8 | 111.0 | 5.6 | 67.2 | 34.0 | 59.0 | 33.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 67.1 | 37.6 | 6.5 | 60.8 | 111.0 | 5.6 | 67.2 | 34.0 | 59.0 | 33.3 |
| Queue Length 50th (ft) | 177 | 210 | 0 | 64 | ~316 | 10 | 89 | 280 | 60 | 219 |
| Queue Length 95th (ft) | #307 | 311 | 43 | #96 | #468 | 3 | 156 | #362 | m111 | 321 |
| Internal Link Dist (ft) | | 2946 | | | 524 | | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 230 | | | 200 | | 150 | |
| Base Capacity (vph) | 330 | 585 | 499 | 159 | 357 | 386 | 210 | 1218 | 159 | 1088 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.79 | 0.59 | 0.25 | 0.58 | 1.09 | 0.28 | 0.60 | 0.79 | 0.54 | 0.70 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 241 | 319 | 114 | 86 | 357 | 99 | 117 | 734 | 151 | 79 | 639 | 57 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 9 | 12 | 12 | 10 | 10 | 10 | 9 | 10 | 10 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1577 | 1845 | 1306 | 1593 | 1863 | 1559 | 1652 | 3143 | | 1593 | 3179 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1577 | 1845 | 1306 | 1593 | 1863 | 1559 | 1652 | 3143 | | 1593 | 3179 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 262 | 347 | 124 | 93 | 388 | 108 | 127 | 798 | 164 | 86 | 695 | 62 |
| RTOR Reduction (vph) | 0 | 0 | 85 | 0 | 0 | 87 | 0 | 15 | 0 | 0 | 6 | 0 |
| Lane Group Flow (vph) | 262 | 347 | 39 | 93 | 388 | 21 | 127 | 947 | 0 | 86 | 751 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | 4 | | | | | | |
| Actuated Green, G (s) | 22.4 | 34.7 | 34.7 | 8.8 | 21.1 | 21.1 | 12.7 | 40.5 | | 8.8 | 36.6 | |
| Effective Green, g (s) | 22.4 | 34.7 | 34.7 | 8.8 | 21.1 | 21.1 | 12.7 | 40.5 | | 8.8 | 36.6 | |
| Actuated g/C Ratio | 0.20 | 0.32 | 0.32 | 0.08 | 0.19 | 0.19 | 0.12 | 0.37 | | 0.08 | 0.33 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 321 | 582 | 412 | 127 | 357 | 299 | 191 | 1157 | | 127 | 1058 | |
| v/s Ratio Prot | c0.17 | 0.19 | | 0.06 | c0.21 | | 0.08 | c0.30 | | 0.05 | c0.24 | |
| v/s Ratio Perm | | | 0.03 | | | 0.01 | | | | | | |
| v/c Ratio | 0.82 | 0.60 | 0.09 | 0.73 | 1.09 | 0.07 | 0.66 | 0.82 | | 0.68 | 0.71 | |
| Uniform Delay, d1 | 41.8 | 31.7 | 26.6 | 49.4 | 44.4 | 36.4 | 46.6 | 31.4 | | 49.2 | 32.1 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.89 | 0.88 | 0.52 | 1.09 | 0.92 | | 0.93 | 0.93 | |
| Incremental Delay, d2 | 15.4 | 1.9 | 0.1 | 20.2 | 72.4 | 0.1 | 9.0 | 6.3 | | 13.7 | 3.8 | |
| Delay (s) | 57.2 | 33.7 | 26.7 | 64.4 | 111.7 | 19.0 | 59.7 | 35.3 | | 59.5 | 33.6 | |
| Level of Service | E | C | C | E | F | B | E | D | | E | C | |
| Approach Delay (s) | | 40.9 | | | 87.2 | | | 38.1 | | | 36.2 | |
| Approach LOS | | D | | | F | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 47.1 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.85 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.2 |
| Intersection Capacity Utilization | 76.1% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 36 | 560 | 21 | 454 | 74 | 73 | 268 | 86 | 48 |
| v/c Ratio | 0.29 | 0.54 | 0.20 | 0.44 | 0.28 | 0.22 | 0.96 | 0.21 | 0.37 |
| Control Delay | 57.2 | 17.3 | 52.7 | 20.0 | 39.5 | 37.7 | 87.5 | 9.3 | 51.5 |
| Queue Delay | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 57.2 | 17.8 | 52.7 | 20.0 | 39.5 | 37.7 | 87.5 | 9.3 | 51.5 |
| Queue Length 50th (ft) | 27 | 153 | 14 | 211 | 44 | 43 | 188 | 1 | 29 |
| Queue Length 95th (ft) | m60 | 429 | 40 | 337 | 88 | 84 | #352 | 42 | 66 |
| Internal Link Dist (ft) | | 522 | | 1458 | | 986 | | 464 | |
| Turn Bay Length (ft) | 205 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 126 | 1038 | 104 | 1042 | 270 | 340 | 282 | 406 | 268 |
| Starvation Cap Reductn | 0 | 167 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.29 | 0.64 | 0.20 | 0.44 | 0.27 | 0.21 | 0.95 | 0.21 | 0.18 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 33 | 502 | 13 | 19 | 371 | 47 | 68 | 2 | 65 | 247 | 1 | 78 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 8 | 9 | 14 | 12 | 11 | 12 | 12 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.98 | | 1.00 | 0.85 | | 1.00 | 0.85 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1855 | | 1593 | 1953 | | 1711 | 1591 | | 1770 | 1587 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.70 | 1.00 | | 0.71 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1855 | | 1593 | 1953 | | 1263 | 1591 | | 1322 | 1587 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 36 | 546 | 14 | 21 | 403 | 51 | 74 | 2 | 71 | 268 | 1 | 85 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 67 | 0 |
| Lane Group Flow (vph) | 36 | 560 | 0 | 21 | 454 | 0 | 74 | 73 | 0 | 268 | 19 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Parking (#/hr) | | | | | | | | | | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 5.3 | 57.9 | | 3.4 | 56.0 | | 23.4 | 23.4 | | 23.4 | 23.4 | |
| Effective Green, g (s) | 5.3 | 57.9 | | 3.4 | 56.0 | | 23.4 | 23.4 | | 23.4 | 23.4 | |
| Actuated g/C Ratio | 0.05 | 0.53 | | 0.03 | 0.51 | | 0.21 | 0.21 | | 0.21 | 0.21 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 85 | 976 | | 49 | 994 | | 269 | 338 | | 281 | 338 | |
| v/s Ratio Prot | c0.02 | c0.30 | | 0.01 | 0.23 | | | 0.05 | | | 0.01 | |
| v/s Ratio Perm | | | | | | | 0.06 | | | c0.20 | | |
| v/c Ratio | 0.42 | 0.57 | | 0.43 | 0.46 | | 0.28 | 0.22 | | 0.95 | 0.06 | |
| Uniform Delay, d1 | 50.9 | 17.7 | | 52.3 | 17.3 | | 36.2 | 35.7 | | 42.8 | 34.5 | |
| Progression Factor | 1.09 | 0.83 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 3.1 | 2.2 | | 5.9 | 1.5 | | 0.6 | 0.3 | | 40.9 | 0.1 | |
| Delay (s) | 58.4 | 16.9 | | 58.3 | 18.8 | | 36.8 | 36.1 | | 83.7 | 34.6 | |
| Level of Service | E | B | | E | B | | D | D | | F | C | |
| Approach Delay (s) | | 19.4 | | | 20.5 | | | 36.4 | | | 71.8 | |
| Approach LOS | | B | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 33.7 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.63 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 64.0% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | SWR | SWR2 |
|---|---|---|
| Lane Configurations | | |
| Volume (vph) | 40 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Lane Width | 12 | 12 |
| Total Lost time (s) | 4.5 | |
| Lane Util. Factor | 1.00 | |
| Frpb, ped/bikes | 1.00 | |
| Flpb, ped/bikes | 1.00 | |
| Frt | 0.86 | |
| Flt Protected | 1.00 | |
| Satd. Flow (prot) | 1611 | |
| Flt Permitted | 1.00 | |
| Satd. Flow (perm) | 1611 | |
| Peak-hour factor, PHF | 0.92 | 0.92 |
| Adj. Flow (vph) | 43 | 5 |
| RTOR Reduction (vph) | 5 | 0 |
| Lane Group Flow (vph) | 43 | 0 |
| Confl. Peds. (#/hr) | | |
| Parking (#/hr) | | |
| Turn Type | custom | |
| Protected Phases | 9 | |
| Permitted Phases | 9 | |
| Actuated Green, G (s) | 7.3 | |
| Effective Green, g (s) | 7.3 | |
| Actuated g/C Ratio | 0.07 | |
| Clearance Time (s) | 4.5 | |
| Vehicle Extension (s) | 3.0 | |
| Lane Grp Cap (vph) | 107 | |
| v/s Ratio Prot | c0.03 | |
| v/s Ratio Perm | | |
| v/c Ratio | 0.40 | |
| Uniform Delay, d1 | 49.3 | |
| Progression Factor | 1.00 | |
| Incremental Delay, d2 | 2.5 | |
| Delay (s) | 51.8 | |
| Level of Service | D | |
| Approach Delay (s) | | |
| Approach LOS | | |

Intersection Summary

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 107 | 939 | 7 | 340 | 59 | 110 | 13 | 46 | 382 |
| v/c Ratio | 0.41 | 0.89 | 0.06 | 0.53 | 0.39 | 0.20 | 0.03 | 0.13 | 0.69 |
| Control Delay | 31.0 | 28.2 | 32.3 | 20.7 | 25.8 | 16.9 | 8.4 | 16.6 | 22.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 31.0 | 28.2 | 32.3 | 20.7 | 25.8 | 16.9 | 8.4 | 16.6 | 22.9 |
| Queue Length 50th (ft) | 33 | 243 | 2 | 95 | 16 | 28 | 0 | 11 | 96 |
| Queue Length 95th (ft) | 94 | #747 | 15 | 210 | 51 | 67 | 11 | 35 | 200 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 291 | 1051 | 116 | 741 | 241 | 871 | 626 | 554 | 861 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.37 | 0.89 | 0.06 | 0.46 | 0.24 | 0.13 | 0.02 | 0.08 | 0.44 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 98 | 638 | 226 | 6 | 256 | 57 | 54 | 101 | 12 | 42 | 203 | 148 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 0.97 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1940 | | 1711 | 1664 | | 1652 | 1863 | 1326 | 1643 | 1780 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.30 | 1.00 | 1.00 | 0.69 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1940 | | 1711 | 1664 | | 515 | 1863 | 1326 | 1187 | 1780 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 107 | 693 | 246 | 7 | 278 | 62 | 59 | 110 | 13 | 46 | 221 | 161 |
| RTOR Reduction (vph) | 0 | 14 | 0 | 0 | 10 | 0 | 0 | 0 | 9 | 0 | 40 | 0 |
| Lane Group Flow (vph) | 107 | 925 | 0 | 7 | 330 | 0 | 59 | 110 | 4 | 46 | 342 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 7.5 | 32.1 | | 0.6 | 25.2 | | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | |
| Effective Green, g (s) | 7.5 | 32.1 | | 0.6 | 25.2 | | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | |
| Actuated g/C Ratio | 0.12 | 0.51 | | 0.01 | 0.40 | | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 203 | 985 | | 16 | 663 | | 143 | 516 | 367 | 329 | 493 | |
| v/s Ratio Prot | c0.06 | c0.48 | | 0.00 | 0.20 | | | 0.06 | | | c0.19 | |
| v/s Ratio Perm | | | | | | | 0.11 | | 0.00 | 0.04 | | |
| v/c Ratio | 0.53 | 0.94 | | 0.44 | 0.50 | | 0.41 | 0.21 | 0.01 | 0.14 | 0.69 | |
| Uniform Delay, d1 | 26.2 | 14.6 | | 31.1 | 14.3 | | 18.7 | 17.6 | 16.6 | 17.2 | 20.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 3.2 | 16.0 | | 24.0 | 0.8 | | 2.6 | 0.3 | 0.0 | 0.3 | 4.5 | |
| Delay (s) | 29.4 | 30.6 | | 55.1 | 15.1 | | 21.3 | 17.8 | 16.6 | 17.5 | 25.0 | |
| Level of Service | C | C | | E | B | | C | B | B | B | C | |
| Approach Delay (s) | | 30.5 | | | 15.9 | | | 18.9 | | | 24.2 | |
| Approach LOS | | C | | | B | | | B | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 25.6 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.86 | | |
| Actuated Cycle Length (s) | 63.2 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 90.0% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 218 | 484 | 10 | 48 | 161 | 284 | 64 | 20 | 560 |
| v/c Ratio | 0.60 | 0.57 | 0.10 | 0.17 | 0.55 | 0.19 | 0.09 | 0.15 | 0.65 |
| Control Delay | 36.6 | 6.2 | 39.4 | 16.9 | 37.9 | 13.2 | 5.2 | 38.6 | 25.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 36.6 | 6.2 | 39.4 | 16.9 | 37.9 | 13.2 | 5.2 | 38.6 | 25.3 |
| Queue Length 50th (ft) | 73 | 16 | 4 | 9 | 54 | 28 | 0 | 7 | 91 |
| Queue Length 95th (ft) | #266 | 104 | 24 | 36 | #203 | 96 | 27 | 37 | 200 |
| Internal Link Dist (ft) | | 1442 | | 221 | | 1609 | | | 1977 |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | |
| Base Capacity (vph) | 370 | 1155 | 102 | 849 | 306 | 1776 | 819 | 132 | 1453 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.59 | 0.42 | 0.10 | 0.06 | 0.53 | 0.16 | 0.08 | 0.15 | 0.39 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 201 | 13 | 432 | 9 | 23 | 21 | 150 | 261 | 59 | 18 | 396 | 120 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1506 | | 1652 | 1598 | | 1652 | 3240 | 1452 | 1711 | 3253 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1506 | | 1652 | 1598 | | 1652 | 3240 | 1452 | 1711 | 3253 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 218 | 14 | 470 | 10 | 25 | 23 | 161 | 284 | 64 | 20 | 430 | 130 |
| RTOR Reduction (vph) | 0 | 257 | 0 | 0 | 19 | 0 | 0 | 0 | 36 | 0 | 28 | 0 |
| Lane Group Flow (vph) | 218 | 227 | 0 | 10 | 29 | 0 | 161 | 284 | 28 | 20 | 532 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 14.3 | 27.3 | | 0.6 | 13.6 | | 12.0 | 31.4 | 31.4 | 0.7 | 20.1 | |
| Effective Green, g (s) | 14.3 | 27.3 | | 0.6 | 13.6 | | 12.0 | 31.4 | 31.4 | 0.7 | 20.1 | |
| Actuated g/C Ratio | 0.20 | 0.38 | | 0.01 | 0.19 | | 0.17 | 0.43 | 0.43 | 0.01 | 0.28 | |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 337 | 567 | | 14 | 300 | | 273 | 1403 | 629 | 17 | 902 | |
| v/s Ratio Prot | c0.13 | c0.15 | | 0.01 | 0.02 | | c0.10 | 0.09 | | c0.01 | c0.16 | |
| v/s Ratio Perm | | | | | | | | | 0.02 | | | |
| v/c Ratio | 0.65 | 0.40 | | 0.71 | 0.10 | | 0.59 | 0.20 | 0.04 | 1.18 | 0.59 | |
| Uniform Delay, d1 | 26.8 | 16.6 | | 35.9 | 24.4 | | 28.0 | 12.8 | 11.9 | 35.9 | 22.6 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 4.7 | 0.6 | | 105.1 | 0.2 | | 3.8 | 0.1 | 0.0 | 279.8 | 1.2 | |
| Delay (s) | 31.5 | 17.2 | | 140.9 | 24.6 | | 31.8 | 12.9 | 11.9 | 315.7 | 23.8 | |
| Level of Service | C | B | | F | C | | C | B | B | F | C | |
| Approach Delay (s) | | 21.6 | | | 44.6 | | | 18.7 | | | 33.9 | |
| Approach LOS | | C | | | D | | | B | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 25.4 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.55 | | |
| Actuated Cycle Length (s) | 72.5 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 60.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 59 | 24 | 5 | 900 | 1103 |
| v/c Ratio | 0.42 | 0.18 | 0.01 | 0.32 | 0.40 |
| Control Delay | 56.1 | 20.0 | 2.2 | 2.4 | 1.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.9 | 0.0 |
| Total Delay | 56.1 | 20.0 | 2.2 | 3.3 | 1.0 |
| Queue Length 50th (ft) | 40 | 0 | 0 | 56 | 15 |
| Queue Length 95th (ft) | 80 | 25 | 3 | 92 | 31 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 375 | 321 | 374 | 2787 | 2776 |
| Starvation Cap Reductn | 0 | 0 | 0 | 1499 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.16 | 0.07 | 0.01 | 0.70 | 0.40 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 54 | 22 | 5 | 828 | 989 | 26 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3227 | |
| Flt Permitted | 0.95 | 1.00 | 0.25 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 434 | 3240 | 3227 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 59 | 24 | 5 | 900 | 1075 | 28 |
| RTOR Reduction (vph) | 0 | 22 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 59 | 2 | 5 | 900 | 1102 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 8.2 | 8.2 | 92.8 | 92.8 | 92.8 | |
| Effective Green, g (s) | 8.2 | 8.2 | 92.8 | 92.8 | 92.8 | |
| Actuated g/C Ratio | 0.07 | 0.07 | 0.84 | 0.84 | 0.84 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 123 | 99 | 366 | 2733 | 2722 | |
| v/s Ratio Prot | c0.04 | | | 0.28 | c0.34 | |
| v/s Ratio Perm | | 0.00 | 0.01 | | | |
| v/c Ratio | 0.48 | 0.02 | 0.01 | 0.33 | 0.40 | |
| Uniform Delay, d1 | 48.9 | 47.2 | 1.4 | 1.9 | 2.0 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 0.26 | |
| Incremental Delay, d2 | 2.9 | 0.1 | 0.1 | 0.3 | 0.4 | |
| Delay (s) | 51.8 | 47.2 | 1.4 | 2.2 | 0.9 | |
| Level of Service | D | D | A | A | A | |
| Approach Delay (s) | 50.5 | | | 2.2 | 0.9 | |
| Approach LOS | D | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 3.4 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.41 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 39.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1428 | 1170 | 328 | 1626 | 708 | 795 |
| v/c Ratio | 0.88 | 0.65 | 0.62 | 0.70 | 0.42 | 1.20 |
| Control Delay | 30.6 | 6.5 | 46.8 | 11.7 | 0.8 | 144.6 |
| Queue Delay | 100.5 | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 131.1 | 7.9 | 46.8 | 11.7 | 0.8 | 144.6 |
| Queue Length 50th (ft) | 421 | 136 | 137 | 405 | 0 | ~425 |
| Queue Length 95th (ft) | 505 | 175 | 184 | 482 | 0 | #561 |
| Internal Link Dist (ft) | 254 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 1636 | 1802 | 527 | 2307 | 1686 | 662 |
| Starvation Cap Reductn | 468 | 406 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 15 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.22 | 0.84 | 0.62 | 0.71 | 0.42 | 1.20 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1314 | 1076 | 302 | 1496 | 0 | 0 | 0 | 651 | 0 | 0 | 731 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.5 | 4.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | | | 1.00 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2787 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2787 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1428 | 1170 | 328 | 1626 | 0 | 0 | 0 | 708 | 0 | 0 | 795 |
| RTOR Reduction (vph) | 0 | 0 | 519 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1428 | 651 | 328 | 1626 | 0 | 0 | 0 | 708 | 0 | 0 | 795 |
| Confl. Peds. (#/hr) | | | | 4 | | | | | | | | |
| Heavy Vehicles (%) | 2% | 4% | 4% | 4% | 4% | 2% | 2% | 2% | 4% | 2% | 2% | 2% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 | | 1 | 6 | | | | | | | |
| Permitted Phases | | | 2 | | | | | | Free | | | 4 |
| Actuated Green, G (s) | | 57.9 | 57.9 | 20.1 | 82.5 | | | | 120.0 | | | 28.5 |
| Effective Green, g (s) | | 57.9 | 57.9 | 20.1 | 82.5 | | | | 120.0 | | | 28.5 |
| Actuated g/C Ratio | | 0.48 | 0.48 | 0.17 | 0.69 | | | | 1.00 | | | 0.24 |
| Clearance Time (s) | | 4.5 | 4.5 | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 1619 | 1275 | 526 | 2307 | | | | 1686 | | | 662 |
| v/s Ratio Prot | | c0.43 | | 0.10 | c0.48 | | | | | | | |
| v/s Ratio Perm | | | 0.25 | | | | | | 0.42 | | | c0.29 |
| v/c Ratio | | 0.88 | 0.51 | 0.62 | 0.70 | | | | 0.42 | | | 1.20 |
| Uniform Delay, d1 | | 28.0 | 21.3 | 46.4 | 11.4 | | | | 0.0 | | | 45.8 |
| Progression Factor | | 0.91 | 1.78 | 0.89 | 0.89 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 3.8 | 0.2 | 5.1 | 1.4 | | | | 0.8 | | | 104.5 |
| Delay (s) | | 29.4 | 38.2 | 46.2 | 11.5 | | | | 0.8 | | | 150.2 |
| Level of Service | | C | D | D | B | | | | A | | | F |
| Approach Delay (s) | | 33.4 | | | 17.3 | | | 0.8 | | | 150.2 | |
| Approach LOS | | C | | | B | | | A | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 39.7 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.91 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 74.4% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 635 | 1501 | 825 | 497 | 552 | 1135 |
| v/c Ratio | 0.71 | 0.45 | 0.43 | 0.55 | 0.34 | 0.74 |
| Control Delay | 22.4 | 0.3 | 5.0 | 7.2 | 0.6 | 3.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 22.4 | 0.3 | 5.0 | 7.2 | 0.6 | 3.3 |
| Queue Length 50th (ft) | 154 | 0 | 72 | 128 | 0 | 0 |
| Queue Length 95th (ft) | m179 | 0 | m65 | m91 | 0 | 0 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 1053 | 3355 | 1902 | 906 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.60 | 0.45 | 0.43 | 0.55 | 0.34 | 0.74 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 584 | 1381 | 0 | 0 | 759 | 457 | 0 | 0 | 508 | 0 | 0 | 1044 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 635 | 1501 | 0 | 0 | 825 | 497 | 0 | 0 | 552 | 0 | 0 | 1135 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 635 | 1501 | 0 | 0 | 825 | 459 | 0 | 0 | 552 | 0 | 0 | 1135 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 17.0 | 60.0 | | | 34.0 | 34.0 | | | 60.0 | | | 60.0 |
| Effective Green, g (s) | 17.0 | 60.0 | | | 34.0 | 34.0 | | | 60.0 | | | 60.0 |
| Actuated g/C Ratio | 0.28 | 1.00 | | | 0.57 | 0.57 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 891 | 3355 | | | 1901 | 868 | | | 1611 | | | 1528 |
| v/s Ratio Prot | 0.20 | 0.45 | | | 0.25 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.30 | | | 0.34 | | | c0.74 |
| v/c Ratio | 0.71 | 0.45 | | | 0.43 | 0.53 | | | 0.34 | | | 0.74 |
| Uniform Delay, d1 | 19.3 | 0.0 | | | 7.5 | 8.0 | | | 0.0 | | | 0.0 |
| Progression Factor | 1.00 | 1.00 | | | 0.55 | 0.71 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 1.8 | 0.1 | | | 0.6 | 2.0 | | | 0.6 | | | 3.3 |
| Delay (s) | 21.2 | 0.1 | | | 4.7 | 7.7 | | | 0.6 | | | 3.3 |
| Level of Service | C | A | | | A | A | | | A | | | A |
| Approach Delay (s) | | 6.4 | | | 5.8 | | | 0.6 | | | 3.3 | |
| Approach LOS | | A | | | A | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.9 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.74 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 52.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 485 | 714 | 1043 | 253 | 20 | 287 | 577 | 26 | 75 | 811 | 172 |
| v/c Ratio | 1.29 | 1.01 | 0.59 | 0.90 | 0.06 | 0.97 | 0.40 | 0.05 | 0.47 | 0.84 | 0.33 |
| Control Delay | 173.1 | 67.7 | 1.4 | 72.0 | 14.8 | 86.7 | 23.2 | 10.8 | 52.6 | 42.1 | 16.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 173.1 | 67.7 | 1.4 | 72.0 | 14.8 | 86.7 | 23.2 | 10.8 | 52.6 | 42.1 | 16.0 |
| Queue Length 50th (ft) | ~294 | ~459 | 0 | 157 | 1 | 183 | 142 | 2 | 46 | 253 | 41 |
| Queue Length 95th (ft) | #497 | #703 | 0 | #304 | 20 | #347 | 191 | 20 | 92 | #336 | 96 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 377 | 706 | 1770 | 282 | 347 | 297 | 1428 | 538 | 172 | 971 | 517 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.29 | 1.01 | 0.59 | 0.90 | 0.06 | 0.97 | 0.40 | 0.05 | 0.44 | 0.84 | 0.33 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 446 | 657 | 960 | 9 | 224 | 18 | 264 | 531 | 24 | 69 | 746 | 158 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 3.6 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.96 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1735 | 1475 | 1652 | 3539 | 1337 | 1652 | 3303 | 1551 |
| Flt Permitted | 0.32 | 1.00 | 1.00 | | 0.72 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 549 | 1739 | 1770 | | 1248 | 1475 | 1652 | 3539 | 1337 | 1652 | 3303 | 1551 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 485 | 714 | 1043 | 10 | 243 | 20 | 287 | 577 | 26 | 75 | 811 | 172 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 12 | 0 | 0 | 61 |
| Lane Group Flow (vph) | 485 | 714 | 1043 | 0 | 253 | 6 | 287 | 577 | 14 | 75 | 811 | 111 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 40.1 | 40.1 | 100.0 | | 22.1 | 22.1 | 17.0 | 38.4 | 38.4 | 7.5 | 28.4 | 28.4 |
| Effective Green, g (s) | 40.6 | 40.6 | 100.0 | | 22.6 | 22.6 | 18.0 | 39.4 | 38.4 | 8.4 | 29.4 | 29.4 |
| Actuated g/C Ratio | 0.41 | 0.41 | 1.00 | | 0.23 | 0.23 | 0.18 | 0.39 | 0.38 | 0.08 | 0.29 | 0.29 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.5 | 5.0 | 5.0 |
| Vehicle Extension (s) | 3.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 377 | 706 | 1770 | | 282 | 333 | 297 | 1394 | 513 | 139 | 971 | 456 |
| v/s Ratio Prot | c0.18 | 0.41 | | | | | c0.17 | 0.16 | | 0.05 | c0.25 | |
| v/s Ratio Perm | c0.34 | | 0.59 | | 0.20 | 0.00 | | | 0.01 | | | 0.07 |
| v/c Ratio | 1.29 | 1.01 | 0.59 | | 0.90 | 0.02 | 0.97 | 0.41 | 0.03 | 0.54 | 0.84 | 0.24 |
| Uniform Delay, d1 | 26.7 | 29.7 | 0.0 | | 37.6 | 30.1 | 40.7 | 21.9 | 19.2 | 43.9 | 33.0 | 26.8 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 147.6 | 36.7 | 1.4 | | 29.0 | 0.0 | 42.7 | 0.9 | 0.1 | 4.5 | 8.4 | 1.3 |
| Delay (s) | 174.3 | 66.4 | 1.4 | | 66.5 | 30.1 | 83.4 | 22.8 | 19.3 | 48.4 | 41.5 | 28.1 |
| Level of Service | F | E | A | | E | C | F | C | B | D | D | C |
| Approach Delay (s) | | 59.5 | | | 63.9 | | | 42.3 | | | 39.8 | |
| Approach LOS | | E | | | E | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 51.7 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.05 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 97.4% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBT | WBR | NBT | SBL | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 48 | 91 | 1608 | 141 | 1415 |
| v/c Ratio | 0.41 | 0.50 | 0.38 | 0.70 | 0.48 |
| Control Delay | 55.7 | 29.5 | 1.7 | 28.9 | 3.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 |
| Total Delay | 55.7 | 29.5 | 1.7 | 28.9 | 4.0 |
| Queue Length 50th (ft) | 33 | 23 | 33 | 30 | 106 |
| Queue Length 95th (ft) | 67 | 70 | 86 | #203 | 211 |
| Internal Link Dist (ft) | 217 | | 650 | | 443 |
| Turn Bay Length (ft) | | | | 150 | |
| Base Capacity (vph) | 260 | 337 | 4217 | 201 | 2965 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 968 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.18 | 0.27 | 0.38 | 0.70 | 0.71 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 44 | 0 | 84 | 0 | 1445 | 34 | 130 | 1301 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.98 | | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1562 | 1395 | | 4934 | | 1619 | 3471 | |
| Flt Permitted | | | | | 0.76 | 1.00 | | 1.00 | | 0.14 | 1.00 | |
| Satd. Flow (perm) | | | | | 1245 | 1395 | | 4934 | | 235 | 3471 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 48 | 0 | 91 | 0 | 1571 | 37 | 141 | 1414 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 52 | 0 | 1 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 48 | 39 | 0 | 1607 | 0 | 141 | 1415 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 9.2 | 9.2 | | 92.2 | | 92.2 | 92.2 | |
| Effective Green, g (s) | | | | | 9.2 | 9.2 | | 92.2 | | 92.2 | 92.2 | |
| Actuated g/C Ratio | | | | | 0.08 | 0.08 | | 0.84 | | 0.84 | 0.84 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 104 | 117 | | 4136 | | 197 | 2909 | |
| v/s Ratio Prot | | | | | | | | 0.33 | | | 0.41 | |
| v/s Ratio Perm | | | | | c0.04 | 0.03 | | | | c0.60 | | |
| v/c Ratio | | | | | 0.46 | 0.33 | | 0.39 | | 0.72 | 0.49 | |
| Uniform Delay, d1 | | | | | 48.0 | 47.5 | | 2.1 | | 3.6 | 2.4 | |
| Progression Factor | | | | | 1.00 | 1.00 | | 0.60 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | | | | 3.2 | 1.7 | | 0.2 | | 19.9 | 0.6 | |
| Delay (s) | | | | | 51.3 | 49.2 | | 1.5 | | 23.5 | 3.0 | |
| Level of Service | | | | | D | D | | A | | C | A | |
| Approach Delay (s) | | 0.0 | | | 49.9 | | | 1.5 | | | 4.9 | |
| Approach LOS | | A | | | D | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 5.1 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.69 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 56.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 36 | 626 | 625 | 241 | 99 |
| v/c Ratio | 0.29 | 0.46 | 0.27 | 0.74 | 0.27 |
| Control Delay | 51.4 | 5.2 | 14.3 | 55.5 | 8.7 |
| Queue Delay | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 |
| Total Delay | 51.4 | 5.5 | 14.3 | 55.5 | 8.7 |
| Queue Length 50th (ft) | 25 | 95 | 93 | 162 | 0 |
| Queue Length 95th (ft) | m41 | 190 | 229 | 231 | 42 |
| Internal Link Dist (ft) | | 524 | 522 | 183 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 156 | 1367 | 2315 | 523 | 537 |
| Starvation Cap Reductn | 0 | 262 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 0.57 | 0.27 | 0.46 | 0.18 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 33 | 576 | 528 | 47 | 222 | 91 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.99 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3496 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3496 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 36 | 626 | 574 | 51 | 241 | 99 |
| RTOR Reduction (vph) | 0 | 0 | 4 | 0 | 0 | 81 |
| Lane Group Flow (vph) | 36 | 626 | 621 | 0 | 241 | 18 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 5.3 | 80.7 | 70.9 | | 20.3 | 20.3 |
| Effective Green, g (s) | 5.3 | 80.7 | 70.9 | | 20.3 | 20.3 |
| Actuated g/C Ratio | 0.05 | 0.73 | 0.64 | | 0.18 | 0.18 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 85 | 1367 | 2253 | | 327 | 292 |
| v/s Ratio Prot | 0.02 | c0.34 | 0.18 | | c0.14 | |
| v/s Ratio Perm | | | | | | 0.01 |
| v/c Ratio | 0.42 | 0.46 | 0.28 | | 0.74 | 0.06 |
| Uniform Delay, d1 | 50.9 | 5.9 | 8.4 | | 42.3 | 37.0 |
| Progression Factor | 0.97 | 0.62 | 1.50 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 2.8 | 0.9 | 0.3 | | 8.4 | 0.1 |
| Delay (s) | 52.3 | 4.6 | 12.9 | | 50.7 | 37.1 |
| Level of Service | D | A | B | | D | D |
| Approach Delay (s) | | 7.2 | 12.9 | | 46.7 | |
| Approach LOS | | A | B | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.7 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.51 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 50.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBL | WBT | NBR |
|---|---|---|---|---|
| Lane Group Flow (vph) | 2091 | 489 | 1960 | 507 |
| v/c Ratio | 0.80 | 0.63 | 0.39 | 0.71 |
| Control Delay | 16.9 | 17.0 | 0.1 | 20.7 |
| Queue Delay | 4.2 | 1.4 | 0.0 | 1.1 |
| Total Delay | 21.1 | 18.4 | 0.2 | 21.7 |
| Queue Length 50th (ft) | 263 | 173 | 0 | 141 |
| Queue Length 95th (ft) | m259 | m197 | m0 | #248 |
| Internal Link Dist (ft) | 390 | | 254 | |
| Turn Bay Length (ft) | | | | |
| Base Capacity (vph) | 2615 | 782 | 5085 | 712 |
| Starvation Cap Reductn | 0 | 135 | 0 | 0 |
| Spillback Cap Reductn | 445 | 0 | 864 | 65 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.96 | 0.76 | 0.46 | 0.78 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 1893 | 30 | 450 | 1803 | 0 | 466 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Lane Util. Factor | 0.86 | | 1.00 | 0.91 | | 1.00 |
| Frt | 1.00 | | 1.00 | 1.00 | | 0.86 |
| Flt Protected | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 6393 | | 1770 | 5085 | | 1611 |
| Flt Permitted | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 6393 | | 1770 | 5085 | | 1611 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 2058 | 33 | 489 | 1960 | 0 | 507 |
| RTOR Reduction (vph) | 4 | 0 | 0 | 0 | 0 | 1 |
| Lane Group Flow (vph) | 2087 | 0 | 489 | 1960 | 0 | 506 |
| Turn Type | | | Prot | | | Over |
| Protected Phases | 2 | | 1 | 6 | | 1 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 24.5 | | 26.5 | 60.0 | | 26.5 |
| Effective Green, g (s) | 24.5 | | 26.5 | 60.0 | | 26.5 |
| Actuated g/C Ratio | 0.41 | | 0.44 | 1.00 | | 0.44 |
| Clearance Time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 2610 | | 782 | 5085 | | 712 |
| v/s Ratio Prot | c0.33 | | 0.28 | 0.39 | | c0.31 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.80 | | 0.63 | 0.39 | | 0.71 |
| Uniform Delay, d1 | 15.6 | | 12.9 | 0.0 | | 13.6 |
| Progression Factor | 0.97 | | 1.15 | 1.00 | | 1.00 |
| Incremental Delay, d2 | 1.7 | | 0.8 | 0.1 | | 3.4 |
| Delay (s) | 16.8 | | 15.6 | 0.1 | | 17.0 |
| Level of Service | B | | B | A | | B |
| Approach Delay (s) | 16.8 | | | 3.2 | 17.0 | |
| Approach LOS | B | | | A | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 10.2 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.75 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 64.3% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 74 | 222 | 249 | 205 | 884 | 36 | 604 | 190 | 392 | 426 | 54 |
| v/c Ratio | 0.76 | 0.56 | 0.19 | 0.26 | 0.89 | 0.47 | 0.65 | 0.20 | 0.85 | 0.42 | 0.11 |
| Control Delay | 103.9 | 52.7 | 26.6 | 22.2 | 30.8 | 83.5 | 50.8 | 1.3 | 72.7 | 37.5 | 8.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 103.9 | 52.7 | 26.6 | 22.2 | 30.8 | 83.5 | 50.8 | 1.3 | 72.7 | 37.5 | 8.9 |
| Queue Length 50th (ft) | 63 | 84 | 65 | 100 | 537 | 31 | 176 | 0 | 171 | 157 | 0 |
| Queue Length 95th (ft) | #160 | 125 | 121 | 174 | #1014 | 72 | 219 | 18 | #287 | 208 | 32 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 104 | 1338 | 1338 | 849 | 997 | 94 | 1278 | 1050 | 461 | 1177 | 583 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.71 | 0.17 | 0.19 | 0.24 | 0.89 | 0.38 | 0.47 | 0.18 | 0.85 | 0.36 | 0.09 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 68 | 162 | 42 | 229 | 189 | 813 | 33 | 556 | 175 | 361 | 392 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | 4.5 | 3.5 | 3.8 | 3.8 | 3.5 | 3.8 | 3.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.97 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3092 | | 3255 | 1689 | 1501 | 1620 | 4655 | 1449 | 3143 | 3240 | 1510 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3092 | | 3255 | 1689 | 1501 | 1620 | 4655 | 1449 | 3143 | 3240 | 1510 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 74 | 176 | 46 | 249 | 205 | 884 | 36 | 604 | 190 | 392 | 426 | 54 |
| RTOR Reduction (vph) | 0 | 24 | 0 | 0 | 0 | 24 | 0 | 0 | 73 | 0 | 0 | 37 |
| Lane Group Flow (vph) | 74 | 198 | 0 | 249 | 205 | 860 | 36 | 604 | 117 | 392 | 426 | 17 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 7.5 | 15.6 | | 52.9 | 61.0 | 84.4 | 5.0 | 26.7 | 79.6 | 18.9 | 40.6 | 40.6 |
| Effective Green, g (s) | 7.5 | 15.6 | | 52.9 | 61.0 | 84.4 | 5.0 | 26.7 | 79.6 | 18.9 | 40.6 | 40.6 |
| Actuated g/C Ratio | 0.06 | 0.12 | | 0.41 | 0.47 | 0.65 | 0.04 | 0.21 | 0.62 | 0.15 | 0.31 | 0.31 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 3.0 | | 2.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 97 | 373 | | 1331 | 796 | 979 | 63 | 960 | 891 | 459 | 1017 | 474 |
| v/s Ratio Prot | c0.04 | 0.06 | | 0.08 | 0.12 | c0.57 | 0.02 | c0.13 | 0.08 | 0.12 | 0.13 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.01 |
| v/c Ratio | 0.76 | 0.53 | | 0.19 | 0.26 | 0.88 | 0.57 | 0.63 | 0.13 | 0.85 | 0.42 | 0.04 |
| Uniform Delay, d1 | 60.1 | 53.5 | | 24.5 | 20.6 | 18.3 | 61.1 | 46.8 | 10.4 | 53.9 | 35.1 | 30.8 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 26.7 | 2.3 | | 0.0 | 0.2 | 9.3 | 7.6 | 1.3 | 0.1 | 13.8 | 0.3 | 0.0 |
| Delay (s) | 86.8 | 55.7 | | 24.5 | 20.8 | 27.6 | 68.7 | 48.1 | 10.5 | 67.7 | 35.4 | 30.8 |
| Level of Service | F | E | | C | C | C | E | D | B | E | D | C |
| Approach Delay (s) | | 63.5 | | | 26.0 | | | 40.4 | | | 49.6 | |
| Approach LOS | | E | | | C | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 39.1 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.82 | | |
| Actuated Cycle Length (s) | 129.4 | Sum of lost time (s) | 11.8 |
| Intersection Capacity Utilization | 76.8% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 154 | 690 | 108 | 1485 | 637 | 55 | 235 | 564 | 278 |
| v/c Ratio | 0.87 | 0.40 | 0.66 | 0.91 | 0.64 | 0.57 | 0.79 | 0.95 | 0.65 |
| Control Delay | 92.0 | 17.3 | 73.5 | 19.4 | 1.5 | 77.1 | 28.0 | 74.8 | 22.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 35.5 | 2.2 | 0.0 | 4.1 | 0.0 | 0.0 |
| Total Delay | 92.0 | 17.4 | 73.5 | 55.0 | 3.7 | 77.1 | 32.0 | 74.8 | 22.1 |
| Queue Length 50th (ft) | 117 | 155 | 90 | 420 | 0 | 42 | 7 | 224 | 58 |
| Queue Length 95th (ft) | #244 | 222 | m93 | m#559 | m7 | 86 | #112 | #331 | 155 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 185 | 1728 | 203 | 1626 | 1002 | 126 | 317 | 602 | 433 |
| Starvation Cap Reductn | 0 | 0 | 0 | 245 | 229 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 27 | 0 | 0 | 0 | 0 | 36 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.83 | 0.41 | 0.53 | 1.08 | 0.82 | 0.44 | 0.84 | 0.94 | 0.64 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 142 | 620 | 15 | 99 | 1228 | 724 | 51 | 8 | 208 | 519 | 41 | 214 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.91 | 0.91 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.98 | | 1.00 | 0.97 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.98 | 0.85 | 1.00 | 0.86 | | 1.00 | 0.87 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3167 | | 1620 | 3025 | 1318 | 1678 | 1437 | | 3143 | 1451 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3167 | | 1620 | 3025 | 1318 | 1678 | 1437 | | 3143 | 1451 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 154 | 674 | 16 | 108 | 1335 | 787 | 55 | 9 | 226 | 564 | 45 | 233 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 7 | 296 | 0 | 213 | 0 | 0 | 156 | 0 |
| Lane Group Flow (vph) | 154 | 689 | 0 | 108 | 1478 | 341 | 55 | 22 | 0 | 564 | 122 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 13.2 | 65.4 | | 12.0 | 64.2 | 64.2 | 6.9 | 6.9 | | 22.7 | 22.7 | |
| Effective Green, g (s) | 13.2 | 65.4 | | 12.0 | 64.2 | 64.2 | 6.9 | 6.9 | | 22.7 | 22.7 | |
| Actuated g/C Ratio | 0.11 | 0.55 | | 0.10 | 0.54 | 0.54 | 0.06 | 0.06 | | 0.19 | 0.19 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 178 | 1726 | | 162 | 1618 | 705 | 96 | 83 | | 595 | 274 | |
| v/s Ratio Prot | c0.10 | 0.22 | | 0.07 | c0.49 | | c0.03 | 0.02 | | c0.18 | 0.08 | |
| v/s Ratio Perm | | | | | | 0.26 | | | | | | |
| v/c Ratio | 0.87 | 0.40 | | 0.67 | 0.91 | 0.48 | 0.57 | 0.27 | | 0.95 | 0.45 | |
| Uniform Delay, d1 | 52.5 | 15.9 | | 52.1 | 25.4 | 17.5 | 55.1 | 54.1 | | 48.1 | 43.1 | |
| Progression Factor | 1.00 | 1.00 | | 1.25 | 0.55 | 0.17 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 31.8 | 0.7 | | 3.3 | 4.4 | 1.0 | 5.0 | 0.6 | | 24.4 | 1.2 | |
| Delay (s) | 84.4 | 16.6 | | 68.4 | 18.2 | 3.9 | 60.2 | 54.7 | | 72.5 | 44.2 | |
| Level of Service | F | B | | E | B | A | E | D | | E | D | |
| Approach Delay (s) | | 28.9 | | | 16.6 | | | 55.8 | | | 63.1 | |
| Approach LOS | | C | | | B | | | E | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 31.1 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.89 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 91.0% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 58 | 1496 | 770 | 1979 | 286 | 559 | 70 | 51 |
| v/c Ratio | 0.83 | 0.77 | 1.00 | 0.95 | 0.96 | 0.48 | 0.90 | 0.53 |
| Control Delay | 109.4 | 27.1 | 65.7 | 23.8 | 93.8 | 18.0 | 133.4 | 52.9 |
| Queue Delay | 0.0 | 3.3 | 0.0 | 27.5 | 0.0 | 0.0 | 0.0 | 0.2 |
| Total Delay | 109.4 | 30.4 | 65.7 | 51.2 | 93.8 | 18.1 | 133.4 | 53.1 |
| Queue Length 50th (ft) | 47 | 293 | 315 | 625 | 222 | 127 | 55 | 20 |
| Queue Length 95th (ft) | m#90 | m331 | m#420 | #926 | #392 | 173 | #148 | #70 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 70 | 1934 | 773 | 2092 | 302 | 1175 | 78 | 97 |
| Starvation Cap Reductn | 0 | 333 | 0 | 219 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 225 | 0 | 29 | 0 | 1 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.83 | 0.93 | 1.00 | 1.06 | 0.95 | 0.49 | 0.90 | 0.53 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 53 | 1207 | 169 | 708 | 1709 | 111 | 232 | 31 | 514 | 64 | 24 | 23 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.95 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.99 | 1.00 | 0.96 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.98 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4484 | | 3143 | 3289 | | | 1808 | 2810 | 1562 | 1457 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4484 | | 3143 | 3289 | | | 1808 | 2810 | 1562 | 1457 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 58 | 1312 | 184 | 770 | 1858 | 121 | 252 | 34 | 559 | 70 | 26 | 25 |
| RTOR Reduction (vph) | 0 | 15 | 0 | 0 | 4 | 0 | 0 | 0 | 34 | 0 | 24 | 0 |
| Lane Group Flow (vph) | 58 | 1481 | 0 | 770 | 1975 | 0 | 0 | 286 | 525 | 70 | 27 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 5.1 | 51.3 | | 29.5 | 76.2 | | | 19.7 | 49.2 | 6.0 | 6.0 | |
| Effective Green, g (s) | 5.1 | 51.3 | | 29.5 | 76.2 | | | 19.7 | 49.2 | 6.0 | 6.0 | |
| Actuated g/C Ratio | 0.04 | 0.43 | | 0.25 | 0.64 | | | 0.16 | 0.41 | 0.05 | 0.05 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 69 | 1917 | | 773 | 2089 | | | 297 | 1152 | 78 | 73 | |
| v/s Ratio Prot | 0.04 | c0.33 | | 0.25 | c0.60 | | | c0.16 | 0.11 | c0.04 | 0.02 | |
| v/s Ratio Perm | | | | | | | | | 0.07 | | | |
| v/c Ratio | 0.84 | 0.77 | | 1.00 | 0.95 | | | 0.96 | 0.46 | 0.90 | 0.37 | |
| Uniform Delay, d1 | 57.0 | 29.4 | | 45.2 | 20.0 | | | 49.8 | 25.7 | 56.7 | 55.2 | |
| Progression Factor | 0.88 | 0.84 | | 0.92 | 0.82 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 46.5 | 2.4 | | 23.2 | 6.6 | | | 41.7 | 0.1 | 66.4 | 1.2 | |
| Delay (s) | 96.6 | 27.2 | | 64.9 | 23.0 | | | 91.5 | 25.8 | 123.1 | 56.3 | |
| Level of Service | F | C | | E | C | | | F | C | F | E | |
| Approach Delay (s) | | 29.8 | | | 34.7 | | | 48.0 | | | 95.0 | |
| Approach LOS | | C | | | C | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 36.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.95 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 14.0 |
| Intersection Capacity Utilization | 85.3% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1162 | 1055 | 1849 | 792 | 422 | 400 | 389 |
| v/c Ratio | 0.54 | 0.73 | 0.88 | 0.54 | 0.89 | 0.84 | 0.82 |
| Control Delay | 6.0 | 9.1 | 22.6 | 1.4 | 63.0 | 54.6 | 53.0 |
| Queue Delay | 0.5 | 0.0 | 20.9 | 0.0 | 0.0 | 0.1 | 0.1 |
| Total Delay | 6.5 | 9.1 | 43.5 | 1.4 | 63.0 | 54.7 | 53.1 |
| Queue Length 50th (ft) | 98 | 244 | 559 | 0 | 329 | 303 | 280 |
| Queue Length 95th (ft) | m127 | m474 | 691 | 0 | #524 | #486 | #451 |
| Internal Link Dist (ft) | 509 | | 1069 | | | 1128 | |
| Turn Bay Length (ft) | | | | 75 | | | 80 |
| Base Capacity (vph) | 2167 | 1439 | 2113 | 1478 | 474 | 478 | 472 |
| Starvation Cap Reductn | 517 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 329 | 0 | 0 | 2 | 2 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.70 | 0.73 | 1.04 | 0.54 | 0.89 | 0.84 | 0.83 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1069 | 971 | 0 | 1701 | 729 | 0 | 0 | 0 | 452 | 0 | 662 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | 4.0 | 3.0 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.95 | 1.00 | | | | 0.95 | 0.91 | 0.95 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | 0.88 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 0.99 | 1.00 |
| Satd. Flow (prot) | | 3292 | 1439 | | 3209 | 1478 | | | | 1625 | 1629 | 1559 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 0.99 | 1.00 |
| Satd. Flow (perm) | | 3292 | 1439 | | 3209 | 1478 | | | | 1625 | 1629 | 1559 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1162 | 1055 | 0 | 1849 | 792 | 0 | 0 | 0 | 491 | 0 | 720 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 17 |
| Lane Group Flow (vph) | 0 | 1162 | 1055 | 0 | 1849 | 792 | 0 | 0 | 0 | 422 | 383 | 372 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Free | | | | custom | | Perm |
| Protected Phases | | 2 | | | 6 | | | | | 4 | 4 | |
| Permitted Phases | | | 2 4 | | | Free | | | | 4 | | 4 |
| Actuated Green, G (s) | | 78.0 | 120.0 | | 78.0 | 120.0 | | | | 34.0 | 34.0 | 34.0 |
| Effective Green, g (s) | | 79.0 | 120.0 | | 79.0 | 120.0 | | | | 35.0 | 34.0 | 35.0 |
| Actuated g/C Ratio | | 0.66 | 1.00 | | 0.66 | 1.00 | | | | 0.29 | 0.28 | 0.29 |
| Clearance Time (s) | | 4.0 | | | 4.0 | | | | | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | | | | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | | 2167 | 1439 | | 2113 | 1478 | | | | 474 | 462 | 455 |
| v/s Ratio Prot | | 0.35 | | | c0.58 | | | | | c0.26 | 0.24 | |
| v/s Ratio Perm | | | 0.73 | | | 0.54 | | | | | | 0.24 |
| v/c Ratio | | 0.54 | 0.73 | | 0.88 | 0.54 | | | | 0.89 | 0.83 | 0.82 |
| Uniform Delay, d1 | | 10.8 | 0.0 | | 16.5 | 0.0 | | | | 40.7 | 40.3 | 39.5 |
| Progression Factor | | 0.47 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.8 | 1.7 | | 5.4 | 1.4 | | | | 18.9 | 12.2 | 11.4 |
| Delay (s) | | 5.9 | 1.7 | | 22.0 | 1.4 | | | | 59.5 | 52.4 | 51.0 |
| Level of Service | | A | A | | C | A | | | | E | D | D |
| Approach Delay (s) | | 3.9 | | | 15.8 | | | 0.0 | | | 54.4 | |
| Approach LOS | | A | | | B | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 19.2 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 6.0 |
| Intersection Capacity Utilization | 86.5% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 604 | 61 | 67 | 225 | 368 | 428 |
| v/c Ratio | 0.80 | 0.09 | 0.49 | 0.32 | 0.72 | 0.56 |
| Control Delay | 23.5 | 3.5 | 42.8 | 13.1 | 28.3 | 5.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.5 | 3.5 | 42.8 | 13.1 | 28.3 | 5.4 |
| Queue Length 50th (ft) | 177 | 0 | 24 | 52 | 121 | 0 |
| Queue Length 95th (ft) | #348 | 17 | #78 | 95 | #241 | 57 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 957 | 883 | 137 | 965 | 613 | 834 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.63 | 0.07 | 0.49 | 0.23 | 0.60 | 0.51 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 556 | 56 | 62 | 207 | 339 | 394 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1559 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1559 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 604 | 61 | 67 | 225 | 368 | 428 |
| RTOR Reduction (vph) | 0 | 34 | 0 | 0 | 0 | 302 |
| Lane Group Flow (vph) | 604 | 27 | 67 | 225 | 368 | 126 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 22.9 | 22.9 | 2.0 | 21.4 | 15.4 | 15.4 |
| Effective Green, g (s) | 22.9 | 22.9 | 2.0 | 21.4 | 15.4 | 15.4 |
| Actuated g/C Ratio | 0.44 | 0.44 | 0.04 | 0.41 | 0.29 | 0.29 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 735 | 657 | 62 | 748 | 502 | 459 |
| v/s Ratio Prot | c0.36 | | c0.04 | 0.12 | c0.22 | |
| v/s Ratio Perm | | 0.02 | | | | 0.08 |
| v/c Ratio | 0.82 | 0.04 | 1.08 | 0.30 | 0.73 | 0.27 |
| Uniform Delay, d1 | 12.9 | 8.4 | 25.1 | 10.4 | 16.6 | 14.2 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 7.4 | 0.0 | 138.3 | 0.2 | 5.5 | 0.3 |
| Delay (s) | 20.3 | 8.4 | 163.5 | 10.6 | 22.1 | 14.5 |
| Level of Service | C | A | F | B | C | B |
| Approach Delay (s) | 19.2 | | | 45.7 | 18.0 | |
| Approach LOS | B | | | D | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 23.1 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.80 | | |
| Actuated Cycle Length (s) | 52.3 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 62.1% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 84 | 117 | 105 | 26 | 781 | 66 | 479 |
| v/c Ratio | 0.21 | 0.30 | 0.24 | 0.06 | 0.44 | 0.20 | 0.27 |
| Control Delay | 12.0 | 14.2 | 4.8 | 7.8 | 8.4 | 9.9 | 7.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 12.0 | 14.2 | 4.8 | 7.8 | 8.4 | 9.9 | 7.2 |
| Queue Length 50th (ft) | 11 | 18 | 0 | 2 | 46 | 7 | 25 |
| Queue Length 95th (ft) | 42 | 60 | 25 | 17 | 148 | 39 | 84 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 974 | 980 | 957 | 618 | 2316 | 427 | 2322 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.12 | 0.11 | 0.04 | 0.34 | 0.15 | 0.21 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 24 | 44 | 9 | 55 | 52 | 97 | 24 | 656 | 63 | 61 | 411 | 29 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | | 0.98 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1534 | | | 1687 | 1308 | 1615 | 3032 | | 1561 | 3042 | |
| Flt Permitted | | 0.88 | | | 0.80 | 1.00 | 0.48 | 1.00 | | 0.34 | 1.00 | |
| Satd. Flow (perm) | | 1370 | | | 1383 | 1308 | 813 | 3032 | | 561 | 3042 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 26 | 48 | 10 | 60 | 57 | 105 | 26 | 713 | 68 | 66 | 447 | 32 |
| RTOR Reduction (vph) | 0 | 8 | 0 | 0 | 0 | 81 | 0 | 9 | 0 | 0 | 7 | 0 |
| Lane Group Flow (vph) | 0 | 76 | 0 | 0 | 117 | 24 | 26 | 772 | 0 | 66 | 472 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 9.4 | | | 9.4 | 9.4 | 21.9 | 21.9 | | 21.9 | 21.9 | |
| Effective Green, g (s) | | 9.4 | | | 9.4 | 9.4 | 21.9 | 21.9 | | 21.9 | 21.9 | |
| Actuated g/C Ratio | | 0.23 | | | 0.23 | 0.23 | 0.54 | 0.54 | | 0.54 | 0.54 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 318 | | | 321 | 304 | 440 | 1640 | | 303 | 1645 | |
| v/s Ratio Prot | | | | | | | | c0.25 | | | 0.16 | |
| v/s Ratio Perm | | 0.06 | | | c0.08 | 0.02 | 0.03 | | | 0.12 | | |
| v/c Ratio | | 0.24 | | | 0.36 | 0.08 | 0.06 | 0.47 | | 0.22 | 0.29 | |
| Uniform Delay, d1 | | 12.6 | | | 13.0 | 12.2 | 4.4 | 5.7 | | 4.8 | 5.1 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.5 | | | 1.0 | 0.2 | 0.1 | 0.3 | | 0.5 | 0.1 | |
| Delay (s) | | 13.2 | | | 14.0 | 12.3 | 4.5 | 6.0 | | 5.3 | 5.2 | |
| Level of Service | | B | | | B | B | A | A | | A | A | |
| Approach Delay (s) | | 13.2 | | | 13.2 | | | 6.0 | | | 5.2 | |
| Approach LOS | | B | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 7.1 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.44 | | |
| Actuated Cycle Length (s) | 40.5 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 50.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 20 | 198 | 316 | 178 | 287 | 34 |
| v/c Ratio | 0.07 | 0.27 | 0.50 | 0.14 | 0.52 | 0.07 |
| Control Delay | 22.3 | 9.1 | 14.6 | 0.6 | 16.3 | 6.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 22.3 | 9.1 | 14.6 | 0.6 | 16.3 | 6.6 |
| Queue Length 50th (ft) | 3 | 23 | 39 | 0 | 38 | 1 |
| Queue Length 95th (ft) | 27 | 75 | 176 | 9 | 168 | 18 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 453 | 1793 | 1605 | 1539 | 1266 | 1100 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.04 | 0.11 | 0.20 | 0.12 | 0.23 | 0.03 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 18 | 182 | 291 | 164 | 264 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.98 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1623 | 1562 | 1361 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1623 | 1562 | 1361 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 20 | 198 | 316 | 178 | 287 | 34 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 56 | 0 | 20 |
| Lane Group Flow (vph) | 20 | 198 | 316 | 122 | 287 | 14 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 0.9 | 20.1 | 15.2 | 29.5 | 14.3 | 14.3 |
| Effective Green, g (s) | 0.9 | 20.1 | 15.2 | 29.5 | 14.3 | 14.3 |
| Actuated g/C Ratio | 0.02 | 0.47 | 0.35 | 0.69 | 0.33 | 0.33 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 34 | 854 | 603 | 1113 | 519 | 453 |
| v/s Ratio Prot | 0.01 | c0.11 | c0.19 | 0.04 | c0.18 | |
| v/s Ratio Perm | | | | 0.04 | | 0.01 |
| v/c Ratio | 0.59 | 0.23 | 0.52 | 0.11 | 0.55 | 0.03 |
| Uniform Delay, d1 | 20.9 | 6.8 | 11.0 | 2.3 | 11.7 | 9.7 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 23.4 | 0.1 | 0.8 | 0.0 | 1.3 | 0.0 |
| Delay (s) | 44.2 | 7.0 | 11.9 | 2.3 | 13.0 | 9.7 |
| Level of Service | D | A | B | A | B | A |
| Approach Delay (s) | | 10.4 | 8.4 | | 12.7 | |
| Approach LOS | | B | A | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 10.2 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.55 | | |
| Actuated Cycle Length (s) | 43.0 | Sum of lost time (s) | 13.2 |
| Intersection Capacity Utilization | 37.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 208 | 266 | 324 | 267 | 265 | 224 |
| v/c Ratio | 0.56 | 0.51 | 0.68 | 0.28 | 0.48 | 0.39 |
| Control Delay | 38.5 | 8.1 | 36.2 | 10.6 | 28.6 | 11.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 38.5 | 8.1 | 36.2 | 10.6 | 28.6 | 11.4 |
| Queue Length 50th (ft) | 98 | 0 | 148 | 65 | 113 | 27 |
| Queue Length 95th (ft) | 204 | 66 | 307 | 133 | 232 | 97 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 |
| Base Capacity (vph) | 837 | 836 | 678 | 1494 | 737 | 746 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.25 | 0.32 | 0.48 | 0.18 | 0.36 | 0.30 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1 | 190 | 245 | 298 | 245 | 1 | 242 | 2 | 206 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.98 | | | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | | 1758 | 1461 | 1562 | 1704 | | | 1683 | 1724 | | | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | | 1757 | 1461 | 1562 | 1704 | | | 1683 | 1724 | | | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1 | 207 | 266 | 324 | 266 | 1 | 263 | 2 | 224 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 208 | 0 | 0 | 0 | 0 | 0 | 110 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 208 | 58 | 324 | 267 | 0 | 0 | 265 | 114 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 18.3 | 18.3 | 25.8 | 48.1 | | | 27.2 | 23.2 | | | |
| Effective Green, g (s) | | 18.3 | 18.3 | 25.8 | 48.1 | | | 27.2 | 23.2 | | | |
| Actuated g/C Ratio | | 0.22 | 0.22 | 0.31 | 0.57 | | | 0.32 | 0.27 | | | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | | |
| Lane Grp Cap (vph) | | 381 | 317 | 477 | 971 | | | 542 | 474 | | | |
| v/s Ratio Prot | | | | c0.21 | 0.16 | | | c0.16 | 0.02 | | | |
| v/s Ratio Perm | | c0.12 | 0.04 | | | | | | 0.05 | | | |
| v/c Ratio | | 0.55 | 0.18 | 0.68 | 0.27 | | | 0.49 | 0.24 | | | |
| Uniform Delay, d1 | | 29.4 | 26.9 | 25.7 | 9.3 | | | 23.0 | 23.8 | | | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 1.6 | 0.3 | 3.8 | 0.2 | | | 0.7 | 0.3 | | | |
| Delay (s) | | 31.0 | 27.2 | 29.5 | 9.4 | | | 23.7 | 24.0 | | | |
| Level of Service | | C | C | C | A | | | C | C | | | |
| Approach Delay (s) | | 28.9 | | | 20.4 | | | 23.8 | | | 0.0 | |
| Approach LOS | | C | | | C | | | C | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 24.1 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.57 | | |
| Actuated Cycle Length (s) | 84.4 | Sum of lost time (s) | 12.6 |
| Intersection Capacity Utilization | 57.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 166 | 408 | 64 | 245 | 386 | 503 | 24 | 382 | 143 | 228 | 463 |
| v/c Ratio | 0.65 | 0.81 | 0.15 | 0.75 | 0.67 | 0.66 | 0.25 | 0.66 | 0.45 | 0.77 | 0.44 |
| Control Delay | 60.6 | 53.1 | 23.1 | 61.0 | 40.5 | 9.5 | 66.4 | 50.8 | 22.5 | 65.3 | 29.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 60.6 | 53.1 | 23.1 | 61.0 | 40.5 | 9.5 | 66.4 | 50.8 | 22.5 | 65.3 | 29.8 |
| Queue Length 50th (ft) | 123 | 295 | 22 | 179 | 252 | 26 | 18 | 147 | 32 | 168 | 140 |
| Queue Length 95th (ft) | 218 | 462 | 63 | #329 | 414 | 148 | 53 | 216 | 101 | #327 | 208 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 356 | 664 | 570 | 407 | 731 | 846 | 100 | 876 | 429 | 363 | 1300 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.47 | 0.61 | 0.11 | 0.60 | 0.53 | 0.59 | 0.24 | 0.44 | 0.33 | 0.63 | 0.36 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 153 | 375 | 59 | 225 | 355 | 463 | 22 | 351 | 132 | 210 | 319 | 107 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.99 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1452 | 1620 | 1739 | 1395 | 1652 | 3240 | 1332 | 1620 | 2955 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1452 | 1620 | 1739 | 1395 | 1652 | 3240 | 1332 | 1620 | 2955 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 166 | 408 | 64 | 245 | 386 | 503 | 24 | 382 | 143 | 228 | 347 | 116 |
| RTOR Reduction (vph) | 0 | 0 | 18 | 0 | 0 | 304 | 0 | 0 | 77 | 0 | 23 | 0 |
| Lane Group Flow (vph) | 166 | 408 | 46 | 245 | 386 | 199 | 24 | 382 | 66 | 228 | 440 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 17.6 | 32.5 | 32.5 | 22.7 | 37.6 | 37.6 | 3.9 | 22.3 | 22.3 | 21.6 | 40.0 | |
| Effective Green, g (s) | 17.5 | 32.4 | 32.4 | 22.6 | 37.5 | 37.5 | 2.9 | 21.8 | 21.8 | 20.6 | 39.5 | |
| Actuated g/C Ratio | 0.15 | 0.29 | 0.29 | 0.20 | 0.33 | 0.33 | 0.03 | 0.19 | 0.19 | 0.18 | 0.35 | |
| Clearance Time (s) | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 255 | 497 | 415 | 323 | 575 | 461 | 42 | 623 | 256 | 294 | 1029 | |
| v/s Ratio Prot | 0.10 | c0.23 | | c0.15 | 0.22 | | 0.01 | c0.12 | | c0.14 | 0.15 | |
| v/s Ratio Perm | | | 0.03 | | | 0.14 | | | 0.05 | | | |
| v/c Ratio | 0.65 | 0.82 | 0.11 | 0.76 | 0.67 | 0.43 | 0.57 | 0.61 | 0.26 | 0.78 | 0.43 | |
| Uniform Delay, d1 | 45.1 | 37.8 | 29.9 | 42.8 | 32.6 | 29.6 | 54.6 | 41.9 | 38.9 | 44.2 | 28.3 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 6.4 | 10.9 | 0.2 | 10.4 | 3.4 | 0.9 | 20.6 | 2.1 | 0.7 | 12.7 | 0.4 | |
| Delay (s) | 51.5 | 48.7 | 30.0 | 53.2 | 36.0 | 30.5 | 75.2 | 44.0 | 39.7 | 56.9 | 28.7 | |
| Level of Service | D | D | C | D | D | C | E | D | D | E | C | |
| Approach Delay (s) | | 47.6 | | | 37.3 | | | 44.2 | | | 38.0 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 40.9 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.75 | | |
| Actuated Cycle Length (s) | 113.4 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 67.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 59 | 590 | 61 | 1068 | 1052 | 187 | 286 | 546 | 205 | 337 | 20 |
| v/c Ratio | 0.50 | 0.61 | 0.17 | 0.97 | 0.67 | 0.93 | 0.46 | 0.36 | 0.55 | 0.57 | 0.07 |
| Control Delay | 62.9 | 39.3 | 10.1 | 55.2 | 21.9 | 94.3 | 39.0 | 12.9 | 49.7 | 41.9 | 14.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 2.2 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 62.9 | 39.3 | 10.1 | 57.3 | 22.6 | 94.3 | 39.0 | 12.9 | 49.7 | 41.9 | 14.8 |
| Queue Length 50th (ft) | 37 | 125 | 0 | 343 | 256 | 120 | 85 | 100 | 64 | 104 | 0 |
| Queue Length 95th (ft) | #97 | 176 | 35 | #567 | 371 | #287 | 132 | 152 | 113 | 156 | 21 |
| Internal Link Dist (ft) | | 238 | | | 391 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 117 | 1185 | 421 | 1102 | 1639 | 201 | 1079 | 1894 | 375 | 922 | 434 |
| Starvation Cap Reductn | 0 | 0 | 0 | 15 | 266 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.50 | 0.50 | 0.14 | 0.98 | 0.77 | 0.93 | 0.27 | 0.29 | 0.55 | 0.37 | 0.05 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 54 | 543 | 56 | 983 | 724 | 244 | 172 | 263 | 502 | 189 | 310 | 18 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 3.1 | 4.0 | 4.0 | 3.1 | 4.0 | | 4.0 | 4.0 | 3.1 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3105 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1472 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3105 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1472 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 59 | 590 | 61 | 1068 | 787 | 265 | 187 | 286 | 546 | 205 | 337 | 20 |
| RTOR Reduction (vph) | 0 | 0 | 48 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| Lane Group Flow (vph) | 59 | 590 | 13 | 1068 | 1026 | 0 | 187 | 286 | 546 | 205 | 337 | 4 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 5.2 | 19.5 | 19.5 | 34.1 | 48.4 | | 12.1 | 17.3 | 55.4 | 11.7 | 16.9 | 16.9 |
| Effective Green, g (s) | 6.1 | 21.0 | 21.0 | 35.0 | 49.9 | | 12.1 | 18.8 | 56.3 | 11.7 | 18.4 | 18.4 |
| Actuated g/C Ratio | 0.06 | 0.21 | 0.21 | 0.34 | 0.49 | | 0.12 | 0.19 | 0.55 | 0.12 | 0.18 | 0.18 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 94 | 962 | 305 | 1121 | 1525 | | 200 | 621 | 1499 | 375 | 587 | 267 |
| v/s Ratio Prot | 0.04 | c0.13 | | c0.33 | c0.33 | | c0.11 | 0.09 | 0.20 | 0.06 | c0.10 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | 0.00 |
| v/c Ratio | 0.63 | 0.61 | 0.04 | 0.95 | 0.67 | | 0.94 | 0.46 | 0.36 | 0.55 | 0.57 | 0.01 |
| Uniform Delay, d1 | 46.6 | 36.6 | 32.2 | 32.5 | 19.6 | | 44.4 | 36.9 | 12.7 | 42.4 | 38.0 | 34.2 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 13.9 | 1.3 | 0.1 | 16.8 | 1.3 | | 45.6 | 0.7 | 0.2 | 2.0 | 1.6 | 0.0 |
| Delay (s) | 60.6 | 37.9 | 32.3 | 49.3 | 20.9 | | 90.0 | 37.6 | 12.9 | 44.5 | 39.7 | 34.2 |
| Level of Service | E | D | C | D | C | | F | D | B | D | D | C |
| Approach Delay (s) | | 39.3 | | | 35.2 | | | 34.0 | | | 41.2 | |
| Approach LOS | | D | | | D | | | C | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 36.4 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.83 | | |
| Actuated Cycle Length (s) | 101.6 | Sum of lost time (s) | 19.1 |
| Intersection Capacity Utilization | 70.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 301 | 1522 | 484 | 193 | 845 | 224 | 227 | 122 | 131 |
| v/c Ratio | 0.83 | 0.80 | 0.53 | 0.94 | 0.59 | 0.61 | 0.61 | 0.27 | 0.62 |
| Control Delay | 56.3 | 28.7 | 4.6 | 91.5 | 29.4 | 37.6 | 37.3 | 6.3 | 39.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 56.3 | 28.7 | 4.6 | 91.5 | 29.4 | 37.6 | 37.3 | 6.3 | 39.3 |
| Queue Length 50th (ft) | 161 | 263 | 0 | 108 | 143 | 120 | 121 | 0 | 21 |
| Queue Length 95th (ft) | #374 | #458 | 70 | #289 | 233 | 192 | 194 | 38 | #68 |
| Internal Link Dist (ft) | | 660 | | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 520 | 180 | | 200 | | | |
| Base Capacity (vph) | 361 | 1909 | 913 | 206 | 1437 | 628 | 638 | 691 | 213 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.83 | 0.80 | 0.53 | 0.94 | 0.59 | 0.36 | 0.36 | 0.18 | 0.62 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 277 | 1400 | 445 | 178 | 750 | 28 | 355 | 60 | 112 | 18 | 48 | 54 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | | 0.93 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 0.99 | |
| Satd. Flow (prot) | 1620 | 4655 | 1531 | 1678 | 4626 | | 1539 | 1564 | 1515 | | 3064 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 0.99 | |
| Satd. Flow (perm) | 1620 | 4655 | 1531 | 1678 | 4626 | | 1539 | 1564 | 1515 | | 3064 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 301 | 1522 | 484 | 193 | 815 | 30 | 386 | 65 | 122 | 20 | 52 | 59 |
| RTOR Reduction (vph) | 0 | 0 | 285 | 0 | 3 | 0 | 0 | 0 | 93 | 0 | 56 | 0 |
| Lane Group Flow (vph) | 301 | 1522 | 199 | 193 | 842 | 0 | 224 | 227 | 29 | 0 | 75 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | Perm | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Actuated Green, G (s) | 19.1 | 36.1 | 36.1 | 10.1 | 27.1 | | 20.9 | 20.9 | 20.9 | | 4.0 | |
| Effective Green, g (s) | 20.1 | 37.1 | 37.1 | 11.1 | 28.1 | | 21.5 | 21.5 | 21.5 | | 4.6 | |
| Actuated g/C Ratio | 0.22 | 0.41 | 0.41 | 0.12 | 0.31 | | 0.24 | 0.24 | 0.24 | | 0.05 | |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | 6.0 | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 361 | 1913 | 629 | 206 | 1440 | | 366 | 372 | 361 | | 156 | |
| v/s Ratio Prot | c0.19 | c0.33 | | 0.12 | 0.18 | | c0.15 | 0.15 | | | c0.02 | |
| v/s Ratio Perm | | | 0.13 | | | | | | 0.02 | | | |
| v/c Ratio | 0.83 | 0.80 | 0.32 | 0.94 | 0.58 | | 0.61 | 0.61 | 0.08 | | 0.48 | |
| Uniform Delay, d1 | 33.5 | 23.3 | 18.0 | 39.3 | 26.2 | | 30.7 | 30.7 | 26.7 | | 41.7 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 15.7 | 2.9 | 0.8 | 45.2 | 1.2 | | 3.5 | 3.4 | 0.1 | | 3.2 | |
| Delay (s) | 49.3 | 26.2 | 18.8 | 84.4 | 27.4 | | 34.1 | 34.0 | 26.9 | | 44.9 | |
| Level of Service | D | C | B | F | C | | C | C | C | | D | |
| Approach Delay (s) | | 27.7 | | | 38.0 | | | 32.5 | | | 44.9 | |
| Approach LOS | | C | | | D | | | C | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 31.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 90.3 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 65.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 174 | 1533 | 184 | 626 | 164 | 125 | 191 | 24 | 206 |
| v/c Ratio | 0.35 | 0.77 | 0.73 | 0.70 | 0.56 | 0.15 | 0.34 | 0.21 | 0.40 |
| Control Delay | 29.4 | 24.2 | 54.7 | 32.7 | 47.2 | 25.5 | 5.7 | 48.2 | 22.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.4 | 24.2 | 54.7 | 32.7 | 47.2 | 25.5 | 5.7 | 48.2 | 22.1 |
| Queue Length 50th (ft) | 67 | 219 | 92 | 152 | 42 | 26 | 0 | 6 | 33 |
| Queue Length 95th (ft) | 179 | #419 | #252 | 250 | #98 | 51 | 47 | 22 | 62 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 498 | 2084 | 255 | 1215 | 301 | 1378 | 816 | 115 | 1161 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.35 | 0.74 | 0.72 | 0.52 | 0.54 | 0.09 | 0.23 | 0.21 | 0.18 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 160 | 1123 | 287 | 169 | 561 | 15 | 151 | 115 | 176 | 22 | 120 | 70 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 3.1 | 4.0 | | 3.1 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.95 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.97 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4583 | | 1652 | 3276 | | 3143 | 3240 | 1660 | 3204 | 3039 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4583 | | 1652 | 3276 | | 3143 | 3240 | 1660 | 3204 | 3039 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 174 | 1221 | 312 | 184 | 610 | 16 | 164 | 125 | 191 | 24 | 130 | 76 |
| RTOR Reduction (vph) | 0 | 39 | 0 | 0 | 2 | 0 | 0 | 0 | 143 | 0 | 63 | 0 |
| Lane Group Flow (vph) | 174 | 1494 | 0 | 184 | 624 | 0 | 164 | 125 | 48 | 24 | 143 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 26.2 | 35.2 | | 13.1 | 22.1 | | 8.9 | 22.2 | 22.2 | 1.5 | 14.8 | |
| Effective Green, g (s) | 26.1 | 36.2 | | 13.0 | 23.1 | | 7.9 | 21.8 | 21.8 | 0.5 | 14.4 | |
| Actuated g/C Ratio | 0.30 | 0.42 | | 0.15 | 0.27 | | 0.09 | 0.25 | 0.25 | 0.01 | 0.17 | |
| Clearance Time (s) | 3.0 | 5.0 | | 3.0 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 488 | 1916 | | 248 | 874 | | 287 | 816 | 418 | 18 | 505 | |
| v/s Ratio Prot | 0.11 | c0.33 | | 0.11 | c0.19 | | c0.05 | 0.04 | | 0.01 | c0.05 | |
| v/s Ratio Perm | | | | | | | | | 0.03 | | | |
| v/c Ratio | 0.36 | 0.78 | | 0.74 | 0.71 | | 0.57 | 0.15 | 0.12 | 1.33 | 0.28 | |
| Uniform Delay, d1 | 23.7 | 21.8 | | 35.2 | 28.8 | | 37.7 | 25.2 | 25.0 | 43.0 | 31.6 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.4 | 2.2 | | 12.0 | 3.0 | | 3.3 | 0.1 | 0.2 | 331.2 | 0.4 | |
| Delay (s) | 24.1 | 24.0 | | 47.2 | 31.7 | | 41.0 | 25.3 | 25.1 | 374.2 | 32.0 | |
| Level of Service | C | C | | D | C | | D | C | C | F | C | |
| Approach Delay (s) | | 24.0 | | | 35.3 | | | 30.6 | | | 67.7 | |
| Approach LOS | | C | | | D | | | C | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 30.9 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.63 | | |
| Actuated Cycle Length (s) | 86.6 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 62.0% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 20 | 139 | 316 | 4 | 651 | 666 | 353 | 629 |
| v/c Ratio | 0.10 | 0.70 | 0.46 | 0.01 | 0.30 | 0.53 | 0.31 | 0.24 |
| Control Delay | 33.3 | 62.2 | 6.6 | 2.8 | 6.4 | 2.5 | 4.4 | 5.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 33.3 | 62.2 | 6.6 | 2.8 | 6.4 | 2.5 | 4.4 | 5.3 |
| Queue Length 50th (ft) | 10 | 94 | 0 | 0 | 83 | 21 | 27 | 53 |
| Queue Length 95th (ft) | 31 | 155 | 40 | m1 | 74 | 6 | 48 | 126 |
| Internal Link Dist (ft) | 387 | 325 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 350 | |
| Base Capacity (vph) | 272 | 260 | 799 | 567 | 2183 | 1263 | 1525 | 2570 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.07 | 0.53 | 0.40 | 0.01 | 0.30 | 0.53 | 0.23 | 0.24 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 15 | 0 | 4 | 126 | 2 | 291 | 4 | 599 | 613 | 325 | 533 | 46 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.97 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.96 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1703 | | | 1775 | 2787 | 1676 | 3355 | 1583 | 3433 | 3423 | |
| Flt Permitted | | 0.78 | | | 0.71 | 1.00 | 0.41 | 1.00 | 1.00 | 0.36 | 1.00 | |
| Satd. Flow (perm) | | 1374 | | | 1331 | 2787 | 729 | 3355 | 1583 | 1288 | 3423 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 16 | 0 | 4 | 137 | 2 | 316 | 4 | 651 | 666 | 353 | 579 | 50 |
| RTOR Reduction (vph) | 0 | 3 | 0 | 0 | 0 | 269 | 0 | 0 | 232 | 0 | 5 | 0 |
| Lane Group Flow (vph) | 0 | 17 | 0 | 0 | 139 | 47 | 4 | 651 | 434 | 353 | 624 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | pm+pt | | Perm | pm+pt | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | 2 | 6 | | |
| Actuated Green, G (s) | | 16.4 | | | 16.4 | 16.4 | 72.8 | 71.6 | 71.6 | 84.6 | 78.9 | |
| Effective Green, g (s) | | 16.4 | | | 16.4 | 16.4 | 72.8 | 71.6 | 71.6 | 84.6 | 78.9 | |
| Actuated g/C Ratio | | 0.15 | | | 0.15 | 0.15 | 0.66 | 0.65 | 0.65 | 0.77 | 0.72 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 205 | | | 198 | 416 | 493 | 2184 | 1030 | 1156 | 2455 | |
| v/s Ratio Prot | | | | | | | 0.00 | 0.19 | | c0.02 | 0.18 | |
| v/s Ratio Perm | | 0.01 | | | c0.10 | 0.02 | 0.01 | | c0.27 | 0.21 | | |
| v/c Ratio | | 0.08 | | | 0.70 | 0.11 | 0.01 | 0.30 | 0.42 | 0.31 | 0.25 | |
| Uniform Delay, d1 | | 40.3 | | | 44.5 | 40.5 | 6.3 | 8.3 | 9.2 | 3.8 | 5.4 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 0.64 | 0.67 | 1.20 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.2 | | | 10.7 | 0.1 | 0.0 | 0.3 | 1.1 | 0.2 | 0.2 | |
| Delay (s) | | 40.5 | | | 55.2 | 40.6 | 4.1 | 5.9 | 12.2 | 3.9 | 5.6 | |
| Level of Service | | D | | | E | D | A | A | B | A | A | |
| Approach Delay (s) | | 40.5 | | | 45.1 | | | 9.1 | | | 5.0 | |
| Approach LOS | | D | | | D | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 13.8 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.46 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 63.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 218 | 67 | 100 | 126 | 174 | 60 | 387 | 127 | 297 |
| v/c Ratio | 0.48 | 0.15 | 0.32 | 0.23 | 0.33 | 0.21 | 0.45 | 0.37 | 0.27 |
| Control Delay | 19.2 | 5.5 | 17.8 | 15.4 | 4.9 | 24.4 | 17.1 | 23.5 | 12.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 19.2 | 5.5 | 17.8 | 15.4 | 4.9 | 24.4 | 17.1 | 23.5 | 12.9 |
| Queue Length 50th (ft) | 49 | 0 | 21 | 26 | 0 | 15 | 41 | 30 | 28 |
| Queue Length 95th (ft) | 127 | 23 | 66 | 73 | 36 | 56 | 106 | 95 | 75 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 1111 | 978 | 776 | 1326 | 1040 | 525 | 1969 | 727 | 2266 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.20 | 0.07 | 0.13 | 0.10 | 0.17 | 0.11 | 0.20 | 0.17 | 0.13 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 77 | 123 | 62 | 92 | 116 | 160 | 55 | 275 | 81 | 117 | 226 | 47 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.97 | |
| Flt Protected | | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1701 | 1261 | 1620 | 1739 | 1320 | 1711 | 2958 | | 1620 | 2995 | |
| Flt Permitted | | 0.84 | 1.00 | 0.60 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1461 | 1261 | 1018 | 1739 | 1320 | 1711 | 2958 | | 1620 | 2995 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 84 | 134 | 67 | 100 | 126 | 174 | 60 | 299 | 88 | 127 | 246 | 51 |
| RTOR Reduction (vph) | 0 | 0 | 46 | 0 | 0 | 120 | 0 | 29 | 0 | 0 | 18 | 0 |
| Lane Group Flow (vph) | 0 | 218 | 21 | 100 | 126 | 54 | 60 | 358 | 0 | 127 | 279 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 4.4 | 14.1 | | 7.8 | 17.5 | |
| Effective Green, g (s) | | 14.9 | 14.9 | 14.9 | 14.9 | 14.9 | 4.4 | 14.1 | | 7.8 | 17.5 | |
| Actuated g/C Ratio | | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.09 | 0.29 | | 0.16 | 0.36 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 451 | 389 | 314 | 536 | 407 | 156 | 864 | | 262 | 1085 | |
| v/s Ratio Prot | | | | | 0.07 | | 0.04 | c0.12 | | c0.08 | 0.09 | |
| v/s Ratio Perm | | c0.15 | 0.02 | 0.10 | | 0.04 | | | | | | |
| v/c Ratio | | 0.48 | 0.05 | 0.32 | 0.24 | 0.13 | 0.38 | 0.41 | | 0.48 | 0.26 | |
| Uniform Delay, d1 | | 13.6 | 11.7 | 12.8 | 12.5 | 12.0 | 20.7 | 13.8 | | 18.4 | 10.8 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.8 | 0.1 | 0.6 | 0.2 | 0.1 | 1.6 | 0.4 | | 1.4 | 0.2 | |
| Delay (s) | | 14.4 | 11.8 | 13.4 | 12.7 | 12.2 | 22.3 | 14.2 | | 19.8 | 11.0 | |
| Level of Service | | B | B | B | B | B | C | B | | B | B | |
| Approach Delay (s) | | 13.8 | | | 12.6 | | | 15.3 | | | 13.6 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 13.9 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.46 | | |
| Actuated Cycle Length (s) | 48.3 | Sum of lost time (s) | 11.5 |
| Intersection Capacity Utilization | 53.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 141 | 157 | 70 | 70 | 200 | 354 | 92 | 747 | 71 | 652 |
| v/c Ratio | 0.65 | 0.38 | 0.20 | 0.46 | 0.66 | 0.66 | 0.51 | 0.50 | 0.48 | 0.45 |
| Control Delay | 58.5 | 38.7 | 9.1 | 64.5 | 59.1 | 16.9 | 55.7 | 23.7 | 61.8 | 18.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 58.5 | 38.7 | 9.1 | 64.5 | 59.1 | 16.9 | 55.7 | 23.7 | 61.8 | 18.4 |
| Queue Length 50th (ft) | 95 | 97 | 0 | 52 | 123 | 7 | 62 | 195 | 49 | 116 |
| Queue Length 95th (ft) | 159 | 149 | 35 | 102 | 193 | 139 | 113 | 287 | m93 | 179 |
| Internal Link Dist (ft) | | 2946 | | | 525 | | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 230 | | | 200 | | 150 | |
| Base Capacity (vph) | 259 | 493 | 400 | 176 | 396 | 598 | 225 | 1494 | 165 | 1448 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.54 | 0.32 | 0.17 | 0.40 | 0.51 | 0.59 | 0.41 | 0.50 | 0.43 | 0.45 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 130 | 144 | 64 | 64 | 184 | 326 | 85 | 585 | 102 | 65 | 509 | 91 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 9 | 12 | 12 | 10 | 10 | 10 | 9 | 10 | 10 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1577 | 1845 | 1306 | 1593 | 1863 | 1559 | 1652 | 3156 | | 1593 | 3150 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1577 | 1845 | 1306 | 1593 | 1863 | 1559 | 1652 | 3156 | | 1593 | 3150 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 141 | 157 | 70 | 70 | 200 | 354 | 92 | 636 | 111 | 71 | 553 | 99 |
| RTOR Reduction (vph) | 0 | 0 | 54 | 0 | 0 | 281 | 0 | 11 | 0 | 0 | 11 | 0 |
| Lane Group Flow (vph) | 141 | 157 | 16 | 70 | 200 | 73 | 92 | 736 | 0 | 71 | 641 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | 4 | | | | | | |
| Actuated Green, G (s) | 15.2 | 24.7 | 24.7 | 9.1 | 18.6 | 18.6 | 10.4 | 50.1 | | 8.9 | 48.6 | |
| Effective Green, g (s) | 15.2 | 24.7 | 24.7 | 9.1 | 18.6 | 18.6 | 10.4 | 50.1 | | 8.9 | 48.6 | |
| Actuated g/C Ratio | 0.14 | 0.22 | 0.22 | 0.08 | 0.17 | 0.17 | 0.09 | 0.46 | | 0.08 | 0.44 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 218 | 414 | 293 | 132 | 315 | 264 | 156 | 1437 | | 129 | 1392 | |
| v/s Ratio Prot | c0.09 | 0.09 | | 0.04 | c0.11 | | c0.06 | c0.23 | | 0.04 | 0.20 | |
| v/s Ratio Perm | | | 0.01 | | | 0.05 | | | | | | |
| v/c Ratio | 0.65 | 0.38 | 0.05 | 0.53 | 0.63 | 0.28 | 0.59 | 0.51 | | 0.55 | 0.46 | |
| Uniform Delay, d1 | 44.9 | 36.2 | 33.5 | 48.4 | 42.5 | 39.8 | 47.8 | 21.3 | | 48.6 | 21.5 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.17 | 1.13 | 1.99 | 1.00 | 1.00 | | 1.09 | 0.76 | |
| Incremental Delay, d2 | 7.2 | 0.8 | 0.1 | 5.1 | 4.6 | 0.8 | 6.6 | 1.3 | | 6.0 | 1.1 | |
| Delay (s) | 52.0 | 36.9 | 33.6 | 61.7 | 52.9 | 80.2 | 54.4 | 22.6 | | 59.1 | 17.4 | |
| Level of Service | D | D | C | E | D | F | D | C | | E | B | |
| Approach Delay (s) | | 42.1 | | | 69.4 | | | 26.1 | | | 21.5 | |
| Approach LOS | | D | | | E | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 37.7 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.55 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 12.6 |
| Intersection Capacity Utilization | 58.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 12 | 259 | 30 | 677 | 10 | 11 | 26 | 32 | 48 |
| v/c Ratio | 0.11 | 0.20 | 0.27 | 0.46 | 0.11 | 0.10 | 0.27 | 0.23 | 0.37 |
| Control Delay | 50.2 | 7.8 | 53.9 | 9.5 | 49.3 | 48.7 | 54.5 | 21.4 | 51.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.2 | 7.8 | 53.9 | 9.5 | 49.3 | 48.7 | 54.5 | 21.4 | 51.5 |
| Queue Length 50th (ft) | 8 | 46 | 20 | 167 | 7 | 7 | 18 | 1 | 29 |
| Queue Length 95th (ft) | 27 | 120 | 51 | 417 | 24 | 25 | 46 | 32 | 66 |
| Internal Link Dist (ft) | | 522 | | 1458 | | 986 | | 413 | |
| Turn Bay Length (ft) | 205 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 105 | 1300 | 114 | 1477 | 217 | 259 | 229 | 287 | 268 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.11 | 0.20 | 0.26 | 0.46 | 0.05 | 0.04 | 0.11 | 0.11 | 0.18 |

Intersection Summary

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 11 | 225 | 13 | 28 | 564 | 59 | 9 | 0 | 10 | 24 | 2 | 28 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 8 | 9 | 14 | 12 | 11 | 12 | 12 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 0.85 | | 1.00 | 0.86 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1845 | | 1593 | 1959 | | 1711 | 1583 | | 1770 | 1601 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.74 | 1.00 | | 0.75 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1845 | | 1593 | 1959 | | 1326 | 1583 | | 1398 | 1601 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 12 | 245 | 14 | 30 | 613 | 64 | 10 | 0 | 11 | 26 | 2 | 30 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 0 |
| Lane Group Flow (vph) | 12 | 258 | 0 | 30 | 677 | 0 | 10 | 11 | 0 | 26 | 4 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Parking (#/hr) | | | | | | | | | | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 1.5 | 73.0 | | 5.2 | 76.7 | | 6.5 | 6.5 | | 6.5 | 6.5 | |
| Effective Green, g (s) | 1.5 | 73.0 | | 5.2 | 76.7 | | 6.5 | 6.5 | | 6.5 | 6.5 | |
| Actuated g/C Ratio | 0.01 | 0.66 | | 0.05 | 0.70 | | 0.06 | 0.06 | | 0.06 | 0.06 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 24 | 1224 | | 75 | 1366 | | 78 | 94 | | 83 | 95 | |
| v/s Ratio Prot | 0.01 | 0.14 | | c0.02 | c0.35 | | | 0.01 | | | 0.00 | |
| v/s Ratio Perm | | | | | | | 0.01 | | | c0.02 | | |
| v/c Ratio | 0.50 | 0.21 | | 0.40 | 0.50 | | 0.13 | 0.12 | | 0.31 | 0.04 | |
| Uniform Delay, d1 | 53.9 | 7.2 | | 50.9 | 7.7 | | 49.1 | 49.0 | | 49.6 | 48.8 | |
| Progression Factor | 0.98 | 0.82 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 15.4 | 0.4 | | 3.5 | 1.3 | | 0.7 | 0.6 | | 2.2 | 0.2 | |
| Delay (s) | 68.4 | 6.3 | | 54.4 | 9.0 | | 49.8 | 49.6 | | 51.8 | 49.0 | |
| Level of Service | E | A | | D | A | | D | D | | D | D | |
| Approach Delay (s) | | 9.1 | | | 10.9 | | | 49.7 | | | 50.2 | |
| Approach LOS | | A | | | B | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 15.0 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.48 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 57.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | SWR | SWR2 |
|---|---|---|
| Lane Configurations | | |
| Volume (vph) | 40 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Lane Width | 12 | 12 |
| Total Lost time (s) | 4.5 | |
| Lane Util. Factor | 1.00 | |
| Frpb, ped/bikes | 1.00 | |
| Flpb, ped/bikes | 1.00 | |
| Frt | 0.86 | |
| Flt Protected | 1.00 | |
| Satd. Flow (prot) | 1611 | |
| Flt Permitted | 1.00 | |
| Satd. Flow (perm) | 1611 | |
| Peak-hour factor, PHF | 0.92 | 0.92 |
| Adj. Flow (vph) | 43 | 5 |
| RTOR Reduction (vph) | 5 | 0 |
| Lane Group Flow (vph) | 43 | 0 |
| Confl. Peds. (#/hr) | | |
| Parking (#/hr) | | |
| Turn Type | custom | |
| Protected Phases | 9 | |
| Permitted Phases | | |
| Actuated Green, G (s) | 7.3 | |
| Effective Green, g (s) | 7.3 | |
| Actuated g/C Ratio | 0.07 | |
| Clearance Time (s) | 4.5 | |
| Vehicle Extension (s) | 3.0 | |
| Lane Grp Cap (vph) | 107 | |
| v/s Ratio Prot | c0.03 | |
| v/s Ratio Perm | | |
| v/c Ratio | 0.40 | |
| Uniform Delay, d1 | 49.3 | |
| Progression Factor | 1.00 | |
| Incremental Delay, d2 | 2.5 | |
| Delay (s) | 51.8 | |
| Level of Service | D | |
| Approach Delay (s) | | |
| Approach LOS | | |

Intersection Summary

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 55 | 297 | 7 | 527 | 41 | 59 | 7 | 36 | 374 |
| v/c Ratio | 0.23 | 0.31 | 0.04 | 0.74 | 0.24 | 0.11 | 0.02 | 0.10 | 0.63 |
| Control Delay | 30.4 | 9.6 | 30.7 | 24.2 | 21.0 | 16.6 | 9.7 | 17.0 | 18.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 30.4 | 9.6 | 30.7 | 24.2 | 21.0 | 16.6 | 9.7 | 17.0 | 18.9 |
| Queue Length 50th (ft) | 20 | 40 | 3 | 159 | 12 | 17 | 0 | 10 | 94 |
| Queue Length 95th (ft) | 57 | 138 | 15 | #381 | 36 | 40 | 8 | 29 | 174 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 245 | 1240 | 175 | 925 | 340 | 1088 | 777 | 726 | 1057 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.22 | 0.24 | 0.04 | 0.57 | 0.12 | 0.05 | 0.01 | 0.05 | 0.35 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 51 | 184 | 89 | 6 | 446 | 39 | 38 | 54 | 6 | 33 | 152 | 192 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.92 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1917 | | 1711 | 1698 | | 1652 | 1863 | 1327 | 1644 | 1741 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.34 | 1.00 | 1.00 | 0.72 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1917 | | 1711 | 1698 | | 583 | 1863 | 1327 | 1243 | 1741 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 55 | 200 | 97 | 7 | 485 | 42 | 41 | 59 | 7 | 36 | 165 | 209 |
| RTOR Reduction (vph) | 0 | 20 | 0 | 0 | 3 | 0 | 0 | 0 | 5 | 0 | 70 | 0 |
| Lane Group Flow (vph) | 55 | 277 | 0 | 7 | 524 | 0 | 41 | 59 | 2 | 36 | 304 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 3.4 | 26.7 | | 0.8 | 24.1 | | 16.2 | 16.2 | 16.2 | 16.2 | 16.2 | |
| Effective Green, g (s) | 3.4 | 26.7 | | 0.8 | 24.1 | | 16.2 | 16.2 | 16.2 | 16.2 | 16.2 | |
| Actuated g/C Ratio | 0.06 | 0.47 | | 0.01 | 0.43 | | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 103 | 903 | | 24 | 722 | | 167 | 532 | 379 | 355 | 497 | |
| v/s Ratio Prot | c0.03 | c0.14 | | 0.00 | c0.31 | | | 0.03 | | | c0.17 | |
| v/s Ratio Perm | | | | | | | 0.07 | | 0.00 | 0.03 | | |
| v/c Ratio | 0.53 | 0.31 | | 0.29 | 0.73 | | 0.25 | 0.11 | 0.01 | 0.10 | 0.61 | |
| Uniform Delay, d1 | 25.9 | 9.3 | | 27.7 | 13.5 | | 15.6 | 14.9 | 14.5 | 14.9 | 17.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 6.6 | 0.3 | | 9.0 | 3.9 | | 1.0 | 0.1 | 0.0 | 0.2 | 2.6 | |
| Delay (s) | 32.5 | 9.5 | | 36.7 | 17.4 | | 16.6 | 15.1 | 14.5 | 15.1 | 20.1 | |
| Level of Service | C | A | | D | B | | B | B | B | B | C | |
| Approach Delay (s) | | 13.1 | | | 17.7 | | | 15.6 | | | 19.6 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.0 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 56.7 | Sum of lost time (s) | 17.5 |
| Intersection Capacity Utilization | 68.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 105 | 90 | 3 | 10 | 445 | 437 | 40 | 25 | 568 |
| v/c Ratio | 0.44 | 0.19 | 0.03 | 0.04 | 0.81 | 0.24 | 0.05 | 0.19 | 0.65 |
| Control Delay | 39.2 | 7.2 | 39.7 | 20.2 | 39.0 | 11.1 | 6.6 | 40.8 | 21.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 39.2 | 7.2 | 39.7 | 20.2 | 39.0 | 11.1 | 6.6 | 40.8 | 21.0 |
| Queue Length 50th (ft) | 39 | 3 | 1 | 2 | 163 | 37 | 1 | 10 | 72 |
| Queue Length 95th (ft) | #133 | 36 | 11 | 14 | #542 | 135 | 23 | 43 | 171 |
| Internal Link Dist (ft) | | 1442 | | 221 | | 1609 | | | 1977 |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | |
| Base Capacity (vph) | 260 | 917 | 100 | 776 | 552 | 2043 | 922 | 130 | 1294 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.40 | 0.10 | 0.03 | 0.01 | 0.81 | 0.21 | 0.04 | 0.19 | 0.44 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 97 | 9 | 74 | 3 | 5 | 5 | 409 | 402 | 37 | 23 | 292 | 231 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.87 | | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1529 | | 1652 | 1592 | | 1652 | 3240 | 1452 | 1711 | 3160 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1529 | | 1652 | 1592 | | 1652 | 3240 | 1452 | 1711 | 3160 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 105 | 10 | 80 | 3 | 5 | 5 | 445 | 437 | 40 | 25 | 317 | 251 |
| RTOR Reduction (vph) | 0 | 59 | 0 | 0 | 4 | 0 | 0 | 0 | 15 | 0 | 141 | 0 |
| Lane Group Flow (vph) | 105 | 31 | 0 | 3 | 6 | 0 | 445 | 437 | 25 | 25 | 427 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 7.5 | 19.3 | | 0.6 | 12.4 | | 23.2 | 39.6 | 39.6 | 1.7 | 18.1 | |
| Effective Green, g (s) | 7.5 | 19.3 | | 0.6 | 12.4 | | 23.2 | 39.6 | 39.6 | 1.7 | 18.1 | |
| Actuated g/C Ratio | 0.10 | 0.26 | | 0.01 | 0.17 | | 0.31 | 0.54 | 0.54 | 0.02 | 0.25 | |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 174 | 400 | | 13 | 268 | | 520 | 1741 | 780 | 39 | 776 | |
| v/s Ratio Prot | c0.06 | c0.02 | | 0.00 | 0.00 | | c0.27 | 0.13 | | 0.01 | c0.14 | |
| v/s Ratio Perm | | | | | | | | | 0.02 | | | |
| v/c Ratio | 0.60 | 0.08 | | 0.23 | 0.02 | | 0.86 | 0.25 | 0.03 | 0.64 | 0.55 | |
| Uniform Delay, d1 | 31.7 | 20.5 | | 36.3 | 25.6 | | 23.7 | 9.1 | 8.0 | 35.7 | 24.2 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 6.7 | 0.1 | | 12.0 | 0.0 | | 13.4 | 0.1 | 0.0 | 33.8 | 1.0 | |
| Delay (s) | 38.4 | 20.6 | | 48.4 | 25.6 | | 37.1 | 9.2 | 8.1 | 69.5 | 25.3 | |
| Level of Service | D | C | | D | C | | D | A | A | E | C | |
| Approach Delay (s) | | 30.2 | | | 30.9 | | | 22.6 | | | 27.2 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 25.1 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.55 | | |
| Actuated Cycle Length (s) | 73.7 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 60.9% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 58 | 17 | 16 | 780 | 667 |
| v/c Ratio | 0.18 | 0.06 | 0.03 | 0.32 | 0.27 |
| Control Delay | 16.6 | 8.0 | 5.3 | 4.8 | 4.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 |
| Total Delay | 16.6 | 8.0 | 5.3 | 5.0 | 4.5 |
| Queue Length 50th (ft) | 16 | 0 | 1 | 38 | 31 |
| Queue Length 95th (ft) | 35 | 11 | 10 | 116 | 95 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 801 | 653 | 501 | 2344 | 2327 |
| Starvation Cap Reductn | 0 | 0 | 0 | 680 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.07 | 0.03 | 0.03 | 0.47 | 0.29 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 53 | 16 | 15 | 718 | 578 | 36 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3210 | |
| Flt Permitted | 0.95 | 1.00 | 0.40 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 692 | 3240 | 3210 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 58 | 17 | 16 | 780 | 628 | 39 |
| RTOR Reduction (vph) | 0 | 15 | 0 | 0 | 5 | 0 |
| Lane Group Flow (vph) | 58 | 2 | 16 | 780 | 662 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 5.6 | 5.6 | 30.4 | 30.4 | 30.4 | |
| Effective Green, g (s) | 5.6 | 5.6 | 30.4 | 30.4 | 30.4 | |
| Actuated g/C Ratio | 0.12 | 0.12 | 0.68 | 0.68 | 0.68 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 206 | 166 | 467 | 2189 | 2169 | |
| v/s Ratio Prot | c0.04 | | | c0.24 | 0.21 | |
| v/s Ratio Perm | | 0.00 | 0.02 | | | |
| v/c Ratio | 0.28 | 0.01 | 0.03 | 0.36 | 0.31 | |
| Uniform Delay, d1 | 17.9 | 17.3 | 2.4 | 3.1 | 3.0 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.8 | 0.0 | 0.1 | 0.3 | 0.2 | |
| Delay (s) | 18.6 | 17.3 | 2.5 | 3.4 | 3.2 | |
| Level of Service | B | B | A | A | A | |
| Approach Delay (s) | 18.3 | | | 3.4 | 3.2 | |
| Approach LOS | B | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.0 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.34 | | |
| Actuated Cycle Length (s) | 45.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 30.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1137 | 1046 | 490 | 1859 | 686 | 965 |
| v/c Ratio | 0.96 | 0.65 | 0.86 | 0.93 | 0.41 | 1.27 |
| Control Delay | 31.1 | 2.8 | 34.9 | 16.4 | 0.7 | 157.8 |
| Queue Delay | 0.0 | 0.3 | 0.0 | 0.6 | 0.0 | 0.0 |
| Total Delay | 31.1 | 3.0 | 34.9 | 17.0 | 0.7 | 157.8 |
| Queue Length 50th (ft) | 110 | 16 | 105 | 338 | 0 | ~305 |
| Queue Length 95th (ft) | #368 | 26 | #179 | m355 | 0 | #426 |
| Internal Link Dist (ft) | 247 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 1184 | 1609 | 570 | 2008 | 1686 | 760 |
| Starvation Cap Reductn | 0 | 130 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 28 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.96 | 0.71 | 0.86 | 0.94 | 0.41 | 1.27 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1046 | 962 | 451 | 1710 | 0 | 0 | 0 | 631 | 0 | 0 | 888 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.5 | 4.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | | | 1.00 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2787 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2787 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1137 | 1046 | 490 | 1859 | 0 | 0 | 0 | 686 | 0 | 0 | 965 |
| RTOR Reduction (vph) | 0 | 0 | 677 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1137 | 369 | 490 | 1859 | 0 | 0 | 0 | 686 | 0 | 0 | 965 |
| Confl. Peds. (#/hr) | | | | 4 | | | | | | | | |
| Heavy Vehicles (%) | 2% | 4% | 4% | 4% | 4% | 2% | 2% | 2% | 4% | 2% | 2% | 2% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 | | 1 | 6 | | | | | | | |
| Permitted Phases | | | 2 | | | | | | Free | | | 4 |
| Actuated Green, G (s) | | 24.7 | 24.7 | 12.7 | 41.9 | | | | 70.0 | | | 19.1 |
| Effective Green, g (s) | | 24.7 | 24.7 | 12.7 | 41.9 | | | | 70.0 | | | 19.1 |
| Actuated g/C Ratio | | 0.35 | 0.35 | 0.18 | 0.60 | | | | 1.00 | | | 0.27 |
| Clearance Time (s) | | 4.5 | 4.5 | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 1184 | 932 | 570 | 2008 | | | | 1686 | | | 760 |
| v/s Ratio Prot | | 0.34 | | 0.16 | c0.55 | | | | | | | |
| v/s Ratio Perm | | | 0.14 | | | | | | 0.41 | | | c0.35 |
| v/c Ratio | | 0.96 | 0.40 | 0.86 | 0.93 | | | | 0.41 | | | 1.27 |
| Uniform Delay, d1 | | 22.2 | 17.0 | 27.8 | 12.7 | | | | 0.0 | | | 25.4 |
| Progression Factor | | 0.56 | 0.77 | 0.67 | 0.86 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 16.1 | 1.0 | 14.4 | 4.1 | | | | 0.7 | | | 131.7 |
| Delay (s) | | 28.5 | 14.1 | 32.9 | 15.0 | | | | 0.7 | | | 157.1 |
| Level of Service | | C | B | C | B | | | | A | | | F |
| Approach Delay (s) | | 21.6 | | | 18.8 | | | 0.7 | | | 157.1 | |
| Approach LOS | | C | | | B | | | A | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 39.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.03 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 85.8% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 705 | 1117 | 861 | 521 | 775 | 1542 |
| v/c Ratio | 0.76 | 0.33 | 0.45 | 0.57 | 0.48 | 1.01 |
| Control Delay | 18.0 | 0.2 | 9.9 | 11.8 | 1.0 | 29.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 18.0 | 0.2 | 9.9 | 11.8 | 1.0 | 29.5 |
| Queue Length 50th (ft) | 142 | 0 | 104 | 112 | 0 | ~13 |
| Queue Length 95th (ft) | m169 | m0 | 158 | 219 | 0 | #254 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 1078 | 3355 | 1934 | 912 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.65 | 0.33 | 0.45 | 0.57 | 0.48 | 1.01 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 649 | 1028 | 0 | 0 | 792 | 479 | 0 | 0 | 713 | 0 | 0 | 1419 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 705 | 1117 | 0 | 0 | 861 | 521 | 0 | 0 | 775 | 0 | 0 | 1542 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 705 | 1117 | 0 | 0 | 861 | 491 | 0 | 0 | 775 | 0 | 0 | 1542 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 20.6 | 70.0 | | | 40.4 | 40.4 | | | 70.0 | | | 70.0 |
| Effective Green, g (s) | 20.6 | 70.0 | | | 40.4 | 40.4 | | | 70.0 | | | 70.0 |
| Actuated g/C Ratio | 0.29 | 1.00 | | | 0.58 | 0.58 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 925 | 3355 | | | 1936 | 884 | | | 1611 | | | 1528 |
| v/s Ratio Prot | 0.22 | 0.33 | | | 0.26 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.32 | | | 0.48 | | | c1.01 |
| v/c Ratio | 0.76 | 0.33 | | | 0.44 | 0.56 | | | 0.48 | | | 1.01 |
| Uniform Delay, d1 | 22.5 | 0.0 | | | 8.4 | 9.2 | | | 0.0 | | | 35.0 |
| Progression Factor | 0.64 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 2.4 | 0.2 | | | 0.7 | 2.5 | | | 1.0 | | | 25.3 |
| Delay (s) | 16.9 | 0.2 | | | 9.2 | 11.7 | | | 1.0 | | | 60.3 |
| Level of Service | B | A | | | A | B | | | A | | | E |
| Approach Delay (s) | | 6.6 | | | 10.1 | | | 1.0 | | | 60.3 | |
| Approach LOS | | A | | | B | | | A | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 21.7 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 1.01 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 55.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 349 | 374 | 471 | 343 | 15 | 303 | 577 | 15 | 45 | 566 | 201 |
| v/c Ratio | 1.04 | 0.51 | 0.27 | 0.88 | 0.04 | 0.81 | 0.38 | 0.03 | 0.40 | 0.70 | 0.43 |
| Control Delay | 89.8 | 27.6 | 0.4 | 65.5 | 23.4 | 58.3 | 23.1 | 11.9 | 62.8 | 44.0 | 19.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 89.8 | 27.6 | 0.4 | 65.5 | 23.4 | 58.3 | 23.1 | 11.9 | 62.8 | 44.0 | 19.1 |
| Queue Length 50th (ft) | ~228 | 202 | 0 | 244 | 3 | 209 | 152 | 2 | 32 | 200 | 50 |
| Queue Length 95th (ft) | #425 | 304 | 0 | #417 | 22 | #318 | 198 | 15 | 72 | 269 | 122 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 335 | 752 | 1770 | 414 | 358 | 441 | 1612 | 602 | 114 | 851 | 485 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.04 | 0.50 | 0.27 | 0.83 | 0.04 | 0.69 | 0.36 | 0.02 | 0.39 | 0.67 | 0.41 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 321 | 344 | 433 | 4 | 312 | 14 | 279 | 531 | 14 | 41 | 521 | 185 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.96 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1738 | 1472 | 1652 | 3539 | 1337 | 1652 | 3303 | 1550 |
| Flt Permitted | 0.17 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 291 | 1739 | 1770 | | 1731 | 1472 | 1652 | 3539 | 1337 | 1652 | 3303 | 1550 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 349 | 374 | 471 | 4 | 339 | 15 | 303 | 577 | 15 | 45 | 566 | 201 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 6 | 0 | 0 | 87 |
| Lane Group Flow (vph) | 349 | 374 | 471 | 0 | 343 | 8 | 303 | 577 | 9 | 45 | 566 | 114 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 45.5 | 45.5 | 110.6 | | 24.4 | 24.4 | 23.7 | 45.6 | 45.6 | 5.1 | 26.9 | 26.9 |
| Effective Green, g (s) | 46.0 | 46.0 | 110.6 | | 24.9 | 24.9 | 24.7 | 46.6 | 45.6 | 6.0 | 27.9 | 27.9 |
| Actuated g/C Ratio | 0.42 | 0.42 | 1.00 | | 0.23 | 0.23 | 0.22 | 0.42 | 0.41 | 0.05 | 0.25 | 0.25 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.9 | 5.0 | 5.0 |
| Vehicle Extension (s) | 4.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 331 | 723 | 1770 | | 390 | 331 | 369 | 1491 | 551 | 90 | 833 | 391 |
| v/s Ratio Prot | c0.16 | 0.22 | | | | | c0.18 | 0.16 | | 0.03 | c0.17 | |
| v/s Ratio Perm | c0.27 | | 0.27 | | 0.20 | 0.01 | | | 0.01 | | | 0.07 |
| v/c Ratio | 1.05 | 0.52 | 0.27 | | 0.88 | 0.02 | 0.82 | 0.39 | 0.02 | 0.50 | 0.68 | 0.29 |
| Uniform Delay, d1 | 28.9 | 24.0 | 0.0 | | 41.4 | 33.4 | 40.8 | 22.1 | 19.2 | 50.8 | 37.3 | 33.4 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 64.5 | 0.8 | 0.4 | | 20.1 | 0.0 | 13.6 | 0.5 | 0.0 | 5.1 | 3.4 | 1.2 |
| Delay (s) | 93.4 | 24.9 | 0.4 | | 61.5 | 33.4 | 54.5 | 22.6 | 19.3 | 55.9 | 40.7 | 34.6 |
| Level of Service | F | C | A | | E | C | D | C | B | E | D | C |
| Approach Delay (s) | | 35.2 | | | 60.3 | | | 33.3 | | | 40.0 | |
| Approach LOS | | D | | | E | | | C | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 38.7 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 110.6 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 78.4% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBT | WBR | NBT | SBL | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 29 | 90 | 913 | 160 | 967 |
| v/c Ratio | 0.10 | 0.24 | 0.24 | 0.41 | 0.37 |
| Control Delay | 15.3 | 6.0 | 3.9 | 11.6 | 4.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 15.3 | 6.0 | 3.9 | 11.6 | 4.8 |
| Queue Length 50th (ft) | 6 | 0 | 24 | 15 | 44 |
| Queue Length 95th (ft) | 22 | 25 | 79 | #115 | 144 |
| Internal Link Dist (ft) | 217 | | 650 | | 443 |
| Turn Bay Length (ft) | | | | 150 | |
| Base Capacity (vph) | 664 | 763 | 3890 | 404 | 2746 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.04 | 0.12 | 0.23 | 0.40 | 0.35 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 26 | 1 | 83 | 0 | 799 | 41 | 147 | 888 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.99 | | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | | 0.99 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1570 | 1401 | | 4912 | | 1619 | 3470 | |
| Flt Permitted | | | | | 0.79 | 1.00 | | 1.00 | | 0.30 | 1.00 | |
| Satd. Flow (perm) | | | | | 1294 | 1401 | | 4912 | | 512 | 3470 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 28 | 1 | 90 | 0 | 868 | 45 | 160 | 965 | 2 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 79 | 0 | 7 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 29 | 11 | 0 | 906 | 0 | 160 | 967 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 5.0 | 5.0 | | 27.0 | | 27.0 | 27.0 | |
| Effective Green, g (s) | | | | | 5.0 | 5.0 | | 27.0 | | 27.0 | 27.0 | |
| Actuated g/C Ratio | | | | | 0.12 | 0.12 | | 0.67 | | 0.67 | 0.67 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 159 | 173 | | 3267 | | 340 | 2308 | |
| v/s Ratio Prot | | | | | | | | 0.18 | | | 0.28 | |
| v/s Ratio Perm | | | | | c0.02 | 0.01 | | | | c0.31 | | |
| v/c Ratio | | | | | 0.18 | 0.06 | | 0.28 | | 0.47 | 0.42 | |
| Uniform Delay, d1 | | | | | 16.0 | 15.7 | | 2.8 | | 3.3 | 3.2 | |
| Progression Factor | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | | | | 0.6 | 0.2 | | 0.0 | | 0.4 | 0.0 | |
| Delay (s) | | | | | 16.5 | 15.9 | | 2.8 | | 3.7 | 3.2 | |
| Level of Service | | | | | B | B | | A | | A | A | |
| Approach Delay (s) | | 0.0 | | | 16.0 | | | 2.8 | | | 3.3 | |
| Approach LOS | | A | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 3.8 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.42 | | |
| Actuated Cycle Length (s) | 40.6 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 44.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 12 | 278 | 724 | 38 | 30 |
| v/c Ratio | 0.11 | 0.17 | 0.24 | 0.30 | 0.21 |
| Control Delay | 56.0 | 1.2 | 0.8 | 53.7 | 19.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 56.0 | 1.2 | 0.8 | 53.7 | 19.6 |
| Queue Length 50th (ft) | 9 | 7 | 6 | 26 | 0 |
| Queue Length 95th (ft) | m23 | 49 | 37 | 59 | 29 |
| Internal Link Dist (ft) | | 525 | 522 | 196 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 169 | 1627 | 2974 | 426 | 404 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.07 | 0.17 | 0.24 | 0.09 | 0.07 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 11 | 256 | 607 | 59 | 35 | 28 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.99 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3492 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3492 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 12 | 278 | 660 | 64 | 38 | 30 |
| RTOR Reduction (vph) | 0 | 0 | 3 | 0 | 0 | 28 |
| Lane Group Flow (vph) | 12 | 278 | 721 | 0 | 38 | 2 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 1.5 | 94.2 | 88.2 | | 6.8 | 6.8 |
| Effective Green, g (s) | 1.5 | 94.2 | 88.2 | | 6.8 | 6.8 |
| Actuated g/C Ratio | 0.01 | 0.86 | 0.80 | | 0.06 | 0.06 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 24 | 1595 | 2800 | | 109 | 98 |
| v/s Ratio Prot | c0.01 | 0.15 | c0.21 | | c0.02 | |
| v/s Ratio Perm | | | | | | 0.00 |
| v/c Ratio | 0.50 | 0.17 | 0.26 | | 0.35 | 0.02 |
| Uniform Delay, d1 | 53.9 | 1.3 | 2.7 | | 49.5 | 48.5 |
| Progression Factor | 1.11 | 0.67 | 0.27 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 14.5 | 0.2 | 0.2 | | 1.9 | 0.1 |
| Delay (s) | 74.0 | 1.1 | 0.9 | | 51.4 | 48.5 |
| Level of Service | E | A | A | | D | D |
| Approach Delay (s) | | 4.1 | 0.9 | | 50.1 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.9 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.27 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 31.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBL | WBT | NBR |
|---|---|---|---|---|
| Lane Group Flow (vph) | 1374 | 543 | 2121 | 554 |
| v/c Ratio | 0.67 | 0.56 | 0.42 | 0.62 |
| Control Delay | 22.3 | 10.7 | 0.0 | 14.7 |
| Queue Delay | 0.1 | 7.8 | 0.0 | 0.0 |
| Total Delay | 22.5 | 18.6 | 0.0 | 14.7 |
| Queue Length 50th (ft) | 145 | 149 | 0 | 149 |
| Queue Length 95th (ft) | 182 | m132 | m0 | 247 |
| Internal Link Dist (ft) | 391 | | 247 | |
| Turn Bay Length (ft) | | | | |
| Base Capacity (vph) | 2056 | 974 | 5085 | 887 |
| Starvation Cap Reductn | 0 | 384 | 0 | 0 |
| Spillback Cap Reductn | 103 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.70 | 0.92 | 0.42 | 0.62 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 1234 | 30 | 500 | 1951 | 0 | 510 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Lane Util. Factor | 0.86 | | 1.00 | 0.91 | | 1.00 |
| Frt | 1.00 | | 1.00 | 1.00 | | 0.86 |
| Flt Protected | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 6385 | | 1770 | 5085 | | 1611 |
| Flt Permitted | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 6385 | | 1770 | 5085 | | 1611 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1341 | 33 | 543 | 2121 | 0 | 554 |
| RTOR Reduction (vph) | 5 | 0 | 0 | 0 | 0 | 1 |
| Lane Group Flow (vph) | 1369 | 0 | 543 | 2121 | 0 | 553 |
| Turn Type | | | Prot | | | Over |
| Protected Phases | 2 | | 1 | 6 | | 1 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 22.5 | | 38.5 | 70.0 | | 38.5 |
| Effective Green, g (s) | 22.5 | | 38.5 | 70.0 | | 38.5 |
| Actuated g/C Ratio | 0.32 | | 0.55 | 1.00 | | 0.55 |
| Clearance Time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 2052 | | 974 | 5085 | | 886 |
| v/s Ratio Prot | c0.21 | | 0.31 | 0.42 | | c0.34 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.67 | | 0.56 | 0.42 | | 0.62 |
| Uniform Delay, d1 | 20.5 | | 10.2 | 0.0 | | 10.8 |
| Progression Factor | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Incremental Delay, d2 | 1.7 | | 0.1 | 0.0 | | 1.4 |
| Delay (s) | 22.3 | | 10.1 | 0.0 | | 12.2 |
| Level of Service | C | | B | A | | B |
| Approach Delay (s) | 22.3 | | | 2.1 | 12.2 | |
| Approach LOS | C | | | A | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 9.3 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.64 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 57.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 58 | 173 | 289 | 166 | 1077 | 27 | 1334 | 253 | 1424 | 1124 | 90 |
| v/c Ratio | 0.97 | 0.44 | 0.90 | 0.36 | 0.62 | 0.38 | 1.09 | 0.34 | 1.26 | 0.58 | 0.10 |
| Control Delay | 173.0 | 55.2 | 85.8 | 43.6 | 15.9 | 80.0 | 100.7 | 6.5 | 164.5 | 19.4 | 2.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 173.0 | 55.2 | 85.8 | 43.6 | 15.9 | 80.0 | 100.7 | 6.5 | 164.5 | 19.4 | 2.7 |
| Queue Length 50th (ft) | 54 | 73 | 257 | 123 | 300 | 24 | ~501 | 32 | ~844 | 341 | 0 |
| Queue Length 95th (ft) | #151 | 102 | #555 | 192 | 372 | 58 | #599 | 72 | #982 | 410 | 24 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 60 | 702 | 320 | 467 | 1732 | 79 | 1228 | 755 | 1126 | 1943 | 945 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.97 | 0.25 | 0.90 | 0.36 | 0.62 | 0.34 | 1.09 | 0.34 | 1.26 | 0.58 | 0.10 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 53 | 134 | 25 | 266 | 153 | 991 | 25 | 1227 | 233 | 1310 | 1034 | 83 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 2.5 | 2.5 | | 2.5 | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 2.5 | 1.8 | 1.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 1.00 | 0.88 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3113 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1515 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3113 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1515 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 58 | 146 | 27 | 289 | 166 | 1077 | 27 | 1334 | 253 | 1424 | 1124 | 90 |
| RTOR Reduction (vph) | 0 | 12 | 0 | 0 | 0 | 8 | 0 | 0 | 88 | 0 | 0 | 37 |
| Lane Group Flow (vph) | 58 | 161 | 0 | 289 | 166 | 1069 | 27 | 1334 | 165 | 1424 | 1124 | 53 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 4.0 | 15.1 | | 25.9 | 37.0 | 91.0 | 3.5 | 36.6 | 62.5 | 49.5 | 82.6 | 82.6 |
| Effective Green, g (s) | 5.0 | 17.1 | | 26.9 | 39.0 | 93.0 | 4.5 | 38.6 | 66.5 | 50.5 | 84.6 | 84.6 |
| Actuated g/C Ratio | 0.04 | 0.12 | | 0.19 | 0.27 | 0.65 | 0.03 | 0.27 | 0.47 | 0.35 | 0.59 | 0.59 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 4.0 | | 2.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 59 | 374 | | 317 | 463 | 1725 | 51 | 1262 | 677 | 1115 | 1925 | 900 |
| v/s Ratio Prot | c0.03 | 0.05 | | c0.17 | 0.10 | c0.40 | 0.02 | c0.29 | 0.11 | c0.45 | 0.35 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.04 |
| v/c Ratio | 0.98 | 0.43 | | 0.91 | 0.36 | 0.62 | 0.53 | 1.06 | 0.24 | 1.28 | 0.58 | 0.06 |
| Uniform Delay, d1 | 68.7 | 58.1 | | 56.6 | 41.6 | 14.4 | 67.9 | 51.9 | 22.8 | 46.0 | 18.0 | 12.2 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 110.3 | 1.4 | | 28.6 | 0.7 | 0.8 | 4.5 | 41.9 | 0.3 | 131.8 | 0.5 | 0.0 |
| Delay (s) | 179.0 | 59.5 | | 85.2 | 42.3 | 15.2 | 72.4 | 93.8 | 23.1 | 177.7 | 18.4 | 12.2 |
| Level of Service | F | E | | F | D | B | E | F | C | F | B | B |
| Approach Delay (s) | | 89.5 | | | 31.3 | | | 82.3 | | | 104.2 | |
| Approach LOS | | F | | | C | | | F | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 79.2 | HCM Level of Service | E |
| HCM Volume to Capacity ratio | 1.07 | | |
| Actuated Cycle Length (s) | 142.4 | Sum of lost time (s) | 11.8 |
| Intersection Capacity Utilization | 97.8% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 140 | 1713 | 25 | 1434 | 165 | 28 | 148 | 187 | 124 |
| v/c Ratio | 0.57 | 0.78 | 0.15 | 0.81 | 0.20 | 0.25 | 0.64 | 0.49 | 0.52 |
| Control Delay | 51.2 | 17.4 | 51.4 | 15.2 | 0.5 | 50.9 | 21.2 | 46.7 | 28.5 |
| Queue Delay | 0.0 | 2.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| Total Delay | 51.2 | 20.3 | 51.4 | 15.2 | 0.5 | 50.9 | 21.4 | 46.7 | 28.5 |
| Queue Length 50th (ft) | 88 | 245 | 17 | 85 | 0 | 18 | 1 | 62 | 36 |
| Queue Length 95th (ft) | 154 | #758 | m26 | #659 | 1 | 45 | 60 | 94 | 92 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 247 | 2210 | 170 | 1762 | 825 | 224 | 318 | 462 | 274 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 377 | 0 | 0 | 0 | 0 | 17 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.57 | 0.93 | 0.15 | 0.81 | 0.20 | 0.13 | 0.49 | 0.40 | 0.45 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 129 | 1560 | 16 | 23 | 1303 | 168 | 26 | 2 | 134 | 172 | 42 | 72 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 2.0 | 3.0 | | 2.0 | 3.0 | 3.0 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.91 | 0.91 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.99 | 1.00 | 0.98 | | 1.00 | 0.95 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3174 | | 1620 | 3068 | 1319 | 1678 | 1431 | | 3143 | 1474 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3174 | | 1620 | 3068 | 1319 | 1678 | 1431 | | 3143 | 1474 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 140 | 1696 | 17 | 25 | 1416 | 183 | 28 | 2 | 146 | 187 | 46 | 78 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 1 | 71 | 0 | 136 | 0 | 0 | 59 | 0 |
| Lane Group Flow (vph) | 140 | 1713 | 0 | 25 | 1433 | 94 | 28 | 12 | 0 | 187 | 65 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 16.8 | 70.3 | | 4.0 | 57.5 | 57.5 | 5.9 | 5.9 | | 11.8 | 11.8 | |
| Effective Green, g (s) | 17.8 | 71.3 | | 5.0 | 58.5 | 58.5 | 6.9 | 6.9 | | 12.8 | 12.8 | |
| Actuated g/C Ratio | 0.17 | 0.68 | | 0.05 | 0.56 | 0.56 | 0.07 | 0.07 | | 0.12 | 0.12 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 275 | 2155 | | 77 | 1709 | 735 | 110 | 94 | | 383 | 180 | |
| v/s Ratio Prot | 0.09 | c0.54 | | 0.02 | c0.47 | | c0.02 | 0.01 | | c0.06 | 0.04 | |
| v/s Ratio Perm | | | | | | 0.07 | | | | | | |
| v/c Ratio | 0.51 | 0.79 | | 0.32 | 0.84 | 0.13 | 0.25 | 0.12 | | 0.49 | 0.36 | |
| Uniform Delay, d1 | 39.6 | 11.7 | | 48.4 | 19.3 | 11.1 | 46.6 | 46.2 | | 43.0 | 42.3 | |
| Progression Factor | 1.00 | 1.00 | | 1.15 | 0.54 | 0.02 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.5 | 3.1 | | 0.8 | 4.5 | 0.3 | 0.4 | 0.2 | | 1.0 | 1.2 | |
| Delay (s) | 40.2 | 14.9 | | 56.5 | 14.9 | 0.5 | 47.1 | 46.4 | | 44.0 | 43.6 | |
| Level of Service | D | B | | E | B | A | D | D | | D | D | |
| Approach Delay (s) | | 16.8 | | | 14.1 | | | 46.5 | | | 43.9 | |
| Approach LOS | | B | | | B | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 19.1 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 7.0 |
| Intersection Capacity Utilization | 78.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 32 | 1931 | 309 | 1521 | 173 | 215 | 147 | 88 |
| v/c Ratio | 0.36 | 0.79 | 0.77 | 0.50 | 0.75 | 0.28 | 0.81 | 0.45 |
| Control Delay | 50.9 | 19.1 | 58.9 | 8.5 | 63.4 | 11.7 | 76.2 | 40.5 |
| Queue Delay | 0.0 | 1.6 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.9 | 20.7 | 58.9 | 8.6 | 63.4 | 11.7 | 76.2 | 40.6 |
| Queue Length 50th (ft) | 21 | 416 | 99 | 152 | 112 | 26 | 95 | 42 |
| Queue Length 95th (ft) | m29 | 284 | m139 | 178 | 183 | 50 | #198 | 92 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 93 | 2432 | 434 | 3052 | 276 | 802 | 198 | 213 |
| Starvation Cap Reductn | 0 | 312 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 244 | 0 | 0 | 0 | 1 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.34 | 0.91 | 0.71 | 0.54 | 0.63 | 0.27 | 0.74 | 0.42 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 29 | 1630 | 146 | 284 | 1345 | 54 | 141 | 18 | 198 | 135 | 53 | 28 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 2.0 | 3.0 | | 2.5 | 3.0 | | | 2.0 | 2.5 | 2.0 | 2.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.91 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.99 | 1.00 | 0.98 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.95 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4511 | | 3143 | 4744 | | | 1808 | 2806 | 1562 | 1536 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4511 | | 3143 | 4744 | | | 1808 | 2806 | 1562 | 1536 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 32 | 1772 | 159 | 309 | 1462 | 59 | 153 | 20 | 215 | 147 | 58 | 30 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 4 | 0 | 0 | 0 | 69 | 0 | 18 | 0 |
| Lane Group Flow (vph) | 32 | 1922 | 0 | 309 | 1517 | 0 | 0 | 173 | 146 | 147 | 70 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 3.0 | 55.4 | | 12.4 | 65.3 | | | 12.4 | 24.8 | 11.3 | 11.3 | |
| Effective Green, g (s) | 4.0 | 56.4 | | 13.4 | 66.3 | | | 13.4 | 26.8 | 12.3 | 12.3 | |
| Actuated g/C Ratio | 0.04 | 0.54 | | 0.13 | 0.63 | | | 0.13 | 0.26 | 0.12 | 0.12 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 62 | 2423 | | 401 | 2995 | | | 231 | 716 | 183 | 180 | |
| v/s Ratio Prot | 0.02 | c0.43 | | c0.10 | 0.32 | | | c0.10 | 0.03 | c0.09 | 0.05 | |
| v/s Ratio Perm | | | | | | | | | 0.03 | | | |
| v/c Ratio | 0.52 | 0.79 | | 0.77 | 0.51 | | | 0.75 | 0.20 | 0.80 | 0.39 | |
| Uniform Delay, d1 | 49.6 | 19.6 | | 44.3 | 10.5 | | | 44.2 | 30.7 | 45.2 | 42.9 | |
| Progression Factor | 0.89 | 0.82 | | 1.09 | 0.73 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 2.0 | 1.9 | | 6.4 | 0.5 | | | 11.0 | 0.1 | 20.8 | 0.5 | |
| Delay (s) | 46.3 | 18.0 | | 54.7 | 8.1 | | | 55.2 | 30.8 | 66.0 | 43.4 | |
| Level of Service | D | B | | D | A | | | E | C | E | D | |
| Approach Delay (s) | | 18.5 | | | 16.0 | | | 41.7 | | | 57.5 | |
| Approach LOS | | B | | | B | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 21.6 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.78 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 68.3% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 663 | 2151 | 1293 | 424 | 191 | 576 |
| v/c Ratio | 0.18 | 0.85 | 0.53 | 0.35 | 0.32 | 0.83 |
| Control Delay | 2.0 | 12.4 | 5.9 | 1.2 | 39.1 | 38.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 2.0 | 12.4 | 5.9 | 1.2 | 39.1 | 38.5 |
| Queue Length 50th (ft) | 20 | 346 | 150 | 0 | 58 | 140 |
| Queue Length 95th (ft) | 25 | 363 | 190 | 21 | 91 | #235 |
| Internal Link Dist (ft) | 509 | | 867 | | | |
| Turn Bay Length (ft) | | 400 | | | | 150 |
| Base Capacity (vph) | 3604 | 2533 | 2445 | 1217 | 601 | 690 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.18 | 0.85 | 0.53 | 0.35 | 0.32 | 0.83 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 610 | 1979 | 0 | 1190 | 390 | 0 | 0 | 0 | 176 | 0 | 530 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | | 3.0 |
| Lane Util. Factor | | 0.91 | 0.88 | | 0.95 | 1.00 | | | | 0.97 | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 663 | 2151 | 0 | 1293 | 424 | 0 | 0 | 0 | 191 | 0 | 576 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 105 | 0 | 0 | 0 | 0 | 0 | 167 |
| Lane Group Flow (vph) | 0 | 663 | 2151 | 0 | 1293 | 319 | 0 | 0 | 0 | 191 | 0 | 409 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Perm | | | | custom | | custom |
| Protected Phases | | 2 | | | 6 | | | | | 4 | | 4 |
| Permitted Phases | | | 2 4 | | | 6 | | | | 4 | | |
| Actuated Green, G (s) | | 79.0 | 105.0 | | 79.0 | 79.0 | | | | 18.0 | | 18.0 |
| Effective Green, g (s) | | 80.0 | 105.0 | | 80.0 | 79.0 | | | | 19.0 | | 19.0 |
| Actuated g/C Ratio | | 0.76 | 1.00 | | 0.76 | 0.75 | | | | 0.18 | | 0.18 |
| Clearance Time (s) | | 4.0 | | | 4.0 | 4.0 | | | | 4.0 | | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | 4.5 | | | | 4.0 | | 4.0 |
| Lane Grp Cap (vph) | | 3604 | 2533 | | 2445 | 1112 | | | | 601 | | 523 |
| v/s Ratio Prot | | 0.14 | | | 0.40 | | | | | 0.06 | | 0.14 |
| v/s Ratio Perm | | | c0.85 | | | 0.22 | | | | | | |
| v/c Ratio | | 0.18 | 0.85 | | 0.53 | 0.29 | | | | 0.32 | | 0.78 |
| Uniform Delay, d1 | | 3.5 | 0.0 | | 5.0 | 4.1 | | | | 37.4 | | 41.0 |
| Progression Factor | | 0.53 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | | 0.1 | 2.5 | | 0.8 | 0.6 | | | | 0.4 | | 7.9 |
| Delay (s) | | 1.9 | 2.5 | | 5.8 | 4.8 | | | | 37.8 | | 48.9 |
| Level of Service | | A | A | | A | A | | | | D | | D |
| Approach Delay (s) | | 2.4 | | | 5.5 | | | 0.0 | | | 46.2 | |
| Approach LOS | | A | | | A | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 9.7 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.85 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 73.0% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 196 | 21 | 36 | 116 | 255 | 122 |
| v/c Ratio | 0.53 | 0.06 | 0.18 | 0.09 | 0.25 | 0.12 |
| Control Delay | 25.2 | 8.2 | 25.6 | 4.4 | 8.9 | 2.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 25.2 | 8.2 | 25.6 | 4.4 | 8.9 | 2.9 |
| Queue Length 50th (ft) | 63 | 0 | 12 | 11 | 28 | 0 |
| Queue Length 95th (ft) | 105 | 13 | 34 | 33 | 109 | 25 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 587 | 539 | 216 | 1242 | 1034 | 994 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.33 | 0.04 | 0.17 | 0.09 | 0.25 | 0.12 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 180 | 19 | 33 | 107 | 235 | 112 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1562 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1562 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 196 | 21 | 36 | 116 | 255 | 122 |
| RTOR Reduction (vph) | 0 | 16 | 0 | 0 | 0 | 53 |
| Lane Group Flow (vph) | 196 | 5 | 36 | 116 | 255 | 69 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 12.2 | 12.2 | 2.8 | 39.8 | 33.0 | 33.0 |
| Effective Green, g (s) | 13.2 | 13.2 | 3.8 | 40.8 | 34.0 | 34.0 |
| Actuated g/C Ratio | 0.22 | 0.22 | 0.06 | 0.68 | 0.57 | 0.57 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 369 | 330 | 103 | 1242 | 966 | 885 |
| v/s Ratio Prot | c0.12 | | c0.02 | 0.06 | c0.15 | |
| v/s Ratio Perm | | 0.00 | | | | 0.04 |
| v/c Ratio | 0.53 | 0.01 | 0.35 | 0.09 | 0.26 | 0.08 |
| Uniform Delay, d1 | 20.7 | 18.3 | 26.9 | 3.3 | 6.6 | 5.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.5 | 0.0 | 2.1 | 0.1 | 0.7 | 0.2 |
| Delay (s) | 22.1 | 18.3 | 29.0 | 3.4 | 7.3 | 6.1 |
| Level of Service | C | B | C | A | A | A |
| Approach Delay (s) | 21.8 | | | 9.5 | 6.9 | |
| Approach LOS | C | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 11.7 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.34 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 36.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 214 | 249 | 296 | 30 | 1367 | 66 | 1159 |
| v/c Ratio | 0.52 | 0.66 | 0.70 | 0.20 | 0.85 | 0.57 | 0.72 |
| Control Delay | 20.1 | 26.2 | 24.9 | 13.3 | 20.1 | 37.9 | 14.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 20.1 | 26.2 | 24.9 | 13.3 | 20.1 | 37.9 | 14.6 |
| Queue Length 50th (ft) | 57 | 74 | 80 | 5 | 194 | 14 | 147 |
| Queue Length 95th (ft) | 111 | 141 | 153 | 24 | #397 | #80 | 262 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 565 | 519 | 574 | 159 | 1672 | 120 | 1675 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.38 | 0.48 | 0.52 | 0.19 | 0.82 | 0.55 | 0.69 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 59 | 116 | 22 | 136 | 93 | 272 | 28 | 1174 | 84 | 61 | 1017 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | | 0.99 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1536 | | | 1681 | 1306 | 1618 | 3042 | | 1562 | 3052 | |
| Flt Permitted | | 0.84 | | | 0.70 | 1.00 | 0.17 | 1.00 | | 0.13 | 1.00 | |
| Satd. Flow (perm) | | 1310 | | | 1218 | 1306 | 289 | 3042 | | 218 | 3052 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 64 | 126 | 24 | 148 | 101 | 296 | 30 | 1276 | 91 | 66 | 1105 | 54 |
| RTOR Reduction (vph) | 0 | 8 | 0 | 0 | 0 | 21 | 0 | 8 | 0 | 0 | 5 | 0 |
| Lane Group Flow (vph) | 0 | 206 | 0 | 0 | 249 | 275 | 30 | 1359 | 0 | 66 | 1154 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 17.7 | | | 17.7 | 17.7 | 30.1 | 30.1 | | 30.1 | 30.1 | |
| Effective Green, g (s) | | 17.7 | | | 17.7 | 17.7 | 30.1 | 30.1 | | 30.1 | 30.1 | |
| Actuated g/C Ratio | | 0.31 | | | 0.31 | 0.31 | 0.53 | 0.53 | | 0.53 | 0.53 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 407 | | | 378 | 406 | 153 | 1606 | | 115 | 1612 | |
| v/s Ratio Prot | | | | | | | | c0.45 | | | 0.38 | |
| v/s Ratio Perm | | 0.16 | | | 0.20 | c0.21 | 0.10 | | | 0.30 | | |
| v/c Ratio | | 0.51 | | | 0.66 | 0.68 | 0.20 | 0.85 | | 0.57 | 0.72 | |
| Uniform Delay, d1 | | 16.1 | | | 17.0 | 17.2 | 7.1 | 11.5 | | 9.1 | 10.2 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.4 | | | 4.6 | 4.9 | 0.9 | 4.5 | | 8.1 | 1.6 | |
| Delay (s) | | 17.4 | | | 21.6 | 22.0 | 7.9 | 16.0 | | 17.2 | 11.9 | |
| Level of Service | | B | | | C | C | A | B | | B | B | |
| Approach Delay (s) | | 17.4 | | | 21.8 | | | 15.8 | | | 12.1 | |
| Approach LOS | | B | | | C | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 15.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.78 | | |
| Actuated Cycle Length (s) | 57.0 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 76.2% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 28 | 298 | 646 | 167 | 240 | 27 |
| v/c Ratio | 0.27 | 0.22 | 0.56 | 0.12 | 0.86 | 0.10 |
| Control Delay | 55.2 | 5.0 | 9.6 | 0.2 | 72.3 | 17.5 |
| Queue Delay | 0.0 | 0.0 | 0.9 | 0.0 | 0.5 | 0.0 |
| Total Delay | 55.2 | 5.0 | 10.5 | 0.2 | 72.9 | 17.5 |
| Queue Length 50th (ft) | 19 | 58 | 114 | 0 | 163 | 2 |
| Queue Length 95th (ft) | 49 | 88 | 308 | m0 | #292 | 27 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 118 | 1358 | 1158 | 1394 | 298 | 276 |
| Starvation Cap Reductn | 0 | 0 | 256 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 3 | 0 | 0 | 4 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.24 | 0.22 | 0.72 | 0.12 | 0.82 | 0.10 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 26 | 274 | 594 | 154 | 221 | 25 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1573 | 1562 | 1349 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1573 | 1562 | 1349 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 28 | 298 | 646 | 167 | 240 | 27 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 26 | 0 | 19 |
| Lane Group Flow (vph) | 28 | 298 | 646 | 141 | 240 | 8 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 4.7 | 81.8 | 73.1 | 92.7 | 19.6 | 19.6 |
| Effective Green, g (s) | 4.7 | 81.8 | 73.1 | 92.7 | 19.6 | 19.6 |
| Actuated g/C Ratio | 0.04 | 0.74 | 0.66 | 0.84 | 0.18 | 0.18 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 69 | 1359 | 1133 | 1326 | 278 | 240 |
| v/s Ratio Prot | c0.02 | 0.16 | c0.38 | 0.02 | c0.15 | |
| v/s Ratio Perm | | | | 0.07 | | 0.01 |
| v/c Ratio | 0.41 | 0.22 | 0.57 | 0.11 | 0.86 | 0.03 |
| Uniform Delay, d1 | 51.3 | 4.3 | 10.0 | 1.5 | 43.9 | 37.4 |
| Progression Factor | 1.00 | 1.00 | 0.74 | 0.26 | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.9 | 0.4 | 1.7 | 0.0 | 23.1 | 0.1 |
| Delay (s) | 55.2 | 4.7 | 9.0 | 0.4 | 67.0 | 37.4 |
| Level of Service | E | A | A | A | E | D |
| Approach Delay (s) | | 9.0 | 7.3 | | 64.0 | |
| Approach LOS | | A | A | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 18.4 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.62 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 12.6 |
| Intersection Capacity Utilization | 51.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 354 | 266 | 448 | 394 | 437 | 280 | 3 |
| v/c Ratio | 0.74 | 0.45 | 1.11 | 0.41 | 0.76 | 0.46 | 0.04 |
| Control Delay | 35.2 | 3.2 | 119.0 | 15.8 | 42.5 | 15.4 | 51.3 |
| Queue Delay | 1.6 | 0.0 | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 |
| Total Delay | 36.8 | 3.2 | 119.0 | 15.8 | 44.0 | 15.4 | 51.3 |
| Queue Length 50th (ft) | 176 | 0 | ~346 | 143 | 273 | 66 | 2 |
| Queue Length 95th (ft) | m303 | m0 | #638 | 257 | 399 | 138 | 12 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | | 217 |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 | |
| Base Capacity (vph) | 478 | 591 | 402 | 964 | 562 | 614 | 81 |
| Starvation Cap Reductn | 37 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 35 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.80 | 0.45 | 1.11 | 0.41 | 0.83 | 0.46 | 0.04 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1 | 325 | 245 | 412 | 362 | 1 | 399 | 3 | 258 | 2 | 1 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | 4.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.98 | | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | 1.00 | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.97 | |
| Satd. Flow (prot) | | 1759 | 1462 | 1562 | 1704 | | | 1682 | 1725 | | 1754 | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.97 | |
| Satd. Flow (perm) | | 1757 | 1462 | 1562 | 1704 | | | 1682 | 1725 | | 1754 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1 | 353 | 266 | 448 | 393 | 1 | 434 | 3 | 280 | 2 | 1 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 201 | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 354 | 65 | 448 | 394 | 0 | 0 | 437 | 176 | 0 | 3 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 26.7 | 26.7 | 28.3 | 59.0 | | | 36.9 | 32.9 | | 1.0 | |
| Effective Green, g (s) | | 26.7 | 26.7 | 28.3 | 59.0 | | | 36.9 | 32.9 | | 1.0 | |
| Actuated g/C Ratio | | 0.24 | 0.24 | 0.26 | 0.54 | | | 0.34 | 0.30 | | 0.01 | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | 4.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | | 426 | 355 | 402 | 914 | | | 564 | 516 | | 16 | |
| v/s Ratio Prot | | | | c0.29 | 0.23 | | | c0.26 | 0.04 | | c0.00 | |
| v/s Ratio Perm | | c0.20 | 0.04 | | | | | | 0.06 | | | |
| v/c Ratio | | 0.83 | 0.18 | 1.11 | 0.43 | | | 0.77 | 0.34 | | 0.19 | |
| Uniform Delay, d1 | | 39.5 | 33.0 | 40.9 | 15.4 | | | 32.8 | 30.1 | | 54.1 | |
| Progression Factor | | 0.69 | 0.22 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | | 15.9 | 1.0 | 79.7 | 1.5 | | | 6.6 | 0.4 | | 5.6 | |
| Delay (s) | | 43.2 | 8.2 | 120.5 | 16.9 | | | 39.4 | 30.5 | | 59.7 | |
| Level of Service | | D | A | F | B | | | D | C | | E | |
| Approach Delay (s) | | 28.2 | | | 72.0 | | | 35.9 | | | 59.7 | |
| Approach LOS | | C | | | E | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 47.7 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 16.6 |
| Intersection Capacity Utilization | 79.9% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 79 | 160 | 27 | 142 | 121 | 527 | 15 | 754 | 139 | 236 | 779 |
| v/c Ratio | 0.51 | 0.49 | 0.09 | 0.62 | 0.26 | 0.82 | 0.14 | 0.76 | 0.31 | 0.73 | 0.50 |
| Control Delay | 64.1 | 44.7 | 15.7 | 59.5 | 34.9 | 22.9 | 58.7 | 40.0 | 22.0 | 57.4 | 21.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 64.1 | 44.7 | 15.7 | 59.5 | 34.9 | 22.9 | 58.7 | 40.0 | 22.0 | 57.4 | 21.3 |
| Queue Length 50th (ft) | 51 | 98 | 1 | 91 | 68 | 104 | 10 | 239 | 43 | 145 | 150 |
| Queue Length 95th (ft) | #134 | 184 | 27 | 194 | 130 | 280 | 38 | 397 | 116 | #357 | 353 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 188 | 647 | 556 | 335 | 809 | 846 | 188 | 1407 | 608 | 385 | 1746 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.42 | 0.25 | 0.05 | 0.42 | 0.15 | 0.62 | 0.08 | 0.54 | 0.23 | 0.61 | 0.45 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 73 | 147 | 25 | 131 | 111 | 485 | 14 | 694 | 128 | 217 | 668 | 49 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1448 | 1620 | 1739 | 1396 | 1652 | 3240 | 1332 | 1620 | 3044 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1448 | 1620 | 1739 | 1396 | 1652 | 3240 | 1332 | 1620 | 3044 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 79 | 160 | 27 | 142 | 121 | 527 | 15 | 754 | 139 | 236 | 726 | 53 |
| RTOR Reduction (vph) | 0 | 0 | 20 | 0 | 0 | 276 | 0 | 0 | 36 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 79 | 160 | 7 | 142 | 121 | 251 | 15 | 754 | 103 | 236 | 776 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 8.5 | 21.0 | 21.0 | 15.6 | 28.1 | 28.1 | 2.9 | 34.4 | 34.4 | 21.6 | 53.1 | |
| Effective Green, g (s) | 7.5 | 20.5 | 20.5 | 14.6 | 27.6 | 27.6 | 1.9 | 33.9 | 33.9 | 20.6 | 52.6 | |
| Actuated g/C Ratio | 0.07 | 0.19 | 0.19 | 0.14 | 0.26 | 0.26 | 0.02 | 0.32 | 0.32 | 0.20 | 0.50 | |
| Clearance Time (s) | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 117 | 338 | 281 | 224 | 455 | 365 | 30 | 1040 | 428 | 316 | 1516 | |
| v/s Ratio Prot | 0.05 | 0.09 | | c0.09 | 0.07 | | 0.01 | c0.23 | | c0.15 | 0.25 | |
| v/s Ratio Perm | | | 0.00 | | | c0.18 | | | 0.08 | | | |
| v/c Ratio | 0.68 | 0.47 | 0.02 | 0.63 | 0.27 | 0.69 | 0.50 | 0.72 | 0.24 | 0.75 | 0.51 | |
| Uniform Delay, d1 | 47.9 | 37.8 | 34.5 | 43.0 | 31.0 | 35.1 | 51.4 | 31.7 | 26.4 | 40.0 | 17.9 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 15.6 | 1.4 | 0.0 | 6.5 | 0.4 | 5.7 | 16.8 | 2.7 | 0.4 | 9.8 | 0.4 | |
| Delay (s) | 63.4 | 39.2 | 34.5 | 49.4 | 31.4 | 40.9 | 68.1 | 34.4 | 26.8 | 49.9 | 18.2 | |
| Level of Service | E | D | C | D | C | D | E | C | C | D | B | |
| Approach Delay (s) | | 45.9 | | | 40.9 | | | 33.8 | | | 25.6 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 34.0 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.69 | | |
| Actuated Cycle Length (s) | 105.6 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 64.9% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 34 | 615 | 42 | 1299 | 1305 | 113 | 470 | 788 | 258 | 512 | 45 |
| v/c Ratio | 0.44 | 0.83 | 0.15 | 0.92 | 0.72 | 0.75 | 0.73 | 0.46 | 0.79 | 0.79 | 0.14 |
| Control Delay | 82.6 | 67.6 | 15.4 | 43.2 | 22.2 | 77.8 | 55.4 | 11.0 | 79.3 | 62.8 | 25.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 12.9 | 0.5 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Total Delay | 82.6 | 67.6 | 15.4 | 56.1 | 22.6 | 77.8 | 55.4 | 11.1 | 79.3 | 62.8 | 25.0 |
| Queue Length 50th (ft) | 31 | 201 | 0 | 546 | 455 | 106 | 227 | 165 | 120 | 236 | 14 |
| Queue Length 95th (ft) | 70 | 249 | 35 | #686 | 594 | #204 | 298 | 249 | #185 | 305 | 50 |
| Internal Link Dist (ft) | | 238 | | | 393 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 78 | 748 | 273 | 1418 | 1821 | 156 | 640 | 1695 | 326 | 652 | 318 |
| Starvation Cap Reductn | 0 | 0 | 0 | 134 | 165 | 0 | 0 | 99 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.44 | 0.82 | 0.15 | 1.01 | 0.79 | 0.72 | 0.73 | 0.49 | 0.79 | 0.79 | 0.14 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 31 | 566 | 39 | 1195 | 970 | 231 | 104 | 432 | 725 | 237 | 471 | 41 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3136 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1471 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3136 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1471 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 34 | 615 | 42 | 1299 | 1054 | 251 | 113 | 470 | 788 | 258 | 512 | 45 |
| RTOR Reduction (vph) | 0 | 0 | 35 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 22 |
| Lane Group Flow (vph) | 34 | 615 | 7 | 1299 | 1291 | 0 | 113 | 470 | 788 | 258 | 512 | 23 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 4.2 | 22.4 | 22.4 | 61.0 | 79.2 | | 12.5 | 23.6 | 84.6 | 14.0 | 25.1 | 25.1 |
| Effective Green, g (s) | 4.2 | 23.9 | 23.9 | 61.0 | 80.7 | | 12.5 | 25.1 | 84.6 | 14.0 | 26.6 | 26.6 |
| Actuated g/C Ratio | 0.03 | 0.17 | 0.17 | 0.44 | 0.58 | | 0.09 | 0.18 | 0.60 | 0.10 | 0.19 | 0.19 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 47 | 795 | 252 | 1418 | 1808 | | 150 | 602 | 1635 | 326 | 616 | 279 |
| v/s Ratio Prot | 0.02 | 0.13 | | c0.40 | c0.41 | | 0.07 | c0.14 | 0.29 | 0.08 | c0.16 | |
| v/s Ratio Perm | | | 0.00 | | | | | | | | | 0.02 |
| v/c Ratio | 0.72 | 0.77 | 0.03 | 0.92 | 0.71 | | 0.75 | 0.78 | 0.48 | 0.79 | 0.83 | 0.08 |
| Uniform Delay, d1 | 67.3 | 55.5 | 48.4 | 37.1 | 21.3 | | 62.2 | 54.8 | 15.5 | 61.6 | 54.5 | 46.7 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.89 | 0.91 | | 0.79 | 0.90 | 1.41 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 44.8 | 5.0 | 0.1 | 8.6 | 1.3 | | 19.7 | 9.5 | 0.3 | 13.0 | 12.4 | 0.6 |
| Delay (s) | 112.1 | 60.5 | 48.4 | 41.7 | 20.8 | | 68.6 | 58.6 | 22.1 | 74.6 | 66.9 | 47.2 |
| Level of Service | F | E | D | D | C | | E | E | C | E | E | D |
| Approach Delay (s) | | 62.3 | | | 31.2 | | | 38.5 | | | 68.2 | |
| Approach LOS | | E | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 42.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.82 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 86.0% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 148 | 1499 | 251 | 1908 | 146 | 151 | 89 | 323 |
| v/c Ratio | 0.85 | 0.58 | 0.79 | 0.77 | 0.60 | 0.61 | 0.28 | 0.86 |
| Control Delay | 87.3 | 19.9 | 64.7 | 14.7 | 63.5 | 63.7 | 10.5 | 60.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 87.3 | 19.9 | 64.7 | 14.7 | 63.5 | 63.7 | 10.5 | 60.0 |
| Queue Length 50th (ft) | 130 | 245 | 193 | 261 | 133 | 138 | 0 | 95 |
| Queue Length 95th (ft) | #260 | 353 | m247 | m#659 | 185 | 190 | 44 | #177 |
| Internal Link Dist (ft) | | 660 | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 180 | | 200 | | | |
| Base Capacity (vph) | 174 | 2584 | 332 | 2478 | 405 | 413 | 464 | 378 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.85 | 0.58 | 0.76 | 0.77 | 0.36 | 0.37 | 0.19 | 0.85 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 136 | 1030 | 349 | 231 | 1693 | 63 | 221 | 52 | 82 | 41 | 116 | 140 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.86 | | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 0.99 | |
| Satd. Flow (prot) | 1620 | 5622 | | 1678 | 4625 | | 1539 | 1571 | 1512 | | 3064 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 0.99 | |
| Satd. Flow (perm) | 1620 | 5622 | | 1678 | 4625 | | 1539 | 1571 | 1512 | | 3064 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 148 | 1120 | 379 | 251 | 1840 | 68 | 240 | 57 | 89 | 45 | 126 | 152 |
| RTOR Reduction (vph) | 0 | 37 | 0 | 0 | 2 | 0 | 0 | 0 | 75 | 0 | 115 | 0 |
| Lane Group Flow (vph) | 148 | 1462 | 0 | 251 | 1906 | 0 | 146 | 151 | 14 | 0 | 208 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 14.1 | 62.4 | | 25.5 | 73.8 | | 21.6 | 21.6 | 21.6 | | 11.3 | |
| Effective Green, g (s) | 15.1 | 63.4 | | 26.5 | 74.8 | | 22.2 | 22.2 | 22.2 | | 11.9 | |
| Actuated g/C Ratio | 0.11 | 0.45 | | 0.19 | 0.53 | | 0.16 | 0.16 | 0.16 | | 0.09 | |
| Clearance Time (s) | 5.0 | 5.0 | | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 175 | 2546 | | 318 | 2471 | | 244 | 249 | 240 | | 260 | |
| v/s Ratio Prot | c0.09 | 0.26 | | 0.15 | c0.41 | | 0.09 | c0.10 | | | c0.07 | |
| v/s Ratio Perm | | | | | | | | | 0.01 | | | |
| v/c Ratio | 0.85 | 0.57 | | 0.79 | 0.77 | | 0.60 | 0.61 | 0.06 | | 0.80 | |
| Uniform Delay, d1 | 61.3 | 28.3 | | 54.1 | 25.8 | | 54.8 | 54.8 | 50.0 | | 62.9 | |
| Progression Factor | 0.81 | 0.66 | | 0.98 | 0.46 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 29.4 | 0.9 | | 8.2 | 1.5 | | 4.6 | 4.8 | 0.1 | | 16.4 | |
| Delay (s) | 79.3 | 19.6 | | 61.4 | 13.4 | | 59.3 | 59.6 | 50.2 | | 79.3 | |
| Level of Service | E | B | | E | B | | E | E | D | | E | |
| Approach Delay (s) | | 25.0 | | | 19.0 | | | 57.3 | | | 79.3 | |
| Approach LOS | | C | | | B | | | E | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 28.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.75 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 72.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 152 | 1208 | 439 | 1503 | 216 | 234 | 197 | 52 | 547 |
| v/c Ratio | 0.85 | 0.77 | 0.95 | 0.90 | 0.96 | 0.29 | 0.35 | 0.46 | 0.85 |
| Control Delay | 75.3 | 26.9 | 81.1 | 40.9 | 114.5 | 44.0 | 7.1 | 79.2 | 62.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 75.3 | 26.9 | 81.1 | 40.9 | 114.5 | 44.0 | 7.1 | 79.2 | 62.2 |
| Queue Length 50th (ft) | 134 | 377 | 394 | 664 | 103 | 91 | 0 | 24 | 231 |
| Queue Length 95th (ft) | m#259 | 445 | #609 | #836 | #187 | 130 | 62 | 47 | 298 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 182 | 1574 | 461 | 1662 | 225 | 825 | 569 | 114 | 708 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.84 | 0.77 | 0.95 | 0.90 | 0.96 | 0.28 | 0.35 | 0.46 | 0.77 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 140 | 764 | 348 | 404 | 1353 | 29 | 199 | 215 | 181 | 48 | 346 | 157 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.95 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.95 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4496 | | 1652 | 3278 | | 3143 | 3240 | 1658 | 3204 | 3069 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4496 | | 1652 | 3278 | | 3143 | 3240 | 1658 | 3204 | 3069 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 152 | 830 | 378 | 439 | 1471 | 32 | 216 | 234 | 197 | 52 | 376 | 171 |
| RTOR Reduction (vph) | 0 | 57 | 0 | 0 | 1 | 0 | 0 | 0 | 148 | 0 | 38 | 0 |
| Lane Group Flow (vph) | 152 | 1151 | 0 | 439 | 1502 | 0 | 216 | 234 | 49 | 52 | 509 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 15.5 | 45.6 | | 39.2 | 69.3 | | 11.0 | 34.9 | 34.9 | 4.8 | 28.7 | |
| Effective Green, g (s) | 15.4 | 46.6 | | 39.1 | 70.3 | | 10.0 | 34.5 | 34.5 | 3.8 | 28.3 | |
| Actuated g/C Ratio | 0.11 | 0.33 | | 0.28 | 0.50 | | 0.07 | 0.25 | 0.25 | 0.03 | 0.20 | |
| Clearance Time (s) | 3.9 | 5.0 | | 3.9 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 178 | 1497 | | 461 | 1646 | | 225 | 798 | 409 | 87 | 620 | |
| v/s Ratio Prot | c0.09 | 0.26 | | 0.27 | c0.46 | | c0.07 | 0.07 | | 0.02 | c0.17 | |
| v/s Ratio Perm | | | | | | | | | 0.03 | | | |
| v/c Ratio | 0.85 | 0.77 | | 0.95 | 0.91 | | 0.96 | 0.29 | 0.12 | 0.60 | 0.82 | |
| Uniform Delay, d1 | 61.2 | 41.9 | | 49.5 | 32.0 | | 64.8 | 42.8 | 40.9 | 67.3 | 53.4 | |
| Progression Factor | 0.66 | 0.61 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 27.5 | 3.4 | | 30.1 | 9.2 | | 48.4 | 0.3 | 0.2 | 12.3 | 8.9 | |
| Delay (s) | 67.6 | 28.8 | | 79.7 | 41.3 | | 113.2 | 43.1 | 41.1 | 79.6 | 62.4 | |
| Level of Service | E | C | | E | D | | F | D | D | E | E | |
| Approach Delay (s) | | 33.1 | | | 49.9 | | | 65.9 | | | 63.9 | |
| Approach LOS | | C | | | D | | | E | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 49.0 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.89 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 80.5% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 45 | 67 | 172 | 17 | 1088 | 78 | 555 | 1270 |
| v/c Ratio | 0.38 | 0.55 | 0.43 | 0.20 | 0.53 | 0.08 | 0.81 | 0.46 |
| Control Delay | 58.4 | 77.3 | 11.1 | 75.9 | 6.6 | 0.3 | 76.5 | 0.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| Total Delay | 58.4 | 77.3 | 11.1 | 75.9 | 6.6 | 0.3 | 76.5 | 0.7 |
| Queue Length 50th (ft) | 31 | 60 | 0 | 16 | 129 | 1 | 245 | 2 |
| Queue Length 95th (ft) | 71 | 108 | 38 | m24 | 251 | m4 | 271 | 2 |
| Internal Link Dist (ft) | 387 | 301 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 350 | |
| Base Capacity (vph) | 181 | 193 | 536 | 94 | 2069 | 1005 | 920 | 2783 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 463 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.25 | 0.35 | 0.32 | 0.18 | 0.53 | 0.08 | 0.60 | 0.55 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 32 | 0 | 9 | 60 | 2 | 158 | 16 | 1001 | 72 | 511 | 1085 | 84 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.97 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.96 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1697 | | | 1777 | 2787 | 1678 | 3355 | 1583 | 3433 | 3427 | |
| Flt Permitted | | 0.70 | | | 0.75 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1240 | | | 1389 | 2787 | 1678 | 3355 | 1583 | 3433 | 3427 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 35 | 0 | 10 | 65 | 2 | 172 | 17 | 1088 | 78 | 555 | 1179 | 91 |
| RTOR Reduction (vph) | 0 | 8 | 0 | 0 | 0 | 157 | 0 | 0 | 29 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 37 | 0 | 0 | 67 | 15 | 17 | 1088 | 49 | 555 | 1267 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | |
| Actuated Green, G (s) | | 12.2 | | | 12.2 | 12.2 | 3.3 | 86.4 | 86.4 | 27.9 | 111.0 | |
| Effective Green, g (s) | | 12.2 | | | 12.2 | 12.2 | 3.3 | 86.4 | 86.4 | 27.9 | 111.0 | |
| Actuated g/C Ratio | | 0.09 | | | 0.09 | 0.09 | 0.02 | 0.62 | 0.62 | 0.20 | 0.79 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 108 | | | 121 | 243 | 40 | 2071 | 977 | 684 | 2717 | |
| v/s Ratio Prot | | | | | | | 0.01 | c0.32 | | c0.16 | 0.37 | |
| v/s Ratio Perm | | 0.03 | | | c0.05 | 0.01 | | | 0.03 | | | |
| v/c Ratio | | 0.34 | | | 0.55 | 0.06 | 0.42 | 0.53 | 0.05 | 0.81 | 0.47 | |
| Uniform Delay, d1 | | 60.1 | | | 61.3 | 58.6 | 67.4 | 15.2 | 10.6 | 53.5 | 4.8 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.14 | 0.35 | 0.06 | 1.29 | 0.04 | |
| Incremental Delay, d2 | | 1.9 | | | 5.4 | 0.1 | 5.4 | 0.7 | 0.1 | 5.9 | 0.5 | |
| Delay (s) | | 62.0 | | | 66.7 | 58.8 | 82.0 | 6.1 | 0.7 | 74.8 | 0.6 | |
| Level of Service | | E | | | E | E | F | A | A | E | A | |
| Approach Delay (s) | | 62.0 | | | 61.0 | | | 6.8 | | | 23.2 | |
| Approach LOS | | E | | | E | | | A | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 20.6 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.59 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 62.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 186 | 26 | 71 | 92 | 466 | 32 | 502 | 324 | 559 |
| v/c Ratio | 0.52 | 0.08 | 0.29 | 0.21 | 0.69 | 0.19 | 0.61 | 0.69 | 0.32 |
| Control Delay | 29.2 | 10.0 | 26.1 | 23.2 | 8.7 | 38.8 | 25.3 | 31.7 | 9.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.2 | 10.0 | 26.1 | 23.2 | 8.7 | 38.8 | 25.3 | 31.7 | 9.7 |
| Queue Length 50th (ft) | 61 | 0 | 22 | 28 | 0 | 12 | 83 | 108 | 45 |
| Queue Length 95th (ft) | 156 | 19 | 69 | 80 | 84 | 49 | 184 | 265 | 134 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 690 | 624 | 470 | 842 | 874 | 171 | 1336 | 784 | 2385 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.04 | 0.15 | 0.11 | 0.53 | 0.19 | 0.38 | 0.41 | 0.23 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 77 | 94 | 24 | 65 | 85 | 429 | 29 | 384 | 78 | 298 | 485 | 29 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.99 | |
| Flt Protected | | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1693 | 1259 | 1620 | 1739 | 1314 | 1711 | 2988 | | 1620 | 3050 | |
| Flt Permitted | | 0.83 | 1.00 | 0.57 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1428 | 1259 | 971 | 1739 | 1314 | 1711 | 2988 | | 1620 | 3050 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 84 | 102 | 26 | 71 | 92 | 466 | 32 | 417 | 85 | 324 | 527 | 32 |
| RTOR Reduction (vph) | 0 | 0 | 20 | 0 | 0 | 352 | 0 | 17 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 0 | 186 | 6 | 71 | 92 | 114 | 32 | 485 | 0 | 324 | 555 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 16.3 | 16.3 | 16.3 | 16.3 | 16.3 | 1.9 | 20.1 | | 18.8 | 37.0 | |
| Effective Green, g (s) | | 16.3 | 16.3 | 16.3 | 16.3 | 16.3 | 1.9 | 20.1 | | 18.8 | 37.0 | |
| Actuated g/C Ratio | | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.03 | 0.30 | | 0.28 | 0.55 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 349 | 308 | 237 | 425 | 321 | 49 | 900 | | 457 | 1692 | |
| v/s Ratio Prot | | | | | 0.05 | | 0.02 | c0.16 | | c0.20 | 0.18 | |
| v/s Ratio Perm | | c0.13 | 0.01 | 0.07 | | 0.09 | | | | | | |
| v/c Ratio | | 0.53 | 0.02 | 0.30 | 0.22 | 0.35 | 0.65 | 0.54 | | 0.71 | 0.33 | |
| Uniform Delay, d1 | | 21.9 | 19.1 | 20.5 | 20.1 | 20.8 | 32.1 | 19.4 | | 21.5 | 8.1 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.6 | 0.0 | 0.7 | 0.3 | 0.7 | 27.1 | 0.8 | | 5.0 | 0.2 | |
| Delay (s) | | 23.5 | 19.2 | 21.3 | 20.4 | 21.5 | 59.2 | 20.2 | | 26.5 | 8.2 | |
| Level of Service | | C | B | C | C | C | E | C | | C | A | |
| Approach Delay (s) | | 22.9 | | | 21.3 | | | 22.6 | | | 14.9 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 19.3 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.59 | | |
| Actuated Cycle Length (s) | 66.7 | Sum of lost time (s) | 11.5 |
| Intersection Capacity Utilization | 61.0% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 146 | 213 | 253 | 173 | 586 | 213 | 1130 | 43 | 1214 |
| v/c Ratio | 0.66 | 0.76 | 0.61 | 0.80 | 0.83 | 0.84 | 0.64 | 0.40 | 0.79 |
| Control Delay | 77.7 | 74.6 | 12.8 | 85.5 | 61.4 | 84.4 | 24.0 | 56.9 | 22.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 77.7 | 74.6 | 12.8 | 85.5 | 61.4 | 84.4 | 24.0 | 56.9 | 22.3 |
| Queue Length 50th (ft) | 67 | 187 | 0 | 155 | 257 | 189 | 380 | 35 | 350 |
| Queue Length 95th (ft) | #120 | #292 | 85 | #267 | 321 | #314 | 460 | 79 | 512 |
| Internal Link Dist (ft) | | 2946 | | | 522 | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 205 | | 200 | | 370 | |
| Base Capacity (vph) | 222 | 295 | 421 | 228 | 784 | 271 | 1756 | 114 | 1536 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.72 | 0.60 | 0.76 | 0.75 | 0.79 | 0.64 | 0.38 | 0.79 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 134 | 196 | 233 | 159 | 406 | 133 | 196 | 839 | 201 | 40 | 1032 | 85 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 12 | 12 | 12 | 10 | 10 | 10 | 12 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 0.97 | | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3060 | 1845 | 1305 | 1770 | 3394 | | 1652 | 3127 | | 1770 | 3409 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3060 | 1845 | 1305 | 1770 | 3394 | | 1652 | 3127 | | 1770 | 3409 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 146 | 213 | 253 | 173 | 441 | 145 | 213 | 912 | 218 | 43 | 1122 | 92 |
| RTOR Reduction (vph) | 0 | 0 | 215 | 0 | 23 | 0 | 0 | 14 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 146 | 213 | 38 | 173 | 563 | 0 | 213 | 1116 | 0 | 43 | 1210 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | | | | | | | |
| Actuated Green, G (s) | 10.2 | 21.3 | 21.3 | 17.1 | 28.2 | | 21.5 | 77.2 | | 7.2 | 62.9 | |
| Effective Green, g (s) | 10.2 | 21.3 | 21.3 | 17.1 | 28.2 | | 21.5 | 77.2 | | 7.2 | 62.9 | |
| Actuated g/C Ratio | 0.07 | 0.15 | 0.15 | 0.12 | 0.20 | | 0.15 | 0.55 | | 0.05 | 0.45 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 223 | 281 | 199 | 216 | 684 | | 254 | 1724 | | 91 | 1532 | |
| v/s Ratio Prot | 0.05 | c0.12 | | 0.10 | c0.17 | | c0.13 | 0.36 | | 0.02 | c0.35 | |
| v/s Ratio Perm | | | 0.03 | | | | | | | | | |
| v/c Ratio | 0.65 | 0.76 | 0.19 | 0.80 | 0.82 | | 0.84 | 0.65 | | 0.47 | 0.79 | |
| Uniform Delay, d1 | 63.2 | 56.9 | 51.8 | 59.8 | 53.5 | | 57.6 | 21.9 | | 64.6 | 32.9 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.74 | 0.54 | |
| Incremental Delay, d2 | 7.4 | 11.8 | 0.6 | 19.8 | 8.3 | | 21.6 | 1.9 | | 4.7 | 3.9 | |
| Delay (s) | 70.6 | 68.7 | 52.5 | 79.6 | 61.8 | | 79.2 | 23.8 | | 52.6 | 21.7 | |
| Level of Service | E | E | D | E | E | | E | C | | D | C | |
| Approach Delay (s) | | 62.4 | | | 65.8 | | | 32.6 | | | 22.8 | |
| Approach LOS | | E | | | E | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 40.4 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.79 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 13.2 |
| Intersection Capacity Utilization | 76.1% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 50 | 345 | 101 | 972 | 16 | 14 | 34 | 37 | 22 |
| v/c Ratio | 0.36 | 0.28 | 0.54 | 0.74 | 0.16 | 0.10 | 0.32 | 0.24 | 0.28 |
| Control Delay | 61.0 | 10.8 | 56.8 | 19.9 | 49.9 | 24.0 | 55.4 | 20.1 | 56.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 61.0 | 10.8 | 56.8 | 19.9 | 49.9 | 24.0 | 55.4 | 20.1 | 56.2 |
| Queue Length 50th (ft) | 34 | 77 | 69 | 349 | 11 | 1 | 23 | 1 | 15 |
| Queue Length 95th (ft) | 76 | 107 | 119 | #965 | 33 | 20 | 55 | 33 | 40 |
| Internal Link Dist (ft) | | 524 | | 1458 | | 986 | | 462 | |
| Turn Bay Length (ft) | 205 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 139 | 1215 | 218 | 1312 | 216 | 273 | 228 | 291 | 179 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.36 | 0.28 | 0.46 | 0.74 | 0.07 | 0.05 | 0.15 | 0.13 | 0.12 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 46 | 286 | 31 | 93 | 790 | 104 | 15 | 1 | 12 | 31 | 2 | 32 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 12 | 11 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.98 | | 1.00 | 0.86 | | 1.00 | 0.86 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1831 | | 1770 | 1830 | | 1711 | 1603 | | 1770 | 1598 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.73 | 1.00 | | 0.75 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1831 | | 1770 | 1830 | | 1320 | 1603 | | 1394 | 1598 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 50 | 311 | 34 | 101 | 859 | 113 | 16 | 1 | 13 | 34 | 2 | 35 |
| RTOR Reduction (vph) | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 33 | 0 |
| Lane Group Flow (vph) | 50 | 343 | 0 | 101 | 972 | 0 | 16 | 2 | 0 | 34 | 4 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 7.5 | 69.3 | | 11.6 | 73.4 | | 7.1 | 7.1 | | 7.1 | 7.1 | |
| Effective Green, g (s) | 7.5 | 69.3 | | 11.6 | 73.4 | | 7.1 | 7.1 | | 7.1 | 7.1 | |
| Actuated g/C Ratio | 0.07 | 0.63 | | 0.11 | 0.67 | | 0.06 | 0.06 | | 0.06 | 0.06 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 121 | 1154 | | 187 | 1221 | | 85 | 103 | | 90 | 103 | |
| v/s Ratio Prot | 0.03 | 0.19 | | c0.06 | c0.53 | | | 0.00 | | | 0.00 | |
| v/s Ratio Perm | | | | | | | 0.01 | | | c0.02 | | |
| v/c Ratio | 0.41 | 0.30 | | 0.54 | 0.80 | | 0.19 | 0.02 | | 0.38 | 0.04 | |
| Uniform Delay, d1 | 49.1 | 9.3 | | 46.7 | 13.0 | | 48.7 | 48.2 | | 49.3 | 48.3 | |
| Progression Factor | 1.14 | 0.94 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 2.2 | 0.6 | | 3.2 | 5.4 | | 1.1 | 0.1 | | 2.6 | 0.2 | |
| Delay (s) | 58.3 | 9.4 | | 49.8 | 18.4 | | 49.8 | 48.3 | | 52.0 | 48.4 | |
| Level of Service | E | A | | D | B | | D | D | | D | D | |
| Approach Delay (s) | | 15.6 | | | 21.4 | | | 49.1 | | | 50.1 | |
| Approach LOS | | B | | | C | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 22.4 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.74 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 81.3% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Movement | SWR |
|---|---|
| Lane Configurations | |
| Volume (vph) | 20 |
| Ideal Flow (vphpl) | 1900 |
| Lane Width | 12 |
| Total Lost time (s) | 4.5 |
| Lane Util. Factor | 1.00 |
| Frpb, ped/bikes | 1.00 |
| Flpb, ped/bikes | 1.00 |
| Frt | 0.86 |
| Flt Protected | 1.00 |
| Satd. Flow (prot) | 1096 |
| Flt Permitted | 1.00 |
| Satd. Flow (perm) | 1096 |
| Peak-hour factor, PHF | 0.92 |
| Adj. Flow (vph) | 22 |
| RTOR Reduction (vph) | 0 |
| Lane Group Flow (vph) | 22 |
| Confl. Peds. (#/hr) | |
| Heavy Vehicles (%) | 50% |
| Parking (#/hr) | |
| Turn Type | custom |
| Protected Phases | 9 |
| Permitted Phases | |
| Actuated Green, G (s) | 4.0 |
| Effective Green, g (s) | 4.0 |
| Actuated g/C Ratio | 0.04 |
| Clearance Time (s) | 4.5 |
| Vehicle Extension (s) | 3.0 |
| Lane Grp Cap (vph) | 40 |
| v/s Ratio Prot | c0.02 |
| v/s Ratio Perm | |
| v/c Ratio | 0.55 |
| Uniform Delay, d1 | 52.1 |
| Progression Factor | 1.00 |
| Incremental Delay, d2 | 15.3 |
| Delay (s) | 67.5 |
| Level of Service | E |
| Approach Delay (s) | |
| Approach LOS | |

| Intersection Summary |
|---|

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 89 | 306 | 11 | 897 | 67 | 126 | 14 | 78 | 429 |
| v/c Ratio | 0.88 | 0.28 | 0.11 | 1.15 | 0.62 | 0.23 | 0.04 | 0.23 | 0.76 |
| Control Delay | 102.0 | 9.7 | 35.5 | 103.5 | 46.9 | 18.8 | 8.5 | 19.4 | 27.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 102.0 | 9.7 | 35.5 | 103.5 | 46.9 | 18.8 | 8.5 | 19.4 | 27.5 |
| Queue Length 50th (ft) | 38 | 50 | 5 | ~454 | 24 | 39 | 0 | 24 | 135 |
| Queue Length 95th (ft) | #130 | 142 | 20 | #760 | #76 | 76 | 11 | 55 | 230 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 101 | 1081 | 101 | 782 | 147 | 742 | 536 | 465 | 744 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.88 | 0.28 | 0.11 | 1.15 | 0.46 | 0.17 | 0.03 | 0.17 | 0.58 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 82 | 191 | 90 | 10 | 771 | 54 | 62 | 116 | 13 | 72 | 206 | 189 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1920 | | 1711 | 1702 | | 1652 | 1863 | 1325 | 1642 | 1764 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.21 | 1.00 | 1.00 | 0.68 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1920 | | 1711 | 1702 | | 371 | 1863 | 1325 | 1169 | 1764 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 89 | 208 | 98 | 11 | 838 | 59 | 67 | 126 | 14 | 78 | 224 | 205 |
| RTOR Reduction (vph) | 0 | 18 | 0 | 0 | 3 | 0 | 0 | 0 | 10 | 0 | 50 | 0 |
| Lane Group Flow (vph) | 89 | 288 | 0 | 11 | 894 | 0 | 67 | 126 | 4 | 78 | 379 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 4.0 | 37.8 | | 0.7 | 34.5 | | 19.9 | 19.9 | 19.9 | 19.9 | 19.9 | |
| Effective Green, g (s) | 4.0 | 37.8 | | 0.7 | 34.5 | | 19.9 | 19.9 | 19.9 | 19.9 | 19.9 | |
| Actuated g/C Ratio | 0.06 | 0.53 | | 0.01 | 0.48 | | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 96 | 1016 | | 17 | 822 | | 103 | 519 | 369 | 326 | 492 | |
| v/s Ratio Prot | c0.05 | c0.15 | | 0.01 | c0.53 | | | 0.07 | | | c0.22 | |
| v/s Ratio Perm | | | | | | | 0.18 | | 0.00 | 0.07 | | |
| v/c Ratio | 0.93 | 0.28 | | 0.65 | 1.09 | | 0.65 | 0.24 | 0.01 | 0.24 | 0.77 | |
| Uniform Delay, d1 | 33.6 | 9.3 | | 35.2 | 18.5 | | 22.7 | 19.9 | 18.6 | 19.9 | 23.7 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 68.5 | 0.2 | | 67.6 | 57.9 | | 15.1 | 0.3 | 0.0 | 0.5 | 7.8 | |
| Delay (s) | 102.1 | 9.5 | | 102.8 | 76.3 | | 37.8 | 20.3 | 18.6 | 20.4 | 31.4 | |
| Level of Service | F | A | | F | E | | D | C | B | C | C | |
| Approach Delay (s) | | 30.4 | | | 76.6 | | | 25.8 | | | 29.7 | |
| Approach LOS | | C | | | E | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 50.6 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.02 | | |
| Actuated Cycle Length (s) | 71.4 | Sum of lost time (s) | 17.5 |
| Intersection Capacity Utilization | 90.5% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 174 | 96 | 4 | 28 | 555 | 607 | 13 | 27 | 1008 |
| v/c Ratio | 0.99 | 0.22 | 0.05 | 0.13 | 1.06 | 0.30 | 0.01 | 0.23 | 0.94 |
| Control Delay | 110.0 | 8.7 | 46.8 | 20.8 | 86.3 | 10.3 | 8.8 | 47.5 | 44.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 110.0 | 8.7 | 46.8 | 20.8 | 86.3 | 10.3 | 8.8 | 47.5 | 44.9 |
| Queue Length 50th (ft) | 93 | 5 | 2 | 6 | ~295 | 53 | 1 | 14 | 241 |
| Queue Length 95th (ft) | #286 | 41 | 15 | 28 | #704 | 189 | 13 | 47 | #531 |
| Internal Link Dist (ft) | | 1442 | | 221 | | 1609 | | | 1977 |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | |
| Base Capacity (vph) | 175 | 709 | 75 | 600 | 526 | 2034 | 906 | 117 | 1070 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.99 | 0.14 | 0.05 | 0.05 | 1.06 | 0.30 | 0.01 | 0.23 | 0.94 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 160 | 10 | 78 | 4 | 11 | 15 | 516 | 558 | 12 | 25 | 582 | 345 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.87 | | 1.00 | 0.91 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1530 | | 1652 | 1571 | | 1652 | 3240 | 1446 | 1711 | 3191 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1530 | | 1652 | 1571 | | 1652 | 3240 | 1446 | 1711 | 3191 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 174 | 11 | 85 | 4 | 12 | 16 | 555 | 607 | 13 | 27 | 633 | 375 |
| RTOR Reduction (vph) | 0 | 65 | 0 | 0 | 14 | 0 | 0 | 0 | 3 | 0 | 72 | 0 |
| Lane Group Flow (vph) | 174 | 31 | 0 | 4 | 14 | 0 | 555 | 607 | 10 | 27 | 936 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 9.1 | 22.0 | | 0.7 | 13.6 | | 28.3 | 55.7 | 55.7 | 2.2 | 29.6 | |
| Effective Green, g (s) | 9.1 | 22.0 | | 0.7 | 13.6 | | 28.3 | 55.7 | 55.7 | 2.2 | 29.6 | |
| Actuated g/C Ratio | 0.10 | 0.24 | | 0.01 | 0.15 | | 0.30 | 0.60 | 0.60 | 0.02 | 0.32 | |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 167 | 362 | | 12 | 229 | | 502 | 1938 | 865 | 40 | 1015 | |
| v/s Ratio Prot | c0.10 | c0.02 | | 0.00 | 0.01 | | c0.34 | 0.19 | | 0.02 | c0.29 | |
| v/s Ratio Perm | | | | | | | | | 0.01 | | | |
| v/c Ratio | 1.04 | 0.09 | | 0.33 | 0.06 | | 1.11 | 0.31 | 0.01 | 0.68 | 0.92 | |
| Uniform Delay, d1 | 42.0 | 27.7 | | 46.0 | 34.3 | | 32.4 | 9.2 | 7.6 | 45.1 | 30.6 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 81.1 | 0.1 | | 21.0 | 0.2 | | 72.2 | 0.1 | 0.0 | 39.6 | 13.5 | |
| Delay (s) | 123.1 | 27.9 | | 67.0 | 34.4 | | 104.6 | 9.4 | 7.6 | 84.7 | 44.2 | |
| Level of Service | F | C | | E | C | | F | A | A | F | D | |
| Approach Delay (s) | | 89.3 | | | 38.5 | | | 54.3 | | | 45.2 | |
| Approach LOS | | F | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 54.1 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.83 | | |
| Actuated Cycle Length (s) | 93.1 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 81.8% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 38 | 7 | 17 | 1348 | 1502 |
| v/c Ratio | 0.27 | 0.06 | 0.07 | 0.47 | 0.53 |
| Control Delay | 49.5 | 24.2 | 3.2 | 3.2 | 3.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 1.1 | 0.0 |
| Total Delay | 49.5 | 24.2 | 3.2 | 4.2 | 3.6 |
| Queue Length 50th (ft) | 26 | 0 | 1 | 92 | 111 |
| Queue Length 95th (ft) | 54 | 13 | 9 | 221 | 267 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 300 | 248 | 245 | 2874 | 2848 |
| Starvation Cap Reductn | 0 | 0 | 0 | 1184 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.13 | 0.03 | 0.07 | 0.80 | 0.53 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 35 | 6 | 16 | 1240 | 1299 | 83 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3209 | |
| Flt Permitted | 0.95 | 1.00 | 0.16 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 277 | 3240 | 3209 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 38 | 7 | 17 | 1348 | 1412 | 90 |
| RTOR Reduction (vph) | 0 | 7 | 0 | 0 | 2 | 0 |
| Lane Group Flow (vph) | 38 | 0 | 17 | 1348 | 1500 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 7.0 | 7.0 | 94.0 | 94.0 | 94.0 | |
| Effective Green, g (s) | 7.0 | 7.0 | 94.0 | 94.0 | 94.0 | |
| Actuated g/C Ratio | 0.06 | 0.06 | 0.85 | 0.85 | 0.85 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 105 | 85 | 237 | 2769 | 2742 | |
| v/s Ratio Prot | c0.02 | | | 0.42 | c0.47 | |
| v/s Ratio Perm | | 0.00 | 0.06 | | | |
| v/c Ratio | 0.36 | 0.01 | 0.07 | 0.49 | 0.55 | |
| Uniform Delay, d1 | 49.4 | 48.2 | 1.2 | 2.0 | 2.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 2.1 | 0.0 | 0.6 | 0.6 | 0.8 | |
| Delay (s) | 51.5 | 48.3 | 1.8 | 2.6 | 3.0 | |
| Level of Service | D | D | A | A | A | |
| Approach Delay (s) | 51.0 | | | 2.6 | 3.0 | |
| Approach LOS | D | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 3.5 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.53 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 49.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1097 | 778 | 975 | 1961 | 763 | 875 |
| v/c Ratio | 0.66 | 0.58 | 0.87 | 1.05 | 0.50 | 0.86 |
| Control Delay | 18.8 | 15.9 | 43.9 | 57.0 | 1.2 | 55.0 |
| Queue Delay | 1.5 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 20.3 | 16.3 | 43.9 | 57.0 | 1.2 | 55.0 |
| Queue Length 50th (ft) | 244 | 156 | 410 | ~1020 | 0 | 328 |
| Queue Length 95th (ft) | 373 | 264 | m489 | #1165 | 0 | 403 |
| Internal Link Dist (ft) | 247 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 1650 | 1331 | 1121 | 1866 | 1517 | 1013 |
| Starvation Cap Reductn | 347 | 199 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.84 | 0.69 | 0.87 | 1.05 | 0.50 | 0.86 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1009 | 716 | 897 | 1804 | 0 | 0 | 0 | 702 | 0 | 0 | 805 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 3.5 | 3.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.76 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3020 | 2378 | 2828 | 3020 | | | | 1517 | | | 3187 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3020 | 2378 | 2828 | 3020 | | | | 1517 | | | 3187 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1097 | 778 | 975 | 1961 | 0 | 0 | 0 | 763 | 0 | 0 | 875 |
| RTOR Reduction (vph) | 0 | 0 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1097 | 746 | 975 | 1961 | 0 | 0 | 0 | 763 | 0 | 0 | 875 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 4 | | 1 | 6 | | | | | | | 4 |
| Permitted Phases | | | 2 4 | | | | | | Free | | | |
| Actuated Green, G (s) | | 75.5 | 75.5 | 55.5 | 86.5 | | | | 140.0 | | | 44.5 |
| Effective Green, g (s) | | 75.5 | 75.5 | 55.5 | 86.5 | | | | 140.0 | | | 44.5 |
| Actuated g/C Ratio | | 0.54 | 0.54 | 0.40 | 0.62 | | | | 1.00 | | | 0.32 |
| Clearance Time (s) | | | | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | | | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 1629 | 1282 | 1121 | 1866 | | | | 1517 | | | 1013 |
| v/s Ratio Prot | | 0.36 | | 0.34 | c0.65 | | | | | | | c0.27 |
| v/s Ratio Perm | | | 0.31 | | | | | | 0.50 | | | |
| v/c Ratio | | 0.67 | 0.58 | 0.87 | 1.05 | | | | 0.50 | | | 0.86 |
| Uniform Delay, d1 | | 23.3 | 21.6 | 38.9 | 26.8 | | | | 0.0 | | | 44.9 |
| Progression Factor | | 0.73 | 0.74 | 0.98 | 0.96 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 1.0 | 0.6 | 5.4 | 31.0 | | | | 1.2 | | | 9.7 |
| Delay (s) | | 18.1 | 16.5 | 43.4 | 56.6 | | | | 1.2 | | | 54.6 |
| Level of Service | | B | B | D | E | | | | A | | | D |
| Approach Delay (s) | | 17.5 | | | 52.2 | | | 1.2 | | | 54.6 | |
| Approach LOS | | B | | | D | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 36.4 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.99 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 83.8% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 627 | 1182 | 1562 | 516 | 512 | 1366 |
| v/c Ratio | 0.79 | 0.35 | 0.75 | 0.53 | 0.32 | 0.89 |
| Control Delay | 29.9 | 0.2 | 16.6 | 8.7 | 0.5 | 10.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.9 | 0.2 | 16.6 | 8.7 | 0.5 | 10.0 |
| Queue Length 50th (ft) | 184 | 0 | 582 | 197 | 0 | 0 |
| Queue Length 95th (ft) | 234 | 0 | 276 | m166 | 0 | #86 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 876 | 3355 | 2073 | 966 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.72 | 0.35 | 0.75 | 0.53 | 0.32 | 0.89 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 577 | 1087 | 0 | 0 | 1437 | 475 | 0 | 0 | 471 | 0 | 0 | 1257 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 627 | 1182 | 0 | 0 | 1562 | 516 | 0 | 0 | 512 | 0 | 0 | 1366 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 627 | 1182 | 0 | 0 | 1562 | 496 | 0 | 0 | 512 | 0 | 0 | 1366 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 17.8 | 70.0 | | | 43.2 | 43.2 | | | 70.0 | | | 70.0 |
| Effective Green, g (s) | 17.8 | 70.0 | | | 43.2 | 43.2 | | | 70.0 | | | 70.0 |
| Actuated g/C Ratio | 0.25 | 1.00 | | | 0.62 | 0.62 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 799 | 3355 | | | 2071 | 945 | | | 1611 | | | 1528 |
| v/s Ratio Prot | 0.20 | 0.35 | | | 0.47 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.32 | | | 0.32 | | | c0.89 |
| v/c Ratio | 0.78 | 0.35 | | | 0.75 | 0.52 | | | 0.32 | | | 0.89 |
| Uniform Delay, d1 | 24.3 | 0.0 | | | 9.6 | 7.6 | | | 0.0 | | | 0.0 |
| Progression Factor | 0.98 | 1.00 | | | 1.47 | 1.01 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 4.1 | 0.1 | | | 1.7 | 1.4 | | | 0.5 | | | 8.4 |
| Delay (s) | 27.8 | 0.1 | | | 15.8 | 9.0 | | | 0.5 | | | 8.4 |
| Level of Service | C | A | | | B | A | | | A | | | A |
| Approach Delay (s) | | 9.7 | | | 14.2 | | | 0.5 | | | 8.4 | |
| Approach LOS | | A | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 10.2 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.89 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 63.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 378 | 392 | 486 | 666 | 18 | 835 | 988 | 10 | 67 | 908 | 540 |
| v/c Ratio | 1.53 | 0.55 | 0.27 | 1.46 | 0.05 | 1.18 | 0.67 | 0.02 | 0.59 | 1.14 | 0.99 |
| Control Delay | 280.5 | 24.9 | 0.4 | 247.0 | 20.3 | 130.4 | 21.4 | 11.2 | 65.0 | 108.8 | 55.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 280.5 | 24.9 | 0.4 | 247.0 | 20.3 | 130.4 | 21.4 | 11.2 | 65.0 | 108.8 | 55.4 |
| Queue Length 50th (ft) | ~277 | 176 | 0 | ~553 | 5 | ~317 | 216 | 2 | 37 | ~342 | 215 |
| Queue Length 95th (ft) | #458 | 267 | 0 | #766 | 22 | #423 | 302 | m6 | m#92 | #468 | #432 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 247 | 714 | 1770 | 457 | 394 | 708 | 1475 | 546 | 113 | 800 | 548 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.53 | 0.55 | 0.27 | 1.46 | 0.05 | 1.18 | 0.67 | 0.02 | 0.59 | 1.14 | 0.99 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 348 | 361 | 447 | 2 | 611 | 17 | 768 | 909 | 9 | 62 | 835 | 497 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.97 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1738 | 1477 | 3204 | 3539 | 1338 | 1652 | 3303 | 1552 |
| Flt Permitted | 0.14 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 240 | 1739 | 1770 | | 1737 | 1477 | 3204 | 3539 | 1338 | 1652 | 3303 | 1552 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 378 | 392 | 486 | 2 | 664 | 18 | 835 | 988 | 10 | 67 | 908 | 540 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 3 | 0 | 0 | 172 |
| Lane Group Flow (vph) | 378 | 392 | 486 | 0 | 666 | 13 | 835 | 988 | 7 | 67 | 908 | 368 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 38.5 | 38.5 | 95.0 | | 24.5 | 24.5 | 20.0 | 37.7 | 37.7 | 4.8 | 22.0 | 22.0 |
| Effective Green, g (s) | 39.0 | 39.0 | 95.0 | | 25.0 | 25.0 | 21.0 | 38.7 | 37.7 | 5.3 | 23.0 | 23.0 |
| Actuated g/C Ratio | 0.41 | 0.41 | 1.00 | | 0.26 | 0.26 | 0.22 | 0.41 | 0.40 | 0.06 | 0.24 | 0.24 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.5 | 5.0 | 5.0 |
| Vehicle Extension (s) | 3.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 247 | 714 | 1770 | | 457 | 389 | 708 | 1442 | 531 | 92 | 800 | 376 |
| v/s Ratio Prot | c0.16 | 0.23 | | | | | c0.26 | 0.28 | | 0.04 | c0.27 | |
| v/s Ratio Perm | c0.47 | | 0.27 | | 0.38 | 0.01 | | | 0.01 | | | 0.24 |
| v/c Ratio | 1.53 | 0.55 | 0.27 | | 1.46 | 0.03 | 1.18 | 0.69 | 0.01 | 0.73 | 1.14 | 0.98 |
| Uniform Delay, d1 | 23.8 | 21.3 | 0.0 | | 35.0 | 26.0 | 37.0 | 23.1 | 17.4 | 44.1 | 36.0 | 35.8 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.04 | 0.81 | 0.80 | 1.00 | 0.94 | 0.89 |
| Incremental Delay, d2 | 258.1 | 1.1 | 0.4 | | 217.7 | 0.0 | 94.7 | 2.6 | 0.0 | 25.3 | 75.8 | 41.2 |
| Delay (s) | 281.9 | 22.4 | 0.4 | | 252.7 | 26.1 | 133.3 | 21.4 | 13.9 | 69.4 | 109.7 | 72.8 |
| Level of Service | F | C | A | | F | C | F | C | B | E | F | E |
| Approach Delay (s) | | 92.0 | | | 246.7 | | | 72.3 | | | 94.8 | |
| Approach LOS | | F | | | F | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 106.0 | HCM Level of Service | F |
| HCM Volume to Capacity ratio | 1.31 | | |
| Actuated Cycle Length (s) | 95.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 109.9% | ICU Level of Service | H |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 18 | 14 | 1 | 1320 | 82 | 1920 |
| v/c Ratio | 0.21 | 0.12 | 0.01 | 0.29 | 0.27 | 0.61 |
| Control Delay | 63.5 | 25.2 | 2.0 | 1.2 | 1.5 | 0.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| Total Delay | 63.5 | 25.2 | 2.0 | 1.2 | 1.5 | 1.1 |
| Queue Length 50th (ft) | 16 | 0 | 0 | 32 | 1 | 6 |
| Queue Length 95th (ft) | 39 | 21 | m0 | 85 | m2 | 17 |
| Internal Link Dist (ft) | 217 | | | 650 | | 443 |
| Turn Bay Length (ft) | | | 115 | | 150 | |
| Base Capacity (vph) | 200 | 241 | 155 | 4489 | 300 | 3156 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 563 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.06 | 0.01 | 0.29 | 0.27 | 0.74 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 16 | 1 | 13 | 1 | 1188 | 27 | 75 | 1763 | 4 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | 1.00 | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1572 | 1395 | 1651 | 4935 | | 1618 | 3470 | |
| Flt Permitted | | | | | 0.74 | 1.00 | 0.10 | 1.00 | | 0.19 | 1.00 | |
| Satd. Flow (perm) | | | | | 1214 | 1395 | 171 | 4935 | | 331 | 3470 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 17 | 1 | 14 | 1 | 1291 | 29 | 82 | 1916 | 4 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 1 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 18 | 1 | 1 | 1319 | 0 | 82 | 1920 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 7.5 | 7.5 | 123.9 | 123.9 | | 123.9 | 123.9 | |
| Effective Green, g (s) | | | | | 7.5 | 7.5 | 123.9 | 123.9 | | 123.9 | 123.9 | |
| Actuated g/C Ratio | | | | | 0.05 | 0.05 | 0.89 | 0.89 | | 0.89 | 0.89 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 65 | 75 | 151 | 4367 | | 293 | 3071 | |
| v/s Ratio Prot | | | | | | | | 0.27 | | | c0.55 | |
| v/s Ratio Perm | | | | | c0.01 | 0.00 | 0.01 | | | 0.25 | | |
| v/c Ratio | | | | | 0.28 | 0.01 | 0.01 | 0.30 | | 0.28 | 0.63 | |
| Uniform Delay, d1 | | | | | 63.6 | 62.7 | 0.9 | 1.3 | | 1.2 | 2.1 | |
| Progression Factor | | | | | 1.00 | 1.00 | 0.73 | 0.65 | | 0.07 | 0.09 | |
| Incremental Delay, d2 | | | | | 2.3 | 0.1 | 0.1 | 0.2 | | 1.4 | 0.6 | |
| Delay (s) | | | | | 66.0 | 62.8 | 0.7 | 1.0 | | 1.4 | 0.7 | |
| Level of Service | | | | | E | E | A | A | | A | A | |
| Approach Delay (s) | | 0.0 | | | 64.6 | | | 1.0 | | | 0.8 | |
| Approach LOS | | A | | | E | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 1.5 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.61 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 69.5% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 51 | 408 | 910 | 37 | 41 |
| v/c Ratio | 0.37 | 0.25 | 0.34 | 0.29 | 0.27 |
| Control Delay | 54.7 | 2.0 | 1.1 | 53.6 | 18.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.7 | 2.0 | 1.1 | 53.6 | 18.9 |
| Queue Length 50th (ft) | 35 | 39 | 10 | 25 | 0 |
| Queue Length 95th (ft) | 72 | 70 | 20 | 58 | 34 |
| Internal Link Dist (ft) | | 522 | 524 | 200 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 217 | 1628 | 2689 | 394 | 384 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.24 | 0.25 | 0.34 | 0.09 | 0.11 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 47 | 375 | 733 | 104 | 34 | 38 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.98 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3473 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3473 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 51 | 408 | 797 | 113 | 37 | 41 |
| RTOR Reduction (vph) | 0 | 0 | 6 | 0 | 0 | 39 |
| Lane Group Flow (vph) | 51 | 408 | 904 | 0 | 37 | 2 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 7.5 | 94.3 | 82.3 | | 6.7 | 6.7 |
| Effective Green, g (s) | 7.5 | 94.3 | 82.3 | | 6.7 | 6.7 |
| Actuated g/C Ratio | 0.07 | 0.86 | 0.75 | | 0.06 | 0.06 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 121 | 1597 | 2598 | | 108 | 96 |
| v/s Ratio Prot | c0.03 | 0.22 | c0.26 | | c0.02 | |
| v/s Ratio Perm | | | | | | 0.00 |
| v/c Ratio | 0.42 | 0.26 | 0.35 | | 0.34 | 0.03 |
| Uniform Delay, d1 | 49.2 | 1.4 | 4.7 | | 49.5 | 48.6 |
| Progression Factor | 1.00 | 1.00 | 0.17 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 2.4 | 0.4 | 0.3 | | 1.9 | 0.1 |
| Delay (s) | 51.5 | 1.8 | 1.1 | | 51.4 | 48.7 |
| Level of Service | D | A | A | | D | D |
| Approach Delay (s) | | 7.3 | 1.1 | | 50.0 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 5.7 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.35 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 44.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBL | WBT | NBR |
|---|---|---|---|---|
| Lane Group Flow (vph) | 1672 | 217 | 2604 | 171 |
| v/c Ratio | 0.50 | 0.35 | 0.51 | 0.30 |
| Control Delay | 7.6 | 17.8 | 0.1 | 16.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.1 |
| Total Delay | 7.6 | 17.8 | 0.1 | 17.0 |
| Queue Length 50th (ft) | 103 | 77 | 0 | 48 |
| Queue Length 95th (ft) | 165 | m78 | m0 | 93 |
| Internal Link Dist (ft) | 393 | | 247 | |
| Turn Bay Length (ft) | | | | |
| Base Capacity (vph) | 3339 | 620 | 5085 | 573 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 231 | 0 | 407 | 68 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.54 | 0.35 | 0.56 | 0.34 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 1528 | 10 | 200 | 2396 | 0 | 157 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Lane Util. Factor | 0.86 | | 1.00 | 0.91 | | 1.00 |
| Frt | 1.00 | | 1.00 | 1.00 | | 0.86 |
| Flt Protected | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 6402 | | 1770 | 5085 | | 1611 |
| Flt Permitted | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 6402 | | 1770 | 5085 | | 1611 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1661 | 11 | 217 | 2604 | 0 | 171 |
| RTOR Reduction (vph) | 1 | 0 | 0 | 0 | 0 | 9 |
| Lane Group Flow (vph) | 1671 | 0 | 217 | 2604 | 0 | 162 |
| Turn Type | | | Prot | | | Over |
| Protected Phases | 2 | | 1 | 6 | | 1 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 36.5 | | 24.5 | 70.0 | | 24.5 |
| Effective Green, g (s) | 36.5 | | 24.5 | 70.0 | | 24.5 |
| Actuated g/C Ratio | 0.52 | | 0.35 | 1.00 | | 0.35 |
| Clearance Time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 3338 | | 620 | 5085 | | 564 |
| v/s Ratio Prot | 0.26 | | 0.12 | c0.51 | | 0.10 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.50 | | 0.35 | 0.51 | | 0.29 |
| Uniform Delay, d1 | 10.8 | | 16.9 | 0.0 | | 16.4 |
| Progression Factor | 0.66 | | 1.02 | 1.00 | | 1.00 |
| Incremental Delay, d2 | 0.4 | | 0.1 | 0.1 | | 0.3 |
| Delay (s) | 7.5 | | 17.3 | 0.1 | | 16.7 |
| Level of Service | A | | B | A | | B |
| Approach Delay (s) | 7.5 | | | 1.4 | 16.7 | |
| Approach LOS | A | | | A | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.2 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.51 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 50.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 113 | 183 | 296 | 58 | 1465 | 46 | 1213 | 424 | 993 | 1047 | 70 |
| v/c Ratio | 1.47 | 0.51 | 0.46 | 0.08 | 0.89 | 0.72 | 1.05 | 0.41 | 1.98 | 0.85 | 0.12 |
| Control Delay | 311.9 | 47.7 | 37.3 | 23.6 | 30.6 | 117.5 | 91.2 | 3.1 | 477.4 | 48.6 | 10.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 311.9 | 47.7 | 37.3 | 23.6 | 30.6 | 117.5 | 91.2 | 3.1 | 477.4 | 48.6 | 10.3 |
| Queue Length 50th (ft) | ~142 | 63 | 197 | 31 | 607 | 42 | ~442 | 19 | ~728 | 471 | 8 |
| Queue Length 95th (ft) | #271 | 93 | 333 | 59 | 757 | #111 | #539 | 50 | #862 | 568 | 43 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 77 | 1077 | 638 | 739 | 1648 | 68 | 1155 | 1027 | 502 | 1229 | 607 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.47 | 0.17 | 0.46 | 0.08 | 0.89 | 0.68 | 1.05 | 0.41 | 1.98 | 0.85 | 0.12 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 104 | 120 | 49 | 272 | 53 | 1348 | 42 | 1116 | 390 | 914 | 963 | 64 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | 4.5 | 3.5 | 3.8 | 3.8 | 3.5 | 3.8 | 3.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 1.00 | 0.88 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3057 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1512 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3057 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1512 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 113 | 130 | 53 | 296 | 58 | 1465 | 46 | 1213 | 424 | 993 | 1047 | 70 |
| RTOR Reduction (vph) | 0 | 43 | 0 | 0 | 0 | 4 | 0 | 0 | 118 | 0 | 0 | 35 |
| Lane Group Flow (vph) | 113 | 140 | 0 | 296 | 58 | 1461 | 46 | 1213 | 306 | 993 | 1047 | 35 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 6.5 | 14.6 | | 53.6 | 61.7 | 88.7 | 4.7 | 35.7 | 89.3 | 22.5 | 53.5 | 53.5 |
| Effective Green, g (s) | 6.5 | 14.6 | | 53.6 | 61.7 | 88.7 | 4.7 | 35.7 | 89.3 | 22.5 | 53.5 | 53.5 |
| Actuated g/C Ratio | 0.05 | 0.10 | | 0.38 | 0.44 | 0.63 | 0.03 | 0.25 | 0.63 | 0.16 | 0.38 | 0.38 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 4.0 | | 2.0 | 4.5 | 4.5 |
| Lane Grp Cap (vph) | 77 | 315 | | 635 | 735 | 1654 | 54 | 1173 | 913 | 499 | 1223 | 571 |
| v/s Ratio Prot | c0.07 | 0.05 | | 0.18 | 0.03 | c0.55 | 0.03 | c0.26 | 0.21 | c0.32 | 0.32 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.02 |
| v/c Ratio | 1.47 | 0.44 | | 0.47 | 0.08 | 0.88 | 0.85 | 1.03 | 0.34 | 1.99 | 0.86 | 0.06 |
| Uniform Delay, d1 | 67.6 | 59.7 | | 33.3 | 23.4 | 22.2 | 68.2 | 53.0 | 12.3 | 59.6 | 40.6 | 28.1 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 268.0 | 1.7 | | 0.2 | 0.1 | 6.1 | 68.8 | 35.5 | 0.3 | 452.6 | 6.5 | 0.1 |
| Delay (s) | 335.6 | 61.5 | | 33.4 | 23.4 | 28.3 | 137.0 | 88.5 | 12.6 | 512.2 | 47.1 | 28.2 |
| Level of Service | F | E | | C | C | C | F | F | B | F | D | C |
| Approach Delay (s) | | 166.1 | | | 29.0 | | | 70.7 | | | 265.4 | |
| Approach LOS | | F | | | C | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 132.1 | HCM Level of Service | F |
| HCM Volume to Capacity ratio | 1.17 | | |
| Actuated Cycle Length (s) | 141.7 | Sum of lost time (s) | 15.3 |
| Intersection Capacity Utilization | 85.7% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 179 | 1360 | 157 | 1499 | 571 | 74 | 289 | 890 | 557 |
| v/c Ratio | 1.05 | 1.04 | 0.80 | 1.14 | 0.66 | 0.58 | 0.98 | 1.06 | 1.02 |
| Control Delay | 130.3 | 67.1 | 73.0 | 90.8 | 2.9 | 65.5 | 65.9 | 86.8 | 66.3 |
| Queue Delay | 0.0 | 227.6 | 0.0 | 1.5 | 1.4 | 0.0 | 51.3 | 3.4 | 0.0 |
| Total Delay | 130.3 | 294.7 | 73.0 | 92.3 | 4.3 | 65.5 | 117.2 | 90.2 | 66.3 |
| Queue Length 50th (ft) | ~132 | ~536 | 90 | ~648 | 0 | 49 | 60 | ~340 | ~259 |
| Queue Length 95th (ft) | #270 | #674 | m131 | m#748 | m8 | #108 | #235 | #462 | #487 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 170 | 1309 | 216 | 1312 | 861 | 128 | 294 | 838 | 548 |
| Starvation Cap Reductn | 0 | 0 | 0 | 4 | 135 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 436 | 0 | 0 | 0 | 0 | 40 | 7 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.05 | 1.56 | 0.73 | 1.15 | 0.79 | 0.58 | 1.14 | 1.07 | 1.02 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 165 | 1241 | 10 | 144 | 1321 | 583 | 68 | 3 | 263 | 819 | 57 | 455 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.91 | 0.91 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.99 | 1.00 | 0.99 | | 1.00 | 0.96 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.99 | 0.85 | 1.00 | 0.85 | | 1.00 | 0.87 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3174 | | 1620 | 3054 | 1319 | 1678 | 1431 | | 3143 | 1420 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3174 | | 1620 | 3054 | 1319 | 1678 | 1431 | | 3143 | 1420 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 179 | 1349 | 11 | 157 | 1436 | 634 | 74 | 3 | 286 | 890 | 62 | 495 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 3 | 283 | 0 | 185 | 0 | 0 | 169 | 0 |
| Lane Group Flow (vph) | 179 | 1359 | 0 | 157 | 1496 | 288 | 74 | 104 | 0 | 890 | 388 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 11.0 | 43.3 | | 12.7 | 45.0 | 45.0 | 8.0 | 8.0 | | 28.0 | 28.0 | |
| Effective Green, g (s) | 11.0 | 43.3 | | 12.7 | 45.0 | 46.0 | 8.0 | 8.0 | | 28.0 | 28.0 | |
| Actuated g/C Ratio | 0.10 | 0.41 | | 0.12 | 0.43 | 0.44 | 0.08 | 0.08 | | 0.27 | 0.27 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 170 | 1309 | | 196 | 1309 | 578 | 128 | 109 | | 838 | 379 | |
| v/s Ratio Prot | 0.11 | c0.43 | | 0.10 | c0.49 | | 0.04 | c0.07 | | c0.28 | 0.27 | |
| v/s Ratio Perm | | | | | | 0.22 | | | | | | |
| v/c Ratio | 1.05 | 1.04 | | 0.80 | 1.14 | 0.50 | 0.58 | 0.96 | | 1.06 | 1.02 | |
| Uniform Delay, d1 | 47.0 | 30.9 | | 44.9 | 30.0 | 21.2 | 46.9 | 48.3 | | 38.5 | 38.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.19 | 0.58 | 0.07 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 83.7 | 35.5 | | 13.5 | 70.9 | 2.0 | 3.9 | 71.2 | | 48.9 | 52.1 | |
| Delay (s) | 130.7 | 66.3 | | 66.8 | 88.2 | 3.5 | 50.8 | 119.5 | | 87.4 | 90.6 | |
| Level of Service | F | E | | E | F | A | D | F | | F | F | |
| Approach Delay (s) | | 73.8 | | | 65.0 | | | 105.5 | | | 88.7 | |
| Approach LOS | | E | | | E | | | F | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 76.2 | HCM Level of Service | E |
| HCM Volume to Capacity ratio | 1.07 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 10.0 |
| Intersection Capacity Utilization | 105.0% | ICU Level of Service | G |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 87 | 2553 | 322 | 1904 | 365 | 789 | 82 | 54 |
| v/c Ratio | 0.58 | 1.10 | 0.92 | 0.73 | 1.06 | 0.92 | 0.92 | 0.48 |
| Control Delay | 43.0 | 68.1 | 72.6 | 16.0 | 106.6 | 43.8 | 126.9 | 39.4 |
| Queue Delay | 0.0 | 69.5 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.1 |
| Total Delay | 43.0 | 137.6 | 72.6 | 16.4 | 106.6 | 43.8 | 126.9 | 39.6 |
| Queue Length 50th (ft) | 54 | ~706 | 108 | 292 | ~270 | 227 | 56 | 14 |
| Queue Length 95th (ft) | m54 | m#661 | m#161 | 371 | #452 | #361 | #151 | #55 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 170 | 2321 | 353 | 2602 | 345 | 859 | 89 | 112 |
| Starvation Cap Reductn | 0 | 290 | 0 | 185 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 227 | 0 | 0 | 0 | 1 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.51 | 1.26 | 0.91 | 0.80 | 1.06 | 0.92 | 0.92 | 0.49 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 80 | 2158 | 190 | 296 | 1615 | 137 | 298 | 38 | 726 | 75 | 19 | 30 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.91 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.99 | 1.00 | 0.95 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4512 | | 3143 | 4712 | | | 1808 | 2801 | 1562 | 1422 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4512 | | 3143 | 4712 | | | 1808 | 2801 | 1562 | 1422 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 87 | 2346 | 207 | 322 | 1755 | 149 | 324 | 41 | 789 | 82 | 21 | 33 |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 9 | 0 | 0 | 0 | 24 | 0 | 31 | 0 |
| Lane Group Flow (vph) | 87 | 2543 | 0 | 322 | 1895 | 0 | 0 | 365 | 765 | 82 | 23 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 8.8 | 53.8 | | 11.7 | 57.2 | | | 20.0 | 31.7 | 6.0 | 6.0 | |
| Effective Green, g (s) | 8.8 | 53.8 | | 11.7 | 57.2 | | | 20.0 | 31.7 | 6.0 | 6.0 | |
| Actuated g/C Ratio | 0.08 | 0.51 | | 0.11 | 0.54 | | | 0.19 | 0.30 | 0.06 | 0.06 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 136 | 2312 | | 350 | 2567 | | | 344 | 846 | 89 | 81 | |
| v/s Ratio Prot | 0.05 | c0.56 | | c0.10 | 0.40 | | | c0.20 | 0.10 | c0.05 | 0.02 | |
| v/s Ratio Perm | | | | | | | | | 0.17 | | | |
| v/c Ratio | 0.64 | 1.10 | | 0.92 | 0.74 | | | 1.06 | 0.90 | 0.92 | 0.28 | |
| Uniform Delay, d1 | 46.6 | 25.6 | | 46.2 | 18.2 | | | 42.5 | 35.2 | 49.3 | 47.4 | |
| Progression Factor | 0.86 | 0.76 | | 1.11 | 0.81 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.7 | 46.9 | | 18.9 | 1.1 | | | 65.6 | 12.8 | 68.9 | 0.7 | |
| Delay (s) | 41.8 | 66.5 | | 70.1 | 15.8 | | | 108.1 | 47.9 | 118.1 | 48.1 | |
| Level of Service | D | E | | E | B | | | F | D | F | D | |
| Approach Delay (s) | | 65.7 | | | 23.6 | | | 67.0 | | | 90.3 | |
| Approach LOS | | E | | | C | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 51.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.06 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 89.6% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1649 | 653 | 2016 | 538 | 422 | 395 |
| v/c Ratio | 0.46 | 0.26 | 0.82 | 0.43 | 0.71 | 0.70 |
| Control Delay | 3.8 | 0.0 | 11.8 | 1.4 | 47.7 | 42.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 3.8 | 0.0 | 11.8 | 1.4 | 47.7 | 42.2 |
| Queue Length 50th (ft) | 102 | 0 | 377 | 0 | 138 | 123 |
| Queue Length 95th (ft) | m90 | m0 | 488 | 23 | 192 | 181 |
| Internal Link Dist (ft) | 509 | | 867 | | | |
| Turn Bay Length (ft) | | 400 | | | | 150 |
| Base Capacity (vph) | 3609 | 2521 | 2449 | 1246 | 601 | 567 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.46 | 0.26 | 0.82 | 0.43 | 0.70 | 0.70 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1517 | 601 | 0 | 1855 | 495 | 0 | 0 | 0 | 388 | 0 | 363 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | | 3.0 |
| Lane Util. Factor | | 0.91 | 0.88 | | 0.95 | 1.00 | | | | 0.97 | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1649 | 653 | 0 | 2016 | 538 | 0 | 0 | 0 | 422 | 0 | 395 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 133 | 0 | 0 | 0 | 0 | 0 | 44 |
| Lane Group Flow (vph) | 0 | 1649 | 653 | 0 | 2016 | 405 | 0 | 0 | 0 | 422 | 0 | 351 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Perm | | | | custom | | custom |
| Protected Phases | | 2 | | | 6 | | | | | 4 | | 4 |
| Permitted Phases | | | 2 4 | | | 6 | | | | 4 | | |
| Actuated Green, G (s) | | 79.1 | 105.0 | | 79.1 | 79.1 | | | | 17.9 | | 17.9 |
| Effective Green, g (s) | | 80.1 | 105.0 | | 80.1 | 79.1 | | | | 18.9 | | 18.9 |
| Actuated g/C Ratio | | 0.76 | 1.00 | | 0.76 | 0.75 | | | | 0.18 | | 0.18 |
| Clearance Time (s) | | 4.0 | | | 4.0 | 4.0 | | | | 4.0 | | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | 4.5 | | | | 4.0 | | 4.0 |
| Lane Grp Cap (vph) | | 3608 | 2533 | | 2448 | 1113 | | | | 597 | | 520 |
| v/s Ratio Prot | | 0.35 | | | c0.63 | | | | | c0.13 | | 0.12 |
| v/s Ratio Perm | | | 0.26 | | | 0.27 | | | | | | |
| v/c Ratio | | 0.46 | 0.26 | | 0.82 | 0.36 | | | | 0.71 | | 0.67 |
| Uniform Delay, d1 | | 4.5 | 0.0 | | 7.9 | 4.4 | | | | 40.4 | | 40.2 |
| Progression Factor | | 0.83 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | | 0.0 | 0.0 | | 3.3 | 0.9 | | | | 4.1 | | 3.8 |
| Delay (s) | | 3.8 | 0.0 | | 11.2 | 5.3 | | | | 44.5 | | 43.9 |
| Level of Service | | A | A | | B | A | | | | D | | D |
| Approach Delay (s) | | 2.7 | | | 10.0 | | | 0.0 | | | 44.2 | |
| Approach LOS | | A | | | A | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 12.0 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.80 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 6.0 |
| Intersection Capacity Utilization | 70.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 611 | 45 | 39 | 229 | 190 | 428 |
| v/c Ratio | 0.85 | 0.07 | 0.39 | 0.28 | 0.28 | 0.49 |
| Control Delay | 29.6 | 3.6 | 41.0 | 13.6 | 17.4 | 4.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.6 | 3.6 | 41.0 | 13.6 | 17.4 | 4.5 |
| Queue Length 50th (ft) | 196 | 0 | 15 | 58 | 47 | 0 |
| Queue Length 95th (ft) | #332 | 14 | #44 | 108 | 113 | 60 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 800 | 739 | 100 | 824 | 685 | 882 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.76 | 0.06 | 0.39 | 0.28 | 0.28 | 0.49 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 562 | 41 | 36 | 211 | 175 | 394 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1560 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1560 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 611 | 45 | 39 | 229 | 190 | 428 |
| RTOR Reduction (vph) | 0 | 26 | 0 | 0 | 0 | 272 |
| Lane Group Flow (vph) | 611 | 19 | 39 | 229 | 190 | 156 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 27.7 | 27.7 | 1.6 | 29.3 | 23.7 | 23.7 |
| Effective Green, g (s) | 27.7 | 27.7 | 1.6 | 29.3 | 23.7 | 23.7 |
| Actuated g/C Ratio | 0.43 | 0.43 | 0.02 | 0.45 | 0.36 | 0.36 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 715 | 640 | 40 | 824 | 622 | 569 |
| v/s Ratio Prot | c0.36 | | c0.02 | 0.13 | c0.11 | |
| v/s Ratio Perm | | 0.01 | | | | 0.10 |
| v/c Ratio | 0.85 | 0.03 | 0.97 | 0.28 | 0.31 | 0.27 |
| Uniform Delay, d1 | 16.8 | 10.8 | 31.7 | 11.2 | 14.8 | 14.6 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 9.8 | 0.0 | 131.6 | 0.8 | 1.3 | 1.2 |
| Delay (s) | 26.6 | 10.9 | 163.3 | 12.0 | 16.0 | 15.8 |
| Level of Service | C | B | F | B | B | B |
| Approach Delay (s) | 25.5 | | | 34.1 | 15.9 | |
| Approach LOS | C | | | C | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 23.1 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.61 | | |
| Actuated Cycle Length (s) | 65.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 57.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 148 | 181 | 145 | 14 | 1295 | 202 | 1272 |
| v/c Ratio | 0.41 | 0.53 | 0.40 | 0.09 | 0.73 | 1.40 | 0.71 |
| Control Delay | 17.6 | 22.8 | 14.8 | 9.6 | 13.7 | 241.3 | 13.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.6 | 22.8 | 14.8 | 9.6 | 13.7 | 241.3 | 13.3 |
| Queue Length 50th (ft) | 34 | 49 | 26 | 2 | 131 | ~89 | 128 |
| Queue Length 95th (ft) | 73 | 96 | 64 | 13 | #362 | #193 | #352 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 595 | 577 | 581 | 155 | 1770 | 144 | 1781 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.25 | 0.31 | 0.25 | 0.09 | 0.73 | 1.40 | 0.71 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 35 | 80 | 21 | 91 | 75 | 133 | 13 | 1072 | 120 | 186 | 1127 | 43 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.98 | | 1.00 | 0.99 | |
| Flt Protected | | 0.99 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1529 | | | 1685 | 1305 | 1618 | 3024 | | 1561 | 3058 | |
| Flt Permitted | | 0.89 | | | 0.78 | 1.00 | 0.16 | 1.00 | | 0.15 | 1.00 | |
| Satd. Flow (perm) | | 1372 | | | 1352 | 1305 | 266 | 3024 | | 246 | 3058 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 38 | 87 | 23 | 99 | 82 | 145 | 14 | 1165 | 130 | 202 | 1225 | 47 |
| RTOR Reduction (vph) | 0 | 13 | 0 | 0 | 0 | 31 | 0 | 11 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 135 | 0 | 0 | 181 | 114 | 14 | 1284 | 0 | 202 | 1269 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 14.4 | | | 14.4 | 14.4 | 32.9 | 32.9 | | 32.9 | 32.9 | |
| Effective Green, g (s) | | 14.4 | | | 14.4 | 14.4 | 32.9 | 32.9 | | 32.9 | 32.9 | |
| Actuated g/C Ratio | | 0.25 | | | 0.25 | 0.25 | 0.58 | 0.58 | | 0.58 | 0.58 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 350 | | | 345 | 333 | 155 | 1761 | | 143 | 1781 | |
| v/s Ratio Prot | | | | | | | | 0.42 | | | 0.41 | |
| v/s Ratio Perm | | 0.10 | | | c0.13 | 0.09 | 0.05 | | | c0.82 | | |
| v/c Ratio | | 0.39 | | | 0.52 | 0.34 | 0.09 | 0.73 | | 1.41 | 0.71 | |
| Uniform Delay, d1 | | 17.4 | | | 18.1 | 17.2 | 5.2 | 8.6 | | 11.8 | 8.4 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.0 | | | 1.9 | 0.8 | 0.3 | 1.7 | | 221.7 | 1.5 | |
| Delay (s) | | 18.4 | | | 20.0 | 18.0 | 5.5 | 10.2 | | 233.5 | 9.9 | |
| Level of Service | | B | | | B | B | A | B | | F | A | |
| Approach Delay (s) | | 18.4 | | | 19.1 | | | 10.2 | | | 40.5 | |
| Approach LOS | | B | | | B | | | B | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 25.2 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 1.14 | | |
| Actuated Cycle Length (s) | 56.5 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 72.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 37 | 511 | 339 | 210 | 164 | 26 |
| v/c Ratio | 0.31 | 0.36 | 0.29 | 0.15 | 0.68 | 0.11 |
| Control Delay | 54.3 | 5.5 | 10.3 | 0.9 | 57.8 | 14.2 |
| Queue Delay | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.3 | 5.5 | 10.7 | 0.9 | 57.8 | 14.2 |
| Queue Length 50th (ft) | 25 | 96 | 83 | 0 | 111 | 0 |
| Queue Length 95th (ft) | 58 | 184 | 186 | 22 | 172 | 24 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 150 | 1403 | 1186 | 1493 | 454 | 411 |
| Starvation Cap Reductn | 0 | 0 | 409 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 11 | 0 | 0 | 2 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.25 | 0.37 | 0.44 | 0.14 | 0.36 | 0.06 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 34 | 470 | 312 | 193 | 151 | 24 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1570 | 1562 | 1349 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1570 | 1562 | 1349 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 37 | 511 | 339 | 210 | 164 | 26 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 35 | 0 | 22 |
| Lane Group Flow (vph) | 37 | 511 | 339 | 175 | 164 | 4 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 5.6 | 84.5 | 74.9 | 91.8 | 16.9 | 16.9 |
| Effective Green, g (s) | 5.6 | 84.5 | 74.9 | 91.8 | 16.9 | 16.9 |
| Actuated g/C Ratio | 0.05 | 0.77 | 0.68 | 0.83 | 0.15 | 0.15 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 82 | 1403 | 1161 | 1310 | 240 | 207 |
| v/s Ratio Prot | 0.02 | c0.28 | 0.20 | 0.02 | c0.10 | |
| v/s Ratio Perm | | | | 0.09 | | 0.00 |
| v/c Ratio | 0.45 | 0.36 | 0.29 | 0.13 | 0.68 | 0.02 |
| Uniform Delay, d1 | 50.7 | 4.1 | 7.0 | 1.7 | 44.0 | 39.5 |
| Progression Factor | 1.00 | 1.00 | 1.15 | 2.89 | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.9 | 0.7 | 0.6 | 0.0 | 7.8 | 0.0 |
| Delay (s) | 54.6 | 4.8 | 8.6 | 4.9 | 51.8 | 39.6 |
| Level of Service | D | A | A | A | D | D |
| Approach Delay (s) | | 8.2 | 7.2 | | 50.1 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 14.0 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.42 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 41.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 401 | 273 | 175 | 193 | 342 | 464 | 3 |
| v/c Ratio | 0.52 | 0.35 | 0.73 | 0.18 | 0.72 | 0.72 | 0.04 |
| Control Delay | 22.0 | 2.5 | 62.6 | 11.0 | 44.5 | 17.4 | 45.3 |
| Queue Delay | 0.9 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 22.8 | 2.6 | 62.6 | 11.0 | 44.5 | 17.4 | 45.3 |
| Queue Length 50th (ft) | 132 | 0 | 119 | 52 | 216 | 86 | 1 |
| Queue Length 95th (ft) | 287 | 19 | #218 | 119 | 298 | 185 | 11 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | | 217 |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 | |
| Base Capacity (vph) | 764 | 790 | 241 | 1065 | 566 | 645 | 84 |
| Starvation Cap Reductn | 150 | 104 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.65 | 0.40 | 0.73 | 0.18 | 0.60 | 0.72 | 0.04 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 369 | 251 | 161 | 177 | 1 | 313 | 2 | 427 | 1 | 1 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | 4.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.99 | | 0.90 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | 0.95 | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.98 | |
| Satd. Flow (prot) | | 1759 | 1466 | 1562 | 1703 | | | 1682 | 1728 | | 1538 | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.98 | |
| Satd. Flow (perm) | | 1759 | 1466 | 1562 | 1703 | | | 1682 | 1728 | | 1538 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 401 | 273 | 175 | 192 | 1 | 340 | 2 | 464 | 1 | 1 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 162 | 0 | 0 | 0 | 0 | 0 | 238 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 401 | 111 | 175 | 193 | 0 | 0 | 342 | 226 | 0 | 2 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 44.6 | 44.6 | 17.0 | 65.6 | | | 30.8 | 26.3 | | 1.0 | |
| Effective Green, g (s) | | 44.6 | 44.6 | 17.0 | 65.6 | | | 26.3 | 26.3 | | 1.0 | |
| Actuated g/C Ratio | | 0.41 | 0.41 | 0.15 | 0.60 | | | 0.24 | 0.24 | | 0.01 | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | 4.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | | 713 | 594 | 241 | 1016 | | | 402 | 484 | | 14 | |
| v/s Ratio Prot | | c0.23 | | c0.11 | 0.11 | | | c0.20 | 0.05 | | c0.00 | |
| v/s Ratio Perm | | | 0.08 | | | | | | 0.08 | | | |
| v/c Ratio | | 0.56 | 0.19 | 0.73 | 0.19 | | | 0.85 | 0.47 | | 0.14 | |
| Uniform Delay, d1 | | 25.2 | 21.0 | 44.3 | 10.1 | | | 40.0 | 35.8 | | 54.1 | |
| Progression Factor | | 0.76 | 0.41 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | | 3.0 | 0.7 | 10.4 | 0.4 | | | 15.7 | 0.7 | | 4.7 | |
| Delay (s) | | 22.2 | 9.3 | 54.7 | 10.5 | | | 55.7 | 36.6 | | 58.8 | |
| Level of Service | | C | A | D | B | | | E | D | | E | |
| Approach Delay (s) | | 17.0 | | | 31.5 | | | 44.7 | | | 58.8 | |
| Approach LOS | | B | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 32.0 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.67 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 20.6 |
| Intersection Capacity Utilization | 67.9% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 61 | 140 | 25 | 203 | 249 | 322 | 26 | 791 | 116 | 333 | 971 |
| v/c Ratio | 0.43 | 0.58 | 0.11 | 0.74 | 0.56 | 0.54 | 0.28 | 0.83 | 0.28 | 0.82 | 0.60 |
| Control Delay | 64.2 | 58.1 | 17.5 | 64.6 | 45.5 | 7.9 | 65.3 | 47.2 | 24.9 | 58.5 | 21.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 64.2 | 58.1 | 17.5 | 64.6 | 45.5 | 7.9 | 65.3 | 47.2 | 24.9 | 58.5 | 21.5 |
| Queue Length 50th (ft) | 45 | 102 | 0 | 148 | 172 | 0 | 19 | 292 | 43 | 242 | 275 |
| Queue Length 95th (ft) | 99 | 179 | 26 | #292 | 277 | 79 | 54 | #455 | 106 | 379 | 385 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 164 | 443 | 387 | 310 | 617 | 700 | 100 | 1067 | 465 | 532 | 1821 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.37 | 0.32 | 0.06 | 0.65 | 0.40 | 0.46 | 0.26 | 0.74 | 0.25 | 0.63 | 0.53 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 56 | 129 | 23 | 187 | 229 | 296 | 24 | 728 | 107 | 306 | 825 | 68 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 3.1 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1444 | 1620 | 1739 | 1393 | 1652 | 3240 | 1332 | 1620 | 3040 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1444 | 1620 | 1739 | 1393 | 1652 | 3240 | 1332 | 1620 | 3040 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 61 | 140 | 25 | 203 | 249 | 322 | 26 | 791 | 116 | 333 | 897 | 74 |
| RTOR Reduction (vph) | 0 | 0 | 21 | 0 | 0 | 241 | 0 | 0 | 28 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 61 | 140 | 4 | 203 | 249 | 81 | 26 | 791 | 88 | 333 | 967 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 7.8 | 16.6 | 16.6 | 19.2 | 28.9 | 28.9 | 4.1 | 35.4 | 35.4 | 29.3 | 60.6 | |
| Effective Green, g (s) | 7.7 | 16.5 | 16.5 | 19.1 | 28.8 | 28.8 | 3.1 | 34.9 | 34.9 | 28.3 | 60.1 | |
| Actuated g/C Ratio | 0.07 | 0.14 | 0.14 | 0.17 | 0.25 | 0.25 | 0.03 | 0.30 | 0.30 | 0.25 | 0.52 | |
| Clearance Time (s) | 3.0 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 111 | 250 | 208 | 270 | 436 | 349 | 45 | 985 | 405 | 399 | 1591 | |
| v/s Ratio Prot | 0.04 | 0.08 | | c0.13 | c0.14 | | 0.02 | c0.24 | | c0.21 | 0.32 | |
| v/s Ratio Perm | | | 0.00 | | | 0.06 | | | 0.07 | | | |
| v/c Ratio | 0.55 | 0.56 | 0.02 | 0.75 | 0.57 | 0.23 | 0.58 | 0.80 | 0.22 | 0.83 | 0.61 | |
| Uniform Delay, d1 | 51.9 | 45.8 | 42.2 | 45.6 | 37.6 | 34.2 | 55.2 | 36.8 | 29.8 | 41.0 | 19.1 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 6.8 | 3.5 | 0.0 | 11.9 | 2.2 | 0.5 | 19.7 | 5.1 | 0.4 | 14.5 | 0.8 | |
| Delay (s) | 58.7 | 49.2 | 42.2 | 57.5 | 39.8 | 34.7 | 74.9 | 41.9 | 30.1 | 55.5 | 19.9 | |
| Level of Service | E | D | D | E | D | C | E | D | C | E | B | |
| Approach Delay (s) | | 51.0 | | | 42.3 | | | 41.3 | | | 29.0 | |
| Approach LOS | | D | | | D | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 37.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.75 | | |
| Actuated Cycle Length (s) | 114.8 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 68.0% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 74 | 723 | 48 | 1147 | 826 | 335 | 646 | 1058 | 414 | 243 | 20 |
| v/c Ratio | 0.57 | 0.89 | 0.16 | 1.03 | 0.58 | 0.85 | 0.80 | 0.64 | 0.99 | 0.56 | 0.09 |
| Control Delay | 79.0 | 70.1 | 14.0 | 75.3 | 29.1 | 63.8 | 51.5 | 10.0 | 101.4 | 61.6 | 19.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 38.9 | 0.6 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Total Delay | 79.0 | 70.1 | 14.0 | 114.2 | 29.7 | 63.8 | 51.5 | 10.2 | 101.4 | 61.6 | 19.5 |
| Queue Length 50th (ft) | 65 | 238 | 0 | ~572 | 296 | 241 | 237 | 257 | 196 | 111 | 0 |
| Queue Length 95th (ft) | 120 | #307 | 37 | #710 | 370 | #518 | 341 | 176 | #308 | 150 | 24 |
| Internal Link Dist (ft) | | 238 | | | 387 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 145 | 815 | 298 | 1116 | 1426 | 395 | 803 | 1653 | 419 | 567 | 274 |
| Starvation Cap Reductn | 0 | 0 | 0 | 98 | 250 | 0 | 0 | 87 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.51 | 0.89 | 0.16 | 1.13 | 0.70 | 0.85 | 0.80 | 0.68 | 0.99 | 0.43 | 0.07 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 68 | 665 | 44 | 1055 | 575 | 185 | 308 | 594 | 973 | 381 | 224 | 18 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3108 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1468 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3108 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1468 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 74 | 723 | 48 | 1147 | 625 | 201 | 335 | 646 | 1058 | 414 | 243 | 20 |
| RTOR Reduction (vph) | 0 | 0 | 40 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 17 |
| Lane Group Flow (vph) | 74 | 723 | 8 | 1147 | 805 | 0 | 335 | 646 | 1058 | 414 | 243 | 3 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 10.0 | 23.0 | 23.0 | 48.0 | 61.0 | | 32.9 | 32.0 | 85.5 | 18.0 | 17.1 | 17.1 |
| Effective Green, g (s) | 10.0 | 24.5 | 24.5 | 48.0 | 62.5 | | 32.9 | 33.5 | 80.0 | 18.0 | 18.6 | 18.6 |
| Actuated g/C Ratio | 0.07 | 0.18 | 0.18 | 0.34 | 0.45 | | 0.23 | 0.24 | 0.57 | 0.13 | 0.13 | 0.13 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 112 | 815 | 258 | 1116 | 1388 | | 394 | 803 | 1546 | 419 | 430 | 195 |
| v/s Ratio Prot | 0.05 | c0.16 | | c0.35 | 0.26 | | c0.20 | 0.19 | 0.39 | c0.13 | 0.08 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | 0.00 |
| v/c Ratio | 0.66 | 0.89 | 0.03 | 1.03 | 0.58 | | 0.85 | 0.80 | 0.68 | 0.99 | 0.57 | 0.01 |
| Uniform Delay, d1 | 63.3 | 56.4 | 47.9 | 46.0 | 28.9 | | 51.2 | 50.2 | 21.1 | 60.9 | 56.9 | 52.7 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.92 | 0.98 | | 0.86 | 0.86 | 0.47 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 14.9 | 13.7 | 0.2 | 33.4 | 1.7 | | 15.3 | 5.7 | 1.3 | 40.5 | 2.1 | 0.0 |
| Delay (s) | 78.3 | 70.1 | 48.2 | 76.0 | 29.9 | | 59.4 | 49.1 | 11.1 | 101.4 | 59.0 | 52.8 |
| Level of Service | E | E | D | E | C | | E | D | B | F | E | D |
| Approach Delay (s) | | 69.5 | | | 56.7 | | | 31.1 | | | 84.7 | |
| Approach LOS | | E | | | E | | | C | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 52.6 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.94 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 83.9% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 343 | 2252 | 299 | 1373 | 207 | 213 | 178 | 249 |
| v/c Ratio | 0.85 | 0.85 | 1.00 | 0.76 | 0.70 | 0.71 | 0.41 | 0.86 |
| Control Delay | 65.1 | 31.7 | 85.7 | 25.4 | 64.8 | 65.3 | 8.6 | 58.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 65.1 | 31.7 | 85.7 | 25.4 | 64.8 | 65.3 | 8.6 | 58.2 |
| Queue Length 50th (ft) | 282 | 480 | 288 | 464 | 187 | 193 | 0 | 58 |
| Queue Length 95th (ft) | #494 | #688 | m#410 | m527 | 258 | 266 | 59 | #136 |
| Internal Link Dist (ft) | | 660 | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 180 | | 200 | | | |
| Base Capacity (vph) | 408 | 2658 | 300 | 1796 | 402 | 409 | 528 | 291 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.84 | 0.85 | 1.00 | 0.76 | 0.51 | 0.52 | 0.34 | 0.86 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 316 | 1878 | 194 | 275 | 1219 | 44 | 334 | 52 | 164 | 61 | 52 | 116 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.86 | | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | | 0.92 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | | 0.99 | |
| Satd. Flow (prot) | 1620 | 5775 | | 1678 | 4626 | | 1539 | 1563 | 1513 | | 3018 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | | 0.99 | |
| Satd. Flow (perm) | 1620 | 5775 | | 1678 | 4626 | | 1539 | 1563 | 1513 | | 3018 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 343 | 2041 | 211 | 299 | 1325 | 48 | 363 | 57 | 178 | 66 | 57 | 126 |
| RTOR Reduction (vph) | 0 | 11 | 0 | 0 | 2 | 0 | 0 | 0 | 144 | 0 | 119 | 0 |
| Lane Group Flow (vph) | 343 | 2241 | 0 | 299 | 1371 | 0 | 207 | 213 | 34 | 0 | 130 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 33.9 | 63.2 | | 24.0 | 53.3 | | 26.2 | 26.2 | 26.2 | | 7.4 | |
| Effective Green, g (s) | 34.9 | 64.2 | | 25.0 | 54.3 | | 26.8 | 26.8 | 26.8 | | 8.0 | |
| Actuated g/C Ratio | 0.25 | 0.46 | | 0.18 | 0.39 | | 0.19 | 0.19 | 0.19 | | 0.06 | |
| Clearance Time (s) | 5.0 | 5.0 | | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 404 | 2648 | | 300 | 1794 | | 295 | 299 | 290 | | 172 | |
| v/s Ratio Prot | 0.21 | c0.39 | | c0.18 | 0.30 | | 0.13 | c0.14 | | | c0.04 | |
| v/s Ratio Perm | | | | | | | | | 0.02 | | | |
| v/c Ratio | 0.85 | 0.85 | | 1.00 | 0.76 | | 0.70 | 0.71 | 0.12 | | 0.76 | |
| Uniform Delay, d1 | 50.0 | 33.5 | | 57.5 | 37.3 | | 52.9 | 53.0 | 46.8 | | 65.0 | |
| Progression Factor | 0.96 | 0.83 | | 0.73 | 0.59 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 13.5 | 3.0 | | 42.2 | 2.2 | | 7.9 | 8.3 | 0.2 | | 18.2 | |
| Delay (s) | 61.6 | 30.8 | | 84.1 | 24.3 | | 60.7 | 61.3 | 47.1 | | 83.2 | |
| Level of Service | E | C | | F | C | | E | E | D | | F | |
| Approach Delay (s) | | 34.9 | | | 35.0 | | | 56.9 | | | 83.2 | |
| Approach LOS | | C | | | D | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 39.9 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.84 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 77.9% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 265 | 1766 | 122 | 764 | 495 | 295 | 466 | 92 | 675 |
| v/c Ratio | 0.80 | 0.92 | 0.85 | 0.78 | 0.93 | 0.27 | 0.67 | 0.52 | 0.95 |
| Control Delay | 36.3 | 13.6 | 106.7 | 51.8 | 82.3 | 34.9 | 26.6 | 75.0 | 75.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 36.3 | 13.6 | 106.7 | 51.8 | 82.3 | 34.9 | 26.6 | 75.0 | 75.3 |
| Queue Length 50th (ft) | 240 | 528 | 111 | 336 | 231 | 103 | 204 | 42 | 312 |
| Queue Length 95th (ft) | m252 | 39 | #230 | 417 | #334 | 142 | 332 | 73 | #437 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 331 | 1928 | 143 | 974 | 539 | 1088 | 696 | 183 | 710 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.80 | 0.92 | 0.85 | 0.78 | 0.92 | 0.27 | 0.67 | 0.50 | 0.95 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 244 | 1183 | 442 | 112 | 681 | 22 | 455 | 271 | 429 | 85 | 483 | 138 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 3.1 | 4.0 | | 3.1 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.95 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4529 | | 1652 | 3273 | | 3143 | 3240 | 1659 | 3204 | 3119 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4529 | | 1652 | 3273 | | 3143 | 3240 | 1659 | 3204 | 3119 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 265 | 1286 | 480 | 122 | 740 | 24 | 495 | 295 | 466 | 92 | 525 | 150 |
| RTOR Reduction (vph) | 0 | 48 | 0 | 0 | 1 | 0 | 0 | 0 | 139 | 0 | 19 | 0 |
| Lane Group Flow (vph) | 265 | 1718 | 0 | 122 | 763 | 0 | 495 | 295 | 327 | 92 | 656 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 28.7 | 57.1 | | 12.2 | 40.6 | | 24.7 | 47.4 | 47.4 | 8.7 | 31.4 | |
| Effective Green, g (s) | 28.6 | 58.1 | | 12.1 | 41.6 | | 23.7 | 47.0 | 47.0 | 7.7 | 31.0 | |
| Actuated g/C Ratio | 0.20 | 0.42 | | 0.09 | 0.30 | | 0.17 | 0.34 | 0.34 | 0.06 | 0.22 | |
| Clearance Time (s) | 3.0 | 5.0 | | 3.0 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 331 | 1880 | | 143 | 973 | | 532 | 1088 | 557 | 176 | 691 | |
| v/s Ratio Prot | 0.16 | c0.38 | | c0.07 | 0.23 | | c0.16 | 0.09 | | 0.03 | c0.21 | |
| v/s Ratio Perm | | | | | | | | | 0.20 | | | |
| v/c Ratio | 0.80 | 0.91 | | 0.85 | 0.78 | | 0.93 | 0.27 | 0.59 | 0.52 | 0.95 | |
| Uniform Delay, d1 | 53.0 | 38.6 | | 63.1 | 45.1 | | 57.3 | 34.0 | 38.5 | 64.4 | 53.7 | |
| Progression Factor | 0.46 | 0.21 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 7.7 | 5.0 | | 37.0 | 6.3 | | 23.4 | 0.2 | 1.9 | 3.6 | 22.6 | |
| Delay (s) | 31.8 | 13.2 | | 100.1 | 51.4 | | 80.7 | 34.2 | 40.4 | 68.0 | 76.3 | |
| Level of Service | C | B | | F | D | | F | C | D | E | E | |
| Approach Delay (s) | | 15.7 | | | 58.1 | | | 54.8 | | | 75.3 | |
| Approach LOS | | B | | | E | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 42.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.92 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 15.1 |
| Intersection Capacity Utilization | 83.6% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 94 | 221 | 572 | 3 | 1266 | 196 | 583 | 871 |
| v/c Ratio | 0.51 | 0.83 | 0.56 | 0.04 | 0.75 | 0.22 | 0.87 | 0.35 |
| Control Delay | 49.7 | 77.8 | 5.6 | 84.0 | 20.9 | 3.9 | 46.5 | 7.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 |
| Total Delay | 49.7 | 77.8 | 5.6 | 84.0 | 21.1 | 3.9 | 46.5 | 7.9 |
| Queue Length 50th (ft) | 62 | 189 | 1 | 3 | 484 | 37 | 212 | 198 |
| Queue Length 95th (ft) | 123 | #304 | 52 | m3 | 623 | m41 | 296 | 393 |
| Internal Link Dist (ft) | 387 | 301 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 350 | |
| Base Capacity (vph) | 207 | 301 | 1085 | 72 | 1685 | 872 | 723 | 2461 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 64 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.45 | 0.73 | 0.53 | 0.04 | 0.78 | 0.22 | 0.81 | 0.35 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 57 | 2 | 28 | 203 | 0 | 526 | 3 | 1165 | 180 | 536 | 758 | 43 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | | 0.99 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.96 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.97 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1684 | | | 1770 | 2787 | 1678 | 3355 | 1583 | 3433 | 3438 | |
| Flt Permitted | | 0.48 | | | 0.69 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 839 | | | 1294 | 2787 | 1678 | 3355 | 1583 | 3433 | 3438 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 62 | 2 | 30 | 221 | 0 | 572 | 3 | 1266 | 196 | 583 | 824 | 47 |
| RTOR Reduction (vph) | 0 | 13 | 0 | 0 | 0 | 453 | 0 | 0 | 77 | 0 | 2 | 0 |
| Lane Group Flow (vph) | 0 | 81 | 0 | 0 | 221 | 119 | 3 | 1266 | 119 | 583 | 869 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | |
| Actuated Green, G (s) | | 28.8 | | | 28.8 | 28.8 | 1.2 | 70.3 | 70.3 | 27.4 | 96.5 | |
| Effective Green, g (s) | | 28.8 | | | 28.8 | 28.8 | 1.2 | 70.3 | 70.3 | 27.4 | 96.5 | |
| Actuated g/C Ratio | | 0.21 | | | 0.21 | 0.21 | 0.01 | 0.50 | 0.50 | 0.20 | 0.69 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 173 | | | 266 | 573 | 14 | 1685 | 795 | 672 | 2370 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.38 | | c0.17 | 0.25 | |
| v/s Ratio Perm | | 0.10 | | | c0.17 | 0.04 | | | 0.08 | | | |
| v/c Ratio | | 0.47 | | | 0.83 | 0.21 | 0.21 | 0.75 | 0.15 | 0.87 | 0.37 | |
| Uniform Delay, d1 | | 48.9 | | | 53.3 | 46.1 | 68.9 | 27.9 | 18.8 | 54.5 | 9.0 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.29 | 0.65 | 0.63 | 0.61 | 0.89 | |
| Incremental Delay, d2 | | 2.0 | | | 19.3 | 0.2 | 3.7 | 1.6 | 0.2 | 10.4 | 0.4 | |
| Delay (s) | | 50.9 | | | 72.6 | 46.3 | 92.9 | 19.7 | 12.1 | 43.9 | 8.4 | |
| Level of Service | | D | | | E | D | F | B | B | D | A | |
| Approach Delay (s) | | 50.9 | | | 53.6 | | | 18.9 | | | 22.7 | |
| Approach LOS | | D | | | D | | | B | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 28.3 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.79 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 74.3% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 114 | 38 | 170 | 148 | 486 | 50 | 588 | 516 | 647 |
| v/c Ratio | 0.31 | 0.12 | 0.64 | 0.37 | 0.72 | 0.34 | 0.76 | 0.86 | 0.36 |
| Control Delay | 30.2 | 9.9 | 42.0 | 30.7 | 9.7 | 47.8 | 34.4 | 41.2 | 10.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 30.2 | 9.9 | 42.0 | 30.7 | 9.7 | 47.8 | 34.4 | 41.2 | 10.5 |
| Queue Length 50th (ft) | 54 | 0 | 87 | 71 | 0 | 27 | 145 | 253 | 94 |
| Queue Length 95th (ft) | 102 | 24 | 158 | 126 | 92 | 67 | 223 | #480 | 151 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 539 | 452 | 389 | 588 | 764 | 156 | 936 | 738 | 2029 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.21 | 0.08 | 0.44 | 0.25 | 0.64 | 0.32 | 0.63 | 0.70 | 0.32 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 24 | 81 | 35 | 156 | 136 | 447 | 46 | 386 | 155 | 475 | 520 | 75 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 0.98 | |
| Flt Protected | | 0.99 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1715 | 1258 | 1620 | 1739 | 1311 | 1711 | 2926 | | 1620 | 3015 | |
| Flt Permitted | | 0.92 | 1.00 | 0.67 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1591 | 1258 | 1148 | 1739 | 1311 | 1711 | 2926 | | 1620 | 3015 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 26 | 88 | 38 | 170 | 148 | 486 | 50 | 420 | 168 | 516 | 565 | 82 |
| RTOR Reduction (vph) | 0 | 0 | 29 | 0 | 0 | 376 | 0 | 43 | 0 | 0 | 11 | 0 |
| Lane Group Flow (vph) | 0 | 114 | 9 | 170 | 148 | 110 | 50 | 545 | 0 | 516 | 636 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 | 3.6 | 21.7 | | 30.1 | 48.2 | |
| Effective Green, g (s) | | 18.6 | 18.6 | 18.6 | 18.6 | 18.6 | 3.6 | 21.7 | | 30.1 | 48.2 | |
| Actuated g/C Ratio | | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.04 | 0.26 | | 0.37 | 0.59 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 361 | 286 | 261 | 395 | 298 | 75 | 775 | | 595 | 1774 | |
| v/s Ratio Prot | | | | | 0.09 | | 0.03 | c0.19 | | c0.32 | 0.21 | |
| v/s Ratio Perm | | 0.07 | 0.01 | c0.15 | | 0.08 | | | | | | |
| v/c Ratio | | 0.32 | 0.03 | 0.65 | 0.37 | 0.37 | 0.67 | 0.70 | | 0.87 | 0.36 | |
| Uniform Delay, d1 | | 26.4 | 24.6 | 28.7 | 26.7 | 26.7 | 38.6 | 27.2 | | 24.0 | 8.8 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.5 | 0.0 | 5.7 | 0.6 | 0.8 | 20.1 | 3.1 | | 12.7 | 0.2 | |
| Delay (s) | | 26.9 | 24.7 | 34.4 | 27.3 | 27.5 | 58.7 | 30.3 | | 36.7 | 9.0 | |
| Level of Service | | C | C | C | C | C | E | C | | D | A | |
| Approach Delay (s) | | 26.3 | | | 28.9 | | | 32.5 | | | 21.3 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 26.4 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.76 | | |
| Actuated Cycle Length (s) | 81.9 | Sum of lost time (s) | 11.5 |
| Intersection Capacity Utilization | 75.0% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 350 | 489 | 185 | 105 | 647 | 259 | 1276 | 86 | 933 |
| v/c Ratio | 0.86 | 0.93 | 0.40 | 0.92 | 0.86 | 0.90 | 0.86 | 0.80 | 0.77 |
| Control Delay | 79.7 | 74.0 | 16.4 | 129.3 | 63.7 | 88.7 | 40.3 | 119.3 | 25.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 79.7 | 74.0 | 16.4 | 129.3 | 63.7 | 88.7 | 40.3 | 119.3 | 25.9 |
| Queue Length 50th (ft) | 162 | 428 | 41 | 97 | 291 | 233 | 536 | 81 | 194 |
| Queue Length 95th (ft) | #240 | #630 | 110 | #216 | 366 | #390 | 645 | m#173 | 318 |
| Internal Link Dist (ft) | | 2946 | | | 522 | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 205 | | 200 | | 370 | |
| Base Capacity (vph) | 415 | 546 | 473 | 114 | 784 | 297 | 1477 | 108 | 1206 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.84 | 0.90 | 0.39 | 0.92 | 0.83 | 0.87 | 0.86 | 0.80 | 0.77 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 322 | 450 | 170 | 97 | 499 | 97 | 238 | 962 | 212 | 79 | 764 | 95 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 12 | 12 | 12 | 10 | 10 | 10 | 12 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | | 1.00 | 0.97 | | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3060 | 1845 | 1305 | 1770 | 3444 | | 1652 | 3134 | | 1770 | 3394 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3060 | 1845 | 1305 | 1770 | 3444 | | 1652 | 3134 | | 1770 | 3394 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 350 | 489 | 185 | 105 | 542 | 105 | 259 | 1046 | 230 | 86 | 830 | 103 |
| RTOR Reduction (vph) | 0 | 0 | 89 | 0 | 12 | 0 | 0 | 13 | 0 | 0 | 6 | 0 |
| Lane Group Flow (vph) | 350 | 489 | 96 | 105 | 635 | 0 | 259 | 1263 | 0 | 86 | 927 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | | | | | | | |
| Actuated Green, G (s) | 18.7 | 39.9 | 39.9 | 9.0 | 30.2 | | 24.4 | 65.3 | | 8.6 | 49.5 | |
| Effective Green, g (s) | 18.7 | 39.9 | 39.9 | 9.0 | 30.2 | | 24.4 | 65.3 | | 8.6 | 49.5 | |
| Actuated g/C Ratio | 0.13 | 0.28 | 0.28 | 0.06 | 0.22 | | 0.17 | 0.47 | | 0.06 | 0.35 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 409 | 526 | 372 | 114 | 743 | | 288 | 1462 | | 109 | 1200 | |
| v/s Ratio Prot | c0.11 | c0.27 | | 0.06 | 0.18 | | c0.16 | c0.40 | | 0.05 | 0.27 | |
| v/s Ratio Perm | | | 0.07 | | | | | | | | | |
| v/c Ratio | 0.86 | 0.93 | 0.26 | 0.92 | 0.85 | | 0.90 | 0.86 | | 0.79 | 0.77 | |
| Uniform Delay, d1 | 59.3 | 48.7 | 38.6 | 65.1 | 52.8 | | 56.6 | 33.4 | | 64.8 | 40.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.25 | 0.52 | |
| Incremental Delay, d2 | 16.5 | 23.2 | 0.5 | 60.5 | 9.8 | | 28.9 | 7.0 | | 29.8 | 4.5 | |
| Delay (s) | 75.8 | 71.9 | 39.1 | 125.7 | 62.6 | | 85.4 | 40.4 | | 110.8 | 25.6 | |
| Level of Service | E | E | D | F | E | | F | D | | F | C | |
| Approach Delay (s) | | 67.3 | | | 71.4 | | | 48.0 | | | 32.8 | |
| Approach LOS | | E | | | E | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 53.0 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.86 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 81.3% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 45 | 751 | 22 | 637 | 87 | 73 | 199 | 42 | 48 |
| v/c Ratio | 0.41 | 0.66 | 0.22 | 0.62 | 0.37 | 0.21 | 0.83 | 0.13 | 0.51 |
| Control Delay | 60.4 | 14.9 | 55.1 | 21.6 | 44.1 | 11.3 | 71.8 | 13.1 | 64.7 |
| Queue Delay | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 60.4 | 15.4 | 55.1 | 21.6 | 44.1 | 11.3 | 71.8 | 13.1 | 64.7 |
| Queue Length 50th (ft) | 30 | 210 | 15 | 358 | 52 | 1 | 131 | 1 | 30 |
| Queue Length 95th (ft) | m52 | 418 | 42 | 438 | 105 | 41 | #268 | 32 | #78 |
| Internal Link Dist (ft) | | 524 | | 1458 | | 986 | | 462 | |
| Turn Bay Length (ft) | 205 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 112 | 1135 | 100 | 1065 | 248 | 357 | 249 | 333 | 99 |
| Starvation Cap Reductn | 0 | 123 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.40 | 0.74 | 0.22 | 0.60 | 0.35 | 0.20 | 0.80 | 0.13 | 0.48 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 41 | 677 | 14 | 20 | 520 | 66 | 80 | 2 | 65 | 183 | 1 | 38 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 12 | 11 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.98 | | 1.00 | 0.85 | | 1.00 | 0.85 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1856 | | 1770 | 1831 | | 1711 | 1591 | | 1770 | 1590 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.73 | 1.00 | | 0.71 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1856 | | 1770 | 1831 | | 1314 | 1591 | | 1322 | 1590 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 45 | 736 | 15 | 22 | 565 | 72 | 87 | 2 | 71 | 199 | 1 | 41 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 58 | 0 | 0 | 34 | 0 |
| Lane Group Flow (vph) | 45 | 751 | 0 | 22 | 637 | 0 | 87 | 15 | 0 | 199 | 8 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 5.6 | 63.4 | | 2.4 | 60.2 | | 19.9 | 19.9 | | 19.9 | 19.9 | |
| Effective Green, g (s) | 5.6 | 63.4 | | 2.4 | 60.2 | | 19.9 | 19.9 | | 19.9 | 19.9 | |
| Actuated g/C Ratio | 0.05 | 0.58 | | 0.02 | 0.55 | | 0.18 | 0.18 | | 0.18 | 0.18 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 90 | 1070 | | 39 | 1002 | | 238 | 288 | | 239 | 288 | |
| v/s Ratio Prot | c0.03 | c0.40 | | 0.01 | 0.35 | | | 0.01 | | | 0.01 | |
| v/s Ratio Perm | | | | | | | 0.07 | | | c0.15 | | |
| v/c Ratio | 0.50 | 0.70 | | 0.56 | 0.64 | | 0.37 | 0.05 | | 0.83 | 0.03 | |
| Uniform Delay, d1 | 50.8 | 16.6 | | 53.3 | 17.3 | | 39.5 | 37.2 | | 43.4 | 37.1 | |
| Progression Factor | 1.03 | 0.72 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 3.4 | 3.1 | | 17.3 | 3.1 | | 1.0 | 0.1 | | 21.3 | 0.0 | |
| Delay (s) | 55.8 | 15.1 | | 70.6 | 20.4 | | 40.5 | 37.3 | | 64.7 | 37.1 | |
| Level of Service | E | B | | E | C | | D | D | | E | D | |
| Approach Delay (s) | | 17.4 | | | 22.0 | | | 39.0 | | | 59.9 | |
| Approach LOS | | B | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 27.3 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 69.5% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Movement | SWR | SWR2 |
|---|---|---|
| Lane Configurations | | |
| Volume (vph) | 40 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Lane Width | 12 | 12 |
| Total Lost time (s) | 4.5 | |
| Lane Util. Factor | 1.00 | |
| Frpb, ped/bikes | 1.00 | |
| Flpb, ped/bikes | 1.00 | |
| Frt | 0.86 | |
| Flt Protected | 1.00 | |
| Satd. Flow (prot) | 1340 | |
| Flt Permitted | 1.00 | |
| Satd. Flow (perm) | 1340 | |
| Peak-hour factor, PHF | 0.92 | 0.92 |
| Adj. Flow (vph) | 43 | 5 |
| RTOR Reduction (vph) | 4 | 0 |
| Lane Group Flow (vph) | 44 | 0 |
| Confl. Peds. (#/hr) | | |
| Heavy Vehicles (%) | 25% | 2% |
| Parking (#/hr) | | |
| Turn Type | custom | |
| Protected Phases | 9 | |
| Permitted Phases | 9 | |
| Actuated Green, G (s) | 6.3 | |
| Effective Green, g (s) | 6.3 | |
| Actuated g/C Ratio | 0.06 | |
| Clearance Time (s) | 4.5 | |
| Vehicle Extension (s) | 3.0 | |
| Lane Grp Cap (vph) | 77 | |
| v/s Ratio Prot | c0.03 | |
| v/s Ratio Perm | | |
| v/c Ratio | 0.57 | |
| Uniform Delay, d1 | 50.5 | |
| Progression Factor | 1.00 | |
| Incremental Delay, d2 | 10.0 | |
| Delay (s) | 60.5 | |
| Level of Service | E | |
| Approach Delay (s) | | |
| Approach LOS | | |

Intersection Summary

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 171 | 1025 | 7 | 544 | 60 | 110 | 13 | 41 | 364 |
| v/c Ratio | 0.66 | 0.92 | 0.07 | 0.85 | 0.43 | 0.22 | 0.03 | 0.13 | 0.69 |
| Control Delay | 43.0 | 30.9 | 33.7 | 35.9 | 29.8 | 18.9 | 8.8 | 18.2 | 25.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 43.0 | 30.9 | 33.7 | 35.9 | 29.8 | 18.9 | 8.8 | 18.2 | 25.6 |
| Queue Length 50th (ft) | 65 | 300 | 3 | 189 | 20 | 34 | 0 | 12 | 112 |
| Queue Length 95th (ft) | #171 | #833 | 15 | #440 | 53 | 68 | 11 | 33 | 193 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 265 | 1112 | 106 | 656 | 212 | 782 | 564 | 498 | 779 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.65 | 0.92 | 0.07 | 0.83 | 0.28 | 0.14 | 0.02 | 0.08 | 0.47 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 157 | 711 | 232 | 6 | 442 | 59 | 55 | 101 | 12 | 38 | 203 | 132 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1946 | | 1711 | 1685 | | 1652 | 1863 | 1326 | 1643 | 1788 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.29 | 1.00 | 1.00 | 0.69 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1946 | | 1711 | 1685 | | 506 | 1863 | 1326 | 1186 | 1788 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 171 | 773 | 252 | 7 | 480 | 64 | 60 | 110 | 13 | 41 | 221 | 143 |
| RTOR Reduction (vph) | 0 | 12 | 0 | 0 | 6 | 0 | 0 | 0 | 10 | 0 | 36 | 0 |
| Lane Group Flow (vph) | 171 | 1013 | 0 | 7 | 538 | 0 | 60 | 110 | 3 | 41 | 328 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 9.8 | 36.9 | | 0.7 | 27.8 | | 17.9 | 17.9 | 17.9 | 17.9 | 17.9 | |
| Effective Green, g (s) | 9.8 | 36.9 | | 0.7 | 27.8 | | 17.9 | 17.9 | 17.9 | 17.9 | 17.9 | |
| Actuated g/C Ratio | 0.14 | 0.54 | | 0.01 | 0.41 | | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 245 | 1048 | | 17 | 684 | | 132 | 487 | 347 | 310 | 467 | |
| v/s Ratio Prot | c0.10 | c0.52 | | 0.00 | 0.32 | | | 0.06 | | | c0.18 | |
| v/s Ratio Perm | | | | | | | 0.12 | | 0.00 | 0.03 | | |
| v/c Ratio | 0.70 | 0.97 | | 0.41 | 0.79 | | 0.45 | 0.23 | 0.01 | 0.13 | 0.70 | |
| Uniform Delay, d1 | 27.9 | 15.2 | | 33.7 | 17.8 | | 21.2 | 19.9 | 18.7 | 19.4 | 22.9 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 9.0 | 20.0 | | 20.6 | 6.3 | | 3.4 | 0.3 | 0.0 | 0.3 | 5.1 | |
| Delay (s) | 37.0 | 35.2 | | 54.3 | 24.1 | | 24.6 | 20.2 | 18.8 | 19.6 | 28.0 | |
| Level of Service | D | D | | D | C | | C | C | B | B | C | |
| Approach Delay (s) | | 35.5 | | | 24.4 | | | 21.5 | | | 27.1 | |
| Approach LOS | | D | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 30.3 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.90 | | |
| Actuated Cycle Length (s) | 68.5 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 93.2% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 287 | 442 | 10 | 48 | 310 | 723 | 64 | 20 | 810 |
| v/c Ratio | 0.92 | 0.56 | 0.12 | 0.19 | 0.96 | 0.42 | 0.08 | 0.18 | 0.77 |
| Control Delay | 69.7 | 5.7 | 43.6 | 19.2 | 76.6 | 14.1 | 9.1 | 43.2 | 29.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 69.7 | 5.7 | 43.6 | 19.2 | 76.6 | 14.1 | 9.1 | 43.2 | 29.8 |
| Queue Length 50th (ft) | 133 | 9 | 5 | 11 | 145 | 85 | 6 | 9 | 159 |
| Queue Length 95th (ft) | #382 | 74 | 23 | 37 | #412 | 253 | 43 | 37 | #359 |
| Internal Link Dist (ft) | | 1442 | | 221 | | 1609 | | | 1977 |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | |
| Base Capacity (vph) | 312 | 1026 | 86 | 700 | 323 | 1732 | 784 | 111 | 1150 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.92 | 0.43 | 0.12 | 0.07 | 0.96 | 0.42 | 0.08 | 0.18 | 0.70 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 264 | 13 | 394 | 9 | 23 | 21 | 288 | 665 | 59 | 18 | 559 | 186 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1506 | | 1652 | 1597 | | 1652 | 3240 | 1449 | 1711 | 3245 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1506 | | 1652 | 1597 | | 1652 | 3240 | 1449 | 1711 | 3245 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 287 | 14 | 428 | 10 | 25 | 23 | 310 | 723 | 64 | 20 | 608 | 202 |
| RTOR Reduction (vph) | 0 | 277 | 0 | 0 | 19 | 0 | 0 | 0 | 14 | 0 | 30 | 0 |
| Lane Group Flow (vph) | 287 | 165 | 0 | 10 | 29 | 0 | 310 | 723 | 50 | 20 | 780 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 14.2 | 27.3 | | 0.6 | 13.7 | | 15.3 | 41.7 | 41.7 | 0.8 | 27.2 | |
| Effective Green, g (s) | 14.2 | 27.3 | | 0.6 | 13.7 | | 15.3 | 41.7 | 41.7 | 0.8 | 27.2 | |
| Actuated g/C Ratio | 0.17 | 0.33 | | 0.01 | 0.17 | | 0.18 | 0.50 | 0.50 | 0.01 | 0.33 | |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 293 | 496 | | 12 | 264 | | 305 | 1630 | 729 | 17 | 1065 | |
| v/s Ratio Prot | c0.17 | c0.11 | | 0.01 | 0.02 | | c0.19 | 0.22 | | 0.01 | c0.24 | |
| v/s Ratio Perm | | | | | | | | | 0.03 | | | |
| v/c Ratio | 0.98 | 0.33 | | 0.83 | 0.11 | | 1.02 | 0.44 | 0.07 | 1.18 | 0.73 | |
| Uniform Delay, d1 | 34.2 | 20.9 | | 41.1 | 29.4 | | 33.8 | 13.2 | 10.6 | 41.1 | 24.6 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 46.5 | 0.5 | | 172.9 | 0.3 | | 55.8 | 0.3 | 0.1 | 279.8 | 2.8 | |
| Delay (s) | 80.7 | 21.5 | | 214.0 | 29.7 | | 89.6 | 13.4 | 10.7 | 320.8 | 27.5 | |
| Level of Service | F | C | | F | C | | F | B | B | F | C | |
| Approach Delay (s) | | 44.8 | | | 61.4 | | | 34.8 | | | 34.5 | |
| Approach LOS | | D | | | E | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 38.0 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.75 | | |
| Actuated Cycle Length (s) | 82.9 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 72.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 73 | 25 | 5 | 1332 | 1303 |
| v/c Ratio | 0.48 | 0.17 | 0.02 | 0.48 | 0.47 |
| Control Delay | 56.7 | 19.0 | 2.4 | 3.5 | 3.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 1.6 | 0.0 |
| Total Delay | 56.7 | 19.0 | 2.4 | 5.2 | 3.5 |
| Queue Length 50th (ft) | 50 | 0 | 0 | 110 | 105 |
| Queue Length 95th (ft) | 94 | 26 | 3 | 178 | 172 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 360 | 310 | 293 | 2763 | 2755 |
| Starvation Cap Reductn | 0 | 0 | 0 | 1186 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.20 | 0.08 | 0.02 | 0.84 | 0.47 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 67 | 23 | 5 | 1225 | 1173 | 26 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3229 | |
| Flt Permitted | 0.95 | 1.00 | 0.20 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 344 | 3240 | 3229 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 73 | 25 | 5 | 1332 | 1275 | 28 |
| RTOR Reduction (vph) | 0 | 23 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 73 | 2 | 5 | 1332 | 1302 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 9.0 | 9.0 | 92.0 | 92.0 | 92.0 | |
| Effective Green, g (s) | 9.0 | 9.0 | 92.0 | 92.0 | 92.0 | |
| Actuated g/C Ratio | 0.08 | 0.08 | 0.84 | 0.84 | 0.84 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 135 | 109 | 288 | 2710 | 2701 | |
| v/s Ratio Prot | c0.04 | | | c0.41 | 0.40 | |
| v/s Ratio Perm | | 0.00 | 0.01 | | | |
| v/c Ratio | 0.54 | 0.02 | 0.02 | 0.49 | 0.48 | |
| Uniform Delay, d1 | 48.5 | 46.4 | 1.5 | 2.5 | 2.5 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 4.4 | 0.1 | 0.1 | 0.6 | 0.6 | |
| Delay (s) | 52.9 | 46.5 | 1.6 | 3.1 | 3.1 | |
| Level of Service | D | D | A | A | A | |
| Approach Delay (s) | 51.3 | | | 3.1 | 3.1 | |
| Approach LOS | D | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.8 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.50 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 45.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1503 | 1162 | 598 | 1564 | 826 | 897 |
| v/c Ratio | 0.71 | 0.69 | 0.91 | 0.91 | 0.54 | 0.77 |
| Control Delay | 12.0 | 11.0 | 83.6 | 24.4 | 1.4 | 44.2 |
| Queue Delay | 29.9 | 5.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Total Delay | 41.9 | 16.0 | 83.6 | 24.8 | 1.4 | 44.2 |
| Queue Length 50th (ft) | 420 | 52 | 287 | 339 | 0 | 313 |
| Queue Length 95th (ft) | 439 | 59 | #372 | 440 | 0 | 383 |
| Internal Link Dist (ft) | 251 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 2123 | 1693 | 693 | 1715 | 1517 | 1172 |
| Starvation Cap Reductn | 698 | 457 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 16 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.05 | 0.94 | 0.86 | 0.92 | 0.54 | 0.77 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1383 | 1069 | 550 | 1439 | 0 | 0 | 0 | 760 | 0 | 0 | 825 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.5 | 4.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.76 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3020 | 2378 | 2828 | 3020 | | | | 1517 | | | 3187 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3020 | 2378 | 2828 | 3020 | | | | 1517 | | | 3187 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1503 | 1162 | 598 | 1564 | 0 | 0 | 0 | 826 | 0 | 0 | 897 |
| RTOR Reduction (vph) | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1503 | 1141 | 598 | 1564 | 0 | 0 | 0 | 826 | 0 | 0 | 897 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 4 | | 1 | 6 | | | | | | | |
| Permitted Phases | | | 2 4 | | | | | | Free | | | 4 |
| Actuated Green, G (s) | | 98.4 | 98.4 | 32.6 | 79.5 | | | | 140.0 | | | 51.5 |
| Effective Green, g (s) | | 98.4 | 98.4 | 32.6 | 79.5 | | | | 140.0 | | | 51.5 |
| Actuated g/C Ratio | | 0.70 | 0.70 | 0.23 | 0.57 | | | | 1.00 | | | 0.37 |
| Clearance Time (s) | | | | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | | | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 2123 | 1671 | 659 | 1715 | | | | 1517 | | | 1172 |
| v/s Ratio Prot | | 0.50 | | 0.21 | c0.52 | | | | | | | |
| v/s Ratio Perm | | | 0.48 | | | | | | 0.54 | | | c0.28 |
| v/c Ratio | | 0.71 | 0.68 | 0.91 | 0.91 | | | | 0.54 | | | 0.77 |
| Uniform Delay, d1 | | 12.3 | 11.9 | 52.2 | 27.1 | | | | 0.0 | | | 38.9 |
| Progression Factor | | 0.82 | 0.81 | 1.31 | 0.61 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 1.4 | 1.6 | 13.6 | 7.3 | | | | 1.4 | | | 4.8 |
| Delay (s) | | 11.5 | 11.2 | 81.9 | 23.8 | | | | 1.4 | | | 43.7 |
| Level of Service | | B | B | F | C | | | | A | | | D |
| Approach Delay (s) | | 11.4 | | | 39.8 | | | 1.4 | | | 43.7 | |
| Approach LOS | | B | | | D | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 23.9 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.85 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 73.1% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 633 | 1697 | 1142 | 615 | 1062 | 1012 |
| v/c Ratio | 0.77 | 0.51 | 0.56 | 0.64 | 0.66 | 0.66 |
| Control Delay | 23.7 | 0.4 | 5.4 | 8.8 | 2.1 | 2.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.7 | 0.4 | 5.4 | 8.8 | 2.1 | 2.3 |
| Queue Length 50th (ft) | 153 | 0 | 49 | 0 | 0 | 0 |
| Queue Length 95th (ft) | 196 | 0 | 165 | m139 | 0 | 0 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 920 | 3355 | 2048 | 958 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.69 | 0.51 | 0.56 | 0.64 | 0.66 | 0.66 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 582 | 1561 | 0 | 0 | 1051 | 566 | 0 | 0 | 977 | 0 | 0 | 931 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 633 | 1697 | 0 | 0 | 1142 | 615 | 0 | 0 | 1062 | 0 | 0 | 1012 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 633 | 1697 | 0 | 0 | 1142 | 592 | 0 | 0 | 1062 | 0 | 0 | 1012 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 18.3 | 70.0 | | | 42.7 | 42.7 | | | 70.0 | | | 70.0 |
| Effective Green, g (s) | 18.3 | 70.0 | | | 42.7 | 42.7 | | | 70.0 | | | 70.0 |
| Actuated g/C Ratio | 0.26 | 1.00 | | | 0.61 | 0.61 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 822 | 3355 | | | 2047 | 934 | | | 1611 | | | 1528 |
| v/s Ratio Prot | 0.20 | 0.51 | | | 0.34 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.39 | | | 0.66 | | | c0.66 |
| v/c Ratio | 0.77 | 0.51 | | | 0.56 | 0.63 | | | 0.66 | | | 0.66 |
| Uniform Delay, d1 | 23.9 | 0.0 | | | 8.1 | 8.7 | | | 0.0 | | | 0.0 |
| Progression Factor | 0.77 | 1.00 | | | 0.55 | 0.78 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 3.4 | 0.4 | | | 0.7 | 2.2 | | | 2.1 | | | 2.3 |
| Delay (s) | 21.9 | 0.4 | | | 5.2 | 9.0 | | | 2.1 | | | 2.3 |
| Level of Service | C | A | | | A | A | | | A | | | A |
| Approach Delay (s) | | 6.2 | | | 6.5 | | | 2.1 | | | 2.3 | |
| Approach LOS | | A | | | A | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 5.0 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.66 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 59.1% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 477 | 779 | 903 | 298 | 36 | 290 | 872 | 21 | 100 | 1038 | 227 |
| v/c Ratio | 1.12 | 0.97 | 0.51 | 0.77 | 0.09 | 0.94 | 0.74 | 0.05 | 0.67 | 0.97 | 0.40 |
| Control Delay | 105.8 | 53.9 | 1.1 | 49.9 | 13.6 | 84.6 | 34.1 | 16.5 | 66.2 | 55.4 | 17.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 105.8 | 53.9 | 1.1 | 49.9 | 13.6 | 84.6 | 34.1 | 16.5 | 66.2 | 55.4 | 17.5 |
| Queue Length 50th (ft) | ~256 | 471 | 0 | 177 | 3 | 96 | 257 | 5 | 63 | 341 | 63 |
| Queue Length 95th (ft) | #458 | #732 | 0 | #303 | 28 | #177 | 330 | 22 | #137 | #481 | 129 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 424 | 800 | 1770 | 387 | 388 | 308 | 1179 | 439 | 152 | 1070 | 565 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.13 | 0.97 | 0.51 | 0.77 | 0.09 | 0.94 | 0.74 | 0.05 | 0.66 | 0.97 | 0.40 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 439 | 717 | 831 | 6 | 268 | 33 | 267 | 802 | 19 | 92 | 955 | 209 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 3.6 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.96 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1737 | 1476 | 3204 | 3539 | 1337 | 1652 | 3303 | 1551 |
| Flt Permitted | 0.28 | 1.00 | 1.00 | | 0.90 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 484 | 1739 | 1770 | | 1562 | 1476 | 3204 | 3539 | 1337 | 1652 | 3303 | 1551 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 477 | 779 | 903 | 7 | 291 | 36 | 290 | 872 | 21 | 100 | 1038 | 227 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 7 | 0 | 0 | 63 |
| Lane Group Flow (vph) | 477 | 779 | 903 | 0 | 298 | 14 | 290 | 872 | 14 | 100 | 1038 | 164 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 45.5 | 45.5 | 100.0 | | 24.3 | 24.3 | 8.6 | 32.3 | 32.3 | 8.2 | 31.4 | 31.4 |
| Effective Green, g (s) | 46.0 | 46.0 | 100.0 | | 24.8 | 24.8 | 9.6 | 33.3 | 32.3 | 9.1 | 32.4 | 32.4 |
| Actuated g/C Ratio | 0.46 | 0.46 | 1.00 | | 0.25 | 0.25 | 0.10 | 0.33 | 0.32 | 0.09 | 0.32 | 0.32 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.5 | 5.0 | 5.0 |
| Vehicle Extension (s) | 3.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 424 | 800 | 1770 | | 387 | 366 | 308 | 1178 | 432 | 150 | 1070 | 503 |
| v/s Ratio Prot | c0.19 | 0.45 | | | | | c0.09 | 0.25 | | 0.06 | c0.31 | |
| v/s Ratio Perm | c0.32 | | c0.51 | | 0.19 | 0.01 | | | 0.01 | | | 0.11 |
| v/c Ratio | 1.12 | 0.97 | 0.51 | | 0.77 | 0.04 | 0.94 | 0.74 | 0.03 | 0.67 | 0.97 | 0.33 |
| Uniform Delay, d1 | 22.7 | 26.4 | 0.0 | | 34.9 | 28.5 | 44.9 | 29.5 | 23.2 | 44.0 | 33.3 | 25.6 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 82.3 | 25.4 | 1.1 | | 9.7 | 0.1 | 36.0 | 4.2 | 0.1 | 11.1 | 21.2 | 1.7 |
| Delay (s) | 105.0 | 51.8 | 1.1 | | 44.6 | 28.6 | 80.9 | 33.7 | 23.3 | 55.1 | 54.5 | 27.3 |
| Level of Service | F | D | A | | D | C | F | C | C | E | D | C |
| Approach Delay (s) | | 42.3 | | | 42.9 | | | 45.1 | | | 50.0 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 45.1 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.04 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 100.7% | ICU Level of Service | G |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBT | WBR | NBT | SBL | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 48 | 90 | 1925 | 141 | 1437 |
| v/c Ratio | 0.48 | 0.61 | 0.45 | 1.00 | 0.48 |
| Control Delay | 76.5 | 51.7 | 1.5 | 86.9 | 0.9 |
| Queue Delay | 0.0 | 0.0 | 0.2 | 0.0 | 0.5 |
| Total Delay | 76.5 | 51.7 | 1.7 | 86.9 | 1.4 |
| Queue Length 50th (ft) | 43 | 43 | 23 | 79 | 8 |
| Queue Length 95th (ft) | 84 | 99 | 28 | m#124 | m13 |
| Internal Link Dist (ft) | 217 | | 650 | | 443 |
| Turn Bay Length (ft) | | | | 150 | |
| Base Capacity (vph) | 200 | 258 | 4242 | 141 | 2982 |
| Starvation Cap Reductn | 0 | 0 | 1073 | 0 | 954 |
| Spillback Cap Reductn | 0 | 0 | 1 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.24 | 0.35 | 0.61 | 1.00 | 0.71 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 44 | 0 | 83 | 0 | 1737 | 34 | 130 | 1321 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.98 | | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1562 | 1393 | | 4937 | | 1619 | 3471 | |
| Flt Permitted | | | | | 0.76 | 1.00 | | 1.00 | | 0.10 | 1.00 | |
| Satd. Flow (perm) | | | | | 1245 | 1393 | | 4937 | | 163 | 3471 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 48 | 0 | 90 | 0 | 1888 | 37 | 141 | 1436 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 1 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 48 | 52 | 0 | 1924 | 0 | 141 | 1437 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 11.1 | 11.1 | | 120.3 | | 120.3 | 120.3 | |
| Effective Green, g (s) | | | | | 11.1 | 11.1 | | 120.3 | | 120.3 | 120.3 | |
| Actuated g/C Ratio | | | | | 0.08 | 0.08 | | 0.86 | | 0.86 | 0.86 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 99 | 110 | | 4242 | | 140 | 2983 | |
| v/s Ratio Prot | | | | | | | | 0.39 | | | 0.41 | |
| v/s Ratio Perm | | | | | c0.04 | 0.04 | | | | c0.86 | | |
| v/c Ratio | | | | | 0.48 | 0.48 | | 0.45 | | 1.01 | 0.48 | |
| Uniform Delay, d1 | | | | | 61.7 | 61.7 | | 2.3 | | 9.9 | 2.4 | |
| Progression Factor | | | | | 1.00 | 1.00 | | 0.50 | | 2.94 | 0.22 | |
| Incremental Delay, d2 | | | | | 3.7 | 3.2 | | 0.3 | | 58.1 | 0.3 | |
| Delay (s) | | | | | 65.4 | 64.9 | | 1.4 | | 87.0 | 0.8 | |
| Level of Service | | | | | E | E | | A | | F | A | |
| Approach Delay (s) | | 0.0 | | | 65.1 | | | 1.4 | | | 8.5 | |
| Approach LOS | | A | | | E | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 6.9 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.96 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 58.4% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 45 | 826 | 776 | 274 | 152 |
| v/c Ratio | 0.37 | 0.62 | 0.35 | 0.77 | 0.34 |
| Control Delay | 57.2 | 11.5 | 7.3 | 55.3 | 7.5 |
| Queue Delay | 0.0 | 1.8 | 0.0 | 0.0 | 0.0 |
| Total Delay | 57.2 | 13.3 | 7.3 | 55.3 | 7.5 |
| Queue Length 50th (ft) | 31 | 261 | 52 | 184 | 0 |
| Queue Length 95th (ft) | 69 | 471 | 106 | 257 | 49 |
| Internal Link Dist (ft) | | 522 | 524 | 200 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 129 | 1335 | 2187 | 475 | 536 |
| Starvation Cap Reductn | 0 | 334 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 30 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.35 | 0.83 | 0.35 | 0.58 | 0.28 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 41 | 760 | 648 | 66 | 252 | 140 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.99 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3490 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3490 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 45 | 826 | 704 | 72 | 274 | 152 |
| RTOR Reduction (vph) | 0 | 0 | 6 | 0 | 0 | 121 |
| Lane Group Flow (vph) | 45 | 826 | 770 | 0 | 274 | 31 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 6.4 | 78.8 | 67.9 | | 22.2 | 22.2 |
| Effective Green, g (s) | 6.4 | 78.8 | 67.9 | | 22.2 | 22.2 |
| Actuated g/C Ratio | 0.06 | 0.72 | 0.62 | | 0.20 | 0.20 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 103 | 1335 | 2154 | | 357 | 319 |
| v/s Ratio Prot | 0.03 | c0.44 | 0.22 | | c0.15 | |
| v/s Ratio Perm | | | | | | 0.02 |
| v/c Ratio | 0.44 | 0.62 | 0.36 | | 0.77 | 0.10 |
| Uniform Delay, d1 | 50.1 | 7.9 | 10.3 | | 41.5 | 35.7 |
| Progression Factor | 1.00 | 1.00 | 0.61 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 2.9 | 2.2 | 0.4 | | 9.5 | 0.1 |
| Delay (s) | 53.0 | 10.1 | 6.7 | | 51.0 | 35.9 |
| Level of Service | D | B | A | | D | D |
| Approach Delay (s) | | 12.3 | 6.7 | | 45.6 | |
| Approach LOS | | B | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.1 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.65 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 61.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBL | WBT | NBR |
|---|---|---|---|---|
| Lane Group Flow (vph) | 2228 | 489 | 1973 | 507 |
| v/c Ratio | 0.71 | 0.73 | 0.39 | 0.83 |
| Control Delay | 12.4 | 24.5 | 0.1 | 31.6 |
| Queue Delay | 0.4 | 2.3 | 0.0 | 0.0 |
| Total Delay | 12.8 | 26.8 | 0.1 | 31.6 |
| Queue Length 50th (ft) | 286 | 198 | 0 | 182 |
| Queue Length 95th (ft) | m268 | m227 | 0 | 285 |
| Internal Link Dist (ft) | 387 | | 251 | |
| Turn Bay Length (ft) | | | | |
| Base Capacity (vph) | 3147 | 771 | 5085 | 703 |
| Starvation Cap Reductn | 0 | 164 | 0 | 0 |
| Spillback Cap Reductn | 384 | 0 | 701 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.81 | 0.81 | 0.45 | 0.72 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 2019 | 30 | 450 | 1815 | 0 | 466 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Lane Util. Factor | 0.86 | | 1.00 | 0.91 | | 1.00 |
| Frt | 1.00 | | 1.00 | 1.00 | | 0.86 |
| Flt Protected | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 6394 | | 1770 | 5085 | | 1611 |
| Flt Permitted | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 6394 | | 1770 | 5085 | | 1611 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 2195 | 33 | 489 | 1973 | 0 | 507 |
| RTOR Reduction (vph) | 3 | 0 | 0 | 0 | 0 | 1 |
| Lane Group Flow (vph) | 2225 | 0 | 489 | 1973 | 0 | 506 |
| Turn Type | | | Prot | | | Over |
| Protected Phases | 2 | | 1 | 6 | | 1 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 34.4 | | 26.6 | 70.0 | | 26.6 |
| Effective Green, g (s) | 34.4 | | 26.6 | 70.0 | | 26.6 |
| Actuated g/C Ratio | 0.49 | | 0.38 | 1.00 | | 0.38 |
| Clearance Time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 3142 | | 673 | 5085 | | 612 |
| v/s Ratio Prot | c0.35 | | 0.28 | 0.39 | | c0.31 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.71 | | 0.73 | 0.39 | | 0.83 |
| Uniform Delay, d1 | 13.9 | | 18.6 | 0.0 | | 19.6 |
| Progression Factor | 0.79 | | 1.16 | 1.00 | | 1.00 |
| Incremental Delay, d2 | 0.8 | | 1.9 | 0.1 | | 9.0 |
| Delay (s) | 11.8 | | 23.5 | 0.1 | | 28.6 |
| Level of Service | B | | C | A | | C |
| Approach Delay (s) | 11.8 | | | 4.8 | 28.6 | |
| Approach LOS | B | | | A | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 10.1 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.76 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 66.1% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 96 | 221 | 262 | 205 | 1051 | 36 | 895 | 208 | 732 | 643 | 54 |
| v/c Ratio | 1.02 | 0.57 | 0.49 | 0.32 | 0.64 | 0.49 | 0.79 | 0.23 | 1.14 | 0.47 | 0.08 |
| Control Delay | 162.5 | 56.2 | 42.5 | 31.1 | 18.5 | 87.5 | 53.8 | 1.7 | 127.8 | 31.5 | 7.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 162.5 | 56.2 | 42.5 | 31.1 | 18.5 | 87.5 | 53.8 | 1.7 | 127.8 | 31.5 | 7.1 |
| Queue Length 50th (ft) | ~98 | 92 | 187 | 128 | 318 | 33 | 282 | 0 | ~417 | 232 | 0 |
| Queue Length 95th (ft) | #218 | 126 | 308 | 195 | 396 | 72 | 336 | 19 | #543 | 294 | 29 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 94 | 1057 | 534 | 700 | 1622 | 89 | 1213 | 923 | 644 | 1354 | 663 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.02 | 0.21 | 0.49 | 0.29 | 0.65 | 0.40 | 0.74 | 0.23 | 1.14 | 0.47 | 0.08 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 88 | 162 | 41 | 241 | 189 | 967 | 33 | 823 | 191 | 673 | 592 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | 4.5 | 3.5 | 3.8 | 3.8 | 3.5 | 3.8 | 3.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 1.00 | 0.88 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.97 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3093 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1513 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3093 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1513 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 96 | 176 | 45 | 262 | 205 | 1051 | 36 | 895 | 208 | 732 | 643 | 54 |
| RTOR Reduction (vph) | 0 | 21 | 0 | 0 | 0 | 16 | 0 | 0 | 90 | 0 | 0 | 32 |
| Lane Group Flow (vph) | 96 | 200 | 0 | 262 | 205 | 1035 | 36 | 895 | 118 | 732 | 643 | 22 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 7.6 | 16.0 | | 43.0 | 51.4 | 83.6 | 5.2 | 34.0 | 77.0 | 27.7 | 56.5 | 56.5 |
| Effective Green, g (s) | 7.6 | 16.0 | | 43.0 | 51.4 | 83.6 | 5.2 | 34.0 | 77.0 | 27.7 | 56.5 | 56.5 |
| Actuated g/C Ratio | 0.06 | 0.12 | | 0.32 | 0.38 | 0.61 | 0.04 | 0.25 | 0.57 | 0.20 | 0.42 | 0.42 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 3.0 | | 2.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 94 | 364 | | 531 | 638 | 1624 | 62 | 1164 | 820 | 640 | 1346 | 629 |
| v/s Ratio Prot | c0.06 | 0.06 | | 0.16 | 0.12 | c0.39 | 0.02 | c0.19 | 0.08 | c0.23 | 0.20 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.01 |
| v/c Ratio | 1.02 | 0.55 | | 0.49 | 0.32 | 0.64 | 0.58 | 0.77 | 0.14 | 1.14 | 0.48 | 0.04 |
| Uniform Delay, d1 | 64.2 | 56.6 | | 37.7 | 30.0 | 16.6 | 64.3 | 47.4 | 13.9 | 54.1 | 29.0 | 23.6 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 98.7 | 2.5 | | 0.3 | 0.4 | 0.9 | 8.6 | 3.1 | 0.1 | 82.3 | 0.3 | 0.0 |
| Delay (s) | 162.9 | 59.1 | | 37.9 | 30.4 | 17.5 | 72.9 | 50.5 | 14.0 | 136.4 | 29.3 | 23.6 |
| Level of Service | F | E | | D | C | B | E | D | B | F | C | C |
| Approach Delay (s) | | 90.6 | | | 22.8 | | | 44.5 | | | 83.9 | |
| Approach LOS | | F | | | C | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 53.1 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.83 | | |
| Actuated Cycle Length (s) | 136.0 | Sum of lost time (s) | 15.3 |
| Intersection Capacity Utilization | 71.4% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 154 | 1120 | 108 | 1645 | 700 | 53 | 235 | 564 | 281 |
| v/c Ratio | 0.94 | 0.66 | 0.66 | 1.01 | 0.72 | 0.46 | 0.89 | 0.93 | 0.65 |
| Control Delay | 110.8 | 23.3 | 81.4 | 38.8 | 5.2 | 66.4 | 48.6 | 71.2 | 22.7 |
| Queue Delay | 0.0 | 89.0 | 0.0 | 0.6 | 2.1 | 0.0 | 17.1 | 0.0 | 0.0 |
| Total Delay | 110.8 | 112.3 | 81.4 | 39.4 | 7.2 | 66.4 | 65.8 | 71.2 | 22.7 |
| Queue Length 50th (ft) | 121 | 318 | 87 | ~753 | 1 | 40 | 42 | 226 | 60 |
| Queue Length 95th (ft) | #255 | 423 | m105 | m#879 | m2 | 83 | #177 | #342 | 161 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 163 | 1685 | 203 | 1621 | 979 | 140 | 284 | 606 | 430 |
| Starvation Cap Reductn | 0 | 0 | 0 | 3 | 153 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 745 | 0 | 0 | 0 | 0 | 42 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.94 | 1.19 | 0.53 | 1.02 | 0.85 | 0.38 | 0.97 | 0.93 | 0.65 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 142 | 1016 | 15 | 99 | 1434 | 723 | 49 | 8 | 208 | 519 | 41 | 217 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.91 | 0.91 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | | 1.00 | 0.96 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.99 | 0.85 | 1.00 | 0.86 | | 1.00 | 0.87 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3171 | | 1620 | 3049 | 1318 | 1678 | 1438 | | 3143 | 1424 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3171 | | 1620 | 3049 | 1318 | 1678 | 1438 | | 3143 | 1424 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 154 | 1104 | 16 | 108 | 1559 | 786 | 53 | 9 | 226 | 564 | 45 | 236 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 3 | 279 | 0 | 167 | 0 | 0 | 156 | 0 |
| Lane Group Flow (vph) | 154 | 1119 | 0 | 108 | 1642 | 421 | 53 | 68 | 0 | 564 | 125 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 12.1 | 63.8 | | 12.0 | 63.7 | 63.7 | 8.1 | 8.1 | | 23.1 | 23.1 | |
| Effective Green, g (s) | 12.1 | 63.8 | | 12.0 | 63.7 | 63.7 | 8.1 | 8.1 | | 23.1 | 23.1 | |
| Actuated g/C Ratio | 0.10 | 0.53 | | 0.10 | 0.53 | 0.53 | 0.07 | 0.07 | | 0.19 | 0.19 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 163 | 1686 | | 162 | 1619 | 700 | 113 | 97 | | 605 | 274 | |
| v/s Ratio Prot | c0.10 | 0.35 | | 0.07 | c0.54 | | 0.03 | c0.05 | | c0.18 | 0.09 | |
| v/s Ratio Perm | | | | | | 0.32 | | | | | | |
| v/c Ratio | 0.94 | 0.66 | | 0.67 | 1.01 | 0.60 | 0.47 | 0.70 | | 0.93 | 0.46 | |
| Uniform Delay, d1 | 53.6 | 20.3 | | 52.1 | 28.1 | 19.4 | 53.9 | 54.8 | | 47.7 | 42.9 | |
| Progression Factor | 1.00 | 1.00 | | 1.33 | 0.56 | 0.71 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 53.5 | 2.1 | | 4.8 | 21.0 | 2.3 | 1.1 | 17.1 | | 21.4 | 1.2 | |
| Delay (s) | 107.1 | 22.4 | | 74.0 | 36.6 | 16.1 | 55.0 | 71.8 | | 69.0 | 44.1 | |
| Level of Service | F | C | | E | D | B | D | E | | E | D | |
| Approach Delay (s) | | 32.7 | | | 32.4 | | | 68.7 | | | 60.8 | |
| Approach LOS | | C | | | C | | | E | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 39.6 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.96 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 96.7% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 57 | 2020 | 658 | 2213 | 314 | 559 | 70 | 58 |
| v/c Ratio | 0.48 | 1.00 | 0.97 | 0.77 | 0.99 | 0.50 | 0.90 | 0.56 |
| Control Delay | 61.9 | 49.8 | 66.7 | 16.6 | 98.9 | 20.4 | 133.4 | 50.2 |
| Queue Delay | 0.0 | 52.2 | 0.0 | 1.3 | 0.0 | 0.0 | 0.0 | 0.6 |
| Total Delay | 61.9 | 102.0 | 66.7 | 17.9 | 98.9 | 20.4 | 133.4 | 50.8 |
| Queue Length 50th (ft) | 44 | ~589 | 255 | 400 | 246 | 139 | 55 | 19 |
| Queue Length 95th (ft) | m63 | m#699 | m#335 | 496 | #433 | 186 | #148 | #75 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 135 | 2018 | 689 | 2865 | 316 | 1119 | 78 | 103 |
| Starvation Cap Reductn | 0 | 239 | 0 | 416 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 413 | 0 | 0 | 0 | 3 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.42 | 1.14 | 0.96 | 0.90 | 0.99 | 0.50 | 0.90 | 0.58 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 52 | 1689 | 169 | 605 | 1913 | 123 | 258 | 31 | 514 | 64 | 23 | 30 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.91 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.99 | 1.00 | 0.95 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4505 | | 3143 | 4726 | | | 1807 | 2808 | 1562 | 1428 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4505 | | 3143 | 4726 | | | 1807 | 2808 | 1562 | 1428 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 57 | 1836 | 184 | 658 | 2079 | 134 | 280 | 34 | 559 | 70 | 25 | 33 |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 6 | 0 | 0 | 0 | 23 | 0 | 31 | 0 |
| Lane Group Flow (vph) | 57 | 2010 | 0 | 658 | 2207 | 0 | 0 | 314 | 536 | 70 | 27 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 8.0 | 53.5 | | 26.0 | 72.0 | | | 21.0 | 47.0 | 6.0 | 6.0 | |
| Effective Green, g (s) | 8.0 | 53.5 | | 26.0 | 72.0 | | | 21.0 | 47.0 | 6.0 | 6.0 | |
| Actuated g/C Ratio | 0.07 | 0.45 | | 0.22 | 0.60 | | | 0.18 | 0.39 | 0.05 | 0.05 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 108 | 2008 | | 681 | 2836 | | | 316 | 1100 | 78 | 71 | |
| v/s Ratio Prot | 0.04 | c0.45 | | c0.21 | 0.47 | | | c0.17 | 0.11 | c0.04 | 0.02 | |
| v/s Ratio Perm | | | | | | | | | 0.09 | | | |
| v/c Ratio | 0.53 | 1.00 | | 0.97 | 0.78 | | | 0.99 | 0.49 | 0.90 | 0.38 | |
| Uniform Delay, d1 | 54.2 | 33.2 | | 46.6 | 18.0 | | | 49.4 | 27.4 | 56.7 | 55.2 | |
| Progression Factor | 0.99 | 0.98 | | 1.03 | 0.84 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.5 | 17.1 | | 17.7 | 1.2 | | | 48.6 | 0.1 | 66.4 | 1.2 | |
| Delay (s) | 55.0 | 49.9 | | 65.7 | 16.3 | | | 98.0 | 27.6 | 123.1 | 56.4 | |
| Level of Service | D | D | | E | B | | | F | C | F | E | |
| Approach Delay (s) | | 50.0 | | | 27.6 | | | 52.9 | | | 92.9 | |
| Approach LOS | | D | | | C | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 40.6 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.98 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 86.3% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1236 | 1516 | 2066 | 795 | 611 | 592 |
| v/c Ratio | 0.36 | 0.60 | 0.89 | 0.62 | 0.82 | 0.87 |
| Control Delay | 7.0 | 1.4 | 19.0 | 2.7 | 54.3 | 56.3 |
| Queue Delay | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | 0.1 |
| Total Delay | 7.0 | 1.4 | 19.7 | 2.7 | 54.3 | 56.4 |
| Queue Length 50th (ft) | 123 | 0 | 573 | 0 | 233 | 237 |
| Queue Length 95th (ft) | m129 | m0 | 720 | 32 | #304 | #343 |
| Internal Link Dist (ft) | 509 | | 867 | | | |
| Turn Bay Length (ft) | | 400 | | | | 150 |
| Base Capacity (vph) | 3429 | 2533 | 2327 | 1284 | 747 | 681 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 71 | 0 | 0 | 1 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.36 | 0.60 | 0.92 | 0.62 | 0.82 | 0.87 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1137 | 1395 | 0 | 1901 | 731 | 0 | 0 | 0 | 562 | 0 | 545 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | | 3.0 |
| Lane Util. Factor | | 0.91 | 0.88 | | 0.95 | 1.00 | | | | 0.97 | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1236 | 1516 | 0 | 2066 | 795 | 0 | 0 | 0 | 611 | 0 | 592 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 225 | 0 | 0 | 0 | 0 | 0 | 31 |
| Lane Group Flow (vph) | 0 | 1236 | 1516 | 0 | 2066 | 570 | 0 | 0 | 0 | 611 | 0 | 561 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Perm | | | | custom | | custom |
| Protected Phases | | 2 | | | 6 | | | | | 4 | | |
| Permitted Phases | | | 2 4 | | | 6 | | | | 4 | | 4 |
| Actuated Green, G (s) | | 86.0 | 120.0 | | 86.0 | 86.0 | | | | 26.0 | | 26.0 |
| Effective Green, g (s) | | 87.0 | 120.0 | | 87.0 | 86.0 | | | | 27.0 | | 27.0 |
| Actuated g/C Ratio | | 0.72 | 1.00 | | 0.72 | 0.72 | | | | 0.22 | | 0.22 |
| Clearance Time (s) | | 4.0 | | | 4.0 | 4.0 | | | | 4.0 | | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | 4.5 | | | | 4.0 | | 4.0 |
| Lane Grp Cap (vph) | | 3429 | 2533 | | 2327 | 1059 | | | | 747 | | 650 |
| v/s Ratio Prot | | 0.26 | | | c0.64 | | | | | 0.18 | | |
| v/s Ratio Perm | | | 0.60 | | | 0.39 | | | | | | c0.19 |
| v/c Ratio | | 0.36 | 0.60 | | 0.89 | 0.54 | | | | 0.82 | | 0.86 |
| Uniform Delay, d1 | | 6.1 | 0.0 | | 12.7 | 7.8 | | | | 44.2 | | 44.7 |
| Progression Factor | | 1.10 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | | 0.2 | 0.3 | | 5.5 | 2.0 | | | | 7.3 | | 11.8 |
| Delay (s) | | 7.0 | 0.3 | | 18.3 | 9.8 | | | | 51.5 | | 56.5 |
| Level of Service | | A | A | | B | A | | | | D | | E |
| Approach Delay (s) | | 3.3 | | | 15.9 | | | 0.0 | | | 53.9 | |
| Approach LOS | | A | | | B | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.5 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 6.0 |
| Intersection Capacity Utilization | 78.3% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 604 | 59 | 62 | 259 | 236 | 428 |
| v/c Ratio | 0.79 | 0.08 | 0.40 | 0.40 | 0.51 | 0.58 |
| Control Delay | 21.9 | 3.5 | 36.8 | 13.8 | 21.4 | 5.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 21.9 | 3.5 | 36.8 | 13.8 | 21.4 | 5.9 |
| Queue Length 50th (ft) | 156 | 0 | 20 | 58 | 68 | 0 |
| Queue Length 95th (ft) | #348 | 16 | #72 | 109 | 130 | 57 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 1077 | 985 | 155 | 1092 | 693 | 887 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.56 | 0.06 | 0.40 | 0.24 | 0.34 | 0.48 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 556 | 54 | 57 | 238 | 217 | 394 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1559 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1559 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 604 | 59 | 62 | 259 | 236 | 428 |
| RTOR Reduction (vph) | 0 | 33 | 0 | 0 | 0 | 315 |
| Lane Group Flow (vph) | 604 | 26 | 62 | 259 | 236 | 113 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 21.4 | 21.4 | 1.9 | 18.5 | 12.6 | 12.6 |
| Effective Green, g (s) | 21.4 | 21.4 | 1.9 | 18.5 | 12.6 | 12.6 |
| Actuated g/C Ratio | 0.45 | 0.45 | 0.04 | 0.39 | 0.26 | 0.26 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 750 | 671 | 64 | 706 | 448 | 410 |
| v/s Ratio Prot | c0.36 | | c0.04 | 0.14 | c0.14 | |
| v/s Ratio Perm | | 0.02 | | | | 0.07 |
| v/c Ratio | 0.81 | 0.04 | 0.97 | 0.37 | 0.53 | 0.27 |
| Uniform Delay, d1 | 11.5 | 7.5 | 23.0 | 10.5 | 15.1 | 14.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 6.3 | 0.0 | 100.3 | 0.3 | 1.1 | 0.4 |
| Delay (s) | 17.7 | 7.5 | 123.3 | 10.8 | 16.2 | 14.4 |
| Level of Service | B | A | F | B | B | B |
| Approach Delay (s) | 16.8 | | | 32.6 | 15.0 | |
| Approach LOS | B | | | C | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 19.2 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 47.9 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 55.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 85 | 125 | 138 | 26 | 1130 | 71 | 692 |
| v/c Ratio | 0.24 | 0.36 | 0.37 | 0.06 | 0.58 | 0.32 | 0.35 |
| Control Delay | 15.0 | 18.5 | 12.6 | 7.4 | 9.5 | 13.7 | 7.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 15.0 | 18.5 | 12.6 | 7.4 | 9.5 | 13.7 | 7.2 |
| Queue Length 50th (ft) | 17 | 29 | 18 | 3 | 87 | 9 | 44 |
| Queue Length 95th (ft) | 45 | 68 | 55 | 17 | 251 | 56 | 128 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 744 | 734 | 733 | 454 | 2115 | 238 | 2121 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.11 | 0.17 | 0.19 | 0.06 | 0.53 | 0.30 | 0.33 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 24 | 44 | 10 | 63 | 52 | 127 | 24 | 963 | 76 | 65 | 607 | 29 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | | 0.98 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1531 | | | 1685 | 1306 | 1616 | 3039 | | 1561 | 3053 | |
| Flt Permitted | | 0.88 | | | 0.78 | 1.00 | 0.39 | 1.00 | | 0.21 | 1.00 | |
| Satd. Flow (perm) | | 1365 | | | 1357 | 1306 | 655 | 3039 | | 344 | 3053 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 26 | 48 | 11 | 68 | 57 | 138 | 26 | 1047 | 83 | 71 | 660 | 32 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 0 | 47 | 0 | 7 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 0 | 76 | 0 | 0 | 125 | 91 | 26 | 1123 | 0 | 71 | 688 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 9.9 | | | 9.9 | 9.9 | 28.6 | 28.6 | | 28.6 | 28.6 | |
| Effective Green, g (s) | | 9.9 | | | 9.9 | 9.9 | 28.6 | 28.6 | | 28.6 | 28.6 | |
| Actuated g/C Ratio | | 0.21 | | | 0.21 | 0.21 | 0.60 | 0.60 | | 0.60 | 0.60 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 283 | | | 282 | 271 | 393 | 1822 | | 206 | 1831 | |
| v/s Ratio Prot | | | | | | | | c0.37 | | | 0.23 | |
| v/s Ratio Perm | | 0.06 | | | c0.09 | 0.07 | 0.04 | | | 0.21 | | |
| v/c Ratio | | 0.27 | | | 0.44 | 0.34 | 0.07 | 0.62 | | 0.34 | 0.38 | |
| Uniform Delay, d1 | | 15.9 | | | 16.5 | 16.1 | 4.0 | 6.1 | | 4.8 | 4.9 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.7 | | | 1.5 | 1.0 | 0.1 | 0.7 | | 1.4 | 0.2 | |
| Delay (s) | | 16.6 | | | 18.0 | 17.1 | 4.1 | 6.8 | | 6.2 | 5.1 | |
| Level of Service | | B | | | B | B | A | A | | A | A | |
| Approach Delay (s) | | 16.6 | | | 17.5 | | | 6.7 | | | 5.2 | |
| Approach LOS | | B | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 7.8 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.57 | | |
| Actuated Cycle Length (s) | 47.7 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 59.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 20 | 210 | 367 | 178 | 157 | 34 |
| v/c Ratio | 0.07 | 0.24 | 0.49 | 0.15 | 0.36 | 0.08 |
| Control Delay | 19.6 | 6.9 | 12.1 | 0.6 | 15.5 | 6.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 19.6 | 6.9 | 12.1 | 0.6 | 15.5 | 6.8 |
| Queue Length 50th (ft) | 3 | 19 | 37 | 0 | 18 | 0 |
| Queue Length 95th (ft) | 25 | 62 | 179 | 10 | 95 | 18 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 467 | 1827 | 1645 | 1520 | 1247 | 1085 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.04 | 0.11 | 0.22 | 0.12 | 0.13 | 0.03 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 18 | 193 | 338 | 164 | 144 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.98 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1618 | 1562 | 1362 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1618 | 1562 | 1362 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 20 | 210 | 367 | 178 | 157 | 34 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 59 | 0 | 25 |
| Lane Group Flow (vph) | 20 | 210 | 367 | 119 | 157 | 9 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 0.9 | 21.5 | 16.6 | 27.2 | 10.6 | 10.6 |
| Effective Green, g (s) | 0.9 | 21.5 | 16.6 | 27.2 | 10.6 | 10.6 |
| Actuated g/C Ratio | 0.02 | 0.53 | 0.41 | 0.67 | 0.26 | 0.26 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 36 | 965 | 695 | 1081 | 407 | 355 |
| v/s Ratio Prot | 0.01 | c0.11 | c0.22 | 0.03 | c0.10 | |
| v/s Ratio Perm | | | | 0.04 | | 0.01 |
| v/c Ratio | 0.56 | 0.22 | 0.53 | 0.11 | 0.39 | 0.02 |
| Uniform Delay, d1 | 19.7 | 5.1 | 9.1 | 2.4 | 12.4 | 11.2 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 17.3 | 0.1 | 0.7 | 0.0 | 0.6 | 0.0 |
| Delay (s) | 37.0 | 5.2 | 9.8 | 2.5 | 13.0 | 11.2 |
| Level of Service | D | A | A | A | B | B |
| Approach Delay (s) | | 8.0 | 7.4 | | 12.7 | |
| Approach LOS | | A | A | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 8.6 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.49 | | |
| Actuated Cycle Length (s) | 40.7 | Sum of lost time (s) | 13.2 |
| Intersection Capacity Utilization | 34.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 217 | 151 | 341 | 299 | 306 | 239 |
| v/c Ratio | 0.60 | 0.36 | 0.71 | 0.32 | 0.53 | 0.41 |
| Control Delay | 42.9 | 8.8 | 38.7 | 12.0 | 30.2 | 13.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 42.9 | 8.8 | 38.7 | 12.0 | 30.2 | 13.6 |
| Queue Length 50th (ft) | 111 | 0 | 167 | 83 | 137 | 40 |
| Queue Length 95th (ft) | 230 | 54 | 338 | 163 | 283 | 122 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 |
| Base Capacity (vph) | 758 | 716 | 722 | 1470 | 712 | 716 |
| Starvation Cap Reductn | 5 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.29 | 0.21 | 0.47 | 0.20 | 0.43 | 0.33 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1 | 199 | 139 | 314 | 274 | 1 | 280 | 2 | 220 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.98 | | | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | | 1758 | 1460 | 1562 | 1704 | | | 1682 | 1724 | | | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | | 1756 | 1460 | 1562 | 1704 | | | 1682 | 1724 | | | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1 | 216 | 151 | 341 | 298 | 1 | 304 | 2 | 239 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 120 | 0 | 0 | 0 | 0 | 0 | 98 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 217 | 31 | 341 | 299 | 0 | 0 | 306 | 141 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 18.3 | 18.3 | 27.6 | 49.9 | | | 29.8 | 25.8 | | | |
| Effective Green, g (s) | | 18.3 | 18.3 | 27.6 | 49.9 | | | 29.8 | 25.8 | | | |
| Actuated g/C Ratio | | 0.21 | 0.21 | 0.31 | 0.56 | | | 0.34 | 0.29 | | | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | | |
| Lane Grp Cap (vph) | | 362 | 301 | 485 | 958 | | | 564 | 501 | | | |
| v/s Ratio Prot | | | | c0.22 | 0.18 | | | c0.18 | 0.03 | | | |
| v/s Ratio Perm | | c0.12 | 0.02 | | | | | | 0.06 | | | |
| v/c Ratio | | 0.60 | 0.10 | 0.70 | 0.31 | | | 0.54 | 0.28 | | | |
| Uniform Delay, d1 | | 31.9 | 28.6 | 27.0 | 10.3 | | | 24.0 | 24.3 | | | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 2.7 | 0.2 | 4.6 | 0.2 | | | 1.1 | 0.3 | | | |
| Delay (s) | | 34.6 | 28.7 | 31.6 | 10.5 | | | 25.0 | 24.6 | | | |
| Level of Service | | C | C | C | B | | | C | C | | | |
| Approach Delay (s) | | 32.2 | | | 21.7 | | | 24.9 | | | 0.0 | |
| Approach LOS | | C | | | C | | | C | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 25.3 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.61 | | |
| Actuated Cycle Length (s) | 88.8 | Sum of lost time (s) | 12.6 |
| Intersection Capacity Utilization | 61.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 166 | 408 | 64 | 245 | 386 | 704 | 24 | 555 | 143 | 263 | 688 |
| v/c Ratio | 0.75 | 0.79 | 0.14 | 0.83 | 0.64 | 0.95 | 0.29 | 0.81 | 0.43 | 0.90 | 0.60 |
| Control Delay | 76.6 | 54.4 | 24.2 | 74.7 | 41.5 | 41.2 | 72.3 | 58.4 | 28.6 | 86.1 | 35.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 76.6 | 54.4 | 24.2 | 74.7 | 41.5 | 41.2 | 72.3 | 58.4 | 28.6 | 86.1 | 35.6 |
| Queue Length 50th (ft) | 143 | 331 | 25 | 209 | 283 | 321 | 21 | 244 | 56 | 234 | 264 |
| Queue Length 95th (ft) | #247 | 464 | 62 | #342 | 401 | #611 | 53 | 314 | 124 | #414 | 335 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 251 | 572 | 494 | 337 | 668 | 779 | 86 | 804 | 380 | 298 | 1176 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.71 | 0.13 | 0.73 | 0.58 | 0.90 | 0.28 | 0.69 | 0.38 | 0.88 | 0.59 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 153 | 375 | 59 | 225 | 355 | 648 | 22 | 511 | 132 | 242 | 526 | 107 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.99 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1452 | 1620 | 1739 | 1391 | 1652 | 3240 | 1331 | 1620 | 2994 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1452 | 1620 | 1739 | 1391 | 1652 | 3240 | 1331 | 1620 | 2994 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 166 | 408 | 64 | 245 | 386 | 704 | 24 | 555 | 143 | 263 | 572 | 116 |
| RTOR Reduction (vph) | 0 | 0 | 18 | 0 | 0 | 262 | 0 | 0 | 52 | 0 | 12 | 0 |
| Lane Group Flow (vph) | 166 | 408 | 46 | 245 | 386 | 442 | 24 | 555 | 91 | 263 | 676 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 17.1 | 37.9 | 37.9 | 23.3 | 44.1 | 44.1 | 4.2 | 29.0 | 29.0 | 23.9 | 48.7 | |
| Effective Green, g (s) | 17.0 | 37.8 | 37.8 | 23.2 | 44.0 | 44.0 | 3.2 | 28.5 | 28.5 | 22.9 | 48.2 | |
| Actuated g/C Ratio | 0.13 | 0.29 | 0.29 | 0.18 | 0.34 | 0.34 | 0.02 | 0.22 | 0.22 | 0.18 | 0.38 | |
| Clearance Time (s) | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 219 | 512 | 427 | 293 | 596 | 477 | 41 | 719 | 295 | 289 | 1124 | |
| v/s Ratio Prot | 0.10 | 0.23 | | c0.15 | 0.22 | | 0.01 | c0.17 | | c0.16 | 0.23 | |
| v/s Ratio Perm | | | 0.03 | | | c0.32 | | | 0.07 | | | |
| v/c Ratio | 0.76 | 0.80 | 0.11 | 0.84 | 0.65 | 0.93 | 0.59 | 0.77 | 0.31 | 0.91 | 0.60 | |
| Uniform Delay, d1 | 53.7 | 41.8 | 33.0 | 50.8 | 35.7 | 40.7 | 61.9 | 46.9 | 41.7 | 51.7 | 32.4 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 14.7 | 8.9 | 0.2 | 19.0 | 2.7 | 24.5 | 22.8 | 5.5 | 0.8 | 31.1 | 1.1 | |
| Delay (s) | 68.5 | 50.6 | 33.2 | 69.8 | 38.4 | 65.1 | 84.7 | 52.4 | 42.5 | 82.9 | 33.4 | |
| Level of Service | E | D | C | E | D | E | F | D | D | F | C | |
| Approach Delay (s) | | 53.5 | | | 58.2 | | | 51.5 | | | 47.1 | |
| Approach LOS | | D | | | E | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 53.2 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.86 | | |
| Actuated Cycle Length (s) | 128.4 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 74.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 47 | 612 | 96 | 1252 | 1206 | 197 | 326 | 577 | 193 | 239 | 15 |
| v/c Ratio | 0.38 | 0.66 | 0.26 | 0.97 | 0.72 | 1.11 | 0.54 | 0.37 | 0.58 | 0.41 | 0.05 |
| Control Delay | 67.0 | 50.4 | 10.2 | 57.7 | 26.1 | 153.2 | 50.1 | 8.3 | 62.4 | 47.5 | 18.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 78.8 | 3.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 67.0 | 50.4 | 10.2 | 136.5 | 29.6 | 153.2 | 50.1 | 8.3 | 62.4 | 47.5 | 18.1 |
| Queue Length 50th (ft) | 37 | 169 | 0 | 521 | 391 | ~188 | 128 | 78 | 78 | 91 | 0 |
| Queue Length 95th (ft) | 85 | 230 | 48 | #795 | 547 | #384 | 183 | 115 | 129 | 135 | 19 |
| Internal Link Dist (ft) | | 238 | | | 392 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 138 | 1129 | 431 | 1286 | 1742 | 177 | 863 | 1785 | 374 | 864 | 404 |
| Starvation Cap Reductn | 0 | 0 | 0 | 232 | 428 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.34 | 0.54 | 0.22 | 1.19 | 0.92 | 1.11 | 0.38 | 0.32 | 0.52 | 0.28 | 0.04 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 43 | 563 | 88 | 1152 | 848 | 261 | 181 | 300 | 531 | 178 | 220 | 14 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 3.1 | 4.0 | 4.0 | 3.1 | 4.0 | | 4.0 | 4.0 | 3.1 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3113 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1471 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3113 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1471 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 47 | 612 | 96 | 1252 | 922 | 284 | 197 | 326 | 577 | 193 | 239 | 15 |
| RTOR Reduction (vph) | 0 | 0 | 76 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| Lane Group Flow (vph) | 47 | 612 | 20 | 1252 | 1187 | 0 | 197 | 326 | 577 | 193 | 239 | 3 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 7.5 | 24.2 | 24.2 | 48.4 | 65.1 | | 13.1 | 21.1 | 69.5 | 12.8 | 20.8 | 20.8 |
| Effective Green, g (s) | 8.4 | 25.7 | 25.7 | 49.3 | 66.6 | | 13.1 | 22.6 | 71.3 | 12.8 | 22.3 | 22.3 |
| Actuated g/C Ratio | 0.07 | 0.20 | 0.20 | 0.39 | 0.53 | | 0.10 | 0.18 | 0.57 | 0.10 | 0.18 | 0.18 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 105 | 953 | 302 | 1279 | 1652 | | 175 | 604 | 1537 | 332 | 576 | 261 |
| v/s Ratio Prot | 0.03 | 0.13 | | c0.38 | c0.38 | | c0.12 | c0.10 | 0.21 | c0.06 | 0.07 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | 0.00 |
| v/c Ratio | 0.45 | 0.64 | 0.07 | 0.98 | 0.72 | | 1.13 | 0.54 | 0.38 | 0.58 | 0.41 | 0.01 |
| Uniform Delay, d1 | 56.3 | 45.7 | 40.2 | 37.6 | 22.3 | | 56.2 | 46.7 | 14.9 | 53.8 | 45.8 | 42.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 4.1 | 1.7 | 0.1 | 20.1 | 1.6 | | 105.8 | 1.2 | 0.2 | 3.1 | 0.7 | 0.0 |
| Delay (s) | 60.4 | 47.4 | 40.3 | 57.7 | 24.0 | | 162.0 | 47.9 | 15.1 | 56.8 | 46.5 | 42.5 |
| Level of Service | E | D | D | E | C | | F | D | B | E | D | D |
| Approach Delay (s) | | 47.3 | | | 41.1 | | | 51.1 | | | 50.8 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 45.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.83 | | |
| Actuated Cycle Length (s) | 125.5 | Sum of lost time (s) | 11.1 |
| Intersection Capacity Utilization | 74.0% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 301 | 2362 | 203 | 1328 | 224 | 226 | 122 | 143 |
| v/c Ratio | 0.85 | 0.83 | 0.87 | 0.69 | 0.72 | 0.72 | 0.30 | 0.77 |
| Control Delay | 71.2 | 31.2 | 88.7 | 34.6 | 62.0 | 61.4 | 8.8 | 59.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 71.2 | 31.2 | 88.7 | 34.6 | 62.0 | 61.4 | 8.8 | 59.0 |
| Queue Length 50th (ft) | 238 | 471 | 169 | 341 | 186 | 188 | 0 | 32 |
| Queue Length 95th (ft) | #419 | 608 | #344 | 450 | 281 | 282 | 50 | #95 |
| Internal Link Dist (ft) | | 660 | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 180 | | 200 | | | |
| Base Capacity (vph) | 388 | 2863 | 234 | 1937 | 435 | 442 | 516 | 185 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.78 | 0.83 | 0.87 | 0.69 | 0.51 | 0.51 | 0.24 | 0.77 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 277 | 1808 | 365 | 187 | 1185 | 37 | 355 | 59 | 112 | 22 | 44 | 65 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.86 | | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.98 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 0.97 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 0.99 | |
| Satd. Flow (prot) | 1620 | 5704 | | 1678 | 4630 | | 1539 | 1564 | 1514 | | 3026 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 0.99 | |
| Satd. Flow (perm) | 1620 | 5704 | | 1678 | 4630 | | 1539 | 1564 | 1514 | | 3026 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 301 | 1965 | 397 | 203 | 1288 | 40 | 386 | 64 | 122 | 24 | 48 | 71 |
| RTOR Reduction (vph) | 0 | 24 | 0 | 0 | 2 | 0 | 0 | 0 | 97 | 0 | 68 | 0 |
| Lane Group Flow (vph) | 301 | 2338 | 0 | 203 | 1326 | 0 | 224 | 226 | 25 | 0 | 75 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 27.4 | 63.7 | | 17.0 | 53.3 | | 25.5 | 25.5 | 25.5 | | 4.4 | |
| Effective Green, g (s) | 28.4 | 64.7 | | 18.0 | 54.3 | | 26.1 | 26.1 | 26.1 | | 5.0 | |
| Actuated g/C Ratio | 0.22 | 0.50 | | 0.14 | 0.42 | | 0.20 | 0.20 | 0.20 | | 0.04 | |
| Clearance Time (s) | 5.0 | 5.0 | | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 354 | 2843 | | 233 | 1937 | | 309 | 314 | 304 | | 117 | |
| v/s Ratio Prot | c0.19 | c0.41 | | 0.12 | 0.29 | | c0.15 | 0.14 | | | c0.02 | |
| v/s Ratio Perm | | | | | | | | | 0.02 | | | |
| v/c Ratio | 0.85 | 0.82 | | 0.87 | 0.68 | | 0.72 | 0.72 | 0.08 | | 0.64 | |
| Uniform Delay, d1 | 48.7 | 27.7 | | 54.8 | 30.8 | | 48.5 | 48.4 | 42.1 | | 61.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 18.0 | 2.4 | | 28.6 | 1.5 | | 8.7 | 8.2 | 0.2 | | 12.2 | |
| Delay (s) | 66.7 | 30.1 | | 83.4 | 32.3 | | 57.2 | 56.6 | 42.3 | | 73.7 | |
| Level of Service | E | C | | F | C | | E | E | D | | E | |
| Approach Delay (s) | | 34.2 | | | 39.1 | | | 53.8 | | | 73.7 | |
| Approach LOS | | C | | | D | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 39.2 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.79 | | |
| Actuated Cycle Length (s) | 129.8 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 71.5% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 185 | 1665 | 207 | 953 | 267 | 184 | 286 | 27 | 285 |
| v/c Ratio | 0.73 | 0.85 | 0.84 | 0.71 | 0.82 | 0.21 | 0.43 | 0.24 | 0.51 |
| Control Delay | 54.3 | 28.1 | 67.7 | 26.8 | 60.8 | 25.2 | 5.4 | 49.7 | 23.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.3 | 28.1 | 67.7 | 26.8 | 60.8 | 25.2 | 5.4 | 49.7 | 23.0 |
| Queue Length 50th (ft) | 92 | 262 | 108 | 215 | 72 | 38 | 0 | 7 | 45 |
| Queue Length 95th (ft) | #235 | #509 | #290 | #427 | #176 | 70 | 55 | 24 | 80 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 278 | 1957 | 245 | 1350 | 326 | 1366 | 866 | 111 | 1140 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.67 | 0.85 | 0.84 | 0.71 | 0.82 | 0.13 | 0.33 | 0.24 | 0.25 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 170 | 1126 | 406 | 190 | 860 | 17 | 246 | 169 | 263 | 25 | 162 | 100 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 3.1 | 4.0 | | 3.1 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.95 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4534 | | 1652 | 3280 | | 3143 | 3240 | 1660 | 3204 | 3032 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4534 | | 1652 | 3280 | | 3143 | 3240 | 1660 | 3204 | 3032 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 185 | 1224 | 441 | 207 | 935 | 18 | 267 | 184 | 286 | 27 | 176 | 109 |
| RTOR Reduction (vph) | 0 | 57 | 0 | 0 | 1 | 0 | 0 | 0 | 209 | 0 | 90 | 0 |
| Lane Group Flow (vph) | 185 | 1608 | 0 | 207 | 952 | 0 | 267 | 184 | 77 | 27 | 195 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 13.8 | 35.7 | | 13.1 | 35.0 | | 10.1 | 24.4 | 24.4 | 1.5 | 15.8 | |
| Effective Green, g (s) | 13.7 | 36.7 | | 13.0 | 36.0 | | 9.1 | 24.0 | 24.0 | 0.5 | 15.4 | |
| Actuated g/C Ratio | 0.15 | 0.41 | | 0.15 | 0.40 | | 0.10 | 0.27 | 0.27 | 0.01 | 0.17 | |
| Clearance Time (s) | 3.0 | 5.0 | | 3.0 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 249 | 1863 | | 240 | 1322 | | 320 | 871 | 446 | 18 | 523 | |
| v/s Ratio Prot | 0.11 | c0.35 | | c0.13 | 0.29 | | c0.08 | 0.06 | | 0.01 | c0.06 | |
| v/s Ratio Perm | | | | | | | | | 0.05 | | | |
| v/c Ratio | 0.74 | 0.86 | | 0.86 | 0.72 | | 0.83 | 0.21 | 0.17 | 1.50 | 0.37 | |
| Uniform Delay, d1 | 36.1 | 24.0 | | 37.3 | 22.4 | | 39.4 | 25.3 | 25.0 | 44.4 | 32.7 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 11.3 | 4.6 | | 26.5 | 2.0 | | 17.5 | 0.2 | 0.3 | 395.6 | 0.6 | |
| Delay (s) | 47.5 | 28.6 | | 63.8 | 24.5 | | 56.8 | 25.5 | 25.3 | 440.0 | 33.3 | |
| Level of Service | D | C | | E | C | | E | C | C | F | C | |
| Approach Delay (s) | | 30.5 | | | 31.5 | | | 36.8 | | | 68.5 | |
| Approach LOS | | C | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 34.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 89.3 | Sum of lost time (s) | 11.1 |
| Intersection Capacity Utilization | 70.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 21 | 215 | 283 | 5 | 824 | 276 | 566 | 785 |
| v/c Ratio | 0.07 | 0.77 | 0.35 | 0.05 | 0.53 | 0.31 | 0.79 | 0.33 |
| Control Delay | 26.4 | 58.6 | 5.0 | 39.8 | 28.1 | 9.8 | 50.1 | 8.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.4 | 58.6 | 5.0 | 39.8 | 28.1 | 9.8 | 50.1 | 8.6 |
| Queue Length 50th (ft) | 9 | 143 | 0 | 3 | 162 | 0 | 195 | 98 |
| Queue Length 95th (ft) | 28 | 213 | 34 | m7 | 330 | 107 | 248 | 207 |
| Internal Link Dist (ft) | 387 | 301 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 350 | |
| Base Capacity (vph) | 385 | 368 | 977 | 93 | 1544 | 877 | 827 | 2367 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.05 | 0.58 | 0.29 | 0.05 | 0.53 | 0.31 | 0.68 | 0.33 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 15 | 0 | 5 | 196 | 2 | 260 | 5 | 758 | 254 | 521 | 675 | 47 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.97 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.96 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1697 | | | 1775 | 2787 | 1678 | 3355 | 1583 | 3433 | 3432 | |
| Flt Permitted | | 0.78 | | | 0.71 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1375 | | | 1328 | 2787 | 1678 | 3355 | 1583 | 3433 | 3432 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 16 | 0 | 5 | 213 | 2 | 283 | 5 | 824 | 276 | 566 | 734 | 51 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 0 | 224 | 0 | 0 | 149 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 17 | 0 | 0 | 215 | 59 | 5 | 824 | 127 | 566 | 782 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | |
| Actuated Green, G (s) | | 23.1 | | | 23.1 | 23.1 | 1.2 | 50.6 | 50.6 | 22.8 | 72.2 | |
| Effective Green, g (s) | | 23.1 | | | 23.1 | 23.1 | 1.2 | 50.6 | 50.6 | 22.8 | 72.2 | |
| Actuated g/C Ratio | | 0.21 | | | 0.21 | 0.21 | 0.01 | 0.46 | 0.46 | 0.21 | 0.66 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 289 | | | 279 | 585 | 18 | 1543 | 728 | 712 | 2253 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.25 | | c0.16 | 0.23 | |
| v/s Ratio Perm | | 0.01 | | | c0.16 | 0.02 | | | 0.08 | | | |
| v/c Ratio | | 0.06 | | | 0.77 | 0.10 | 0.28 | 0.53 | 0.17 | 0.79 | 0.35 | |
| Uniform Delay, d1 | | 34.8 | | | 41.0 | 35.1 | 54.0 | 21.3 | 17.4 | 41.4 | 8.4 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 0.78 | 1.15 | 3.04 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.1 | | | 12.4 | 0.1 | 7.3 | 1.2 | 0.5 | 6.1 | 0.4 | |
| Delay (s) | | 34.8 | | | 53.3 | 35.2 | 49.6 | 25.6 | 53.5 | 47.5 | 8.8 | |
| Level of Service | | C | | | D | D | D | C | D | D | A | |
| Approach Delay (s) | | 34.8 | | | 43.0 | | | 32.7 | | | 25.0 | |
| Approach LOS | | C | | | D | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 30.9 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.65 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 60.4% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 210 | 67 | 113 | 126 | 298 | 60 | 490 | 228 | 413 |
| v/c Ratio | 0.52 | 0.17 | 0.44 | 0.27 | 0.52 | 0.27 | 0.58 | 0.57 | 0.29 |
| Control Delay | 25.6 | 7.0 | 26.4 | 20.7 | 6.6 | 33.3 | 22.3 | 28.8 | 12.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 25.6 | 7.0 | 26.4 | 20.7 | 6.6 | 33.3 | 22.3 | 28.8 | 12.1 |
| Queue Length 50th (ft) | 60 | 0 | 31 | 33 | 0 | 19 | 68 | 68 | 47 |
| Queue Length 95th (ft) | 160 | 28 | 98 | 96 | 57 | 71 | 165 | 182 | 104 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 799 | 716 | 515 | 946 | 849 | 279 | 1494 | 793 | 2371 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.26 | 0.09 | 0.22 | 0.13 | 0.35 | 0.22 | 0.33 | 0.29 | 0.17 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 70 | 123 | 62 | 104 | 116 | 274 | 55 | 348 | 103 | 210 | 333 | 47 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.98 | |
| Flt Protected | | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1703 | 1260 | 1620 | 1739 | 1316 | 1711 | 2957 | | 1620 | 3018 | |
| Flt Permitted | | 0.85 | 1.00 | 0.56 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1472 | 1260 | 947 | 1739 | 1316 | 1711 | 2957 | | 1620 | 3018 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 76 | 134 | 67 | 113 | 126 | 298 | 60 | 378 | 112 | 228 | 362 | 51 |
| RTOR Reduction (vph) | 0 | 0 | 49 | 0 | 0 | 218 | 0 | 28 | 0 | 0 | 12 | 0 |
| Lane Group Flow (vph) | 0 | 210 | 18 | 113 | 126 | 80 | 60 | 462 | 0 | 228 | 401 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 16.4 | 16.4 | 16.4 | 16.4 | 16.4 | 4.4 | 18.2 | | 14.7 | 28.5 | |
| Effective Green, g (s) | | 16.4 | 16.4 | 16.4 | 16.4 | 16.4 | 4.4 | 18.2 | | 14.7 | 28.5 | |
| Actuated g/C Ratio | | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.07 | 0.30 | | 0.24 | 0.47 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 397 | 340 | 255 | 469 | 355 | 124 | 885 | | 392 | 1415 | |
| v/s Ratio Prot | | | | | 0.07 | | 0.04 | c0.16 | | c0.14 | 0.13 | |
| v/s Ratio Perm | | c0.14 | 0.01 | 0.12 | | 0.06 | | | | | | |
| v/c Ratio | | 0.53 | 0.05 | 0.44 | 0.27 | 0.23 | 0.48 | 0.52 | | 0.58 | 0.28 | |
| Uniform Delay, d1 | | 18.9 | 16.4 | 18.4 | 17.5 | 17.3 | 27.1 | 17.7 | | 20.3 | 9.9 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.3 | 0.1 | 1.2 | 0.3 | 0.3 | 3.0 | 0.7 | | 2.2 | 0.2 | |
| Delay (s) | | 20.2 | 16.5 | 19.6 | 17.8 | 17.6 | 30.1 | 18.4 | | 22.5 | 10.0 | |
| Level of Service | | C | B | B | B | B | C | B | | C | B | |
| Approach Delay (s) | | 19.3 | | | 18.1 | | | 19.7 | | | 14.5 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.5 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.54 | | |
| Actuated Cycle Length (s) | 60.8 | Sum of lost time (s) | 11.5 |
| Intersection Capacity Utilization | 60.9% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 161 | 197 | 117 | 125 | 441 | 152 | 836 | 82 | 872 |
| v/c Ratio | 0.48 | 0.66 | 0.38 | 0.60 | 0.63 | 0.67 | 0.54 | 0.48 | 0.60 |
| Control Delay | 50.5 | 53.3 | 10.4 | 59.2 | 29.3 | 59.3 | 23.2 | 48.6 | 30.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.5 | 53.3 | 10.4 | 59.2 | 29.3 | 59.3 | 23.2 | 48.6 | 30.0 |
| Queue Length 50th (ft) | 56 | 132 | 0 | 83 | 75 | 102 | 219 | 54 | 276 |
| Queue Length 95th (ft) | 87 | 197 | 48 | 154 | 153 | 171 | 320 | m82 | 381 |
| Internal Link Dist (ft) | | 2946 | | | 522 | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 205 | | 200 | | 370 | |
| Base Capacity (vph) | 473 | 409 | 381 | 241 | 810 | 251 | 1549 | 187 | 1452 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.34 | 0.48 | 0.31 | 0.52 | 0.54 | 0.61 | 0.54 | 0.44 | 0.60 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 148 | 181 | 108 | 115 | 221 | 185 | 140 | 651 | 118 | 75 | 711 | 91 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 12 | 12 | 12 | 10 | 10 | 10 | 12 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | | 1.00 | 0.98 | | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3060 | 1845 | 1306 | 1770 | 3275 | | 1652 | 3153 | | 1770 | 3392 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3060 | 1845 | 1306 | 1770 | 3275 | | 1652 | 3153 | | 1770 | 3392 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 161 | 197 | 117 | 125 | 240 | 201 | 152 | 708 | 128 | 82 | 773 | 99 |
| RTOR Reduction (vph) | 0 | 0 | 98 | 0 | 143 | 0 | 0 | 11 | 0 | 0 | 8 | 0 |
| Lane Group Flow (vph) | 161 | 197 | 19 | 125 | 298 | 0 | 152 | 825 | 0 | 82 | 864 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | | | | | | | |
| Actuated Green, G (s) | 12.0 | 17.8 | 17.8 | 13.0 | 18.8 | | 15.2 | 52.8 | | 9.2 | 46.8 | |
| Effective Green, g (s) | 12.0 | 17.8 | 17.8 | 13.0 | 18.8 | | 15.2 | 52.8 | | 9.2 | 46.8 | |
| Actuated g/C Ratio | 0.11 | 0.16 | 0.16 | 0.12 | 0.17 | | 0.14 | 0.48 | | 0.08 | 0.43 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 334 | 299 | 211 | 209 | 560 | | 228 | 1513 | | 148 | 1443 | |
| v/s Ratio Prot | 0.05 | c0.11 | | c0.07 | 0.09 | | c0.09 | 0.26 | | 0.05 | c0.25 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | |
| v/c Ratio | 0.48 | 0.66 | 0.09 | 0.60 | 0.53 | | 0.67 | 0.54 | | 0.55 | 0.60 | |
| Uniform Delay, d1 | 46.1 | 43.3 | 39.2 | 46.0 | 41.6 | | 45.0 | 20.1 | | 48.4 | 24.4 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.03 | 1.01 | | 1.00 | 1.00 | | 0.85 | 1.08 | |
| Incremental Delay, d2 | 1.5 | 5.7 | 0.3 | 5.2 | 1.2 | | 7.9 | 1.4 | | 5.1 | 1.7 | |
| Delay (s) | 47.6 | 49.0 | 39.5 | 52.6 | 43.3 | | 52.9 | 21.6 | | 46.3 | 28.1 | |
| Level of Service | D | D | D | D | D | | D | C | | D | C | |
| Approach Delay (s) | | 46.2 | | | 45.4 | | | 26.4 | | | 29.6 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 34.2 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.62 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 17.2 |
| Intersection Capacity Utilization | 61.4% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 11 | 315 | 34 | 575 | 11 | 11 | 41 | 56 | 11 |
| v/c Ratio | 0.11 | 0.22 | 0.27 | 0.39 | 0.09 | 0.02 | 0.33 | 0.29 | 0.16 |
| Control Delay | 55.7 | 6.5 | 53.4 | 7.6 | 44.5 | 0.0 | 51.7 | 16.2 | 53.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 55.7 | 6.5 | 53.4 | 7.6 | 44.5 | 0.0 | 51.7 | 16.2 | 53.2 |
| Queue Length 50th (ft) | 8 | 47 | 23 | 68 | 7 | 0 | 28 | 1 | 8 |
| Queue Length 95th (ft) | 27 | 213 | 55 | 384 | 23 | 0 | 58 | 37 | 26 |
| Internal Link Dist (ft) | | 524 | | 1458 | | 986 | | 462 | |
| Turn Bay Length (ft) | 205 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 109 | 1417 | 133 | 1495 | 218 | 790 | 235 | 313 | 72 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.10 | 0.22 | 0.26 | 0.38 | 0.05 | 0.01 | 0.17 | 0.18 | 0.15 |

Intersection Summary

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 10 | 277 | 13 | 31 | 478 | 51 | 10 | 0 | 10 | 38 | 2 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 12 | 11 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 0.85 | | 1.00 | 0.86 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1848 | | 1770 | 1836 | | 1711 | 1583 | | 1770 | 1593 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.72 | 1.00 | | 0.75 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1848 | | 1770 | 1836 | | 1297 | 1583 | | 1398 | 1593 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 11 | 301 | 14 | 34 | 520 | 55 | 11 | 0 | 11 | 41 | 2 | 54 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 50 | 0 |
| Lane Group Flow (vph) | 11 | 314 | 0 | 34 | 575 | 0 | 11 | 1 | 0 | 41 | 6 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 1.5 | 76.2 | | 5.2 | 79.9 | | 8.8 | 8.8 | | 8.8 | 8.8 | |
| Effective Green, g (s) | 1.5 | 76.2 | | 5.2 | 79.9 | | 8.8 | 8.8 | | 8.8 | 8.8 | |
| Actuated g/C Ratio | 0.01 | 0.69 | | 0.05 | 0.73 | | 0.08 | 0.08 | | 0.08 | 0.08 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 24 | 1280 | | 84 | 1334 | | 104 | 127 | | 112 | 127 | |
| v/s Ratio Prot | 0.01 | 0.17 | | c0.02 | c0.31 | | | 0.00 | | | 0.00 | |
| v/s Ratio Perm | | | | | | | 0.01 | | | c0.03 | | |
| v/c Ratio | 0.46 | 0.25 | | 0.40 | 0.43 | | 0.11 | 0.01 | | 0.37 | 0.05 | |
| Uniform Delay, d1 | 53.8 | 6.3 | | 50.9 | 6.0 | | 46.9 | 46.6 | | 48.0 | 46.7 | |
| Progression Factor | 1.10 | 0.80 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 13.1 | 0.5 | | 3.2 | 1.0 | | 0.4 | 0.0 | | 2.0 | 0.2 | |
| Delay (s) | 72.3 | 5.5 | | 54.1 | 7.0 | | 47.4 | 46.6 | | 50.0 | 46.9 | |
| Level of Service | E | A | | D | A | | D | D | | D | D | |
| Approach Delay (s) | | 7.7 | | | 9.6 | | | 47.0 | | | 48.2 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 14.3 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.44 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 53.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Movement | SWR |
|---|---|
| Lane Configurations | |
| Volume (vph) | 10 |
| Ideal Flow (vphpl) | 1900 |
| Lane Width | 12 |
| Total Lost time (s) | 4.5 |
| Lane Util. Factor | 1.00 |
| Frpb, ped/bikes | 1.00 |
| Flpb, ped/bikes | 1.00 |
| Frt | 0.86 |
| Flt Protected | 1.00 |
| Satd. Flow (prot) | 1096 |
| Flt Permitted | 1.00 |
| Satd. Flow (perm) | 1096 |
| Peak-hour factor, PHF | 0.92 |
| Adj. Flow (vph) | 11 |
| RTOR Reduction (vph) | 0 |
| Lane Group Flow (vph) | 11 |
| Confl. Peds. (#/hr) | |
| Heavy Vehicles (%) | 50% |
| Parking (#/hr) | |
| Turn Type | custom |
| Protected Phases | 9 |
| Permitted Phases | 9 |
| Actuated Green, G (s) | 1.8 |
| Effective Green, g (s) | 1.8 |
| Actuated g/C Ratio | 0.02 |
| Clearance Time (s) | 4.5 |
| Vehicle Extension (s) | 3.0 |
| Lane Grp Cap (vph) | 18 |
| v/s Ratio Prot | c0.01 |
| v/s Ratio Perm | |
| v/c Ratio | 0.61 |
| Uniform Delay, d1 | 53.8 |
| Progression Factor | 1.00 |
| Incremental Delay, d2 | 48.7 |
| Delay (s) | 102.4 |
| Level of Service | F |
| Approach Delay (s) | |
| Approach LOS | |

| Intersection Summary |
|---|

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 57 | 379 | 5 | 519 | 41 | 59 | 7 | 37 | 292 |
| v/c Ratio | 0.23 | 0.37 | 0.03 | 0.70 | 0.19 | 0.12 | 0.02 | 0.11 | 0.56 |
| Control Delay | 28.9 | 9.3 | 30.2 | 20.8 | 20.2 | 17.5 | 10.5 | 18.1 | 19.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.9 | 9.3 | 30.2 | 20.8 | 20.2 | 17.5 | 10.5 | 18.1 | 19.1 |
| Queue Length 50th (ft) | 18 | 52 | 2 | 145 | 11 | 16 | 0 | 10 | 71 |
| Queue Length 95th (ft) | 56 | 165 | 12 | #337 | 35 | 42 | 8 | 31 | 146 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 251 | 1331 | 144 | 982 | 445 | 1074 | 767 | 716 | 1049 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 0.28 | 0.03 | 0.53 | 0.09 | 0.05 | 0.01 | 0.05 | 0.28 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 52 | 264 | 85 | 5 | 439 | 39 | 38 | 54 | 6 | 34 | 152 | 117 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1947 | | 1711 | 1698 | | 1652 | 1863 | 1327 | 1644 | 1776 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.44 | 1.00 | 1.00 | 0.72 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1947 | | 1711 | 1698 | | 771 | 1863 | 1327 | 1243 | 1776 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 57 | 287 | 92 | 5 | 477 | 42 | 41 | 59 | 7 | 37 | 165 | 127 |
| RTOR Reduction (vph) | 0 | 13 | 0 | 0 | 4 | 0 | 0 | 0 | 5 | 0 | 43 | 0 |
| Lane Group Flow (vph) | 57 | 366 | 0 | 5 | 515 | 0 | 41 | 59 | 2 | 37 | 249 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 3.4 | 27.0 | | 0.6 | 24.2 | | 14.2 | 14.2 | 14.2 | 14.2 | 14.2 | |
| Effective Green, g (s) | 3.4 | 27.0 | | 0.6 | 24.2 | | 14.2 | 14.2 | 14.2 | 14.2 | 14.2 | |
| Actuated g/C Ratio | 0.06 | 0.49 | | 0.01 | 0.44 | | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 106 | 959 | | 19 | 750 | | 200 | 483 | 344 | 322 | 460 | |
| v/s Ratio Prot | c0.03 | c0.19 | | 0.00 | c0.30 | | | 0.03 | | | c0.14 | |
| v/s Ratio Perm | | | | | | | 0.05 | | 0.00 | 0.03 | | |
| v/c Ratio | 0.54 | 0.38 | | 0.26 | 0.69 | | 0.20 | 0.12 | 0.01 | 0.11 | 0.54 | |
| Uniform Delay, d1 | 24.9 | 8.7 | | 26.9 | 12.3 | | 15.9 | 15.5 | 15.1 | 15.5 | 17.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 6.5 | 0.3 | | 9.9 | 2.8 | | 0.7 | 0.2 | 0.0 | 0.2 | 1.6 | |
| Delay (s) | 31.5 | 9.0 | | 36.7 | 15.1 | | 16.6 | 15.7 | 15.1 | 15.7 | 19.1 | |
| Level of Service | C | A | | D | B | | B | B | B | B | B | |
| Approach Delay (s) | | 12.0 | | | 15.3 | | | 16.0 | | | 18.7 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 15.1 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.68 | | |
| Actuated Cycle Length (s) | 54.8 | Sum of lost time (s) | 17.5 |
| Intersection Capacity Utilization | 63.6% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 120 | 160 | 3 | 10 | 494 | 761 | 40 | 23 | 833 |
| v/c Ratio | 0.90 | 0.34 | 0.03 | 0.05 | 1.00 | 0.38 | 0.04 | 0.21 | 0.77 |
| Control Delay | 95.5 | 7.1 | 41.0 | 20.9 | 71.6 | 10.3 | 7.1 | 43.0 | 29.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 95.5 | 7.1 | 41.0 | 20.9 | 71.6 | 10.3 | 7.1 | 43.0 | 29.3 |
| Queue Length 50th (ft) | 55 | 4 | 1 | 2 | 219 | 58 | 2 | 10 | 160 |
| Queue Length 95th (ft) | #201 | 47 | 11 | 14 | #588 | 232 | 26 | 40 | #377 |
| Internal Link Dist (ft) | | 1442 | | 221 | | 1609 | | | 1977 |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | |
| Base Capacity (vph) | 134 | 788 | 86 | 706 | 494 | 2022 | 908 | 111 | 1107 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.90 | 0.20 | 0.03 | 0.01 | 1.00 | 0.38 | 0.04 | 0.21 | 0.75 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 110 | 9 | 138 | 3 | 5 | 5 | 459 | 700 | 37 | 21 | 548 | 218 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.86 | | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1515 | | 1652 | 1592 | | 1652 | 3240 | 1449 | 1711 | 3230 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1515 | | 1652 | 1592 | | 1652 | 3240 | 1449 | 1711 | 3230 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 120 | 10 | 150 | 3 | 5 | 5 | 494 | 761 | 40 | 23 | 596 | 237 |
| RTOR Reduction (vph) | 0 | 116 | 0 | 0 | 4 | 0 | 0 | 0 | 8 | 0 | 37 | 0 |
| Lane Group Flow (vph) | 120 | 44 | 0 | 3 | 6 | 0 | 494 | 761 | 32 | 23 | 796 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 6.1 | 18.7 | | 0.6 | 13.2 | | 23.3 | 48.7 | 48.7 | 1.8 | 27.2 | |
| Effective Green, g (s) | 6.1 | 18.7 | | 0.6 | 13.2 | | 23.3 | 48.7 | 48.7 | 1.8 | 27.2 | |
| Actuated g/C Ratio | 0.07 | 0.23 | | 0.01 | 0.16 | | 0.28 | 0.59 | 0.59 | 0.02 | 0.33 | |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 127 | 344 | | 12 | 255 | | 468 | 1917 | 857 | 37 | 1068 | |
| v/s Ratio Prot | c0.07 | c0.03 | | 0.00 | 0.00 | | c0.30 | 0.23 | | 0.01 | c0.25 | |
| v/s Ratio Perm | | | | | | | | | 0.02 | | | |
| v/c Ratio | 0.94 | 0.13 | | 0.25 | 0.02 | | 1.06 | 0.40 | 0.04 | 0.62 | 0.74 | |
| Uniform Delay, d1 | 37.9 | 25.3 | | 40.6 | 29.1 | | 29.5 | 9.0 | 7.0 | 39.9 | 24.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 62.9 | 0.2 | | 14.4 | 0.0 | | 57.0 | 0.2 | 0.0 | 31.6 | 3.0 | |
| Delay (s) | 100.9 | 25.5 | | 55.0 | 29.2 | | 86.5 | 9.1 | 7.0 | 71.5 | 27.5 | |
| Level of Service | F | C | | E | C | | F | A | A | E | C | |
| Approach Delay (s) | | 57.8 | | | 35.1 | | | 38.6 | | | 28.7 | |
| Approach LOS | | E | | | D | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 37.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 82.3 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 71.0% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 63 | 17 | 16 | 971 | 955 |
| v/c Ratio | 0.20 | 0.06 | 0.04 | 0.39 | 0.38 |
| Control Delay | 18.6 | 8.5 | 5.4 | 5.1 | 5.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 |
| Total Delay | 18.6 | 8.5 | 5.4 | 5.3 | 5.0 |
| Queue Length 50th (ft) | 20 | 0 | 1 | 54 | 52 |
| Queue Length 95th (ft) | 38 | 11 | 10 | 154 | 149 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 701 | 574 | 385 | 2449 | 2436 |
| Starvation Cap Reductn | 0 | 0 | 0 | 731 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.03 | 0.04 | 0.57 | 0.39 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 58 | 16 | 15 | 893 | 843 | 36 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3219 | |
| Flt Permitted | 0.95 | 1.00 | 0.29 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 510 | 3240 | 3219 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 63 | 17 | 16 | 971 | 916 | 39 |
| RTOR Reduction (vph) | 0 | 15 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 63 | 2 | 16 | 971 | 952 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 5.8 | 5.8 | 33.8 | 33.8 | 33.8 | |
| Effective Green, g (s) | 5.8 | 5.8 | 33.8 | 33.8 | 33.8 | |
| Actuated g/C Ratio | 0.12 | 0.12 | 0.70 | 0.70 | 0.70 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 197 | 159 | 355 | 2253 | 2239 | |
| v/s Ratio Prot | c0.04 | | | c0.30 | 0.30 | |
| v/s Ratio Perm | | 0.00 | 0.03 | | | |
| v/c Ratio | 0.32 | 0.01 | 0.05 | 0.43 | 0.43 | |
| Uniform Delay, d1 | 19.6 | 18.9 | 2.3 | 3.2 | 3.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.9 | 0.0 | 0.1 | 0.4 | 0.4 | |
| Delay (s) | 20.5 | 18.9 | 2.5 | 3.6 | 3.6 | |
| Level of Service | C | B | A | A | A | |
| Approach Delay (s) | 20.2 | | | 3.6 | 3.6 | |
| Approach LOS | C | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.2 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.41 | | |
| Actuated Cycle Length (s) | 48.6 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 35.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1157 | 952 | 836 | 1995 | 826 | 1178 |
| v/c Ratio | 0.63 | 0.65 | 0.87 | 1.08 | 0.54 | 1.14 |
| Control Delay | 19.8 | 19.2 | 44.0 | 63.8 | 1.4 | 118.7 |
| Queue Delay | 65.1 | 30.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 84.9 | 49.8 | 44.0 | 63.8 | 1.4 | 118.7 |
| Queue Length 50th (ft) | 339 | 284 | 359 | ~1066 | 0 | ~549 |
| Queue Length 95th (ft) | 411 | 363 | m312 | m#973 | 0 | #664 |
| Internal Link Dist (ft) | 247 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 1823 | 1463 | 960 | 1849 | 1517 | 1031 |
| Starvation Cap Reductn | 805 | 556 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.14 | 1.05 | 0.87 | 1.08 | 0.54 | 1.14 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1064 | 876 | 769 | 1835 | 0 | 0 | 0 | 760 | 0 | 0 | 1084 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 3.5 | 3.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.76 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3020 | 2378 | 2828 | 3020 | | | | 1517 | | | 3187 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3020 | 2378 | 2828 | 3020 | | | | 1517 | | | 3187 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1157 | 952 | 836 | 1995 | 0 | 0 | 0 | 826 | 0 | 0 | 1178 |
| RTOR Reduction (vph) | 0 | 0 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1157 | 924 | 836 | 1995 | 0 | 0 | 0 | 826 | 0 | 0 | 1178 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 4 | | 1 | 6 | | | | | | | |
| Permitted Phases | | | 2 4 | | | | | | Free | | | 4 |
| Actuated Green, G (s) | | 83.5 | 83.5 | 47.5 | 85.7 | | | | 140.0 | | | 45.3 |
| Effective Green, g (s) | | 83.5 | 83.5 | 47.5 | 85.7 | | | | 140.0 | | | 45.3 |
| Actuated g/C Ratio | | 0.60 | 0.60 | 0.34 | 0.61 | | | | 1.00 | | | 0.32 |
| Clearance Time (s) | | | | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | | | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 1801 | 1418 | 960 | 1849 | | | | 1517 | | | 1031 |
| v/s Ratio Prot | | 0.38 | | 0.30 | c0.66 | | | | | | | |
| v/s Ratio Perm | | | 0.39 | | | | | | 0.54 | | | c0.37 |
| v/c Ratio | | 0.64 | 0.65 | 0.87 | 1.08 | | | | 0.54 | | | 1.14 |
| Uniform Delay, d1 | | 18.5 | 18.6 | 43.4 | 27.1 | | | | 0.0 | | | 47.4 |
| Progression Factor | | 1.00 | 1.00 | 0.89 | 0.82 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 0.8 | 1.1 | 5.0 | 40.5 | | | | 1.4 | | | 76.0 |
| Delay (s) | | 19.3 | 19.7 | 43.5 | 62.8 | | | | 1.4 | | | 123.3 |
| Level of Service | | B | B | D | E | | | | A | | | F |
| Approach Delay (s) | | 19.5 | | | 57.1 | | | 1.4 | | | 123.3 | |
| Approach LOS | | B | | | E | | | A | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 50.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.10 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 92.0% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 697 | 1286 | 1211 | 780 | 947 | 1748 |
| v/c Ratio | 0.87 | 0.38 | 0.53 | 0.74 | 0.59 | 1.14 |
| Control Delay | 48.9 | 0.3 | 12.8 | 19.9 | 1.6 | 80.0 |
| Queue Delay | 0.0 | 0.0 | 0.5 | 2.4 | 0.0 | 0.0 |
| Total Delay | 48.9 | 0.3 | 13.3 | 22.2 | 1.6 | 80.0 |
| Queue Length 50th (ft) | 311 | 0 | 276 | 413 | 0 | ~416 |
| Queue Length 95th (ft) | 373 | 0 | 359 | 645 | 0 | #678 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 909 | 3355 | 2280 | 1054 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 550 | 158 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.77 | 0.38 | 0.70 | 0.87 | 0.59 | 1.14 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 641 | 1183 | 0 | 0 | 1114 | 718 | 0 | 0 | 871 | 0 | 0 | 1608 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 697 | 1286 | 0 | 0 | 1211 | 780 | 0 | 0 | 947 | 0 | 0 | 1748 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 697 | 1286 | 0 | 0 | 1211 | 766 | 0 | 0 | 947 | 0 | 0 | 1748 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 35.8 | 140.0 | | | 95.2 | 95.2 | | | 140.0 | | | 140.0 |
| Effective Green, g (s) | 35.8 | 140.0 | | | 95.2 | 95.2 | | | 140.0 | | | 140.0 |
| Actuated g/C Ratio | 0.26 | 1.00 | | | 0.68 | 0.68 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 804 | 3355 | | | 2281 | 1041 | | | 1611 | | | 1528 |
| v/s Ratio Prot | 0.22 | 0.38 | | | 0.36 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.50 | | | 0.59 | | | c1.14 |
| v/c Ratio | 0.87 | 0.38 | | | 0.53 | 0.74 | | | 0.59 | | | 1.14 |
| Uniform Delay, d1 | 49.8 | 0.0 | | | 11.2 | 14.4 | | | 0.0 | | | 70.0 |
| Progression Factor | 0.79 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 8.0 | 0.3 | | | 0.9 | 4.6 | | | 1.6 | | | 73.1 |
| Delay (s) | 47.2 | 0.3 | | | 12.1 | 19.0 | | | 1.6 | | | 143.1 |
| Level of Service | D | A | | | B | B | | | A | | | F |
| Approach Delay (s) | | 16.8 | | | 14.8 | | | 1.6 | | | 143.1 | |
| Approach LOS | | B | | | B | | | A | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 47.1 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.14 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 70.2% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 325 | 458 | 512 | 401 | 21 | 504 | 770 | 15 | 58 | 693 | 275 |
| v/c Ratio | 1.01 | 0.62 | 0.29 | 1.00 | 0.06 | 0.73 | 0.55 | 0.03 | 0.41 | 0.86 | 0.58 |
| Control Delay | 81.7 | 29.0 | 0.4 | 85.9 | 23.7 | 45.3 | 27.2 | 14.9 | 55.8 | 50.7 | 24.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 81.7 | 29.0 | 0.4 | 85.9 | 23.7 | 45.3 | 27.2 | 14.9 | 55.8 | 50.7 | 24.9 |
| Queue Length 50th (ft) | ~175 | 236 | 0 | 272 | 6 | 164 | 220 | 3 | 37 | 236 | 86 |
| Queue Length 95th (ft) | #398 | 386 | 0 | #515 | 28 | 220 | 280 | 17 | 84 | #371 | 188 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 323 | 741 | 1770 | 403 | 350 | 999 | 1636 | 609 | 156 | 809 | 474 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.01 | 0.62 | 0.29 | 1.00 | 0.06 | 0.50 | 0.47 | 0.02 | 0.37 | 0.86 | 0.58 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 299 | 421 | 471 | 3 | 366 | 19 | 464 | 708 | 14 | 53 | 638 | 253 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.96 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1738 | 1473 | 3204 | 3539 | 1337 | 1652 | 3303 | 1550 |
| Flt Permitted | 0.14 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 242 | 1739 | 1770 | | 1733 | 1473 | 3204 | 3539 | 1337 | 1652 | 3303 | 1550 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 325 | 458 | 512 | 3 | 398 | 21 | 504 | 770 | 15 | 58 | 693 | 275 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 5 | 0 | 0 | 94 |
| Lane Group Flow (vph) | 325 | 458 | 512 | 0 | 401 | 13 | 504 | 770 | 10 | 58 | 693 | 181 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 44.7 | 44.7 | 107.0 | | 24.2 | 24.2 | 21.8 | 40.9 | 40.9 | 7.0 | 26.0 | 26.0 |
| Effective Green, g (s) | 45.2 | 45.2 | 107.0 | | 24.7 | 24.7 | 22.8 | 41.9 | 40.9 | 7.9 | 27.0 | 27.0 |
| Actuated g/C Ratio | 0.42 | 0.42 | 1.00 | | 0.23 | 0.23 | 0.21 | 0.39 | 0.38 | 0.07 | 0.25 | 0.25 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.9 | 5.0 | 5.0 |
| Vehicle Extension (s) | 4.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 320 | 735 | 1770 | | 400 | 340 | 683 | 1386 | 511 | 122 | 833 | 391 |
| v/s Ratio Prot | c0.16 | 0.26 | | | | | c0.16 | 0.22 | | 0.04 | c0.21 | |
| v/s Ratio Perm | c0.27 | | 0.29 | | 0.23 | 0.01 | | | 0.01 | | | 0.12 |
| v/c Ratio | 1.02 | 0.62 | 0.29 | | 1.00 | 0.04 | 0.74 | 0.56 | 0.02 | 0.48 | 0.83 | 0.46 |
| Uniform Delay, d1 | 30.5 | 24.2 | 0.0 | | 41.1 | 31.9 | 39.3 | 25.3 | 20.6 | 47.6 | 37.9 | 33.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 54.3 | 1.9 | 0.4 | | 45.6 | 0.1 | 4.2 | 1.0 | 0.0 | 3.4 | 8.3 | 2.4 |
| Delay (s) | 84.9 | 26.1 | 0.4 | | 86.8 | 32.0 | 43.5 | 26.4 | 20.6 | 51.0 | 46.1 | 36.3 |
| Level of Service | F | C | A | | F | C | D | C | C | D | D | D |
| Approach Delay (s) | | 30.7 | | | 84.0 | | | 33.0 | | | 43.8 | |
| Approach LOS | | C | | | F | | | C | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 40.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 107.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 85.8% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBT | WBR | NBT | SBL | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 29 | 90 | 1017 | 160 | 1323 |
| v/c Ratio | 0.12 | 0.26 | 0.27 | 0.45 | 0.49 |
| Control Delay | 17.3 | 6.5 | 3.8 | 13.9 | 5.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.3 | 6.5 | 3.8 | 13.9 | 5.6 |
| Queue Length 50th (ft) | 8 | 0 | 29 | 16 | 72 |
| Queue Length 95th (ft) | 22 | 25 | 90 | #125 | 229 |
| Internal Link Dist (ft) | 217 | | 650 | | 443 |
| Turn Bay Length (ft) | | | | 150 | |
| Base Capacity (vph) | 572 | 691 | 3760 | 352 | 2653 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.05 | 0.13 | 0.27 | 0.45 | 0.50 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 26 | 1 | 83 | 0 | 894 | 41 | 147 | 1215 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.99 | | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | | 0.99 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1570 | 1400 | | 4916 | | 1619 | 3470 | |
| Flt Permitted | | | | | 0.76 | 1.00 | | 1.00 | | 0.27 | 1.00 | |
| Satd. Flow (perm) | | | | | 1244 | 1400 | | 4916 | | 459 | 3470 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 28 | 1 | 90 | 0 | 972 | 45 | 160 | 1321 | 2 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 80 | 0 | 6 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 29 | 10 | 0 | 1011 | 0 | 160 | 1323 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 5.2 | 5.2 | | 31.1 | | 31.1 | 31.1 | |
| Effective Green, g (s) | | | | | 5.2 | 5.2 | | 31.1 | | 31.1 | 31.1 | |
| Actuated g/C Ratio | | | | | 0.12 | 0.12 | | 0.69 | | 0.69 | 0.69 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 144 | 162 | | 3405 | | 318 | 2403 | |
| v/s Ratio Prot | | | | | | | | 0.21 | | | c0.38 | |
| v/s Ratio Perm | | | | | c0.02 | 0.01 | | | | 0.35 | | |
| v/c Ratio | | | | | 0.20 | 0.06 | | 0.30 | | 0.50 | 0.55 | |
| Uniform Delay, d1 | | | | | 18.0 | 17.7 | | 2.7 | | 3.3 | 3.4 | |
| Progression Factor | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | | | | 0.7 | 0.2 | | 0.0 | | 0.5 | 0.2 | |
| Delay (s) | | | | | 18.7 | 17.9 | | 2.7 | | 3.7 | 3.6 | |
| Level of Service | | | | | B | B | | A | | A | A | |
| Approach Delay (s) | | 0.0 | | | 18.0 | | | 2.7 | | | 3.6 | |
| Approach LOS | | A | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 3.9 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.50 | | |
| Actuated Cycle Length (s) | 44.9 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 53.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 11 | 334 | 646 | 42 | 26 |
| v/c Ratio | 0.11 | 0.21 | 0.22 | 0.32 | 0.18 |
| Control Delay | 70.6 | 0.5 | 2.9 | 54.0 | 19.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 70.6 | 0.5 | 2.9 | 54.0 | 19.8 |
| Queue Length 50th (ft) | 8 | 3 | 49 | 29 | 0 |
| Queue Length 95th (ft) | m17 | 9 | 47 | 63 | 27 |
| Internal Link Dist (ft) | | 522 | 524 | 200 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 185 | 1623 | 2968 | 426 | 401 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.06 | 0.21 | 0.22 | 0.10 | 0.06 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 10 | 307 | 544 | 51 | 39 | 24 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.99 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3494 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3494 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 11 | 334 | 591 | 55 | 42 | 26 |
| RTOR Reduction (vph) | 0 | 0 | 3 | 0 | 0 | 24 |
| Lane Group Flow (vph) | 11 | 334 | 643 | 0 | 42 | 2 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 1.5 | 94.0 | 88.0 | | 7.0 | 7.0 |
| Effective Green, g (s) | 1.5 | 94.0 | 88.0 | | 7.0 | 7.0 |
| Actuated g/C Ratio | 0.01 | 0.85 | 0.80 | | 0.06 | 0.06 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 24 | 1592 | 2795 | | 113 | 101 |
| v/s Ratio Prot | 0.01 | c0.18 | c0.18 | | c0.02 | |
| v/s Ratio Perm | | | | | | 0.00 |
| v/c Ratio | 0.46 | 0.21 | 0.23 | | 0.37 | 0.02 |
| Uniform Delay, d1 | 53.8 | 1.4 | 2.7 | | 49.4 | 48.3 |
| Progression Factor | 1.41 | 0.16 | 1.09 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 11.8 | 0.3 | 0.2 | | 2.1 | 0.1 |
| Delay (s) | 87.6 | 0.5 | 3.1 | | 51.4 | 48.3 |
| Level of Service | F | A | A | | D | D |
| Approach Delay (s) | | 3.3 | 3.1 | | 50.3 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 6.2 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.24 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 29.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBL | WBT | NBR |
|---|---|---|---|---|
| Lane Group Flow (vph) | 1416 | 543 | 2458 | 563 |
| v/c Ratio | 0.55 | 0.69 | 0.48 | 0.79 |
| Control Delay | 16.0 | 17.5 | 0.3 | 22.0 |
| Queue Delay | 0.0 | 0.3 | 0.0 | 0.0 |
| Total Delay | 16.0 | 17.8 | 0.3 | 22.0 |
| Queue Length 50th (ft) | 104 | 139 | 0 | 152 |
| Queue Length 95th (ft) | 188 | 224 | 0 | 253 |
| Internal Link Dist (ft) | 392 | | 247 | |
| Turn Bay Length (ft) | | | | |
| Base Capacity (vph) | 2552 | 1202 | 5085 | 1095 |
| Starvation Cap Reductn | 0 | 202 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.55 | 0.54 | 0.48 | 0.51 |

Intersection Summary

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 1272 | 30 | 500 | 2261 | 0 | 518 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Lane Util. Factor | 0.86 | | 1.00 | 0.91 | | 1.00 |
| Frt | 1.00 | | 1.00 | 1.00 | | 0.86 |
| Flt Protected | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 6385 | | 1770 | 5085 | | 1611 |
| Flt Permitted | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 6385 | | 1770 | 5085 | | 1611 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1383 | 33 | 543 | 2458 | 0 | 563 |
| RTOR Reduction (vph) | 4 | 0 | 0 | 0 | 0 | 2 |
| Lane Group Flow (vph) | 1412 | 0 | 543 | 2458 | 0 | 561 |
| Turn Type | | | Prot | | | Over |
| Protected Phases | 2 | | 1 | 6 | | 1 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 23.3 | | 25.6 | 57.9 | | 25.6 |
| Effective Green, g (s) | 23.3 | | 25.6 | 57.9 | | 25.6 |
| Actuated g/C Ratio | 0.40 | | 0.44 | 1.00 | | 0.44 |
| Clearance Time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 2569 | | 783 | 5085 | | 712 |
| v/s Ratio Prot | 0.22 | | 0.31 | c0.48 | | c0.35 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.55 | | 0.69 | 0.48 | | 0.79 |
| Uniform Delay, d1 | 13.3 | | 13.0 | 0.0 | | 13.8 |
| Progression Factor | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Incremental Delay, d2 | 0.9 | | 2.7 | 0.1 | | 5.8 |
| Delay (s) | 14.1 | | 15.7 | 0.1 | | 19.6 |
| Level of Service | B | | B | A | | B |
| Approach Delay (s) | 14.1 | | | 2.9 | 19.6 | |
| Approach LOS | B | | | A | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 8.0 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.63 | | |
| Actuated Cycle Length (s) | 57.9 | Sum of lost time (s) | 4.5 |
| Intersection Capacity Utilization | 58.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 59 | 173 | 289 | 166 | 1162 | 27 | 1471 | 249 | 1446 | 1138 | 89 |
| v/c Ratio | 0.98 | 0.44 | 0.90 | 0.36 | 0.67 | 0.38 | 1.20 | 0.33 | 1.28 | 0.59 | 0.09 |
| Control Delay | 177.5 | 55.2 | 85.8 | 43.6 | 17.2 | 80.0 | 141.6 | 7.2 | 172.5 | 19.5 | 2.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 177.5 | 55.2 | 85.8 | 43.6 | 17.2 | 80.0 | 141.6 | 7.2 | 172.5 | 19.5 | 2.8 |
| Queue Length 50th (ft) | 55 | 73 | 257 | 123 | 344 | 24 | ~597 | 37 | ~866 | 347 | 0 |
| Queue Length 95th (ft) | #155 | 102 | #555 | 192 | 426 | 58 | #695 | 79 | #1004 | 417 | 24 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 60 | 702 | 320 | 467 | 1732 | 79 | 1228 | 746 | 1126 | 1943 | 944 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.98 | 0.25 | 0.90 | 0.36 | 0.67 | 0.34 | 1.20 | 0.33 | 1.28 | 0.59 | 0.09 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 54 | 134 | 25 | 266 | 153 | 1069 | 25 | 1353 | 229 | 1330 | 1047 | 82 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 2.5 | 2.5 | | 2.5 | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 2.5 | 1.8 | 1.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 1.00 | 0.88 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3113 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1515 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3113 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1515 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 59 | 146 | 27 | 289 | 166 | 1162 | 27 | 1471 | 249 | 1446 | 1138 | 89 |
| RTOR Reduction (vph) | 0 | 12 | 0 | 0 | 0 | 8 | 0 | 0 | 78 | 0 | 0 | 36 |
| Lane Group Flow (vph) | 59 | 161 | 0 | 289 | 166 | 1154 | 27 | 1471 | 171 | 1446 | 1138 | 53 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 4.0 | 15.1 | | 25.9 | 37.0 | 91.0 | 3.5 | 36.6 | 62.5 | 49.5 | 82.6 | 82.6 |
| Effective Green, g (s) | 5.0 | 17.1 | | 26.9 | 39.0 | 93.0 | 4.5 | 38.6 | 66.5 | 50.5 | 84.6 | 84.6 |
| Actuated g/C Ratio | 0.04 | 0.12 | | 0.19 | 0.27 | 0.65 | 0.03 | 0.27 | 0.47 | 0.35 | 0.59 | 0.59 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 4.0 | | 2.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 59 | 374 | | 317 | 463 | 1725 | 51 | 1262 | 677 | 1115 | 1925 | 900 |
| v/s Ratio Prot | c0.04 | 0.05 | | c0.17 | 0.10 | c0.44 | 0.02 | c0.32 | 0.12 | c0.46 | 0.35 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.03 |
| v/c Ratio | 1.00 | 0.43 | | 0.91 | 0.36 | 0.67 | 0.53 | 1.17 | 0.25 | 1.30 | 0.59 | 0.06 |
| Uniform Delay, d1 | 68.7 | 58.1 | | 56.6 | 41.6 | 15.2 | 67.9 | 51.9 | 22.9 | 46.0 | 18.1 | 12.2 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 117.2 | 1.4 | | 28.6 | 0.7 | 1.1 | 4.5 | 83.5 | 0.3 | 140.3 | 0.5 | 0.0 |
| Delay (s) | 185.9 | 59.5 | | 85.2 | 42.3 | 16.3 | 72.4 | 135.4 | 23.2 | 186.3 | 18.6 | 12.2 |
| Level of Service | F | E | | F | D | B | E | F | C | F | B | B |
| Approach Delay (s) | | 91.6 | | | 31.3 | | | 118.4 | | | 109.1 | |
| Approach LOS | | F | | | C | | | F | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 91.0 | HCM Level of Service | F |
| HCM Volume to Capacity ratio | 1.12 | | |
| Actuated Cycle Length (s) | 142.4 | Sum of lost time (s) | 11.8 |
| Intersection Capacity Utilization | 100.7% | ICU Level of Service | G |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 145 | 1726 | 25 | 1517 | 160 | 28 | 148 | 187 | 124 |
| v/c Ratio | 0.59 | 0.78 | 0.15 | 0.86 | 0.20 | 0.25 | 0.64 | 0.49 | 0.52 |
| Control Delay | 52.1 | 17.6 | 51.8 | 17.5 | 0.5 | 50.9 | 21.2 | 46.7 | 28.5 |
| Queue Delay | 0.0 | 2.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| Total Delay | 52.1 | 20.4 | 51.8 | 17.5 | 0.5 | 50.9 | 21.4 | 46.7 | 28.5 |
| Queue Length 50th (ft) | 92 | 249 | 17 | 390 | 0 | 18 | 1 | 62 | 36 |
| Queue Length 95th (ft) | 159 | #767 | m25 | #719 | m1 | 45 | 60 | 94 | 92 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 247 | 2210 | 170 | 1761 | 820 | 224 | 318 | 462 | 274 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 362 | 0 | 0 | 0 | 0 | 16 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.59 | 0.93 | 0.15 | 0.86 | 0.20 | 0.13 | 0.49 | 0.40 | 0.45 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 133 | 1572 | 16 | 23 | 1379 | 164 | 26 | 2 | 134 | 172 | 42 | 72 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 2.0 | 3.0 | | 2.0 | 3.0 | 3.0 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.91 | 0.91 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.99 | 1.00 | 0.98 | | 1.00 | 0.95 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3174 | | 1620 | 3068 | 1319 | 1678 | 1431 | | 3143 | 1474 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3174 | | 1620 | 3068 | 1319 | 1678 | 1431 | | 3143 | 1474 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 145 | 1709 | 17 | 25 | 1499 | 178 | 28 | 2 | 146 | 187 | 46 | 78 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 65 | 0 | 136 | 0 | 0 | 59 | 0 |
| Lane Group Flow (vph) | 145 | 1726 | 0 | 25 | 1517 | 95 | 28 | 12 | 0 | 187 | 65 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 16.8 | 70.3 | | 4.0 | 57.5 | 57.5 | 5.9 | 5.9 | | 11.8 | 11.8 | |
| Effective Green, g (s) | 17.8 | 71.3 | | 5.0 | 58.5 | 58.5 | 6.9 | 6.9 | | 12.8 | 12.8 | |
| Actuated g/C Ratio | 0.17 | 0.68 | | 0.05 | 0.56 | 0.56 | 0.07 | 0.07 | | 0.12 | 0.12 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 275 | 2155 | | 77 | 1709 | 735 | 110 | 94 | | 383 | 180 | |
| v/s Ratio Prot | 0.09 | c0.54 | | 0.02 | c0.49 | | c0.02 | 0.01 | | c0.06 | 0.04 | |
| v/s Ratio Perm | | | | | | 0.07 | | | | | | |
| v/c Ratio | 0.53 | 0.80 | | 0.32 | 0.89 | 0.13 | 0.25 | 0.12 | | 0.49 | 0.36 | |
| Uniform Delay, d1 | 39.8 | 11.9 | | 48.4 | 20.4 | 11.1 | 46.6 | 46.2 | | 43.0 | 42.3 | |
| Progression Factor | 1.00 | 1.00 | | 1.16 | 0.53 | 0.03 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.8 | 3.2 | | 0.8 | 6.3 | 0.3 | 0.4 | 0.2 | | 1.0 | 1.2 | |
| Delay (s) | 40.6 | 15.1 | | 56.9 | 17.2 | 0.6 | 47.1 | 46.4 | | 44.0 | 43.6 | |
| Level of Service | D | B | | E | B | A | D | D | | D | D | |
| Approach Delay (s) | | 17.1 | | | 16.2 | | | 46.5 | | | 43.9 | |
| Approach LOS | | B | | | B | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 20.0 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.77 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 7.0 |
| Intersection Capacity Utilization | 79.0% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 33 | 1942 | 278 | 1584 | 185 | 209 | 147 | 89 |
| v/c Ratio | 0.38 | 0.80 | 0.72 | 0.52 | 0.77 | 0.27 | 0.82 | 0.45 |
| Control Delay | 51.1 | 19.0 | 56.8 | 8.9 | 65.2 | 11.4 | 78.2 | 39.4 |
| Queue Delay | 0.0 | 1.7 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 51.1 | 20.7 | 56.8 | 9.0 | 65.2 | 11.4 | 78.2 | 39.4 |
| Queue Length 50th (ft) | 22 | 414 | 91 | 169 | 120 | 25 | 96 | 40 |
| Queue Length 95th (ft) | m29 | 289 | m127 | 190 | #205 | 48 | #198 | 91 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 93 | 2442 | 434 | 3038 | 275 | 815 | 195 | 212 |
| Starvation Cap Reductn | 0 | 319 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 263 | 0 | 0 | 0 | 1 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.35 | 0.91 | 0.64 | 0.57 | 0.67 | 0.26 | 0.75 | 0.42 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 30 | 1646 | 141 | 256 | 1403 | 54 | 152 | 18 | 192 | 135 | 51 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 2.0 | 3.0 | | 2.5 | 3.0 | | | 2.0 | 2.5 | 2.0 | 2.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.91 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.99 | 1.00 | 0.98 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4514 | | 3143 | 4745 | | | 1807 | 2805 | 1562 | 1523 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4514 | | 3143 | 4745 | | | 1807 | 2805 | 1562 | 1523 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 33 | 1789 | 153 | 278 | 1525 | 59 | 165 | 20 | 209 | 147 | 55 | 34 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 3 | 0 | 0 | 0 | 69 | 0 | 21 | 0 |
| Lane Group Flow (vph) | 33 | 1933 | 0 | 278 | 1581 | 0 | 0 | 185 | 140 | 147 | 68 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 3.0 | 55.6 | | 11.9 | 65.0 | | | 12.9 | 24.8 | 11.1 | 11.1 | |
| Effective Green, g (s) | 4.0 | 56.6 | | 12.9 | 66.0 | | | 13.9 | 26.8 | 12.1 | 12.1 | |
| Actuated g/C Ratio | 0.04 | 0.54 | | 0.12 | 0.63 | | | 0.13 | 0.26 | 0.12 | 0.12 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 62 | 2433 | | 386 | 2983 | | | 239 | 716 | 180 | 176 | |
| v/s Ratio Prot | 0.02 | c0.43 | | c0.09 | 0.33 | | | c0.10 | 0.02 | c0.09 | 0.04 | |
| v/s Ratio Perm | | | | | | | | | 0.03 | | | |
| v/c Ratio | 0.53 | 0.79 | | 0.72 | 0.53 | | | 0.77 | 0.20 | 0.82 | 0.39 | |
| Uniform Delay, d1 | 49.6 | 19.5 | | 44.3 | 10.9 | | | 44.0 | 30.6 | 45.4 | 43.0 | |
| Progression Factor | 0.89 | 0.82 | | 1.09 | 0.74 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 2.9 | 1.9 | | 4.3 | 0.5 | | | 13.2 | 0.0 | 22.9 | 0.5 | |
| Delay (s) | 47.1 | 17.9 | | 52.4 | 8.6 | | | 57.3 | 30.7 | 68.3 | 43.5 | |
| Level of Service | D | B | | D | A | | | E | C | E | D | |
| Approach Delay (s) | | 18.4 | | | 15.1 | | | 43.2 | | | 59.0 | |
| Approach LOS | | B | | | B | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 21.4 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.78 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 68.3% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 671 | 2150 | 1355 | 424 | 175 | 543 |
| v/c Ratio | 0.19 | 0.85 | 0.55 | 0.35 | 0.29 | 0.81 |
| Control Delay | 2.0 | 12.5 | 6.2 | 1.2 | 38.7 | 37.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 2.0 | 12.5 | 6.2 | 1.2 | 38.7 | 37.7 |
| Queue Length 50th (ft) | 20 | 347 | 162 | 0 | 53 | 135 |
| Queue Length 95th (ft) | 25 | 364 | 205 | 21 | 85 | #221 |
| Internal Link Dist (ft) | 509 | | 867 | | | |
| Turn Bay Length (ft) | | 400 | | | | 150 |
| Base Capacity (vph) | 3604 | 2533 | 2445 | 1217 | 601 | 672 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.19 | 0.85 | 0.55 | 0.35 | 0.29 | 0.81 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 617 | 1978 | 0 | 1247 | 390 | 0 | 0 | 0 | 161 | 0 | 500 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | | 3.0 |
| Lane Util. Factor | | 0.91 | 0.88 | | 0.95 | 1.00 | | | | 0.97 | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 671 | 2150 | 0 | 1355 | 424 | 0 | 0 | 0 | 175 | 0 | 543 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 105 | 0 | 0 | 0 | 0 | 0 | 149 |
| Lane Group Flow (vph) | 0 | 671 | 2150 | 0 | 1355 | 319 | 0 | 0 | 0 | 175 | 0 | 394 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Perm | | | | custom | | custom |
| Protected Phases | | 2 | | | 6 | | | | | 4 | | 4 |
| Permitted Phases | | | 2 4 | | | 6 | | | | 4 | | |
| Actuated Green, G (s) | | 79.0 | 105.0 | | 79.0 | 79.0 | | | | 18.0 | | 18.0 |
| Effective Green, g (s) | | 80.0 | 105.0 | | 80.0 | 79.0 | | | | 19.0 | | 19.0 |
| Actuated g/C Ratio | | 0.76 | 1.00 | | 0.76 | 0.75 | | | | 0.18 | | 0.18 |
| Clearance Time (s) | | 4.0 | | | 4.0 | 4.0 | | | | 4.0 | | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | 4.5 | | | | 4.0 | | 4.0 |
| Lane Grp Cap (vph) | | 3604 | 2533 | | 2445 | 1112 | | | | 601 | | 523 |
| v/s Ratio Prot | | 0.14 | | | 0.42 | | | | | 0.05 | | 0.14 |
| v/s Ratio Perm | | | c0.85 | | | 0.22 | | | | | | |
| v/c Ratio | | 0.19 | 0.85 | | 0.55 | 0.29 | | | | 0.29 | | 0.75 |
| Uniform Delay, d1 | | 3.5 | 0.0 | | 5.2 | 4.1 | | | | 37.2 | | 40.8 |
| Progression Factor | | 0.53 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | | 0.1 | 2.5 | | 0.9 | 0.6 | | | | 0.4 | | 6.5 |
| Delay (s) | | 1.9 | 2.5 | | 6.1 | 4.8 | | | | 37.5 | | 47.2 |
| Level of Service | | A | A | | A | A | | | | D | | D |
| Approach Delay (s) | | 2.4 | | | 5.8 | | | 0.0 | | | 44.9 | |
| Approach LOS | | A | | | A | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 9.2 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.85 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 73.0% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 196 | 26 | 39 | 124 | 226 | 122 |
| v/c Ratio | 0.53 | 0.07 | 0.19 | 0.10 | 0.22 | 0.12 |
| Control Delay | 25.2 | 7.7 | 25.8 | 4.4 | 8.7 | 2.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 25.2 | 7.7 | 25.8 | 4.4 | 8.7 | 2.9 |
| Queue Length 50th (ft) | 63 | 0 | 13 | 12 | 24 | 0 |
| Queue Length 95th (ft) | 105 | 15 | 37 | 34 | 97 | 25 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 587 | 542 | 216 | 1242 | 1034 | 994 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.33 | 0.05 | 0.18 | 0.10 | 0.22 | 0.12 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 180 | 24 | 36 | 114 | 208 | 112 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1562 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1562 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 196 | 26 | 39 | 124 | 226 | 122 |
| RTOR Reduction (vph) | 0 | 20 | 0 | 0 | 0 | 53 |
| Lane Group Flow (vph) | 196 | 6 | 39 | 124 | 226 | 69 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 12.2 | 12.2 | 2.8 | 39.8 | 33.0 | 33.0 |
| Effective Green, g (s) | 13.2 | 13.2 | 3.8 | 40.8 | 34.0 | 34.0 |
| Actuated g/C Ratio | 0.22 | 0.22 | 0.06 | 0.68 | 0.57 | 0.57 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 369 | 330 | 103 | 1242 | 966 | 885 |
| v/s Ratio Prot | c0.12 | | c0.02 | 0.07 | c0.13 | |
| v/s Ratio Perm | | 0.00 | | | | 0.04 |
| v/c Ratio | 0.53 | 0.02 | 0.38 | 0.10 | 0.23 | 0.08 |
| Uniform Delay, d1 | 20.7 | 18.3 | 27.0 | 3.3 | 6.5 | 5.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.5 | 0.0 | 2.3 | 0.2 | 0.6 | 0.2 |
| Delay (s) | 22.1 | 18.3 | 29.3 | 3.5 | 7.1 | 6.1 |
| Level of Service | C | B | C | A | A | A |
| Approach Delay (s) | 21.7 | | | 9.6 | 6.7 | |
| Approach LOS | C | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 11.9 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.32 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 36.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 214 | 224 | 296 | 30 | 1502 | 72 | 1170 |
| v/c Ratio | 0.51 | 0.58 | 0.71 | 0.20 | 0.92 | 0.64 | 0.72 |
| Control Delay | 19.9 | 22.9 | 26.2 | 13.5 | 26.7 | 45.6 | 14.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 19.9 | 22.9 | 26.2 | 13.5 | 26.7 | 45.6 | 14.8 |
| Queue Length 50th (ft) | 57 | 64 | 83 | 5 | 238 | 17 | 153 |
| Queue Length 95th (ft) | 110 | 123 | 157 | 24 | #461 | #90 | 266 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 554 | 519 | 552 | 151 | 1625 | 112 | 1626 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.39 | 0.43 | 0.54 | 0.20 | 0.92 | 0.64 | 0.72 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 59 | 116 | 22 | 113 | 93 | 272 | 28 | 1299 | 83 | 66 | 1027 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | | 0.99 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1536 | | | 1684 | 1306 | 1618 | 3046 | | 1562 | 3052 | |
| Flt Permitted | | 0.85 | | | 0.72 | 1.00 | 0.17 | 1.00 | | 0.13 | 1.00 | |
| Satd. Flow (perm) | | 1322 | | | 1252 | 1306 | 285 | 3046 | | 211 | 3052 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 64 | 126 | 24 | 123 | 101 | 296 | 30 | 1412 | 90 | 72 | 1116 | 54 |
| RTOR Reduction (vph) | 0 | 8 | 0 | 0 | 0 | 14 | 0 | 7 | 0 | 0 | 5 | 0 |
| Lane Group Flow (vph) | 0 | 206 | 0 | 0 | 224 | 282 | 30 | 1495 | 0 | 72 | 1165 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 18.1 | | | 18.1 | 18.1 | 31.1 | 31.1 | | 31.1 | 31.1 | |
| Effective Green, g (s) | | 18.1 | | | 18.1 | 18.1 | 31.1 | 31.1 | | 31.1 | 31.1 | |
| Actuated g/C Ratio | | 0.31 | | | 0.31 | 0.31 | 0.53 | 0.53 | | 0.53 | 0.53 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 410 | | | 388 | 405 | 152 | 1622 | | 112 | 1625 | |
| v/s Ratio Prot | | | | | | | | c0.49 | | | 0.38 | |
| v/s Ratio Perm | | 0.16 | | | 0.18 | c0.22 | 0.11 | | | 0.34 | | |
| v/c Ratio | | 0.50 | | | 0.58 | 0.70 | 0.20 | 0.92 | | 0.64 | 0.72 | |
| Uniform Delay, d1 | | 16.5 | | | 16.9 | 17.7 | 7.1 | 12.5 | | 9.7 | 10.3 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.3 | | | 2.5 | 5.6 | 0.9 | 9.2 | | 13.3 | 1.6 | |
| Delay (s) | | 17.8 | | | 19.4 | 23.3 | 8.0 | 21.8 | | 23.0 | 12.0 | |
| Level of Service | | B | | | B | C | A | C | | C | B | |
| Approach Delay (s) | | 17.8 | | | 21.6 | | | 21.5 | | | 12.6 | |
| Approach LOS | | B | | | C | | | C | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 18.1 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.84 | | |
| Actuated Cycle Length (s) | 58.4 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 79.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 28 | 299 | 620 | 185 | 216 | 27 |
| v/c Ratio | 0.27 | 0.22 | 0.53 | 0.13 | 0.81 | 0.11 |
| Control Delay | 55.2 | 4.8 | 7.5 | 0.2 | 66.9 | 16.0 |
| Queue Delay | 0.0 | 0.0 | 0.8 | 0.0 | 0.5 | 0.0 |
| Total Delay | 55.2 | 4.8 | 8.4 | 0.2 | 67.4 | 16.0 |
| Queue Length 50th (ft) | 19 | 58 | 79 | 0 | 145 | 1 |
| Queue Length 95th (ft) | 49 | 89 | m228 | m0 | #250 | 26 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 118 | 1372 | 1171 | 1402 | 298 | 278 |
| Starvation Cap Reductn | 0 | 0 | 276 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 3 | 0 | 0 | 7 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.24 | 0.22 | 0.69 | 0.13 | 0.74 | 0.10 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 26 | 275 | 570 | 170 | 199 | 25 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1572 | 1562 | 1349 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1572 | 1562 | 1349 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 28 | 299 | 620 | 185 | 216 | 27 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 29 | 0 | 21 |
| Lane Group Flow (vph) | 28 | 299 | 620 | 156 | 216 | 6 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 4.7 | 82.6 | 73.9 | 92.7 | 18.8 | 18.8 |
| Effective Green, g (s) | 4.7 | 82.6 | 73.9 | 92.7 | 18.8 | 18.8 |
| Actuated g/C Ratio | 0.04 | 0.75 | 0.67 | 0.84 | 0.17 | 0.17 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 69 | 1372 | 1145 | 1325 | 267 | 231 |
| v/s Ratio Prot | c0.02 | 0.16 | c0.36 | 0.02 | c0.14 | |
| v/s Ratio Perm | | | | 0.08 | | 0.00 |
| v/c Ratio | 0.41 | 0.22 | 0.54 | 0.12 | 0.81 | 0.03 |
| Uniform Delay, d1 | 51.3 | 4.1 | 9.3 | 1.5 | 43.9 | 38.0 |
| Progression Factor | 1.00 | 1.00 | 0.60 | 0.18 | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.9 | 0.4 | 1.4 | 0.0 | 16.3 | 0.0 |
| Delay (s) | 55.2 | 4.4 | 7.0 | 0.3 | 60.2 | 38.0 |
| Level of Service | E | A | A | A | E | D |
| Approach Delay (s) | | 8.8 | 5.4 | | 57.7 | |
| Approach LOS | | A | A | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 15.5 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.59 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 12.6 |
| Intersection Capacity Utilization | 48.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 363 | 235 | 303 | 346 | 475 | 274 | 3 |
| v/c Ratio | 0.75 | 0.41 | 0.77 | 0.36 | 0.83 | 0.45 | 0.04 |
| Control Delay | 36.6 | 3.3 | 53.6 | 15.1 | 47.2 | 16.6 | 51.3 |
| Queue Delay | 1.5 | 0.0 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 |
| Total Delay | 38.1 | 3.3 | 53.6 | 15.1 | 47.9 | 16.6 | 51.3 |
| Queue Length 50th (ft) | 197 | 0 | 193 | 121 | 306 | 71 | 2 |
| Queue Length 95th (ft) | #344 | m0 | #399 | 221 | #479 | 144 | 12 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | | 217 |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 | |
| Base Capacity (vph) | 487 | 575 | 392 | 962 | 574 | 604 | 80 |
| Starvation Cap Reductn | 36 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 14 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.80 | 0.41 | 0.77 | 0.36 | 0.85 | 0.45 | 0.04 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1 | 333 | 216 | 279 | 317 | 1 | 434 | 3 | 252 | 2 | 1 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | 4.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.98 | | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | 1.00 | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.97 | |
| Satd. Flow (prot) | | 1759 | 1462 | 1562 | 1704 | | | 1682 | 1725 | | 1754 | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.97 | |
| Satd. Flow (perm) | | 1758 | 1462 | 1562 | 1704 | | | 1682 | 1725 | | 1754 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1 | 362 | 235 | 303 | 345 | 1 | 472 | 3 | 274 | 2 | 1 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 177 | 0 | 0 | 0 | 0 | 0 | 94 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 363 | 58 | 303 | 346 | 0 | 0 | 475 | 180 | 0 | 3 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 27.3 | 27.3 | 27.6 | 58.9 | | | 37.0 | 33.0 | | 1.0 | |
| Effective Green, g (s) | | 27.3 | 27.3 | 27.6 | 58.9 | | | 37.0 | 33.0 | | 1.0 | |
| Actuated g/C Ratio | | 0.25 | 0.25 | 0.25 | 0.54 | | | 0.34 | 0.30 | | 0.01 | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | 4.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | | 436 | 363 | 392 | 912 | | | 566 | 518 | | 16 | |
| v/s Ratio Prot | | | | c0.19 | 0.20 | | | c0.28 | 0.04 | | c0.00 | |
| v/s Ratio Perm | | c0.21 | 0.04 | | | | | | 0.07 | | | |
| v/c Ratio | | 0.83 | 0.16 | 0.77 | 0.38 | | | 0.84 | 0.35 | | 0.19 | |
| Uniform Delay, d1 | | 39.2 | 32.4 | 38.3 | 14.9 | | | 33.7 | 30.1 | | 54.1 | |
| Progression Factor | | 0.72 | 0.31 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | | 16.0 | 0.9 | 9.2 | 1.2 | | | 10.5 | 0.4 | | 5.6 | |
| Delay (s) | | 44.2 | 10.9 | 47.4 | 16.1 | | | 44.3 | 30.5 | | 59.7 | |
| Level of Service | | D | B | D | B | | | D | C | | E | |
| Approach Delay (s) | | 31.1 | | | 30.7 | | | 39.2 | | | 59.7 | |
| Approach LOS | | C | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 34.1 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.81 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 16.6 |
| Intersection Capacity Utilization | 76.2% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 78 | 160 | 27 | 142 | 121 | 676 | 15 | 770 | 139 | 229 | 805 |
| v/c Ratio | 0.59 | 0.34 | 0.07 | 0.68 | 0.20 | 0.94 | 0.16 | 0.81 | 0.32 | 0.82 | 0.57 |
| Control Delay | 78.2 | 40.5 | 14.8 | 71.5 | 32.7 | 40.2 | 65.1 | 49.0 | 25.2 | 75.7 | 27.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 78.2 | 40.5 | 14.8 | 71.5 | 32.7 | 40.2 | 65.1 | 49.0 | 25.2 | 75.7 | 27.9 |
| Queue Length 50th (ft) | 67 | 109 | 1 | 120 | 75 | 311 | 13 | 328 | 58 | 195 | 246 |
| Queue Length 95th (ft) | #131 | 184 | 27 | 194 | 130 | #601 | 38 | 407 | 117 | #342 | 368 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 155 | 555 | 480 | 276 | 667 | 762 | 155 | 1159 | 510 | 318 | 1510 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.50 | 0.29 | 0.06 | 0.51 | 0.18 | 0.89 | 0.10 | 0.66 | 0.27 | 0.72 | 0.53 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 72 | 147 | 25 | 131 | 111 | 622 | 14 | 708 | 128 | 211 | 692 | 49 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1452 | 1620 | 1739 | 1392 | 1652 | 3240 | 1331 | 1620 | 3045 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1452 | 1620 | 1739 | 1392 | 1652 | 3240 | 1331 | 1620 | 3045 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 78 | 160 | 27 | 142 | 121 | 676 | 15 | 770 | 139 | 229 | 752 | 53 |
| RTOR Reduction (vph) | 0 | 0 | 18 | 0 | 0 | 247 | 0 | 0 | 36 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 78 | 160 | 9 | 142 | 121 | 429 | 15 | 770 | 103 | 229 | 802 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 8.5 | 34.4 | 34.4 | 16.8 | 42.7 | 42.7 | 3.3 | 38.8 | 38.8 | 22.1 | 57.6 | |
| Effective Green, g (s) | 7.5 | 33.9 | 33.9 | 15.8 | 42.2 | 42.2 | 2.3 | 38.3 | 38.3 | 21.1 | 57.1 | |
| Actuated g/C Ratio | 0.06 | 0.27 | 0.27 | 0.13 | 0.34 | 0.34 | 0.02 | 0.31 | 0.31 | 0.17 | 0.46 | |
| Clearance Time (s) | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 99 | 471 | 393 | 205 | 587 | 470 | 30 | 992 | 407 | 273 | 1390 | |
| v/s Ratio Prot | 0.05 | 0.09 | | c0.09 | 0.07 | | 0.01 | c0.24 | | c0.14 | 0.26 | |
| v/s Ratio Perm | | | 0.01 | | | c0.31 | | | 0.08 | | | |
| v/c Ratio | 0.79 | 0.34 | 0.02 | 0.69 | 0.21 | 0.91 | 0.50 | 0.78 | 0.25 | 0.84 | 0.58 | |
| Uniform Delay, d1 | 58.0 | 36.6 | 33.4 | 52.3 | 29.5 | 39.7 | 60.8 | 39.5 | 32.6 | 50.4 | 25.1 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 34.4 | 0.6 | 0.0 | 10.4 | 0.2 | 22.3 | 16.8 | 4.1 | 0.4 | 20.4 | 0.7 | |
| Delay (s) | 92.4 | 37.2 | 33.5 | 62.7 | 29.8 | 62.0 | 77.6 | 43.6 | 33.1 | 70.8 | 25.8 | |
| Level of Service | F | D | C | E | C | E | E | D | C | E | C | |
| Approach Delay (s) | | 53.1 | | | 57.9 | | | 42.6 | | | 35.7 | |
| Approach LOS | | D | | | E | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 45.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.85 | | |
| Actuated Cycle Length (s) | 125.1 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 73.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 39 | 609 | 37 | 1247 | 1397 | 107 | 498 | 685 | 220 | 384 | 40 |
| v/c Ratio | 0.53 | 0.75 | 0.13 | 0.92 | 0.79 | 0.77 | 0.74 | 0.39 | 0.79 | 0.59 | 0.12 |
| Control Delay | 86.1 | 57.3 | 14.9 | 43.1 | 22.4 | 109.2 | 41.9 | 7.9 | 78.9 | 51.1 | 17.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 14.5 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 86.1 | 57.3 | 14.9 | 57.6 | 23.0 | 109.2 | 41.9 | 7.9 | 78.9 | 51.1 | 17.0 |
| Queue Length 50th (ft) | 33 | 180 | 0 | 485 | 273 | 87 | 187 | 240 | 95 | 155 | 4 |
| Queue Length 95th (ft) | #84 | 227 | 32 | #650 | 337 | #192 | 157 | 21 | #158 | 210 | 37 |
| Internal Link Dist (ft) | | 238 | | | 388 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 73 | 817 | 290 | 1356 | 1778 | 142 | 684 | 1745 | 278 | 660 | 327 |
| Starvation Cap Reductn | 0 | 0 | 0 | 130 | 115 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.53 | 0.75 | 0.13 | 1.02 | 0.84 | 0.75 | 0.73 | 0.39 | 0.79 | 0.58 | 0.12 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 36 | 560 | 34 | 1147 | 1052 | 234 | 98 | 458 | 630 | 202 | 353 | 37 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3142 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1472 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3142 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1472 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 39 | 609 | 37 | 1247 | 1143 | 254 | 107 | 498 | 685 | 220 | 384 | 40 |
| RTOR Reduction (vph) | 0 | 0 | 30 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 27 |
| Lane Group Flow (vph) | 39 | 609 | 7 | 1247 | 1383 | 0 | 107 | 498 | 685 | 220 | 384 | 13 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 4.8 | 21.4 | 21.4 | 54.1 | 70.7 | | 10.8 | 24.4 | 84.0 | 11.1 | 24.7 | 24.7 |
| Effective Green, g (s) | 4.8 | 22.9 | 22.9 | 54.1 | 72.2 | | 10.8 | 25.9 | 78.5 | 11.1 | 26.2 | 26.2 |
| Actuated g/C Ratio | 0.04 | 0.18 | 0.18 | 0.42 | 0.56 | | 0.08 | 0.20 | 0.60 | 0.09 | 0.20 | 0.20 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 58 | 820 | 260 | 1355 | 1745 | | 139 | 668 | 1634 | 278 | 653 | 297 |
| v/s Ratio Prot | 0.02 | 0.13 | | c0.38 | c0.44 | | 0.06 | c0.15 | 0.25 | c0.07 | 0.12 | |
| v/s Ratio Perm | | | 0.00 | | | | | | | | | 0.01 |
| v/c Ratio | 0.67 | 0.74 | 0.03 | 0.92 | 0.79 | | 0.77 | 0.75 | 0.42 | 0.79 | 0.59 | 0.04 |
| Uniform Delay, d1 | 61.8 | 50.8 | 44.3 | 35.9 | 22.9 | | 58.4 | 49.0 | 13.7 | 58.3 | 47.0 | 41.8 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.90 | 0.84 | | 1.34 | 0.71 | 0.66 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 28.7 | 6.0 | 0.2 | 9.3 | 3.3 | | 23.1 | 4.7 | 0.2 | 15.0 | 1.6 | 0.1 |
| Delay (s) | 90.5 | 56.8 | 44.5 | 41.7 | 22.5 | | 101.2 | 39.3 | 9.3 | 73.3 | 48.6 | 41.9 |
| Level of Service | F | E | D | D | C | | F | D | A | E | D | D |
| Approach Delay (s) | | 58.0 | | | 31.6 | | | 28.5 | | | 56.6 | |
| Approach LOS | | E | | | C | | | C | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 37.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.83 | | |
| Actuated Cycle Length (s) | 130.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 75.8% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 146 | 1107 | 379 | 230 | 1902 | 149 | 153 | 85 | 347 |
| v/c Ratio | 0.97 | 0.52 | 0.42 | 0.76 | 0.76 | 0.58 | 0.59 | 0.26 | 0.87 |
| Control Delay | 115.9 | 20.1 | 3.1 | 59.8 | 11.3 | 57.7 | 57.7 | 9.8 | 49.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 115.9 | 20.1 | 3.1 | 59.8 | 11.3 | 57.7 | 57.7 | 9.8 | 49.3 |
| Queue Length 50th (ft) | 125 | 198 | 28 | 162 | 108 | 126 | 129 | 0 | 72 |
| Queue Length 95th (ft) | #269 | 325 | 67 | m177 | m552 | 172 | 175 | 41 | #156 |
| Internal Link Dist (ft) | | 660 | | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 520 | 180 | | 200 | | | |
| Base Capacity (vph) | 150 | 2117 | 903 | 317 | 2514 | 433 | 442 | 488 | 402 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.97 | 0.52 | 0.42 | 0.73 | 0.76 | 0.34 | 0.35 | 0.17 | 0.86 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 134 | 1018 | 349 | 212 | 1706 | 44 | 225 | 52 | 78 | 29 | 116 | 174 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | | 0.92 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 1.00 | |
| Satd. Flow (prot) | 1620 | 4655 | 1530 | 1678 | 4634 | | 1539 | 1571 | 1513 | | 3028 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 1.00 | |
| Satd. Flow (perm) | 1620 | 4655 | 1530 | 1678 | 4634 | | 1539 | 1571 | 1513 | | 3028 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 146 | 1107 | 379 | 230 | 1854 | 48 | 245 | 57 | 85 | 32 | 126 | 189 |
| RTOR Reduction (vph) | 0 | 0 | 207 | 0 | 2 | 0 | 0 | 0 | 71 | 0 | 169 | 0 |
| Lane Group Flow (vph) | 146 | 1107 | 172 | 230 | 1900 | 0 | 149 | 153 | 14 | 0 | 178 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | Perm | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Actuated Green, G (s) | 11.0 | 58.0 | 58.0 | 22.4 | 69.4 | | 21.0 | 21.0 | 21.0 | | 9.4 | |
| Effective Green, g (s) | 12.0 | 59.0 | 59.0 | 23.4 | 70.4 | | 21.6 | 21.6 | 21.6 | | 10.0 | |
| Actuated g/C Ratio | 0.09 | 0.45 | 0.45 | 0.18 | 0.54 | | 0.17 | 0.17 | 0.17 | | 0.08 | |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | 6.0 | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 150 | 2113 | 694 | 302 | 2509 | | 256 | 261 | 251 | | 233 | |
| v/s Ratio Prot | c0.09 | 0.24 | | 0.14 | c0.41 | | 0.10 | c0.10 | | | c0.06 | |
| v/s Ratio Perm | | | 0.11 | | | | | | 0.01 | | | |
| v/c Ratio | 0.97 | 0.52 | 0.25 | 0.76 | 0.76 | | 0.58 | 0.59 | 0.06 | | 0.76 | |
| Uniform Delay, d1 | 58.8 | 25.4 | 21.8 | 50.6 | 23.2 | | 50.0 | 50.1 | 45.6 | | 58.8 | |
| Progression Factor | 0.84 | 0.70 | 0.59 | 1.06 | 0.39 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 63.8 | 0.9 | 0.8 | 4.2 | 0.8 | | 4.0 | 3.9 | 0.1 | | 14.6 | |
| Delay (s) | 113.1 | 18.7 | 13.7 | 57.9 | 9.8 | | 54.0 | 54.0 | 45.7 | | 73.5 | |
| Level of Service | F | B | B | E | A | | D | D | D | | E | |
| Approach Delay (s) | | 26.0 | | | 15.0 | | | 52.2 | | | 73.5 | |
| Approach LOS | | C | | | B | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 26.7 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.75 | | |
| Actuated Cycle Length (s) | 130.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 73.4% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 165 | 1140 | 334 | 1551 | 270 | 251 | 186 | 54 | 608 |
| v/c Ratio | 0.87 | 0.74 | 0.82 | 1.03 | 0.93 | 0.28 | 0.31 | 0.44 | 0.86 |
| Control Delay | 74.0 | 24.4 | 63.7 | 65.8 | 96.2 | 37.9 | 6.3 | 72.5 | 54.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 74.0 | 24.4 | 63.7 | 65.8 | 96.2 | 37.9 | 6.3 | 72.5 | 54.4 |
| Queue Length 50th (ft) | 140 | 330 | 268 | ~753 | 118 | 87 | 0 | 23 | 220 |
| Queue Length 95th (ft) | m#263 | 396 | #420 | #895 | #204 | 124 | 56 | 46 | 291 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 189 | 1544 | 407 | 1508 | 290 | 915 | 602 | 123 | 764 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.87 | 0.74 | 0.82 | 1.03 | 0.93 | 0.27 | 0.31 | 0.44 | 0.80 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 152 | 728 | 321 | 307 | 1401 | 26 | 248 | 231 | 171 | 50 | 346 | 213 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.95 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4501 | | 1652 | 3280 | | 3143 | 3240 | 1659 | 3204 | 3033 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4501 | | 1652 | 3280 | | 3143 | 3240 | 1659 | 3204 | 3033 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 165 | 791 | 349 | 334 | 1523 | 28 | 270 | 251 | 186 | 54 | 376 | 232 |
| RTOR Reduction (vph) | 0 | 60 | 0 | 0 | 1 | 0 | 0 | 0 | 135 | 0 | 75 | 0 |
| Lane Group Flow (vph) | 165 | 1080 | 0 | 334 | 1550 | 0 | 270 | 251 | 51 | 54 | 533 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 15.2 | 41.3 | | 32.1 | 58.2 | | 13.0 | 36.3 | 36.3 | 4.8 | 28.1 | |
| Effective Green, g (s) | 15.1 | 42.3 | | 32.0 | 59.2 | | 12.0 | 35.9 | 35.9 | 3.8 | 27.7 | |
| Actuated g/C Ratio | 0.12 | 0.33 | | 0.25 | 0.46 | | 0.09 | 0.28 | 0.28 | 0.03 | 0.21 | |
| Clearance Time (s) | 3.9 | 5.0 | | 3.9 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 188 | 1465 | | 407 | 1494 | | 290 | 895 | 458 | 94 | 646 | |
| v/s Ratio Prot | c0.10 | 0.24 | | 0.20 | c0.47 | | c0.09 | 0.08 | | 0.02 | c0.18 | |
| v/s Ratio Perm | | | | | | | | | 0.03 | | | |
| v/c Ratio | 0.88 | 0.74 | | 0.82 | 1.04 | | 0.93 | 0.28 | 0.11 | 0.57 | 0.83 | |
| Uniform Delay, d1 | 56.5 | 38.9 | | 46.3 | 35.4 | | 58.6 | 36.9 | 35.1 | 62.3 | 48.8 | |
| Progression Factor | 0.62 | 0.60 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 31.1 | 3.0 | | 13.0 | 33.6 | | 35.3 | 0.2 | 0.1 | 9.8 | 8.9 | |
| Delay (s) | 66.0 | 26.2 | | 59.3 | 69.0 | | 93.9 | 37.2 | 35.3 | 72.1 | 57.7 | |
| Level of Service | E | C | | E | E | | F | D | D | E | E | |
| Approach Delay (s) | | 31.2 | | | 67.3 | | | 58.3 | | | 58.9 | |
| Approach LOS | | C | | | E | | | E | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 54.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.95 | | |
| Actuated Cycle Length (s) | 130.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 85.5% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 45 | 67 | 174 | 17 | 977 | 72 | 570 | 1081 |
| v/c Ratio | 0.36 | 0.53 | 0.42 | 0.19 | 0.49 | 0.07 | 0.80 | 0.39 |
| Control Delay | 53.4 | 70.6 | 10.6 | 76.9 | 19.4 | 3.9 | 44.5 | 6.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 53.4 | 70.6 | 10.6 | 76.9 | 19.4 | 3.9 | 44.5 | 6.4 |
| Queue Length 50th (ft) | 29 | 55 | 0 | 15 | 331 | 6 | 202 | 17 |
| Queue Length 95th (ft) | 67 | 101 | 36 | m26 | 452 | m28 | 238 | 457 |
| Internal Link Dist (ft) | 387 | 301 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 350 | |
| Base Capacity (vph) | 200 | 210 | 566 | 101 | 2006 | 975 | 964 | 2746 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 0.32 | 0.31 | 0.17 | 0.49 | 0.07 | 0.59 | 0.39 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 32 | 0 | 9 | 60 | 2 | 160 | 16 | 899 | 66 | 524 | 912 | 83 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.97 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.96 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1697 | | | 1777 | 2787 | 1678 | 3355 | 1583 | 3433 | 3420 | |
| Flt Permitted | | 0.72 | | | 0.75 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1278 | | | 1399 | 2787 | 1678 | 3355 | 1583 | 3433 | 3420 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 35 | 0 | 10 | 65 | 2 | 174 | 17 | 977 | 72 | 570 | 991 | 90 |
| RTOR Reduction (vph) | 0 | 8 | 0 | 0 | 0 | 158 | 0 | 0 | 29 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 0 | 37 | 0 | 0 | 67 | 16 | 17 | 977 | 43 | 570 | 1077 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | |
| Actuated Green, G (s) | | 11.7 | | | 11.7 | 11.7 | 3.3 | 77.8 | 77.8 | 27.0 | 101.5 | |
| Effective Green, g (s) | | 11.7 | | | 11.7 | 11.7 | 3.3 | 77.8 | 77.8 | 27.0 | 101.5 | |
| Actuated g/C Ratio | | 0.09 | | | 0.09 | 0.09 | 0.03 | 0.60 | 0.60 | 0.21 | 0.78 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 115 | | | 126 | 251 | 43 | 2008 | 947 | 713 | 2670 | |
| v/s Ratio Prot | | | | | | | 0.01 | c0.29 | | c0.17 | 0.31 | |
| v/s Ratio Perm | | 0.03 | | | c0.05 | 0.01 | | | 0.03 | | | |
| v/c Ratio | | 0.32 | | | 0.53 | 0.06 | 0.40 | 0.49 | 0.05 | 0.80 | 0.40 | |
| Uniform Delay, d1 | | 55.4 | | | 56.5 | 54.1 | 62.4 | 14.8 | 10.8 | 48.9 | 4.6 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.25 | 1.15 | 1.12 | 0.76 | 1.27 | |
| Incremental Delay, d2 | | 1.6 | | | 4.3 | 0.1 | 4.9 | 0.7 | 0.1 | 5.4 | 0.4 | |
| Delay (s) | | 57.0 | | | 60.8 | 54.2 | 83.0 | 17.7 | 12.1 | 42.4 | 6.2 | |
| Level of Service | | E | | | E | D | F | B | B | D | A | |
| Approach Delay (s) | | 57.0 | | | 56.1 | | | 18.4 | | | 18.7 | |
| Approach LOS | | E | | | E | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 22.2 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.56 | | |
| Actuated Cycle Length (s) | 130.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 60.0% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 186 | 26 | 68 | 92 | 463 | 32 | 524 | 317 | 590 |
| v/c Ratio | 0.52 | 0.08 | 0.28 | 0.21 | 0.69 | 0.19 | 0.62 | 0.69 | 0.34 |
| Control Delay | 29.4 | 10.1 | 26.0 | 23.3 | 8.7 | 39.0 | 25.6 | 31.8 | 9.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.4 | 10.1 | 26.0 | 23.3 | 8.7 | 39.0 | 25.6 | 31.8 | 9.8 |
| Queue Length 50th (ft) | 61 | 0 | 21 | 28 | 0 | 12 | 87 | 107 | 48 |
| Queue Length 95th (ft) | 156 | 19 | 67 | 80 | 84 | 49 | 194 | 259 | 143 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 686 | 621 | 467 | 837 | 870 | 170 | 1329 | 780 | 2377 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.04 | 0.15 | 0.11 | 0.53 | 0.19 | 0.39 | 0.41 | 0.25 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 77 | 94 | 24 | 63 | 85 | 426 | 29 | 404 | 78 | 292 | 513 | 29 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | | 1.00 | 0.99 | |
| Flt Protected | | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1693 | 1259 | 1620 | 1739 | 1314 | 1711 | 2992 | | 1620 | 3051 | |
| Flt Permitted | | 0.83 | 1.00 | 0.57 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1428 | 1259 | 970 | 1739 | 1314 | 1711 | 2992 | | 1620 | 3051 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 84 | 102 | 26 | 68 | 92 | 463 | 32 | 439 | 85 | 317 | 558 | 32 |
| RTOR Reduction (vph) | 0 | 0 | 20 | 0 | 0 | 350 | 0 | 16 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 0 | 186 | 6 | 68 | 92 | 113 | 32 | 508 | 0 | 317 | 586 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 16.4 | 16.4 | 16.4 | 16.4 | 16.4 | 1.9 | 20.4 | | 18.7 | 37.2 | |
| Effective Green, g (s) | | 16.4 | 16.4 | 16.4 | 16.4 | 16.4 | 1.9 | 20.4 | | 18.7 | 37.2 | |
| Actuated g/C Ratio | | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.03 | 0.30 | | 0.28 | 0.56 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 350 | 308 | 237 | 426 | 322 | 49 | 911 | | 452 | 1694 | |
| v/s Ratio Prot | | | | | 0.05 | | 0.02 | c0.17 | | c0.20 | 0.19 | |
| v/s Ratio Perm | | c0.13 | 0.01 | 0.07 | | 0.09 | | | | | | |
| v/c Ratio | | 0.53 | 0.02 | 0.29 | 0.22 | 0.35 | 0.65 | 0.56 | | 0.70 | 0.35 | |
| Uniform Delay, d1 | | 22.0 | 19.2 | 20.6 | 20.2 | 20.9 | 32.2 | 19.5 | | 21.6 | 8.2 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.6 | 0.0 | 0.7 | 0.3 | 0.7 | 27.1 | 0.9 | | 4.9 | 0.2 | |
| Delay (s) | | 23.5 | 19.2 | 21.2 | 20.4 | 21.6 | 59.3 | 20.4 | | 26.5 | 8.4 | |
| Level of Service | | C | B | C | C | C | E | C | | C | A | |
| Approach Delay (s) | | 23.0 | | | 21.4 | | | 22.7 | | | 14.7 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 19.2 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.60 | | |
| Actuated Cycle Length (s) | 67.0 | Sum of lost time (s) | 11.5 |
| Intersection Capacity Utilization | 61.3% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 146 | 203 | 255 | 178 | 562 | 203 | 982 | 43 | 992 |
| v/c Ratio | 0.56 | 0.71 | 0.61 | 0.75 | 0.79 | 0.79 | 0.58 | 0.39 | 0.68 |
| Control Delay | 65.8 | 66.3 | 12.3 | 74.2 | 55.1 | 74.6 | 22.8 | 73.2 | 14.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 65.8 | 66.3 | 12.3 | 74.2 | 55.1 | 74.6 | 22.8 | 73.2 | 14.6 |
| Queue Length 50th (ft) | 60 | 164 | 0 | 144 | 227 | 163 | 301 | 33 | 267 |
| Queue Length 95th (ft) | 99 | 246 | 81 | #236 | 280 | #268 | 377 | 77 | 221 |
| Internal Link Dist (ft) | | 2946 | | | 522 | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 205 | | 200 | | 370 | |
| Base Capacity (vph) | 265 | 318 | 436 | 259 | 843 | 281 | 1681 | 114 | 1451 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.55 | 0.64 | 0.58 | 0.69 | 0.67 | 0.72 | 0.58 | 0.38 | 0.68 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 134 | 187 | 235 | 164 | 401 | 116 | 187 | 707 | 197 | 40 | 828 | 85 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 12 | 12 | 12 | 10 | 10 | 10 | 12 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.97 | | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3060 | 1845 | 1306 | 1770 | 3408 | | 1652 | 3114 | | 1770 | 3402 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3060 | 1845 | 1306 | 1770 | 3408 | | 1652 | 3114 | | 1770 | 3402 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 146 | 203 | 255 | 178 | 436 | 126 | 203 | 768 | 214 | 43 | 900 | 92 |
| RTOR Reduction (vph) | 0 | 0 | 216 | 0 | 22 | 0 | 0 | 18 | 0 | 0 | 6 | 0 |
| Lane Group Flow (vph) | 146 | 203 | 39 | 178 | 540 | 0 | 203 | 964 | 0 | 43 | 986 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | | | | | | | |
| Actuated Green, G (s) | 11.1 | 20.1 | 20.1 | 17.3 | 26.3 | | 20.1 | 68.7 | | 6.7 | 55.3 | |
| Effective Green, g (s) | 11.1 | 20.1 | 20.1 | 17.3 | 26.3 | | 20.1 | 68.7 | | 6.7 | 55.3 | |
| Actuated g/C Ratio | 0.09 | 0.15 | 0.15 | 0.13 | 0.20 | | 0.15 | 0.53 | | 0.05 | 0.43 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 261 | 285 | 202 | 236 | 689 | | 255 | 1646 | | 91 | 1447 | |
| v/s Ratio Prot | 0.05 | c0.11 | | 0.10 | c0.16 | | c0.12 | 0.31 | | 0.02 | c0.29 | |
| v/s Ratio Perm | | | 0.03 | | | | | | | | | |
| v/c Ratio | 0.56 | 0.71 | 0.20 | 0.75 | 0.78 | | 0.80 | 0.59 | | 0.47 | 0.68 | |
| Uniform Delay, d1 | 57.1 | 52.2 | 47.9 | 54.3 | 49.2 | | 53.0 | 20.9 | | 59.9 | 30.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.08 | 0.38 | |
| Incremental Delay, d2 | 3.2 | 8.7 | 0.6 | 13.6 | 6.2 | | 16.5 | 1.5 | | 4.9 | 2.5 | |
| Delay (s) | 60.3 | 60.9 | 48.5 | 67.9 | 55.3 | | 69.5 | 22.5 | | 69.4 | 14.0 | |
| Level of Service | E | E | D | E | E | | E | C | | E | B | |
| Approach Delay (s) | | 55.5 | | | 58.4 | | | 30.5 | | | 16.3 | |
| Approach LOS | | E | | | E | | | C | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 36.4 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 130.0 | Sum of lost time (s) | 13.2 |
| Intersection Capacity Utilization | 69.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 42 | 344 | 101 | 1003 | 16 | 14 | 34 | 36 | 22 |
| v/c Ratio | 0.35 | 0.28 | 0.55 | 0.74 | 0.16 | 0.10 | 0.32 | 0.24 | 0.28 |
| Control Delay | 59.8 | 10.2 | 58.2 | 18.3 | 49.9 | 24.0 | 55.4 | 20.2 | 56.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 59.8 | 10.2 | 58.2 | 18.3 | 49.9 | 24.0 | 55.4 | 20.2 | 56.2 |
| Queue Length 50th (ft) | 29 | 70 | 69 | 366 | 11 | 1 | 23 | 1 | 15 |
| Queue Length 95th (ft) | 65 | 122 | 121 | #967 | 33 | 20 | 55 | 33 | 40 |
| Internal Link Dist (ft) | | 524 | | 1458 | | 986 | | 462 | |
| Turn Bay Length (ft) | 250 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 121 | 1220 | 213 | 1364 | 216 | 273 | 228 | 290 | 79 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.35 | 0.28 | 0.47 | 0.74 | 0.07 | 0.05 | 0.15 | 0.12 | 0.28 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 39 | 285 | 31 | 93 | 801 | 121 | 15 | 1 | 12 | 31 | 2 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 12 | 11 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.98 | | 1.00 | 0.86 | | 1.00 | 0.86 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1830 | | 1770 | 1826 | | 1711 | 1603 | | 1770 | 1599 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.73 | 1.00 | | 0.75 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1830 | | 1770 | 1826 | | 1321 | 1603 | | 1394 | 1599 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 42 | 310 | 34 | 101 | 871 | 132 | 16 | 1 | 13 | 34 | 2 | 34 |
| RTOR Reduction (vph) | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 32 | 0 |
| Lane Group Flow (vph) | 42 | 341 | 0 | 101 | 1003 | 0 | 16 | 2 | 0 | 34 | 4 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 5.0 | 69.6 | | 11.3 | 75.9 | | 7.1 | 7.1 | | 7.1 | 7.1 | |
| Effective Green, g (s) | 5.0 | 69.6 | | 11.3 | 75.9 | | 7.1 | 7.1 | | 7.1 | 7.1 | |
| Actuated g/C Ratio | 0.05 | 0.63 | | 0.10 | 0.69 | | 0.06 | 0.06 | | 0.06 | 0.06 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 80 | 1158 | | 182 | 1260 | | 85 | 103 | | 90 | 103 | |
| v/s Ratio Prot | 0.02 | 0.19 | | c0.06 | c0.55 | | | 0.00 | | | 0.00 | |
| v/s Ratio Perm | | | | | | | 0.01 | | | c0.02 | | |
| v/c Ratio | 0.53 | 0.29 | | 0.55 | 0.80 | | 0.19 | 0.02 | | 0.38 | 0.04 | |
| Uniform Delay, d1 | 51.3 | 9.1 | | 47.0 | 11.7 | | 48.7 | 48.2 | | 49.3 | 48.3 | |
| Progression Factor | 1.06 | 0.92 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 6.0 | 0.6 | | 3.6 | 5.3 | | 1.1 | 0.1 | | 2.6 | 0.2 | |
| Delay (s) | 60.7 | 9.0 | | 50.6 | 17.0 | | 49.8 | 48.3 | | 52.0 | 48.4 | |
| Level of Service | E | A | | D | B | | D | D | | D | D | |
| Approach Delay (s) | | 14.6 | | | 20.1 | | | 49.1 | | | 50.1 | |
| Approach LOS | | B | | | C | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 21.3 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.75 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 82.9% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Movement | SWR |
|---|---|
| Lane Configurations | |
| Volume (vph) | 20 |
| Ideal Flow (vphpl) | 1900 |
| Lane Width | 12 |
| Total Lost time (s) | 4.5 |
| Lane Util. Factor | 1.00 |
| Frpb, ped/bikes | 1.00 |
| Flpb, ped/bikes | 1.00 |
| Frt | 0.86 |
| Flt Protected | 1.00 |
| Satd. Flow (prot) | 1096 |
| Flt Permitted | 1.00 |
| Satd. Flow (perm) | 1096 |
| Peak-hour factor, PHF | 0.92 |
| Adj. Flow (vph) | 22 |
| RTOR Reduction (vph) | 0 |
| Lane Group Flow (vph) | 22 |
| Confl. Peds. (#/hr) | |
| Heavy Vehicles (%) | 50% |
| Parking (#/hr) | |
| Turn Type | custom |
| Protected Phases | 9 |
| Permitted Phases | 9 |
| Actuated Green, G (s) | 4.0 |
| Effective Green, g (s) | 4.0 |
| Actuated g/C Ratio | 0.04 |
| Clearance Time (s) | 4.5 |
| Vehicle Extension (s) | 3.0 |
| Lane Grp Cap (vph) | 40 |
| v/s Ratio Prot | c0.02 |
| v/s Ratio Perm | |
| v/c Ratio | 0.55 |
| Uniform Delay, d1 | 52.1 |
| Progression Factor | 1.00 |
| Incremental Delay, d2 | 15.3 |
| Delay (s) | 67.5 |
| Level of Service | E |
| Approach Delay (s) | |
| Approach LOS | |

| Intersection Summary |
|---|

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 89 | 311 | 12 | 961 | 66 | 126 | 14 | 78 | 429 |
| v/c Ratio | 0.96 | 0.25 | 0.19 | 1.00 | 1.05 | 0.26 | 0.04 | 0.27 | 0.87 |
| Control Delay | 135.4 | 8.4 | 58.7 | 53.1 | 170.5 | 33.8 | 14.2 | 35.4 | 54.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 135.4 | 8.4 | 58.7 | 53.1 | 170.5 | 33.8 | 14.2 | 35.4 | 54.4 |
| Queue Length 50th (ft) | 64 | 71 | 8 | 638 | ~51 | 71 | 0 | 44 | 265 |
| Queue Length 95th (ft) | #167 | 139 | 29 | #955 | #142 | 123 | 16 | 87 | #443 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 93 | 1246 | 62 | 964 | 63 | 489 | 357 | 287 | 493 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.96 | 0.25 | 0.19 | 1.00 | 1.05 | 0.26 | 0.04 | 0.27 | 0.87 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 82 | 198 | 88 | 11 | 830 | 54 | 61 | 116 | 13 | 72 | 206 | 189 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1924 | | 1711 | 1702 | | 1652 | 1863 | 1320 | 1638 | 1764 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.14 | 1.00 | 1.00 | 0.63 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1924 | | 1711 | 1702 | | 241 | 1863 | 1320 | 1091 | 1764 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 89 | 215 | 96 | 12 | 902 | 59 | 66 | 126 | 14 | 78 | 224 | 205 |
| RTOR Reduction (vph) | 0 | 13 | 0 | 0 | 2 | 0 | 0 | 0 | 10 | 0 | 31 | 0 |
| Lane Group Flow (vph) | 89 | 298 | 0 | 12 | 959 | 0 | 66 | 126 | 4 | 78 | 398 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 6.0 | 70.5 | | 0.8 | 65.3 | | 28.9 | 28.9 | 28.9 | 28.9 | 28.9 | |
| Effective Green, g (s) | 6.0 | 70.5 | | 0.8 | 65.3 | | 28.9 | 28.9 | 28.9 | 28.9 | 28.9 | |
| Actuated g/C Ratio | 0.05 | 0.62 | | 0.01 | 0.58 | | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 91 | 1198 | | 12 | 982 | | 62 | 476 | 337 | 279 | 450 | |
| v/s Ratio Prot | c0.05 | 0.15 | | 0.01 | c0.56 | | | 0.07 | | | 0.23 | |
| v/s Ratio Perm | | | | | | | c0.27 | | 0.00 | 0.07 | | |
| v/c Ratio | 0.98 | 0.25 | | 1.00 | 0.98 | | 1.06 | 0.26 | 0.01 | 0.28 | 0.89 | |
| Uniform Delay, d1 | 53.5 | 9.5 | | 56.2 | 23.2 | | 42.2 | 33.7 | 31.5 | 33.8 | 40.6 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 86.5 | 0.1 | | 259.8 | 23.0 | | 133.3 | 0.4 | 0.0 | 0.7 | 18.8 | |
| Delay (s) | 140.0 | 9.7 | | 316.0 | 46.2 | | 175.5 | 34.1 | 31.5 | 34.6 | 59.4 | |
| Level of Service | F | A | | F | D | | F | C | C | C | E | |
| Approach Delay (s) | | 38.7 | | | 49.5 | | | 79.2 | | | 55.6 | |
| Approach LOS | | D | | | D | | | E | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 51.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.00 | | |
| Actuated Cycle Length (s) | 113.2 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 93.6% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 174 | 97 | 57 | 218 | 560 | 589 | 13 | 27 | 872 |
| v/c Ratio | 1.08 | 0.24 | 0.40 | 0.66 | 1.01 | 0.31 | 0.02 | 0.25 | 0.97 |
| Control Delay | 137.5 | 10.1 | 52.1 | 39.6 | 75.6 | 12.7 | 9.5 | 51.7 | 55.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 137.5 | 10.1 | 52.1 | 39.6 | 75.6 | 12.7 | 9.5 | 51.7 | 55.6 |
| Queue Length 50th (ft) | ~116 | 6 | 33 | 105 | ~333 | 77 | 1 | 16 | 236 |
| Queue Length 95th (ft) | #288 | 45 | 81 | 178 | #671 | 183 | 13 | 48 | #446 |
| Internal Link Dist (ft) | | 1442 | | 1508 | | 1609 | | | 1977 |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | |
| Base Capacity (vph) | 161 | 577 | 155 | 571 | 553 | 1886 | 842 | 108 | 898 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.08 | 0.17 | 0.37 | 0.38 | 1.01 | 0.31 | 0.02 | 0.25 | 0.97 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 160 | 10 | 79 | 52 | 118 | 83 | 521 | 542 | 12 | 25 | 481 | 321 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.87 | | 1.00 | 0.94 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1529 | | 1652 | 1616 | | 1652 | 3240 | 1444 | 1711 | 3178 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1529 | | 1652 | 1616 | | 1652 | 3240 | 1444 | 1711 | 3178 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 174 | 11 | 86 | 57 | 128 | 90 | 560 | 589 | 13 | 27 | 523 | 349 |
| RTOR Reduction (vph) | 0 | 68 | 0 | 0 | 27 | 0 | 0 | 0 | 3 | 0 | 98 | 0 |
| Lane Group Flow (vph) | 174 | 29 | 0 | 57 | 191 | 0 | 560 | 589 | 10 | 27 | 774 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 9.0 | 20.9 | | 6.9 | 18.8 | | 32.2 | 55.9 | 55.9 | 2.2 | 25.9 | |
| Effective Green, g (s) | 9.0 | 20.9 | | 6.9 | 18.8 | | 32.2 | 55.9 | 55.9 | 2.2 | 25.9 | |
| Actuated g/C Ratio | 0.09 | 0.21 | | 0.07 | 0.19 | | 0.33 | 0.57 | 0.57 | 0.02 | 0.26 | |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 156 | 325 | | 116 | 309 | | 541 | 1841 | 820 | 38 | 836 | |
| v/s Ratio Prot | c0.10 | 0.02 | | 0.03 | c0.12 | | c0.34 | 0.18 | | 0.02 | c0.24 | |
| v/s Ratio Perm | | | | | | | | | 0.01 | | | |
| v/c Ratio | 1.12 | 0.09 | | 0.49 | 0.62 | | 1.04 | 0.32 | 0.01 | 0.71 | 0.93 | |
| Uniform Delay, d1 | 44.7 | 31.1 | | 44.1 | 36.5 | | 33.1 | 11.2 | 9.2 | 47.8 | 35.3 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 106.4 | 0.2 | | 4.4 | 4.2 | | 48.1 | 0.1 | 0.0 | 49.9 | 16.1 | |
| Delay (s) | 151.1 | 31.3 | | 48.5 | 40.7 | | 81.2 | 11.4 | 9.2 | 97.7 | 51.4 | |
| Level of Service | F | C | | D | D | | F | B | A | F | D | |
| Approach Delay (s) | | 108.2 | | | 42.3 | | | 45.0 | | | 52.8 | |
| Approach LOS | | F | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 54.0 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.90 | | |
| Actuated Cycle Length (s) | 98.4 | Sum of lost time (s) | 12.5 |
| Intersection Capacity Utilization | 86.9% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 38 | 7 | 17 | 1207 | 1292 |
| v/c Ratio | 0.27 | 0.06 | 0.05 | 0.42 | 0.45 |
| Control Delay | 49.5 | 24.2 | 2.9 | 2.9 | 3.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.9 | 0.0 |
| Total Delay | 49.5 | 24.2 | 2.9 | 3.8 | 3.0 |
| Queue Length 50th (ft) | 26 | 0 | 1 | 76 | 84 |
| Queue Length 95th (ft) | 54 | 13 | 9 | 185 | 204 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 300 | 248 | 313 | 2874 | 2845 |
| Starvation Cap Reductn | 0 | 0 | 0 | 1279 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.13 | 0.03 | 0.05 | 0.76 | 0.45 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 35 | 6 | 16 | 1110 | 1106 | 83 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3204 | |
| Flt Permitted | 0.95 | 1.00 | 0.20 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 353 | 3240 | 3204 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 38 | 7 | 17 | 1207 | 1202 | 90 |
| RTOR Reduction (vph) | 0 | 7 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 38 | 0 | 17 | 1207 | 1289 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 7.0 | 7.0 | 94.0 | 94.0 | 94.0 | |
| Effective Green, g (s) | 7.0 | 7.0 | 94.0 | 94.0 | 94.0 | |
| Actuated g/C Ratio | 0.06 | 0.06 | 0.85 | 0.85 | 0.85 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 105 | 85 | 302 | 2769 | 2738 | |
| v/s Ratio Prot | c0.02 | | | 0.37 | c0.40 | |
| v/s Ratio Perm | | 0.00 | 0.05 | | | |
| v/c Ratio | 0.36 | 0.01 | 0.06 | 0.44 | 0.47 | |
| Uniform Delay, d1 | 49.4 | 48.2 | 1.2 | 1.9 | 1.9 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 2.1 | 0.0 | 0.4 | 0.5 | 0.6 | |
| Delay (s) | 51.5 | 48.3 | 1.6 | 2.4 | 2.5 | |
| Level of Service | D | D | A | A | A | |
| Approach Delay (s) | 51.0 | | | 2.3 | 2.5 | |
| Approach LOS | D | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 3.3 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.46 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 44.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1022 | 661 | 975 | 2023 | 701 | 868 |
| v/c Ratio | 0.51 | 0.41 | 0.91 | 0.97 | 0.42 | 1.02 |
| Control Delay | 13.3 | 11.1 | 51.0 | 32.5 | 0.8 | 80.1 |
| Queue Delay | 0.5 | 0.3 | 0.0 | 0.1 | 0.0 | 0.0 |
| Total Delay | 13.8 | 11.4 | 51.0 | 32.6 | 0.8 | 80.1 |
| Queue Length 50th (ft) | 202 | 131 | 410 | 861 | 0 | ~439 |
| Queue Length 95th (ft) | 244 | 164 | m#492 | #1037 | 0 | #582 |
| Internal Link Dist (ft) | 255 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 2011 | 1601 | 1110 | 2078 | 1686 | 851 |
| Starvation Cap Reductn | 494 | 364 | 0 | 1 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.67 | 0.53 | 0.88 | 0.97 | 0.42 | 1.02 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 940 | 608 | 897 | 1861 | 0 | 0 | 0 | 645 | 0 | 0 | 799 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 3.5 | 3.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.88 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2733 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2733 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1022 | 661 | 975 | 2023 | 0 | 0 | 0 | 701 | 0 | 0 | 868 |
| RTOR Reduction (vph) | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1022 | 643 | 975 | 2023 | 0 | 0 | 0 | 701 | 0 | 0 | 868 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 4 | | 1 | 6 | | | | | | | |
| Permitted Phases | | | 2 4 | | | | | | Free | | | 4 |
| Actuated Green, G (s) | | 76.9 | 76.9 | 44.1 | 80.5 | | | | 130.0 | | | 40.5 |
| Effective Green, g (s) | | 76.9 | 76.9 | 44.1 | 80.5 | | | | 130.0 | | | 40.5 |
| Actuated g/C Ratio | | 0.59 | 0.59 | 0.34 | 0.62 | | | | 1.00 | | | 0.31 |
| Clearance Time (s) | | | | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | | | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 1985 | 1563 | 1066 | 2078 | | | | 1686 | | | 851 |
| v/s Ratio Prot | | 0.30 | | 0.31 | c0.60 | | | | | | | |
| v/s Ratio Perm | | | 0.24 | | | | | | 0.42 | | | c0.32 |
| v/c Ratio | | 0.51 | 0.41 | 0.91 | 0.97 | | | | 0.42 | | | 1.02 |
| Uniform Delay, d1 | | 15.6 | 14.3 | 41.1 | 23.7 | | | | 0.0 | | | 44.8 |
| Progression Factor | | 0.81 | 0.78 | 1.04 | 0.93 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 0.9 | 0.7 | 7.4 | 9.9 | | | | 0.8 | | | 36.0 |
| Delay (s) | | 13.4 | 12.0 | 50.0 | 32.0 | | | | 0.8 | | | 80.7 |
| Level of Service | | B | B | D | C | | | | A | | | F |
| Approach Delay (s) | | 12.9 | | | 37.8 | | | 0.8 | | | 80.7 | |
| Approach LOS | | B | | | D | | | A | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 32.9 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.99 | | |
| Actuated Cycle Length (s) | 130.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 86.9% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 548 | 1124 | 1615 | 628 | 512 | 1341 |
| v/c Ratio | 0.75 | 0.34 | 0.77 | 0.64 | 0.32 | 0.88 |
| Control Delay | 24.3 | 0.2 | 14.1 | 9.9 | 0.5 | 8.9 |
| Queue Delay | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.7 |
| Total Delay | 24.3 | 0.2 | 14.3 | 9.9 | 0.5 | 9.6 |
| Queue Length 50th (ft) | 132 | 0 | 451 | 231 | 0 | 0 |
| Queue Length 95th (ft) | 175 | 0 | 287 | m213 | 0 | #70 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 798 | 3355 | 2109 | 985 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 93 | 0 | 0 | 42 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.69 | 0.34 | 0.80 | 0.64 | 0.32 | 0.90 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 504 | 1034 | 0 | 0 | 1486 | 578 | 0 | 0 | 471 | 0 | 0 | 1234 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 548 | 1124 | 0 | 0 | 1615 | 628 | 0 | 0 | 512 | 0 | 0 | 1341 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 548 | 1124 | 0 | 0 | 1615 | 605 | 0 | 0 | 512 | 0 | 0 | 1341 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 15.1 | 65.0 | | | 40.9 | 40.9 | | | 65.0 | | | 65.0 |
| Effective Green, g (s) | 15.1 | 65.0 | | | 40.9 | 40.9 | | | 65.0 | | | 65.0 |
| Actuated g/C Ratio | 0.23 | 1.00 | | | 0.63 | 0.63 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 730 | 3355 | | | 2111 | 963 | | | 1611 | | | 1528 |
| v/s Ratio Prot | 0.17 | 0.33 | | | 0.48 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.40 | | | 0.32 | | | c0.88 |
| v/c Ratio | 0.75 | 0.34 | | | 0.77 | 0.63 | | | 0.32 | | | 0.88 |
| Uniform Delay, d1 | 23.2 | 0.0 | | | 8.6 | 7.4 | | | 0.0 | | | 0.0 |
| Progression Factor | 0.79 | 1.00 | | | 1.34 | 1.08 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 3.9 | 0.2 | | | 1.8 | 2.1 | | | 0.5 | | | 7.4 |
| Delay (s) | 22.1 | 0.2 | | | 13.4 | 10.1 | | | 0.5 | | | 7.4 |
| Level of Service | C | A | | | B | B | | | A | | | A |
| Approach Delay (s) | | 7.4 | | | 12.5 | | | 0.5 | | | 7.4 | |
| Approach LOS | | A | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 8.8 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 65.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 63.0% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 367 | 387 | 458 | 619 | 18 | 842 | 1074 | 11 | 72 | 913 | 520 |
| v/c Ratio | 1.49 | 0.54 | 0.26 | 1.35 | 0.05 | 1.19 | 0.73 | 0.02 | 0.64 | 1.14 | 0.95 |
| Control Delay | 261.7 | 24.8 | 0.4 | 204.1 | 20.3 | 134.2 | 22.9 | 11.7 | 68.6 | 111.2 | 47.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 261.7 | 24.8 | 0.4 | 204.1 | 20.3 | 134.2 | 22.9 | 11.7 | 68.6 | 111.2 | 47.0 |
| Queue Length 50th (ft) | ~263 | 173 | 0 | ~494 | 5 | ~321 | 243 | 2 | 41 | ~346 | 198 |
| Queue Length 95th (ft) | #441 | 263 | 0 | #702 | 22 | #428 | 336 | m7 | m#101 | #471 | #403 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 247 | 714 | 1770 | 457 | 394 | 708 | 1475 | 546 | 113 | 800 | 548 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.49 | 0.54 | 0.26 | 1.35 | 0.05 | 1.19 | 0.73 | 0.02 | 0.64 | 1.14 | 0.95 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 338 | 356 | 421 | 2 | 568 | 17 | 775 | 988 | 10 | 66 | 840 | 478 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.97 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1738 | 1477 | 3204 | 3539 | 1338 | 1652 | 3303 | 1552 |
| Flt Permitted | 0.14 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 240 | 1739 | 1770 | | 1737 | 1477 | 3204 | 3539 | 1338 | 1652 | 3303 | 1552 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 367 | 387 | 458 | 2 | 617 | 18 | 842 | 1074 | 11 | 72 | 913 | 520 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 3 | 0 | 0 | 172 |
| Lane Group Flow (vph) | 367 | 387 | 458 | 0 | 619 | 13 | 842 | 1074 | 8 | 72 | 913 | 348 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 38.5 | 38.5 | 95.0 | | 24.5 | 24.5 | 20.0 | 37.7 | 37.7 | 4.8 | 22.0 | 22.0 |
| Effective Green, g (s) | 39.0 | 39.0 | 95.0 | | 25.0 | 25.0 | 21.0 | 38.7 | 37.7 | 5.3 | 23.0 | 23.0 |
| Actuated g/C Ratio | 0.41 | 0.41 | 1.00 | | 0.26 | 0.26 | 0.22 | 0.41 | 0.40 | 0.06 | 0.24 | 0.24 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.5 | 5.0 | 5.0 |
| Vehicle Extension (s) | 3.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 247 | 714 | 1770 | | 457 | 389 | 708 | 1442 | 531 | 92 | 800 | 376 |
| v/s Ratio Prot | c0.16 | 0.22 | | | | | c0.26 | 0.30 | | 0.04 | c0.28 | |
| v/s Ratio Perm | c0.45 | | 0.26 | | 0.36 | 0.01 | | | 0.01 | | | 0.22 |
| v/c Ratio | 1.49 | 0.54 | 0.26 | | 1.35 | 0.03 | 1.19 | 0.74 | 0.02 | 0.78 | 1.14 | 0.93 |
| Uniform Delay, d1 | 23.8 | 21.2 | 0.0 | | 35.0 | 26.0 | 37.0 | 23.9 | 17.4 | 44.3 | 36.0 | 35.2 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.04 | 0.82 | 0.80 | 0.99 | 0.94 | 0.88 |
| Incremental Delay, d2 | 239.0 | 1.1 | 0.4 | | 173.4 | 0.0 | 98.8 | 3.5 | 0.1 | 34.7 | 78.2 | 30.8 |
| Delay (s) | 262.8 | 22.3 | 0.4 | | 208.4 | 26.1 | 137.3 | 23.0 | 14.0 | 78.6 | 112.1 | 61.8 |
| Level of Service | F | C | A | | F | C | F | C | B | E | F | E |
| Approach Delay (s) | | 86.8 | | | 203.2 | | | 72.9 | | | 93.1 | |
| Approach LOS | | F | | | F | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 97.6 | HCM Level of Service | F |
| HCM Volume to Capacity ratio | 1.29 | | |
| Actuated Cycle Length (s) | 95.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 107.4% | ICU Level of Service | G |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 18 | 14 | 1 | 1211 | 83 | 1728 |
| v/c Ratio | 0.20 | 0.12 | 0.01 | 0.27 | 0.25 | 0.55 |
| Control Delay | 57.8 | 23.2 | 1.0 | 1.8 | 1.4 | 0.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| Total Delay | 57.8 | 23.2 | 1.0 | 1.8 | 1.4 | 0.8 |
| Queue Length 50th (ft) | 15 | 0 | 0 | 58 | 1 | 6 |
| Queue Length 95th (ft) | 37 | 20 | m0 | 134 | m3 | 25 |
| Internal Link Dist (ft) | 217 | | | 650 | | 443 |
| Turn Bay Length (ft) | | | 115 | | 150 | |
| Base Capacity (vph) | 215 | 259 | 193 | 4458 | 337 | 3134 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 285 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.08 | 0.05 | 0.01 | 0.27 | 0.25 | 0.61 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 16 | 1 | 13 | 1 | 1089 | 25 | 76 | 1586 | 4 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | 1.00 | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1572 | 1396 | 1651 | 4935 | | 1618 | 3470 | |
| Flt Permitted | | | | | 0.74 | 1.00 | 0.12 | 1.00 | | 0.22 | 1.00 | |
| Satd. Flow (perm) | | | | | 1214 | 1396 | 214 | 4935 | | 373 | 3470 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 17 | 1 | 14 | 1 | 1184 | 27 | 83 | 1724 | 4 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 1 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 18 | 1 | 1 | 1210 | 0 | 83 | 1728 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 7.5 | 7.5 | 113.9 | 113.9 | | 113.9 | 113.9 | |
| Effective Green, g (s) | | | | | 7.5 | 7.5 | 113.9 | 113.9 | | 113.9 | 113.9 | |
| Actuated g/C Ratio | | | | | 0.06 | 0.06 | 0.88 | 0.88 | | 0.88 | 0.88 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 70 | 81 | 187 | 4324 | | 327 | 3040 | |
| v/s Ratio Prot | | | | | | | | 0.25 | | | c0.50 | |
| v/s Ratio Perm | | | | | c0.01 | 0.00 | 0.00 | | | 0.22 | | |
| v/c Ratio | | | | | 0.26 | 0.01 | 0.01 | 0.28 | | 0.25 | 0.57 | |
| Uniform Delay, d1 | | | | | 58.6 | 57.7 | 1.0 | 1.3 | | 1.3 | 2.0 | |
| Progression Factor | | | | | 1.00 | 1.00 | 0.43 | 0.95 | | 0.10 | 0.10 | |
| Incremental Delay, d2 | | | | | 1.9 | 0.0 | 0.0 | 0.1 | | 1.2 | 0.5 | |
| Delay (s) | | | | | 60.5 | 57.8 | 0.5 | 1.4 | | 1.3 | 0.7 | |
| Level of Service | | | | | E | E | A | A | | A | A | |
| Approach Delay (s) | | 0.0 | | | 59.3 | | | 1.4 | | | 0.7 | |
| Approach LOS | | A | | | E | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 1.6 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.55 | | |
| Actuated Cycle Length (s) | 130.0 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 64.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 42 | 399 | 922 | 37 | 40 |
| v/c Ratio | 0.32 | 0.25 | 0.33 | 0.29 | 0.26 |
| Control Delay | 54.1 | 2.0 | 1.4 | 53.6 | 19.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.1 | 2.0 | 1.4 | 53.6 | 19.0 |
| Queue Length 50th (ft) | 29 | 38 | 90 | 25 | 0 |
| Queue Length 95th (ft) | 63 | 69 | 10 | 58 | 34 |
| Internal Link Dist (ft) | | 522 | 524 | 200 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 185 | 1628 | 2771 | 394 | 384 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 0.25 | 0.33 | 0.09 | 0.10 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 39 | 367 | 727 | 121 | 34 | 37 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.98 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3463 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3463 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 42 | 399 | 790 | 132 | 37 | 40 |
| RTOR Reduction (vph) | 0 | 0 | 6 | 0 | 0 | 38 |
| Lane Group Flow (vph) | 42 | 399 | 916 | 0 | 37 | 2 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 5.6 | 94.3 | 84.2 | | 6.7 | 6.7 |
| Effective Green, g (s) | 5.6 | 94.3 | 84.2 | | 6.7 | 6.7 |
| Actuated g/C Ratio | 0.05 | 0.86 | 0.77 | | 0.06 | 0.06 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 90 | 1597 | 2651 | | 108 | 96 |
| v/s Ratio Prot | c0.02 | 0.21 | c0.26 | | c0.02 | |
| v/s Ratio Perm | | | | | | 0.00 |
| v/c Ratio | 0.47 | 0.25 | 0.35 | | 0.34 | 0.03 |
| Uniform Delay, d1 | 50.7 | 1.4 | 4.1 | | 49.5 | 48.6 |
| Progression Factor | 1.00 | 1.00 | 0.25 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.8 | 0.4 | 0.3 | | 1.9 | 0.1 |
| Delay (s) | 54.5 | 1.8 | 1.3 | | 51.4 | 48.7 |
| Level of Service | D | A | A | | D | D |
| Approach Delay (s) | | 6.8 | 1.3 | | 50.0 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 5.6 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.35 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 44.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBL | WBT | NBR |
|---|---|---|---|---|
| Lane Group Flow (vph) | 1524 | 217 | 2645 | 165 |
| v/c Ratio | 0.46 | 0.35 | 0.52 | 0.29 |
| Control Delay | 8.4 | 16.8 | 0.1 | 15.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 8.4 | 16.8 | 0.1 | 15.2 |
| Queue Length 50th (ft) | 139 | 74 | 0 | 40 |
| Queue Length 95th (ft) | 127 | m73 | m0 | 82 |
| Internal Link Dist (ft) | 388 | | 255 | |
| Turn Bay Length (ft) | | | | |
| Base Capacity (vph) | 3300 | 613 | 5085 | 571 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 288 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.46 | 0.35 | 0.55 | 0.29 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 1392 | 10 | 200 | 2433 | 0 | 152 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Lane Util. Factor | 0.86 | | 1.00 | 0.91 | | 1.00 |
| Frt | 1.00 | | 1.00 | 1.00 | | 0.86 |
| Flt Protected | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 6401 | | 1770 | 5085 | | 1611 |
| Flt Permitted | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 6401 | | 1770 | 5085 | | 1611 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1513 | 11 | 217 | 2645 | 0 | 165 |
| RTOR Reduction (vph) | 1 | 0 | 0 | 0 | 0 | 13 |
| Lane Group Flow (vph) | 1523 | 0 | 217 | 2645 | 0 | 152 |
| Turn Type | | | Prot | | | Over |
| Protected Phases | 2 | | 1 | 6 | | 1 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 33.5 | | 22.5 | 65.0 | | 22.5 |
| Effective Green, g (s) | 33.5 | | 22.5 | 65.0 | | 22.5 |
| Actuated g/C Ratio | 0.52 | | 0.35 | 1.00 | | 0.35 |
| Clearance Time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 3299 | | 613 | 5085 | | 558 |
| v/s Ratio Prot | 0.24 | | 0.12 | c0.52 | | 0.09 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.46 | | 0.35 | 0.52 | | 0.27 |
| Uniform Delay, d1 | 10.0 | | 15.8 | 0.0 | | 15.3 |
| Progression Factor | 0.80 | | 1.02 | 1.00 | | 1.00 |
| Incremental Delay, d2 | 0.4 | | 0.1 | 0.1 | | 0.3 |
| Delay (s) | 8.4 | | 16.3 | 0.1 | | 15.6 |
| Level of Service | A | | B | A | | B |
| Approach Delay (s) | 8.4 | | | 1.3 | 15.6 | |
| Approach LOS | A | | | A | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.2 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.52 | | |
| Actuated Cycle Length (s) | 65.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 50.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 113 | 183 | 315 | 58 | 1499 | 46 | 1180 | 424 | 1003 | 1064 | 68 |
| v/c Ratio | 1.47 | 0.51 | 0.49 | 0.08 | 0.91 | 0.72 | 1.02 | 0.41 | 2.00 | 0.87 | 0.11 |
| Control Delay | 311.9 | 47.7 | 38.1 | 23.6 | 32.7 | 117.5 | 83.7 | 2.9 | 486.0 | 49.6 | 10.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 311.9 | 47.7 | 38.1 | 23.6 | 32.7 | 117.5 | 83.7 | 2.9 | 486.0 | 49.6 | 10.5 |
| Queue Length 50th (ft) | ~142 | 63 | 213 | 31 | 640 | 42 | ~419 | 17 | ~738 | 483 | 8 |
| Queue Length 95th (ft) | #271 | 93 | 358 | 59 | 798 | #111 | #516 | 48 | #871 | #595 | 42 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 77 | 1077 | 638 | 739 | 1648 | 68 | 1155 | 1030 | 502 | 1229 | 606 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.47 | 0.17 | 0.49 | 0.08 | 0.91 | 0.68 | 1.02 | 0.41 | 2.00 | 0.87 | 0.11 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 104 | 120 | 49 | 290 | 53 | 1379 | 42 | 1086 | 390 | 923 | 979 | 63 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | 4.5 | 3.5 | 3.8 | 3.8 | 3.5 | 3.8 | 3.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 1.00 | 0.88 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3057 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1512 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3057 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1512 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 113 | 130 | 53 | 315 | 58 | 1499 | 46 | 1180 | 424 | 1003 | 1064 | 68 |
| RTOR Reduction (vph) | 0 | 43 | 0 | 0 | 0 | 5 | 0 | 0 | 121 | 0 | 0 | 34 |
| Lane Group Flow (vph) | 113 | 140 | 0 | 315 | 58 | 1494 | 46 | 1180 | 303 | 1003 | 1064 | 34 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 6.5 | 14.6 | | 53.6 | 61.7 | 88.7 | 4.7 | 35.7 | 89.3 | 22.5 | 53.5 | 53.5 |
| Effective Green, g (s) | 6.5 | 14.6 | | 53.6 | 61.7 | 88.7 | 4.7 | 35.7 | 89.3 | 22.5 | 53.5 | 53.5 |
| Actuated g/C Ratio | 0.05 | 0.10 | | 0.38 | 0.44 | 0.63 | 0.03 | 0.25 | 0.63 | 0.16 | 0.38 | 0.38 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 4.0 | | 2.0 | 4.5 | 4.5 |
| Lane Grp Cap (vph) | 77 | 315 | | 635 | 735 | 1654 | 54 | 1173 | 913 | 499 | 1223 | 571 |
| v/s Ratio Prot | c0.07 | 0.05 | | 0.19 | 0.03 | c0.57 | 0.03 | c0.25 | 0.21 | c0.32 | 0.33 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.02 |
| v/c Ratio | 1.47 | 0.44 | | 0.50 | 0.08 | 0.90 | 0.85 | 1.01 | 0.33 | 2.01 | 0.87 | 0.06 |
| Uniform Delay, d1 | 67.6 | 59.7 | | 33.7 | 23.4 | 22.8 | 68.2 | 53.0 | 12.2 | 59.6 | 40.9 | 28.1 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 268.0 | 1.7 | | 0.2 | 0.1 | 7.5 | 68.8 | 27.7 | 0.3 | 461.6 | 7.3 | 0.1 |
| Delay (s) | 335.6 | 61.5 | | 33.9 | 23.4 | 30.3 | 137.0 | 80.7 | 12.5 | 521.2 | 48.2 | 28.2 |
| Level of Service | F | E | | C | C | C | F | F | B | F | D | C |
| Approach Delay (s) | | 166.1 | | | 30.7 | | | 64.8 | | | 269.7 | |
| Approach LOS | | F | | | C | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 132.6 | HCM Level of Service | F |
| HCM Volume to Capacity ratio | 1.17 | | |
| Actuated Cycle Length (s) | 141.7 | Sum of lost time (s) | 15.3 |
| Intersection Capacity Utilization | 86.3% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 179 | 1364 | 157 | 1553 | 571 | 74 | 289 | 892 | 555 |
| v/c Ratio | 1.05 | 1.04 | 0.80 | 1.18 | 0.67 | 0.58 | 0.98 | 1.06 | 1.01 |
| Control Delay | 130.3 | 68.0 | 72.8 | 108.5 | 3.1 | 65.5 | 65.9 | 87.5 | 66.0 |
| Queue Delay | 0.0 | 230.1 | 0.0 | 0.0 | 1.5 | 0.0 | 51.3 | 4.0 | 0.0 |
| Total Delay | 130.3 | 298.2 | 72.8 | 108.5 | 4.6 | 65.5 | 117.2 | 91.5 | 66.0 |
| Queue Length 50th (ft) | ~132 | ~539 | 90 | ~691 | 0 | 49 | 60 | ~342 | ~258 |
| Queue Length 95th (ft) | #270 | #677 | m127 | m#791 | m20 | #108 | #235 | #464 | #486 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 170 | 1309 | 216 | 1312 | 850 | 128 | 294 | 838 | 547 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 132 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 438 | 0 | 0 | 0 | 0 | 40 | 8 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.05 | 1.57 | 0.73 | 1.18 | 0.80 | 0.58 | 1.14 | 1.07 | 1.01 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 165 | 1245 | 10 | 144 | 1371 | 583 | 68 | 3 | 263 | 821 | 57 | 454 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.91 | 0.91 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.99 | 1.00 | 0.99 | | 1.00 | 0.96 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.99 | 0.85 | 1.00 | 0.85 | | 1.00 | 0.87 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3174 | | 1620 | 3054 | 1319 | 1678 | 1431 | | 3143 | 1420 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3174 | | 1620 | 3054 | 1319 | 1678 | 1431 | | 3143 | 1420 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 179 | 1353 | 11 | 157 | 1490 | 634 | 74 | 3 | 286 | 892 | 62 | 493 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 3 | 273 | 0 | 185 | 0 | 0 | 168 | 0 |
| Lane Group Flow (vph) | 179 | 1363 | 0 | 157 | 1550 | 298 | 74 | 104 | 0 | 892 | 387 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 11.0 | 43.3 | | 12.7 | 45.0 | 45.0 | 8.0 | 8.0 | | 28.0 | 28.0 | |
| Effective Green, g (s) | 11.0 | 43.3 | | 12.7 | 45.0 | 46.0 | 8.0 | 8.0 | | 28.0 | 28.0 | |
| Actuated g/C Ratio | 0.10 | 0.41 | | 0.12 | 0.43 | 0.44 | 0.08 | 0.08 | | 0.27 | 0.27 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 170 | 1309 | | 196 | 1309 | 578 | 128 | 109 | | 838 | 379 | |
| v/s Ratio Prot | 0.11 | c0.43 | | 0.10 | c0.51 | | 0.04 | c0.07 | | c0.28 | 0.27 | |
| v/s Ratio Perm | | | | | | 0.23 | | | | | | |
| v/c Ratio | 1.05 | 1.04 | | 0.80 | 1.18 | 0.52 | 0.58 | 0.96 | | 1.06 | 1.02 | |
| Uniform Delay, d1 | 47.0 | 30.9 | | 44.9 | 30.0 | 21.4 | 46.9 | 48.3 | | 38.5 | 38.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.19 | 0.59 | 0.09 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 83.7 | 36.4 | | 13.1 | 88.2 | 2.1 | 3.9 | 71.2 | | 49.7 | 51.8 | |
| Delay (s) | 130.7 | 67.3 | | 66.7 | 105.8 | 4.1 | 50.8 | 119.5 | | 88.2 | 90.3 | |
| Level of Service | F | E | | E | F | A | D | F | | F | F | |
| Approach Delay (s) | | 74.6 | | | 77.6 | | | 105.5 | | | 89.0 | |
| Approach LOS | | E | | | E | | | F | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 81.5 | HCM Level of Service | F |
| HCM Volume to Capacity ratio | 1.09 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 10.0 |
| Intersection Capacity Utilization | 106.5% | ICU Level of Service | G |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 86 | 2562 | 322 | 1960 | 366 | 804 | 80 | 54 |
| v/c Ratio | 0.57 | 1.10 | 0.92 | 0.75 | 1.06 | 0.94 | 0.90 | 0.48 |
| Control Delay | 42.6 | 69.7 | 71.8 | 16.6 | 108.3 | 46.4 | 121.7 | 39.4 |
| Queue Delay | 0.0 | 69.6 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 42.6 | 139.3 | 71.8 | 16.9 | 108.3 | 46.4 | 121.7 | 39.4 |
| Queue Length 50th (ft) | 52 | ~710 | 108 | 303 | ~272 | 232 | 54 | 14 |
| Queue Length 95th (ft) | m52 | m#662 | m#155 | 401 | #453 | #289 | #147 | #55 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 170 | 2321 | 353 | 2604 | 344 | 860 | 89 | 112 |
| Starvation Cap Reductn | 0 | 289 | 0 | 186 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.51 | 1.26 | 0.91 | 0.81 | 1.06 | 0.93 | 0.90 | 0.48 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 79 | 2168 | 189 | 296 | 1665 | 138 | 299 | 38 | 740 | 74 | 19 | 30 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.91 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.99 | 1.00 | 0.95 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4513 | | 3143 | 4713 | | | 1808 | 2801 | 1562 | 1422 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4513 | | 3143 | 4713 | | | 1808 | 2801 | 1562 | 1422 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 86 | 2357 | 205 | 322 | 1810 | 150 | 325 | 41 | 804 | 80 | 21 | 33 |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 9 | 0 | 0 | 0 | 24 | 0 | 31 | 0 |
| Lane Group Flow (vph) | 86 | 2552 | 0 | 322 | 1951 | 0 | 0 | 366 | 780 | 80 | 23 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 8.8 | 53.8 | | 11.7 | 57.2 | | | 20.0 | 31.7 | 6.0 | 6.0 | |
| Effective Green, g (s) | 8.8 | 53.8 | | 11.7 | 57.2 | | | 20.0 | 31.7 | 6.0 | 6.0 | |
| Actuated g/C Ratio | 0.08 | 0.51 | | 0.11 | 0.54 | | | 0.19 | 0.30 | 0.06 | 0.06 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 136 | 2312 | | 350 | 2567 | | | 344 | 846 | 89 | 81 | |
| v/s Ratio Prot | 0.05 | c0.57 | | 0.10 | 0.41 | | | c0.20 | c0.10 | c0.05 | 0.02 | |
| v/s Ratio Perm | | | | | | | | | 0.18 | | | |
| v/c Ratio | 0.63 | 1.10 | | 0.92 | 0.76 | | | 1.06 | 0.92 | 0.90 | 0.28 | |
| Uniform Delay, d1 | 46.5 | 25.6 | | 46.2 | 18.6 | | | 42.5 | 35.4 | 49.2 | 47.4 | |
| Progression Factor | 0.86 | 0.76 | | 1.11 | 0.82 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.6 | 48.6 | | 18.1 | 1.2 | | | 66.5 | 15.0 | 61.4 | 0.7 | |
| Delay (s) | 41.6 | 68.2 | | 69.4 | 16.3 | | | 109.0 | 50.4 | 110.6 | 48.1 | |
| Level of Service | D | E | | E | B | | | F | D | F | D | |
| Approach Delay (s) | | 67.3 | | | 23.8 | | | 68.8 | | | 85.4 | |
| Approach LOS | | E | | | C | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 52.0 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.06 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 89.8% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1674 | 657 | 2071 | 537 | 448 | 397 |
| v/c Ratio | 0.46 | 0.26 | 0.85 | 0.43 | 0.75 | 0.71 |
| Control Delay | 3.9 | 0.0 | 12.8 | 1.4 | 49.3 | 43.1 |
| Queue Delay | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 4.0 | 0.0 | 12.8 | 1.4 | 49.3 | 43.1 |
| Queue Length 50th (ft) | 104 | 0 | 406 | 0 | 148 | 126 |
| Queue Length 95th (ft) | m91 | m0 | 530 | 23 | 204 | 185 |
| Internal Link Dist (ft) | 509 | | 867 | | | |
| Turn Bay Length (ft) | | 400 | | | | 150 |
| Base Capacity (vph) | 3604 | 2533 | 2445 | 1245 | 601 | 562 |
| Starvation Cap Reductn | 832 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.60 | 0.26 | 0.85 | 0.43 | 0.75 | 0.71 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1540 | 604 | 0 | 1905 | 494 | 0 | 0 | 0 | 412 | 0 | 365 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | | 3.0 |
| Lane Util. Factor | | 0.91 | 0.88 | | 0.95 | 1.00 | | | | 0.97 | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1674 | 657 | 0 | 2071 | 537 | 0 | 0 | 0 | 448 | 0 | 397 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 133 | 0 | 0 | 0 | 0 | 0 | 39 |
| Lane Group Flow (vph) | 0 | 1674 | 657 | 0 | 2071 | 404 | 0 | 0 | 0 | 448 | 0 | 358 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Perm | | | | custom | | custom |
| Protected Phases | | 2 | | | 6 | | | | | 4 | | 4 |
| Permitted Phases | | | 2 4 | | | 6 | | | | 4 | | |
| Actuated Green, G (s) | | 79.0 | 105.0 | | 79.0 | 79.0 | | | | 18.0 | | 18.0 |
| Effective Green, g (s) | | 80.0 | 105.0 | | 80.0 | 79.0 | | | | 19.0 | | 19.0 |
| Actuated g/C Ratio | | 0.76 | 1.00 | | 0.76 | 0.75 | | | | 0.18 | | 0.18 |
| Clearance Time (s) | | 4.0 | | | 4.0 | 4.0 | | | | 4.0 | | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | 4.5 | | | | 4.0 | | 4.0 |
| Lane Grp Cap (vph) | | 3604 | 2533 | | 2445 | 1112 | | | | 601 | | 523 |
| v/s Ratio Prot | | 0.35 | | | c0.65 | | | | | c0.13 | | 0.12 |
| v/s Ratio Perm | | | 0.26 | | | 0.27 | | | | | | |
| v/c Ratio | | 0.46 | 0.26 | | 0.85 | 0.36 | | | | 0.75 | | 0.68 |
| Uniform Delay, d1 | | 4.6 | 0.0 | | 8.4 | 4.4 | | | | 40.7 | | 40.2 |
| Progression Factor | | 0.82 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | | 0.0 | 0.0 | | 3.9 | 0.9 | | | | 5.3 | | 4.0 |
| Delay (s) | | 3.8 | 0.0 | | 12.3 | 5.4 | | | | 46.0 | | 44.2 |
| Level of Service | | A | A | | B | A | | | | D | | D |
| Approach Delay (s) | | 2.8 | | | 10.8 | | | 0.0 | | | 45.2 | |
| Approach LOS | | A | | | B | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 12.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.83 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 6.0 |
| Intersection Capacity Utilization | 72.1% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 612 | 45 | 35 | 235 | 189 | 428 |
| v/c Ratio | 0.86 | 0.07 | 0.35 | 0.29 | 0.28 | 0.49 |
| Control Delay | 29.6 | 3.6 | 39.2 | 13.7 | 17.4 | 4.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.6 | 3.6 | 39.2 | 13.7 | 17.4 | 4.5 |
| Queue Length 50th (ft) | 196 | 0 | 14 | 60 | 47 | 0 |
| Queue Length 95th (ft) | #334 | 14 | 39 | 110 | 113 | 60 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 800 | 739 | 100 | 823 | 684 | 881 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.77 | 0.06 | 0.35 | 0.29 | 0.28 | 0.49 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 563 | 41 | 32 | 216 | 174 | 394 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1560 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1560 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 612 | 45 | 35 | 235 | 189 | 428 |
| RTOR Reduction (vph) | 0 | 26 | 0 | 0 | 0 | 272 |
| Lane Group Flow (vph) | 612 | 19 | 35 | 235 | 189 | 156 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 27.7 | 27.7 | 1.6 | 29.3 | 23.7 | 23.7 |
| Effective Green, g (s) | 27.7 | 27.7 | 1.6 | 29.3 | 23.7 | 23.7 |
| Actuated g/C Ratio | 0.43 | 0.43 | 0.02 | 0.45 | 0.36 | 0.36 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 715 | 640 | 40 | 824 | 622 | 569 |
| v/s Ratio Prot | c0.36 | | c0.02 | 0.13 | c0.11 | |
| v/s Ratio Perm | | 0.01 | | | | 0.10 |
| v/c Ratio | 0.86 | 0.03 | 0.88 | 0.29 | 0.30 | 0.27 |
| Uniform Delay, d1 | 16.8 | 10.8 | 31.6 | 11.3 | 14.8 | 14.6 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 9.9 | 0.0 | 93.6 | 0.9 | 1.3 | 1.2 |
| Delay (s) | 26.7 | 10.9 | 125.2 | 12.1 | 16.0 | 15.8 |
| Level of Service | C | B | F | B | B | B |
| Approach Delay (s) | 25.6 | | | 26.8 | 15.8 | |
| Approach LOS | C | | | C | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 21.9 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.61 | | |
| Actuated Cycle Length (s) | 65.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 57.9% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 148 | 183 | 143 | 14 | 1243 | 199 | 1301 |
| v/c Ratio | 0.41 | 0.53 | 0.39 | 0.10 | 0.70 | 1.27 | 0.73 |
| Control Delay | 17.6 | 22.9 | 14.0 | 9.9 | 12.9 | 184.6 | 13.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.6 | 22.9 | 14.0 | 9.9 | 12.9 | 184.6 | 13.8 |
| Queue Length 50th (ft) | 34 | 50 | 25 | 2 | 123 | ~83 | 134 |
| Queue Length 95th (ft) | 73 | 97 | 61 | 13 | #313 | #181 | #365 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 594 | 574 | 583 | 146 | 1768 | 157 | 1780 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.25 | 0.32 | 0.25 | 0.10 | 0.70 | 1.27 | 0.73 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 35 | 80 | 21 | 93 | 75 | 132 | 13 | 1031 | 112 | 183 | 1154 | 43 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | | 0.99 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1529 | | | 1684 | 1305 | 1618 | 3026 | | 1561 | 3058 | |
| Flt Permitted | | 0.89 | | | 0.78 | 1.00 | 0.15 | 1.00 | | 0.16 | 1.00 | |
| Satd. Flow (perm) | | 1372 | | | 1347 | 1305 | 252 | 3026 | | 269 | 3058 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 38 | 87 | 23 | 101 | 82 | 143 | 14 | 1121 | 122 | 199 | 1254 | 47 |
| RTOR Reduction (vph) | 0 | 13 | 0 | 0 | 0 | 35 | 0 | 10 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 135 | 0 | 0 | 183 | 108 | 14 | 1233 | 0 | 199 | 1298 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 14.5 | | | 14.5 | 14.5 | 32.9 | 32.9 | | 32.9 | 32.9 | |
| Effective Green, g (s) | | 14.5 | | | 14.5 | 14.5 | 32.9 | 32.9 | | 32.9 | 32.9 | |
| Actuated g/C Ratio | | 0.26 | | | 0.26 | 0.26 | 0.58 | 0.58 | | 0.58 | 0.58 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 351 | | | 345 | 334 | 146 | 1759 | | 156 | 1778 | |
| v/s Ratio Prot | | | | | | | | 0.41 | | | 0.42 | |
| v/s Ratio Perm | | 0.10 | | | c0.14 | 0.08 | 0.06 | | | c0.74 | | |
| v/c Ratio | | 0.39 | | | 0.53 | 0.32 | 0.10 | 0.70 | | 1.28 | 0.73 | |
| Uniform Delay, d1 | | 17.4 | | | 18.1 | 17.1 | 5.3 | 8.4 | | 11.9 | 8.6 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.0 | | | 2.0 | 0.8 | 0.4 | 1.4 | | 164.3 | 1.6 | |
| Delay (s) | | 18.3 | | | 20.1 | 17.8 | 5.6 | 9.7 | | 176.2 | 10.3 | |
| Level of Service | | B | | | C | B | A | A | | F | B | |
| Approach Delay (s) | | 18.3 | | | 19.1 | | | 9.7 | | | 32.3 | |
| Approach LOS | | B | | | B | | | A | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 21.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 1.05 | | |
| Actuated Cycle Length (s) | 56.6 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 71.1% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 46 | 486 | 347 | 209 | 164 | 26 |
| v/c Ratio | 0.36 | 0.35 | 0.30 | 0.16 | 0.68 | 0.11 |
| Control Delay | 55.2 | 5.4 | 11.1 | 1.0 | 57.8 | 14.2 |
| Queue Delay | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 |
| Total Delay | 55.2 | 5.4 | 11.5 | 1.0 | 57.8 | 14.2 |
| Queue Length 50th (ft) | 31 | 90 | 86 | 0 | 111 | 0 |
| Queue Length 95th (ft) | 68 | 172 | 192 | 22 | 172 | 24 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 152 | 1403 | 1145 | 1488 | 454 | 411 |
| Starvation Cap Reductn | 0 | 0 | 395 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 2 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.30 | 0.35 | 0.46 | 0.14 | 0.36 | 0.06 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 42 | 447 | 319 | 192 | 151 | 24 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1570 | 1562 | 1349 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1570 | 1562 | 1349 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 46 | 486 | 347 | 209 | 164 | 26 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 38 | 0 | 22 |
| Lane Group Flow (vph) | 46 | 486 | 347 | 171 | 164 | 4 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 7.5 | 84.5 | 73.0 | 89.9 | 16.9 | 16.9 |
| Effective Green, g (s) | 7.5 | 84.5 | 73.0 | 89.9 | 16.9 | 16.9 |
| Actuated g/C Ratio | 0.07 | 0.77 | 0.66 | 0.82 | 0.15 | 0.15 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 110 | 1403 | 1132 | 1283 | 240 | 207 |
| v/s Ratio Prot | c0.03 | c0.27 | 0.20 | 0.02 | c0.10 | |
| v/s Ratio Perm | | | | 0.09 | | 0.00 |
| v/c Ratio | 0.42 | 0.35 | 0.31 | 0.13 | 0.68 | 0.02 |
| Uniform Delay, d1 | 49.2 | 4.0 | 7.8 | 2.1 | 44.0 | 39.5 |
| Progression Factor | 1.00 | 1.00 | 1.11 | 2.80 | 1.00 | 1.00 |
| Incremental Delay, d2 | 2.6 | 0.7 | 0.6 | 0.0 | 7.8 | 0.0 |
| Delay (s) | 51.7 | 4.7 | 9.4 | 5.8 | 51.8 | 39.6 |
| Level of Service | D | A | A | A | D | D |
| Approach Delay (s) | | 8.8 | 8.0 | | 50.1 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 14.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.40 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 41.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 371 | 273 | 175 | 196 | 342 | 460 | 3 |
| v/c Ratio | 0.49 | 0.35 | 0.73 | 0.18 | 0.72 | 0.72 | 0.04 |
| Control Delay | 20.7 | 2.1 | 62.6 | 11.0 | 44.5 | 17.3 | 45.3 |
| Queue Delay | 0.8 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 21.4 | 2.3 | 62.6 | 11.0 | 44.5 | 17.3 | 45.3 |
| Queue Length 50th (ft) | 120 | 0 | 119 | 53 | 216 | 86 | 1 |
| Queue Length 95th (ft) | 266 | 13 | #218 | 121 | 298 | 184 | 11 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | | 217 |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 | |
| Base Capacity (vph) | 764 | 790 | 241 | 1065 | 566 | 643 | 84 |
| Starvation Cap Reductn | 161 | 104 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.62 | 0.40 | 0.73 | 0.18 | 0.60 | 0.72 | 0.04 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 341 | 251 | 161 | 179 | 1 | 313 | 2 | 423 | 1 | 1 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | 4.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.99 | | 0.90 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | 0.95 | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.98 | |
| Satd. Flow (prot) | | 1759 | 1466 | 1562 | 1704 | | | 1682 | 1728 | | 1538 | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.98 | |
| Satd. Flow (perm) | | 1759 | 1466 | 1562 | 1704 | | | 1682 | 1728 | | 1538 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 371 | 273 | 175 | 195 | 1 | 340 | 2 | 460 | 1 | 1 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 162 | 0 | 0 | 0 | 0 | 0 | 236 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 371 | 111 | 175 | 196 | 0 | 0 | 342 | 224 | 0 | 2 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 44.6 | 44.6 | 17.0 | 65.6 | | | 30.8 | 26.3 | | 1.0 | |
| Effective Green, g (s) | | 44.6 | 44.6 | 17.0 | 65.6 | | | 26.3 | 26.3 | | 1.0 | |
| Actuated g/C Ratio | | 0.41 | 0.41 | 0.15 | 0.60 | | | 0.24 | 0.24 | | 0.01 | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | 4.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | | 713 | 594 | 241 | 1016 | | | 402 | 484 | | 14 | |
| v/s Ratio Prot | | c0.21 | | c0.11 | 0.12 | | | c0.20 | 0.05 | | c0.00 | |
| v/s Ratio Perm | | | 0.08 | | | | | | 0.08 | | | |
| v/c Ratio | | 0.52 | 0.19 | 0.73 | 0.19 | | | 0.85 | 0.46 | | 0.14 | |
| Uniform Delay, d1 | | 24.6 | 21.0 | 44.3 | 10.1 | | | 40.0 | 35.8 | | 54.1 | |
| Progression Factor | | 0.74 | 0.30 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | | 2.6 | 0.7 | 10.4 | 0.4 | | | 15.7 | 0.7 | | 4.7 | |
| Delay (s) | | 20.8 | 7.0 | 54.7 | 10.5 | | | 55.7 | 36.5 | | 58.8 | |
| Level of Service | | C | A | D | B | | | E | D | | E | |
| Approach Delay (s) | | 15.0 | | | 31.4 | | | 44.7 | | | 58.8 | |
| Approach LOS | | B | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 31.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.65 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 20.6 |
| Intersection Capacity Utilization | 66.4% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 61 | 140 | 25 | 196 | 249 | 305 | 26 | 753 | 116 | 357 | 969 |
| v/c Ratio | 0.43 | 0.58 | 0.11 | 0.73 | 0.57 | 0.53 | 0.28 | 0.81 | 0.28 | 0.83 | 0.59 |
| Control Delay | 64.6 | 58.4 | 17.5 | 64.7 | 46.2 | 7.9 | 65.8 | 47.4 | 24.9 | 58.8 | 21.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 64.6 | 58.4 | 17.5 | 64.7 | 46.2 | 7.9 | 65.8 | 47.4 | 24.9 | 58.8 | 21.3 |
| Queue Length 50th (ft) | 46 | 105 | 0 | 147 | 179 | 0 | 20 | 285 | 43 | 265 | 276 |
| Queue Length 95th (ft) | 99 | 179 | 26 | #276 | 277 | 77 | 54 | #405 | 104 | #438 | 384 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 164 | 442 | 387 | 310 | 616 | 689 | 99 | 1066 | 466 | 531 | 1819 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.37 | 0.32 | 0.06 | 0.63 | 0.40 | 0.44 | 0.26 | 0.71 | 0.25 | 0.67 | 0.53 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 56 | 129 | 23 | 180 | 229 | 281 | 24 | 693 | 107 | 328 | 823 | 68 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 3.1 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1444 | 1620 | 1739 | 1393 | 1652 | 3240 | 1332 | 1620 | 3040 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1444 | 1620 | 1739 | 1393 | 1652 | 3240 | 1332 | 1620 | 3040 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 61 | 140 | 25 | 196 | 249 | 305 | 26 | 753 | 116 | 357 | 895 | 74 |
| RTOR Reduction (vph) | 0 | 0 | 21 | 0 | 0 | 229 | 0 | 0 | 30 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 61 | 140 | 4 | 196 | 249 | 76 | 26 | 753 | 86 | 357 | 965 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 7.9 | 16.8 | 16.8 | 18.9 | 28.7 | 28.7 | 4.1 | 34.4 | 34.4 | 31.0 | 61.3 | |
| Effective Green, g (s) | 7.8 | 16.7 | 16.7 | 18.8 | 28.6 | 28.6 | 3.1 | 33.9 | 33.9 | 30.0 | 60.8 | |
| Actuated g/C Ratio | 0.07 | 0.14 | 0.14 | 0.16 | 0.25 | 0.25 | 0.03 | 0.29 | 0.29 | 0.26 | 0.53 | |
| Clearance Time (s) | 3.0 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 112 | 252 | 209 | 264 | 431 | 345 | 44 | 952 | 391 | 421 | 1602 | |
| v/s Ratio Prot | 0.04 | 0.08 | | c0.12 | c0.14 | | 0.02 | c0.23 | | c0.22 | 0.32 | |
| v/s Ratio Perm | | | 0.00 | | | 0.05 | | | 0.06 | | | |
| v/c Ratio | 0.54 | 0.56 | 0.02 | 0.74 | 0.58 | 0.22 | 0.59 | 0.79 | 0.22 | 0.85 | 0.60 | |
| Uniform Delay, d1 | 52.1 | 45.9 | 42.3 | 46.0 | 38.1 | 34.5 | 55.5 | 37.5 | 30.8 | 40.5 | 18.9 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 6.6 | 3.3 | 0.0 | 11.4 | 2.2 | 0.4 | 22.4 | 4.8 | 0.4 | 15.2 | 0.7 | |
| Delay (s) | 58.7 | 49.1 | 42.4 | 57.4 | 40.3 | 35.0 | 78.0 | 42.3 | 31.2 | 55.7 | 19.7 | |
| Level of Service | E | D | D | E | D | C | E | D | C | E | B | |
| Approach Delay (s) | | 51.0 | | | 42.6 | | | 41.9 | | | 29.4 | |
| Approach LOS | | D | | | D | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 37.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.75 | | |
| Actuated Cycle Length (s) | 115.4 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 68.3% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 74 | 723 | 85 | 1102 | 826 | 316 | 640 | 1140 | 414 | 243 | 20 |
| v/c Ratio | 0.57 | 0.89 | 0.26 | 0.99 | 0.58 | 0.98 | 0.80 | 0.72 | 0.99 | 0.43 | 0.07 |
| Control Delay | 79.0 | 70.1 | 11.8 | 65.3 | 32.3 | 91.4 | 46.9 | 10.5 | 101.4 | 54.2 | 18.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 35.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 79.0 | 70.1 | 11.8 | 100.3 | 32.8 | 91.4 | 46.9 | 10.5 | 101.4 | 54.2 | 18.7 |
| Queue Length 50th (ft) | 65 | 238 | 0 | 536 | 337 | 265 | 240 | 223 | 196 | 105 | 0 |
| Queue Length 95th (ft) | 120 | #307 | 48 | #663 | 401 | #479 | 338 | 57 | #308 | 150 | 24 |
| Internal Link Dist (ft) | | 238 | | | 389 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 145 | 815 | 329 | 1116 | 1426 | 324 | 803 | 1575 | 419 | 567 | 274 |
| Starvation Cap Reductn | 0 | 0 | 0 | 107 | 251 | 0 | 0 | 2 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.51 | 0.89 | 0.26 | 1.09 | 0.70 | 0.98 | 0.80 | 0.72 | 0.99 | 0.43 | 0.07 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 68 | 665 | 78 | 1014 | 575 | 185 | 291 | 589 | 1049 | 381 | 224 | 18 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3108 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1470 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3108 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1470 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 74 | 723 | 85 | 1102 | 625 | 201 | 316 | 640 | 1140 | 414 | 243 | 20 |
| RTOR Reduction (vph) | 0 | 0 | 70 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 17 |
| Lane Group Flow (vph) | 74 | 723 | 15 | 1102 | 805 | 0 | 316 | 640 | 1140 | 414 | 243 | 4 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 10.0 | 23.0 | 23.0 | 48.0 | 61.0 | | 27.0 | 32.0 | 80.0 | 18.0 | 23.0 | 23.0 |
| Effective Green, g (s) | 10.0 | 24.5 | 24.5 | 48.0 | 62.5 | | 27.0 | 33.5 | 80.0 | 18.0 | 24.5 | 24.5 |
| Actuated g/C Ratio | 0.07 | 0.18 | 0.18 | 0.34 | 0.45 | | 0.19 | 0.24 | 0.57 | 0.13 | 0.18 | 0.18 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 112 | 815 | 258 | 1116 | 1388 | | 324 | 803 | 1546 | 419 | 567 | 257 |
| v/s Ratio Prot | 0.05 | c0.16 | | c0.34 | 0.26 | | c0.19 | c0.19 | 0.42 | c0.13 | 0.08 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | 0.00 |
| v/c Ratio | 0.66 | 0.89 | 0.06 | 0.99 | 0.58 | | 0.98 | 0.80 | 0.74 | 0.99 | 0.43 | 0.01 |
| Uniform Delay, d1 | 63.3 | 56.4 | 48.1 | 45.7 | 28.9 | | 56.2 | 50.1 | 22.2 | 60.9 | 51.5 | 47.8 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.92 | 1.09 | | 0.88 | 0.78 | 0.72 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 14.9 | 13.7 | 0.4 | 23.0 | 1.7 | | 40.8 | 5.3 | 1.8 | 40.5 | 0.7 | 0.0 |
| Delay (s) | 78.3 | 70.1 | 48.6 | 64.9 | 33.2 | | 90.1 | 44.5 | 17.7 | 101.4 | 52.2 | 47.8 |
| Level of Service | E | E | D | E | C | | F | D | B | F | D | D |
| Approach Delay (s) | | 68.7 | | | 51.3 | | | 36.8 | | | 82.2 | |
| Approach LOS | | E | | | D | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 52.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.95 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 82.6% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 400 | 1968 | 211 | 293 | 1380 | 207 | 209 | 150 | 260 |
| v/c Ratio | 0.99 | 1.01 | 0.28 | 0.78 | 0.75 | 0.71 | 0.70 | 0.37 | 0.92 |
| Control Delay | 83.5 | 54.2 | 3.2 | 57.2 | 41.6 | 65.4 | 64.9 | 8.8 | 67.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 83.5 | 54.2 | 3.2 | 57.2 | 41.6 | 65.4 | 64.9 | 8.8 | 67.1 |
| Queue Length 50th (ft) | 366 | ~702 | 19 | 192 | 430 | 188 | 189 | 0 | 58 |
| Queue Length 95th (ft) | #578 | #790 | 46 | m#418 | m#523 | 258 | 261 | 55 | #147 |
| Internal Link Dist (ft) | | 660 | | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 520 | 180 | | 200 | | | |
| Base Capacity (vph) | 405 | 1956 | 765 | 378 | 1833 | 402 | 408 | 507 | 282 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.99 | 1.01 | 0.28 | 0.78 | 0.75 | 0.51 | 0.51 | 0.30 | 0.92 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 368 | 1811 | 194 | 270 | 1228 | 41 | 334 | 49 | 138 | 59 | 52 | 128 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.98 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | | 0.92 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | | 0.99 | |
| Satd. Flow (prot) | 1620 | 4655 | 1530 | 1678 | 4628 | | 1539 | 1562 | 1513 | | 3000 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | | 0.99 | |
| Satd. Flow (perm) | 1620 | 4655 | 1530 | 1678 | 4628 | | 1539 | 1562 | 1513 | | 3000 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 400 | 1968 | 211 | 293 | 1335 | 45 | 363 | 53 | 150 | 64 | 57 | 139 |
| RTOR Reduction (vph) | 0 | 0 | 122 | 0 | 2 | 0 | 0 | 0 | 122 | 0 | 132 | 0 |
| Lane Group Flow (vph) | 400 | 1968 | 89 | 293 | 1378 | 0 | 207 | 209 | 29 | 0 | 128 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | Perm | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Actuated Green, G (s) | 34.0 | 57.8 | 57.8 | 30.6 | 54.4 | | 26.0 | 26.0 | 26.0 | | 6.4 | |
| Effective Green, g (s) | 35.0 | 58.8 | 58.8 | 31.6 | 55.4 | | 26.6 | 26.6 | 26.6 | | 7.0 | |
| Actuated g/C Ratio | 0.25 | 0.42 | 0.42 | 0.23 | 0.40 | | 0.19 | 0.19 | 0.19 | | 0.05 | |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | 6.0 | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 405 | 1955 | 643 | 379 | 1831 | | 292 | 297 | 287 | | 150 | |
| v/s Ratio Prot | 0.25 | c0.42 | | 0.17 | c0.30 | | c0.13 | 0.13 | | | c0.04 | |
| v/s Ratio Perm | | | 0.06 | | | | | | 0.02 | | | |
| v/c Ratio | 0.99 | 1.01 | 0.14 | 0.77 | 0.75 | | 0.71 | 0.70 | 0.10 | | 0.85 | |
| Uniform Delay, d1 | 52.3 | 40.6 | 25.0 | 50.8 | 36.4 | | 53.1 | 53.0 | 46.8 | | 66.0 | |
| Progression Factor | 0.87 | 0.83 | 0.77 | 0.87 | 1.05 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 37.0 | 20.1 | 0.4 | 7.9 | 2.3 | | 8.2 | 7.9 | 0.2 | | 35.7 | |
| Delay (s) | 82.6 | 54.0 | 19.5 | 52.1 | 40.4 | | 61.3 | 60.9 | 47.0 | | 101.7 | |
| Level of Service | F | D | B | D | D | | E | E | D | | F | |
| Approach Delay (s) | | 55.6 | | | 42.4 | | | 57.4 | | | 101.7 | |
| Approach LOS | | E | | | D | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 53.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 82.3% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 208 | 1766 | 122 | 712 | 503 | 258 | 536 | 95 | 665 |
| v/c Ratio | 0.78 | 0.94 | 0.82 | 0.66 | 0.94 | 0.23 | 0.74 | 0.69 | 0.92 |
| Control Delay | 30.8 | 8.8 | 99.8 | 43.4 | 83.8 | 32.4 | 29.6 | 91.2 | 70.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 30.8 | 8.8 | 99.8 | 43.4 | 83.8 | 32.4 | 29.6 | 91.2 | 70.8 |
| Queue Length 50th (ft) | 155 | 20 | 111 | 292 | 236 | 86 | 260 | 44 | 304 |
| Queue Length 95th (ft) | m162 | m27 | #221 | 364 | #342 | 121 | 407 | #87 | #416 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 268 | 1888 | 152 | 1086 | 539 | 1157 | 733 | 137 | 731 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.78 | 0.94 | 0.80 | 0.66 | 0.93 | 0.22 | 0.73 | 0.69 | 0.91 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 191 | 1149 | 476 | 112 | 633 | 22 | 463 | 237 | 493 | 87 | 487 | 125 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 3.1 | 4.0 | | 3.1 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.95 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4512 | | 1652 | 3271 | | 3143 | 3240 | 1659 | 3204 | 3128 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4512 | | 1652 | 3271 | | 3143 | 3240 | 1659 | 3204 | 3128 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 208 | 1249 | 517 | 122 | 688 | 24 | 503 | 258 | 536 | 95 | 529 | 136 |
| RTOR Reduction (vph) | 0 | 53 | 0 | 0 | 2 | 0 | 0 | 0 | 142 | 0 | 16 | 0 |
| Lane Group Flow (vph) | 208 | 1713 | 0 | 122 | 710 | 0 | 503 | 258 | 394 | 95 | 649 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 23.3 | 56.0 | | 12.7 | 45.4 | | 24.8 | 49.7 | 49.7 | 7.0 | 31.9 | |
| Effective Green, g (s) | 23.2 | 57.0 | | 12.6 | 46.4 | | 23.8 | 49.3 | 49.3 | 6.0 | 31.5 | |
| Actuated g/C Ratio | 0.17 | 0.41 | | 0.09 | 0.33 | | 0.17 | 0.35 | 0.35 | 0.04 | 0.22 | |
| Clearance Time (s) | 3.0 | 5.0 | | 3.0 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 268 | 1837 | | 149 | 1084 | | 534 | 1141 | 584 | 137 | 704 | |
| v/s Ratio Prot | 0.13 | c0.38 | | c0.07 | 0.22 | | c0.16 | 0.08 | | 0.03 | c0.21 | |
| v/s Ratio Perm | | | | | | | | | 0.24 | | | |
| v/c Ratio | 0.78 | 0.93 | | 0.82 | 0.65 | | 0.94 | 0.23 | 0.67 | 0.69 | 0.92 | |
| Uniform Delay, d1 | 55.9 | 39.7 | | 62.6 | 40.0 | | 57.4 | 31.9 | 38.5 | 66.1 | 53.0 | |
| Progression Factor | 0.40 | 0.10 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 4.5 | 3.8 | | 29.4 | 3.1 | | 25.4 | 0.1 | 3.4 | 15.2 | 17.7 | |
| Delay (s) | 27.1 | 7.7 | | 92.0 | 43.1 | | 82.8 | 32.1 | 41.9 | 81.2 | 70.8 | |
| Level of Service | C | A | | F | D | | F | C | D | F | E | |
| Approach Delay (s) | | 9.8 | | | 50.2 | | | 55.8 | | | 72.1 | |
| Approach LOS | | A | | | D | | | E | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 38.7 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.92 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 15.1 |
| Intersection Capacity Utilization | 83.6% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 91 | 296 | 637 | 3 | 1266 | 216 | 543 | 872 |
| v/c Ratio | 0.43 | 0.89 | 0.57 | 0.04 | 0.81 | 0.26 | 0.88 | 0.38 |
| Control Delay | 41.6 | 77.2 | 9.5 | 63.0 | 26.3 | 4.3 | 69.1 | 7.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 41.6 | 77.2 | 9.5 | 63.0 | 26.3 | 4.3 | 69.1 | 7.3 |
| Queue Length 50th (ft) | 56 | 254 | 40 | 3 | 606 | 22 | 206 | 101 |
| Queue Length 95th (ft) | 113 | #409 | 101 | m3 | m683 | m29 | #300 | 315 |
| Internal Link Dist (ft) | 387 | 301 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 350 | |
| Base Capacity (vph) | 227 | 359 | 1154 | 72 | 1568 | 827 | 650 | 2288 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.40 | 0.82 | 0.55 | 0.04 | 0.81 | 0.26 | 0.84 | 0.38 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 56 | 2 | 26 | 272 | 0 | 586 | 3 | 1165 | 199 | 500 | 758 | 44 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.96 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.97 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1687 | | | 1770 | 2787 | 1678 | 3355 | 1583 | 3433 | 3437 | |
| Flt Permitted | | 0.45 | | | 0.70 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 785 | | | 1305 | 2787 | 1678 | 3355 | 1583 | 3433 | 3437 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 61 | 2 | 28 | 296 | 0 | 637 | 3 | 1266 | 216 | 543 | 824 | 48 |
| RTOR Reduction (vph) | 0 | 12 | 0 | 0 | 0 | 397 | 0 | 0 | 87 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 79 | 0 | 0 | 296 | 240 | 3 | 1266 | 129 | 543 | 869 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | |
| Actuated Green, G (s) | | 35.8 | | | 35.8 | 35.8 | 1.2 | 65.5 | 65.5 | 25.2 | 89.5 | |
| Effective Green, g (s) | | 35.8 | | | 35.8 | 35.8 | 1.2 | 65.5 | 65.5 | 25.2 | 89.5 | |
| Actuated g/C Ratio | | 0.26 | | | 0.26 | 0.26 | 0.01 | 0.47 | 0.47 | 0.18 | 0.64 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 201 | | | 334 | 713 | 14 | 1570 | 741 | 618 | 2197 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.38 | | c0.16 | 0.25 | |
| v/s Ratio Perm | | 0.10 | | | c0.23 | 0.09 | | | 0.08 | | | |
| v/c Ratio | | 0.39 | | | 0.89 | 0.34 | 0.21 | 0.81 | 0.17 | 0.88 | 0.40 | |
| Uniform Delay, d1 | | 43.1 | | | 50.1 | 42.4 | 68.9 | 31.8 | 21.6 | 55.9 | 12.2 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 0.97 | 0.72 | 0.59 | 0.97 | 0.60 | |
| Incremental Delay, d2 | | 1.3 | | | 23.3 | 0.3 | 3.6 | 2.2 | 0.2 | 12.3 | 0.5 | |
| Delay (s) | | 44.4 | | | 73.4 | 42.7 | 70.5 | 25.2 | 13.0 | 66.7 | 7.8 | |
| Level of Service | | D | | | E | D | E | C | B | E | A | |
| Approach Delay (s) | | 44.4 | | | 52.5 | | | 23.5 | | | 30.4 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 33.4 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.84 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 78.3% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 114 | 38 | 178 | 145 | 457 | 50 | 597 | 503 | 646 |
| v/c Ratio | 0.31 | 0.12 | 0.66 | 0.36 | 0.70 | 0.34 | 0.76 | 0.85 | 0.36 |
| Control Delay | 29.8 | 9.8 | 42.5 | 30.2 | 9.3 | 47.7 | 33.8 | 41.1 | 10.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.8 | 9.8 | 42.5 | 30.2 | 9.3 | 47.7 | 33.8 | 41.1 | 10.6 |
| Queue Length 50th (ft) | 53 | 0 | 91 | 68 | 0 | 27 | 144 | 249 | 95 |
| Queue Length 95th (ft) | 102 | 24 | 165 | 123 | 87 | 67 | 224 | #461 | 150 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 544 | 455 | 393 | 594 | 748 | 157 | 946 | 744 | 2045 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.21 | 0.08 | 0.45 | 0.24 | 0.61 | 0.32 | 0.63 | 0.68 | 0.32 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 24 | 81 | 35 | 164 | 133 | 420 | 46 | 381 | 168 | 463 | 519 | 75 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.95 | | 1.00 | 0.98 | |
| Flt Protected | | 0.99 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1715 | 1258 | 1620 | 1739 | 1311 | 1711 | 2915 | | 1620 | 3015 | |
| Flt Permitted | | 0.92 | 1.00 | 0.67 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1593 | 1258 | 1151 | 1739 | 1311 | 1711 | 2915 | | 1620 | 3015 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 26 | 88 | 38 | 178 | 145 | 457 | 50 | 414 | 183 | 503 | 564 | 82 |
| RTOR Reduction (vph) | 0 | 0 | 29 | 0 | 0 | 351 | 0 | 50 | 0 | 0 | 11 | 0 |
| Lane Group Flow (vph) | 0 | 114 | 9 | 178 | 145 | 106 | 50 | 547 | 0 | 503 | 635 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 18.9 | 18.9 | 18.9 | 18.9 | 18.9 | 3.6 | 21.9 | | 29.3 | 47.6 | |
| Effective Green, g (s) | | 18.9 | 18.9 | 18.9 | 18.9 | 18.9 | 3.6 | 21.9 | | 29.3 | 47.6 | |
| Actuated g/C Ratio | | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.04 | 0.27 | | 0.36 | 0.58 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 369 | 291 | 267 | 403 | 304 | 75 | 782 | | 582 | 1759 | |
| v/s Ratio Prot | | | | | 0.08 | | 0.03 | c0.19 | | c0.31 | 0.21 | |
| v/s Ratio Perm | | 0.07 | 0.01 | c0.15 | | 0.08 | | | | | | |
| v/c Ratio | | 0.31 | 0.03 | 0.67 | 0.36 | 0.35 | 0.67 | 0.70 | | 0.86 | 0.36 | |
| Uniform Delay, d1 | | 25.9 | 24.3 | 28.5 | 26.3 | 26.2 | 38.4 | 26.9 | | 24.3 | 9.0 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.5 | 0.0 | 6.2 | 0.6 | 0.7 | 20.1 | 3.0 | | 12.7 | 0.2 | |
| Delay (s) | | 26.4 | 24.3 | 34.7 | 26.8 | 26.9 | 58.6 | 29.8 | | 37.0 | 9.1 | |
| Level of Service | | C | C | C | C | C | E | C | | D | A | |
| Approach Delay (s) | | 25.9 | | | 28.7 | | | 32.1 | | | 21.3 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 26.2 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.76 | | |
| Actuated Cycle Length (s) | 81.6 | Sum of lost time (s) | 11.5 |
| Intersection Capacity Utilization | 74.8% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 351 | 505 | 167 | 111 | 639 | 233 | 1290 | 92 | 925 |
| v/c Ratio | 0.78 | 0.94 | 0.36 | 0.88 | 0.84 | 0.87 | 0.91 | 0.83 | 0.77 |
| Control Delay | 70.3 | 73.8 | 16.1 | 116.8 | 61.8 | 86.0 | 45.4 | 118.3 | 22.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 70.3 | 73.8 | 16.1 | 116.8 | 62.0 | 86.0 | 45.4 | 118.3 | 22.7 |
| Queue Length 50th (ft) | 160 | 442 | 38 | 102 | 285 | 207 | 562 | 84 | 191 |
| Queue Length 95th (ft) | #241 | #649 | 103 | #219 | 352 | #345 | #715 | m#178 | 171 |
| Internal Link Dist (ft) | | 2946 | | | 522 | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 205 | | 200 | | 370 | |
| Base Capacity (vph) | 451 | 559 | 472 | 126 | 833 | 283 | 1424 | 111 | 1195 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.78 | 0.90 | 0.35 | 0.88 | 0.78 | 0.82 | 0.91 | 0.83 | 0.77 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 323 | 465 | 154 | 102 | 477 | 111 | 214 | 967 | 220 | 85 | 758 | 93 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 12 | 12 | 12 | 10 | 10 | 10 | 12 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.97 | | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3060 | 1845 | 1305 | 1770 | 3428 | | 1652 | 3131 | | 1770 | 3394 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3060 | 1845 | 1305 | 1770 | 3428 | | 1652 | 3131 | | 1770 | 3394 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 351 | 505 | 167 | 111 | 518 | 121 | 233 | 1051 | 239 | 92 | 824 | 101 |
| RTOR Reduction (vph) | 0 | 0 | 78 | 0 | 15 | 0 | 0 | 14 | 0 | 0 | 7 | 0 |
| Lane Group Flow (vph) | 351 | 505 | 89 | 111 | 624 | 0 | 233 | 1276 | 0 | 92 | 919 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | | | | | | | |
| Actuated Green, G (s) | 20.7 | 41.0 | 41.0 | 10.0 | 30.3 | | 22.8 | 63.0 | | 8.8 | 49.0 | |
| Effective Green, g (s) | 20.7 | 41.0 | 41.0 | 10.0 | 30.3 | | 22.8 | 63.0 | | 8.8 | 49.0 | |
| Actuated g/C Ratio | 0.15 | 0.29 | 0.29 | 0.07 | 0.22 | | 0.16 | 0.45 | | 0.06 | 0.35 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 452 | 540 | 382 | 126 | 742 | | 269 | 1409 | | 111 | 1188 | |
| v/s Ratio Prot | 0.11 | c0.27 | | 0.06 | c0.18 | | c0.14 | c0.41 | | 0.05 | 0.27 | |
| v/s Ratio Perm | | | 0.07 | | | | | | | | | |
| v/c Ratio | 0.78 | 0.94 | 0.23 | 0.88 | 0.84 | | 0.87 | 0.91 | | 0.83 | 0.77 | |
| Uniform Delay, d1 | 57.4 | 48.2 | 37.6 | 64.4 | 52.5 | | 57.1 | 35.7 | | 64.9 | 40.5 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.17 | 0.45 | |
| Incremental Delay, d2 | 8.6 | 23.9 | 0.4 | 46.9 | 8.9 | | 24.7 | 9.9 | | 35.5 | 4.4 | |
| Delay (s) | 66.1 | 72.1 | 38.0 | 111.3 | 61.4 | | 81.8 | 45.7 | | 111.6 | 22.4 | |
| Level of Service | E | E | D | F | E | | F | D | | F | C | |
| Approach Delay (s) | | 64.4 | | | 68.8 | | | 51.2 | | | 30.5 | |
| Approach LOS | | E | | | E | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 52.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.90 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 13.2 |
| Intersection Capacity Utilization | 83.1% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 41 | 792 | 22 | 674 | 87 | 72 | 220 | 85 | 48 |
| v/c Ratio | 0.39 | 0.71 | 0.22 | 0.64 | 0.35 | 0.20 | 0.85 | 0.23 | 0.53 |
| Control Delay | 66.9 | 19.3 | 55.2 | 22.2 | 41.8 | 10.3 | 71.2 | 9.6 | 67.7 |
| Queue Delay | 0.0 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 66.9 | 20.0 | 55.2 | 22.2 | 41.8 | 10.3 | 71.2 | 9.6 | 67.7 |
| Queue Length 50th (ft) | 30 | 402 | 15 | 396 | 52 | 1 | 146 | 1 | 30 |
| Queue Length 95th (ft) | m52 | #510 | 42 | 503 | 101 | 39 | #269 | 42 | #87 |
| Internal Link Dist (ft) | | 524 | | 1458 | | 986 | | 462 | |
| Turn Bay Length (ft) | 250 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 106 | 1110 | 99 | 1070 | 272 | 397 | 285 | 407 | 92 |
| Starvation Cap Reductn | 0 | 97 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.39 | 0.78 | 0.22 | 0.63 | 0.32 | 0.18 | 0.77 | 0.21 | 0.52 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 38 | 715 | 14 | 20 | 548 | 72 | 80 | 2 | 64 | 202 | 1 | 77 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 12 | 11 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.98 | | 1.00 | 0.85 | | 1.00 | 0.85 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1857 | | 1770 | 1830 | | 1711 | 1591 | | 1770 | 1587 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.70 | 1.00 | | 0.71 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1857 | | 1770 | 1830 | | 1264 | 1591 | | 1323 | 1587 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 41 | 777 | 15 | 22 | 596 | 78 | 87 | 2 | 70 | 220 | 1 | 84 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 56 | 0 | 0 | 68 | 0 |
| Lane Group Flow (vph) | 41 | 792 | 0 | 22 | 674 | 0 | 87 | 16 | 0 | 220 | 17 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 4.0 | 62.1 | | 2.4 | 60.5 | | 21.5 | 21.5 | | 21.5 | 21.5 | |
| Effective Green, g (s) | 4.0 | 62.1 | | 2.4 | 60.5 | | 21.5 | 21.5 | | 21.5 | 21.5 | |
| Actuated g/C Ratio | 0.04 | 0.56 | | 0.02 | 0.55 | | 0.20 | 0.20 | | 0.20 | 0.20 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 64 | 1048 | | 39 | 1007 | | 247 | 311 | | 259 | 310 | |
| v/s Ratio Prot | c0.02 | c0.43 | | 0.01 | 0.37 | | | 0.01 | | | 0.01 | |
| v/s Ratio Perm | | | | | | | 0.07 | | | c0.17 | | |
| v/c Ratio | 0.64 | 0.76 | | 0.56 | 0.67 | | 0.35 | 0.05 | | 0.85 | 0.06 | |
| Uniform Delay, d1 | 52.3 | 18.2 | | 53.3 | 17.6 | | 38.2 | 36.0 | | 42.7 | 36.0 | |
| Progression Factor | 1.16 | 0.84 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 16.2 | 4.1 | | 17.3 | 3.5 | | 0.9 | 0.1 | | 22.0 | 0.1 | |
| Delay (s) | 76.9 | 19.3 | | 70.6 | 21.2 | | 39.1 | 36.0 | | 64.7 | 36.1 | |
| Level of Service | E | B | | E | C | | D | D | | E | D | |
| Approach Delay (s) | | 22.2 | | | 22.7 | | | 37.7 | | | 56.7 | |
| Approach LOS | | C | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 29.7 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.74 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 72.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Movement | SWR | SWR2 |
|---|---|---|
| Lane Configurations | | |
| Volume (vph) | 40 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Lane Width | 12 | 12 |
| Total Lost time (s) | 4.5 | |
| Lane Util. Factor | 1.00 | |
| Frpb, ped/bikes | 1.00 | |
| Flpb, ped/bikes | 1.00 | |
| Frt | 0.86 | |
| Flt Protected | 1.00 | |
| Satd. Flow (prot) | 1340 | |
| Flt Permitted | 1.00 | |
| Satd. Flow (perm) | 1340 | |
| Peak-hour factor, PHF | 0.92 | 0.92 |
| Adj. Flow (vph) | 43 | 5 |
| RTOR Reduction (vph) | 4 | 0 |
| Lane Group Flow (vph) | 44 | 0 |
| Confl. Peds. (#/hr) | | |
| Heavy Vehicles (%) | 25% | 2% |
| Parking (#/hr) | | |
| Turn Type | custom | |
| Protected Phases | 9 | |
| Permitted Phases | 9 | |
| Actuated Green, G (s) | 6.0 | |
| Effective Green, g (s) | 6.0 | |
| Actuated g/C Ratio | 0.05 | |
| Clearance Time (s) | 4.5 | |
| Vehicle Extension (s) | 3.0 | |
| Lane Grp Cap (vph) | 73 | |
| v/s Ratio Prot | c0.03 | |
| v/s Ratio Perm | | |
| v/c Ratio | 0.61 | |
| Uniform Delay, d1 | 50.8 | |
| Progression Factor | 1.00 | |
| Incremental Delay, d2 | 13.4 | |
| Delay (s) | 64.2 | |
| Level of Service | E | |
| Approach Delay (s) | | |
| Approach LOS | | |

Intersection Summary

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 127 | 1064 | 7 | 581 | 59 | 110 | 13 | 41 | 362 |
| v/c Ratio | 0.51 | 0.96 | 0.06 | 0.82 | 0.42 | 0.22 | 0.03 | 0.13 | 0.69 |
| Control Delay | 35.6 | 37.4 | 33.5 | 32.5 | 28.9 | 18.9 | 8.8 | 18.2 | 25.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 35.6 | 37.4 | 33.5 | 32.5 | 28.9 | 18.9 | 8.8 | 18.2 | 25.3 |
| Queue Length 50th (ft) | 47 | 324 | 3 | 209 | 19 | 34 | 0 | 12 | 112 |
| Queue Length 95th (ft) | #110 | #875 | 15 | #482 | 52 | 68 | 11 | 33 | 191 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 271 | 1105 | 108 | 711 | 221 | 800 | 577 | 509 | 796 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.47 | 0.96 | 0.06 | 0.82 | 0.27 | 0.14 | 0.02 | 0.08 | 0.45 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 117 | 745 | 234 | 6 | 476 | 59 | 54 | 101 | 12 | 38 | 203 | 130 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1948 | | 1711 | 1688 | | 1652 | 1863 | 1326 | 1643 | 1789 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.30 | 1.00 | 1.00 | 0.69 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1948 | | 1711 | 1688 | | 515 | 1863 | 1326 | 1186 | 1789 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 127 | 810 | 254 | 7 | 517 | 64 | 59 | 110 | 13 | 41 | 221 | 141 |
| RTOR Reduction (vph) | 0 | 12 | 0 | 0 | 5 | 0 | 0 | 0 | 10 | 0 | 35 | 0 |
| Lane Group Flow (vph) | 127 | 1052 | 0 | 7 | 576 | 0 | 59 | 110 | 3 | 41 | 327 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 7.5 | 36.1 | | 0.7 | 29.3 | | 17.6 | 17.6 | 17.6 | 17.6 | 17.6 | |
| Effective Green, g (s) | 7.5 | 36.1 | | 0.7 | 29.3 | | 17.6 | 17.6 | 17.6 | 17.6 | 17.6 | |
| Actuated g/C Ratio | 0.11 | 0.54 | | 0.01 | 0.43 | | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 190 | 1043 | | 18 | 734 | | 134 | 486 | 346 | 310 | 467 | |
| v/s Ratio Prot | c0.07 | c0.54 | | 0.00 | 0.34 | | | 0.06 | | | c0.18 | |
| v/s Ratio Perm | | | | | | | 0.11 | | 0.00 | 0.03 | | |
| v/c Ratio | 0.67 | 1.01 | | 0.39 | 0.78 | | 0.44 | 0.23 | 0.01 | 0.13 | 0.70 | |
| Uniform Delay, d1 | 28.8 | 15.7 | | 33.1 | 16.3 | | 20.8 | 19.6 | 18.4 | 19.1 | 22.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 9.4 | 30.0 | | 17.9 | 5.8 | | 3.1 | 0.3 | 0.0 | 0.3 | 4.9 | |
| Delay (s) | 38.2 | 45.6 | | 51.1 | 22.2 | | 23.9 | 19.9 | 18.5 | 19.3 | 27.4 | |
| Level of Service | D | D | | D | C | | C | B | B | B | C | |
| Approach Delay (s) | | 44.8 | | | 22.5 | | | 21.1 | | | 26.6 | |
| Approach LOS | | D | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 34.3 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.92 | | |
| Actuated Cycle Length (s) | 67.4 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 95.0% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 336 | 435 | 11 | 62 | 305 | 721 | 210 | 41 | 846 |
| v/c Ratio | 1.09 | 0.55 | 0.13 | 0.24 | 0.96 | 0.45 | 0.28 | 0.37 | 0.78 |
| Control Delay | 113.7 | 6.2 | 44.1 | 19.7 | 77.3 | 16.4 | 9.9 | 49.4 | 29.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 113.7 | 6.2 | 44.1 | 19.7 | 77.3 | 16.4 | 9.9 | 49.4 | 29.9 |
| Queue Length 50th (ft) | ~179 | 14 | 5 | 15 | 143 | 113 | 30 | 19 | 167 |
| Queue Length 95th (ft) | #456 | 82 | 25 | 44 | #402 | 252 | 109 | #68 | #380 |
| Internal Link Dist (ft) | | 1442 | | 914 | | 1609 | | | 1977 |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | |
| Base Capacity (vph) | 307 | 1017 | 85 | 694 | 318 | 1608 | 762 | 110 | 1136 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.09 | 0.43 | 0.13 | 0.09 | 0.96 | 0.45 | 0.28 | 0.37 | 0.74 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 309 | 40 | 361 | 10 | 30 | 27 | 284 | 663 | 193 | 38 | 551 | 227 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.86 | | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1526 | | 1652 | 1601 | | 1652 | 3240 | 1449 | 1711 | 3227 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1526 | | 1652 | 1601 | | 1652 | 3240 | 1449 | 1711 | 3227 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 336 | 43 | 392 | 11 | 33 | 29 | 305 | 721 | 210 | 41 | 599 | 247 |
| RTOR Reduction (vph) | 0 | 261 | 0 | 0 | 24 | 0 | 0 | 0 | 49 | 0 | 40 | 0 |
| Lane Group Flow (vph) | 336 | 174 | 0 | 11 | 38 | 0 | 305 | 721 | 161 | 41 | 806 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 14.2 | 27.6 | | 0.6 | 14.0 | | 15.2 | 39.3 | 39.3 | 2.9 | 27.0 | |
| Effective Green, g (s) | 14.2 | 27.6 | | 0.6 | 14.0 | | 15.2 | 39.3 | 39.3 | 2.9 | 27.0 | |
| Actuated g/C Ratio | 0.17 | 0.33 | | 0.01 | 0.17 | | 0.18 | 0.47 | 0.47 | 0.03 | 0.33 | |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 293 | 508 | | 12 | 270 | | 303 | 1536 | 687 | 60 | 1051 | |
| v/s Ratio Prot | c0.20 | c0.11 | | 0.01 | 0.02 | | c0.18 | 0.22 | | 0.02 | c0.25 | |
| v/s Ratio Perm | | | | | | | | | 0.11 | | | |
| v/c Ratio | 1.15 | 0.34 | | 0.92 | 0.14 | | 1.01 | 0.47 | 0.23 | 0.68 | 0.77 | |
| Uniform Delay, d1 | 34.4 | 20.8 | | 41.1 | 29.3 | | 33.9 | 14.7 | 12.9 | 39.5 | 25.1 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 98.3 | 0.6 | | 214.6 | 0.3 | | 53.4 | 0.3 | 0.2 | 29.6 | 3.6 | |
| Delay (s) | 132.6 | 21.4 | | 255.7 | 29.7 | | 87.2 | 15.1 | 13.1 | 69.1 | 28.7 | |
| Level of Service | F | C | | F | C | | F | B | B | E | C | |
| Approach Delay (s) | | 69.9 | | | 63.7 | | | 32.5 | | | 30.6 | |
| Approach LOS | | E | | | E | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 42.4 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.79 | | |
| Actuated Cycle Length (s) | 82.9 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 72.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 73 | 24 | 5 | 1317 | 1286 |
| v/c Ratio | 0.48 | 0.17 | 0.02 | 0.48 | 0.47 |
| Control Delay | 56.7 | 19.1 | 2.4 | 3.5 | 3.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 1.6 | 0.0 |
| Total Delay | 56.7 | 19.1 | 2.4 | 5.1 | 3.4 |
| Queue Length 50th (ft) | 50 | 0 | 0 | 107 | 102 |
| Queue Length 95th (ft) | 94 | 25 | 3 | 175 | 167 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 360 | 309 | 299 | 2763 | 2755 |
| Starvation Cap Reductn | 0 | 0 | 0 | 1196 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.20 | 0.08 | 0.02 | 0.84 | 0.47 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 67 | 22 | 5 | 1212 | 1157 | 26 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3229 | |
| Flt Permitted | 0.95 | 1.00 | 0.20 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 350 | 3240 | 3229 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 73 | 24 | 5 | 1317 | 1258 | 28 |
| RTOR Reduction (vph) | 0 | 22 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 73 | 2 | 5 | 1317 | 1285 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 9.0 | 9.0 | 92.0 | 92.0 | 92.0 | |
| Effective Green, g (s) | 9.0 | 9.0 | 92.0 | 92.0 | 92.0 | |
| Actuated g/C Ratio | 0.08 | 0.08 | 0.84 | 0.84 | 0.84 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 135 | 109 | 293 | 2710 | 2701 | |
| v/s Ratio Prot | c0.04 | | | c0.41 | 0.40 | |
| v/s Ratio Perm | | 0.00 | 0.01 | | | |
| v/c Ratio | 0.54 | 0.02 | 0.02 | 0.49 | 0.48 | |
| Uniform Delay, d1 | 48.5 | 46.4 | 1.5 | 2.5 | 2.4 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 4.4 | 0.1 | 0.1 | 0.6 | 0.6 | |
| Delay (s) | 52.9 | 46.5 | 1.6 | 3.1 | 3.0 | |
| Level of Service | D | D | A | A | A | |
| Approach Delay (s) | 51.3 | | | 3.1 | 3.0 | |
| Approach LOS | D | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.8 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.49 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 44.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1532 | 1211 | 625 | 1518 | 826 | 892 |
| v/c Ratio | 0.64 | 0.64 | 0.87 | 0.80 | 0.49 | 0.89 |
| Control Delay | 9.0 | 8.5 | 56.6 | 29.8 | 1.0 | 53.4 |
| Queue Delay | 5.4 | 4.2 | 0.0 | 0.1 | 0.0 | 0.0 |
| Total Delay | 14.4 | 12.7 | 56.6 | 29.9 | 1.0 | 53.4 |
| Queue Length 50th (ft) | 424 | 53 | 300 | 612 | 0 | 431 |
| Queue Length 95th (ft) | 422 | 60 | 365 | 620 | 0 | #563 |
| Internal Link Dist (ft) | 252 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 2397 | 1907 | 797 | 1905 | 1686 | 1005 |
| Starvation Cap Reductn | 796 | 603 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 24 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.96 | 0.93 | 0.78 | 0.81 | 0.49 | 0.89 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1409 | 1114 | 575 | 1397 | 0 | 0 | 0 | 760 | 0 | 0 | 821 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 3.5 | 3.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.88 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2733 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2733 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1532 | 1211 | 625 | 1518 | 0 | 0 | 0 | 826 | 0 | 0 | 892 |
| RTOR Reduction (vph) | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1532 | 1191 | 625 | 1518 | 0 | 0 | 0 | 826 | 0 | 0 | 892 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 4 | | 1 | 6 | | | | | | | |
| Permitted Phases | | | 2 4 | | | | | | Free | | | 4 |
| Actuated Green, G (s) | | 99.0 | 99.0 | 32.0 | 79.5 | | | | 140.0 | | | 51.5 |
| Effective Green, g (s) | | 99.0 | 99.0 | 32.0 | 79.5 | | | | 140.0 | | | 51.5 |
| Actuated g/C Ratio | | 0.71 | 0.71 | 0.23 | 0.57 | | | | 1.00 | | | 0.37 |
| Clearance Time (s) | | | | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | | | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 2372 | 1868 | 718 | 1905 | | | | 1686 | | | 1005 |
| v/s Ratio Prot | | 0.46 | | c0.20 | c0.45 | | | | | | | |
| v/s Ratio Perm | | | 0.45 | | | | | | 0.49 | | | c0.33 |
| v/c Ratio | | 0.65 | 0.64 | 0.87 | 0.80 | | | | 0.49 | | | 0.89 |
| Uniform Delay, d1 | | 11.1 | 10.9 | 52.0 | 23.9 | | | | 0.0 | | | 41.5 |
| Progression Factor | | 0.73 | 0.71 | 0.87 | 1.11 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 0.9 | 1.1 | 9.2 | 2.9 | | | | 1.0 | | | 11.5 |
| Delay (s) | | 8.9 | 8.9 | 54.6 | 29.3 | | | | 1.0 | | | 53.0 |
| Level of Service | | A | A | D | C | | | | A | | | D |
| Approach Delay (s) | | 8.9 | | | 36.7 | | | 1.0 | | | 53.0 | |
| Approach LOS | | A | | | D | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 22.9 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.84 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 74.8% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 646 | 1712 | 1142 | 615 | 1098 | 992 |
| v/c Ratio | 0.78 | 0.51 | 0.56 | 0.65 | 0.68 | 0.65 |
| Control Delay | 24.6 | 0.5 | 11.5 | 16.4 | 2.4 | 2.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 24.6 | 0.5 | 11.5 | 16.4 | 2.4 | 2.2 |
| Queue Length 50th (ft) | 141 | 0 | 422 | 433 | 0 | 0 |
| Queue Length 95th (ft) | 186 | 0 | m417 | m45 | 0 | 0 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 920 | 3355 | 2034 | 951 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.70 | 0.51 | 0.56 | 0.65 | 0.68 | 0.65 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 594 | 1575 | 0 | 0 | 1051 | 566 | 0 | 0 | 1010 | 0 | 0 | 913 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 646 | 1712 | 0 | 0 | 1142 | 615 | 0 | 0 | 1098 | 0 | 0 | 992 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 646 | 1712 | 0 | 0 | 1142 | 593 | 0 | 0 | 1098 | 0 | 0 | 992 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 18.6 | 70.0 | | | 42.4 | 42.4 | | | 70.0 | | | 70.0 |
| Effective Green, g (s) | 18.6 | 70.0 | | | 42.4 | 42.4 | | | 70.0 | | | 70.0 |
| Actuated g/C Ratio | 0.27 | 1.00 | | | 0.61 | 0.61 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 835 | 3355 | | | 2032 | 927 | | | 1611 | | | 1528 |
| v/s Ratio Prot | 0.21 | 0.51 | | | 0.34 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.39 | | | c0.68 | | | 0.65 |
| v/c Ratio | 0.77 | 0.51 | | | 0.56 | 0.64 | | | 0.68 | | | 0.65 |
| Uniform Delay, d1 | 23.8 | 0.0 | | | 8.2 | 8.9 | | | 0.0 | | | 0.0 |
| Progression Factor | 0.80 | 1.00 | | | 1.24 | 1.62 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 3.7 | 0.5 | | | 0.8 | 2.3 | | | 2.4 | | | 2.2 |
| Delay (s) | 22.7 | 0.5 | | | 11.0 | 16.7 | | | 2.4 | | | 2.2 |
| Level of Service | C | A | | | B | B | | | A | | | A |
| Approach Delay (s) | | 6.5 | | | 13.0 | | | 2.4 | | | 2.2 | |
| Approach LOS | | A | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 6.9 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.68 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 59.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 523 | 758 | 914 | 296 | 55 | 289 | 876 | 16 | 100 | 1035 | 228 |
| v/c Ratio | 1.24 | 0.96 | 0.52 | 0.74 | 0.15 | 0.89 | 0.73 | 0.04 | 0.67 | 0.96 | 0.40 |
| Control Delay | 149.6 | 51.1 | 1.1 | 48.1 | 13.1 | 75.4 | 33.6 | 16.9 | 66.2 | 54.2 | 17.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 149.6 | 51.1 | 1.1 | 48.1 | 13.1 | 75.4 | 33.6 | 16.9 | 66.2 | 54.2 | 17.4 |
| Queue Length 50th (ft) | ~331 | 449 | 0 | 175 | 5 | 95 | 258 | 3 | 63 | 338 | 63 |
| Queue Length 95th (ft) | #537 | #704 | 0 | #288 | 36 | #176 | 331 | 19 | #137 | #478 | 129 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 422 | 798 | 1770 | 407 | 383 | 323 | 1199 | 445 | 152 | 1073 | 568 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.24 | 0.95 | 0.52 | 0.73 | 0.14 | 0.89 | 0.73 | 0.04 | 0.66 | 0.96 | 0.40 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 481 | 697 | 841 | 5 | 268 | 51 | 266 | 806 | 15 | 92 | 952 | 210 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 3.6 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.96 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1737 | 1475 | 3204 | 3539 | 1337 | 1652 | 3303 | 1551 |
| Flt Permitted | 0.26 | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 447 | 1739 | 1770 | | 1716 | 1475 | 3204 | 3539 | 1337 | 1652 | 3303 | 1551 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 523 | 758 | 914 | 5 | 291 | 55 | 289 | 876 | 16 | 100 | 1035 | 228 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 0 | 5 | 0 | 0 | 63 |
| Lane Group Flow (vph) | 523 | 758 | 914 | 0 | 296 | 21 | 289 | 876 | 11 | 100 | 1035 | 165 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 44.9 | 44.9 | 100.0 | | 22.7 | 22.7 | 9.1 | 32.9 | 32.9 | 8.2 | 31.5 | 31.5 |
| Effective Green, g (s) | 45.4 | 45.4 | 100.0 | | 23.2 | 23.2 | 10.1 | 33.9 | 32.9 | 9.1 | 32.5 | 32.5 |
| Actuated g/C Ratio | 0.45 | 0.45 | 1.00 | | 0.23 | 0.23 | 0.10 | 0.34 | 0.33 | 0.09 | 0.32 | 0.32 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.5 | 5.0 | 5.0 |
| Vehicle Extension (s) | 3.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 422 | 790 | 1770 | | 398 | 342 | 324 | 1200 | 440 | 150 | 1073 | 504 |
| v/s Ratio Prot | c0.23 | 0.44 | | | | | c0.09 | 0.25 | | 0.06 | c0.31 | |
| v/s Ratio Perm | c0.34 | | c0.52 | | 0.17 | 0.01 | | | 0.01 | | | 0.11 |
| v/c Ratio | 1.24 | 0.96 | 0.52 | | 0.74 | 0.06 | 0.89 | 0.73 | 0.02 | 0.67 | 0.96 | 0.33 |
| Uniform Delay, d1 | 22.4 | 26.4 | 0.0 | | 35.6 | 29.9 | 44.4 | 29.0 | 22.7 | 44.0 | 33.2 | 25.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 126.5 | 22.5 | 1.1 | | 7.8 | 0.1 | 25.0 | 3.9 | 0.1 | 11.1 | 20.2 | 1.7 |
| Delay (s) | 148.9 | 48.9 | 1.1 | | 43.5 | 30.0 | 69.4 | 33.0 | 22.8 | 55.1 | 53.4 | 27.2 |
| Level of Service | F | D | A | | D | C | E | C | C | E | D | C |
| Approach Delay (s) | | 52.8 | | | 41.4 | | | 41.7 | | | 49.1 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 48.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.09 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 99.5% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBT | WBR | NBT | SBL | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 48 | 90 | 1989 | 141 | 1417 |
| v/c Ratio | 0.48 | 0.62 | 0.47 | 1.08 | 0.48 |
| Control Delay | 76.0 | 54.8 | 4.6 | 108.3 | 1.4 |
| Queue Delay | 0.0 | 0.0 | 0.2 | 0.0 | 0.8 |
| Total Delay | 76.0 | 54.8 | 4.8 | 108.3 | 2.2 |
| Queue Length 50th (ft) | 43 | 47 | 157 | ~142 | 10 |
| Queue Length 95th (ft) | 84 | 103 | 317 | m#196 | m126 |
| Internal Link Dist (ft) | 217 | | 650 | | 443 |
| Turn Bay Length (ft) | | | | 150 | |
| Base Capacity (vph) | 200 | 255 | 4239 | 130 | 2980 |
| Starvation Cap Reductn | 0 | 0 | 1010 | 0 | 1120 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.24 | 0.35 | 0.62 | 1.08 | 0.76 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 44 | 0 | 83 | 0 | 1796 | 34 | 130 | 1303 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.98 | | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1562 | 1393 | | 4938 | | 1619 | 3471 | |
| Flt Permitted | | | | | 0.76 | 1.00 | | 1.00 | | 0.09 | 1.00 | |
| Satd. Flow (perm) | | | | | 1245 | 1393 | | 4938 | | 151 | 3471 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 48 | 0 | 90 | 0 | 1952 | 37 | 141 | 1416 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 1 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 48 | 56 | 0 | 1988 | 0 | 141 | 1417 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 11.2 | 11.2 | | 120.2 | | 120.2 | 120.2 | |
| Effective Green, g (s) | | | | | 11.2 | 11.2 | | 120.2 | | 120.2 | 120.2 | |
| Actuated g/C Ratio | | | | | 0.08 | 0.08 | | 0.86 | | 0.86 | 0.86 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 100 | 111 | | 4240 | | 130 | 2980 | |
| v/s Ratio Prot | | | | | | | | 0.40 | | | 0.41 | |
| v/s Ratio Perm | | | | | 0.04 | c0.04 | | | | c0.93 | | |
| v/c Ratio | | | | | 0.48 | 0.50 | | 0.47 | | 1.08 | 0.48 | |
| Uniform Delay, d1 | | | | | 61.6 | 61.7 | | 2.3 | | 9.9 | 2.4 | |
| Progression Factor | | | | | 1.00 | 1.00 | | 1.68 | | 1.93 | 0.42 | |
| Incremental Delay, d2 | | | | | 3.6 | 3.6 | | 0.3 | | 85.6 | 0.3 | |
| Delay (s) | | | | | 65.2 | 65.3 | | 4.2 | | 104.7 | 1.3 | |
| Level of Service | | | | | E | E | | A | | F | A | |
| Approach Delay (s) | | 0.0 | | | 65.3 | | | 4.2 | | | 10.7 | |
| Approach LOS | | A | | | E | | | A | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 9.2 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 1.04 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 59.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 41 | 864 | 856 | 215 | 78 |
| v/c Ratio | 0.34 | 0.62 | 0.36 | 0.72 | 0.23 |
| Control Delay | 56.2 | 9.7 | 5.3 | 56.6 | 9.9 |
| Queue Delay | 0.0 | 1.8 | 0.0 | 0.0 | 0.0 |
| Total Delay | 56.2 | 11.5 | 5.3 | 56.6 | 9.9 |
| Queue Length 50th (ft) | 28 | 242 | 53 | 145 | 0 |
| Queue Length 95th (ft) | 64 | 445 | 103 | 213 | 38 |
| Internal Link Dist (ft) | | 522 | 524 | 200 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 129 | 1397 | 2377 | 410 | 427 |
| Starvation Cap Reductn | 0 | 354 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.32 | 0.83 | 0.36 | 0.52 | 0.18 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 38 | 795 | 716 | 72 | 198 | 72 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.99 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3491 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3491 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 41 | 864 | 778 | 78 | 215 | 78 |
| RTOR Reduction (vph) | 0 | 0 | 5 | 0 | 0 | 65 |
| Lane Group Flow (vph) | 41 | 864 | 851 | 0 | 215 | 13 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 5.0 | 82.5 | 73.0 | | 18.5 | 18.5 |
| Effective Green, g (s) | 5.0 | 82.5 | 73.0 | | 18.5 | 18.5 |
| Actuated g/C Ratio | 0.05 | 0.75 | 0.66 | | 0.17 | 0.17 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 80 | 1397 | 2317 | | 298 | 266 |
| v/s Ratio Prot | 0.02 | c0.46 | 0.24 | | c0.12 | |
| v/s Ratio Perm | | | | | | 0.01 |
| v/c Ratio | 0.51 | 0.62 | 0.37 | | 0.72 | 0.05 |
| Uniform Delay, d1 | 51.3 | 6.4 | 8.2 | | 43.3 | 38.4 |
| Progression Factor | 1.00 | 1.00 | 0.55 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 5.4 | 2.1 | 0.4 | | 8.3 | 0.1 |
| Delay (s) | 56.8 | 8.5 | 4.9 | | 51.6 | 38.5 |
| Level of Service | E | A | A | | D | D |
| Approach Delay (s) | | 10.7 | 4.9 | | 48.1 | |
| Approach LOS | | B | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 13.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.64 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 60.3% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBL | WBT | NBR |
|---|---|---|---|---|
| Lane Group Flow (vph) | 2310 | 489 | 1928 | 518 |
| v/c Ratio | 0.74 | 0.72 | 0.38 | 0.84 |
| Control Delay | 13.8 | 25.1 | 0.1 | 32.2 |
| Queue Delay | 0.3 | 2.4 | 0.0 | 0.0 |
| Total Delay | 14.1 | 27.4 | 0.1 | 32.2 |
| Queue Length 50th (ft) | 259 | 189 | 0 | 185 |
| Queue Length 95th (ft) | m297 | m252 | 0 | #297 |
| Internal Link Dist (ft) | 389 | | 252 | |
| Turn Bay Length (ft) | | | | |
| Base Capacity (vph) | 3120 | 771 | 5085 | 703 |
| Starvation Cap Reductn | 0 | 165 | 0 | 0 |
| Spillback Cap Reductn | 278 | 0 | 648 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.81 | 0.81 | 0.43 | 0.74 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 2095 | 30 | 450 | 1774 | 0 | 477 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Lane Util. Factor | 0.86 | | 1.00 | 0.91 | | 1.00 |
| Frt | 1.00 | | 1.00 | 1.00 | | 0.86 |
| Flt Protected | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 6394 | | 1770 | 5085 | | 1611 |
| Flt Permitted | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 6394 | | 1770 | 5085 | | 1611 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 2277 | 33 | 489 | 1928 | 0 | 518 |
| RTOR Reduction (vph) | 3 | 0 | 0 | 0 | 0 | 1 |
| Lane Group Flow (vph) | 2307 | 0 | 489 | 1928 | 0 | 517 |
| Turn Type | | | Prot | | | Over |
| Protected Phases | 2 | | 1 | 6 | | 1 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 34.1 | | 26.9 | 70.0 | | 26.9 |
| Effective Green, g (s) | 34.1 | | 26.9 | 70.0 | | 26.9 |
| Actuated g/C Ratio | 0.49 | | 0.38 | 1.00 | | 0.38 |
| Clearance Time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 3115 | | 680 | 5085 | | 619 |
| v/s Ratio Prot | c0.36 | | 0.28 | 0.38 | | c0.32 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.74 | | 0.72 | 0.38 | | 0.84 |
| Uniform Delay, d1 | 14.4 | | 18.3 | 0.0 | | 19.5 |
| Progression Factor | 0.85 | | 1.20 | 1.00 | | 1.00 |
| Incremental Delay, d2 | 0.9 | | 2.0 | 0.1 | | 9.5 |
| Delay (s) | 13.2 | | 24.0 | 0.1 | | 29.1 |
| Level of Service | B | | C | A | | C |
| Approach Delay (s) | 13.2 | | | 4.9 | 29.1 | |
| Approach LOS | B | | | A | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 11.0 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.78 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 67.9% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 96 | 221 | 262 | 205 | 1051 | 36 | 895 | 208 | 732 | 643 | 54 |
| v/c Ratio | 1.02 | 0.57 | 0.49 | 0.32 | 0.64 | 0.49 | 0.79 | 0.23 | 1.14 | 0.47 | 0.08 |
| Control Delay | 162.5 | 56.2 | 42.5 | 31.1 | 18.5 | 87.5 | 53.8 | 1.7 | 127.8 | 31.5 | 7.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 162.5 | 56.2 | 42.5 | 31.1 | 18.5 | 87.5 | 53.8 | 1.7 | 127.8 | 31.5 | 7.1 |
| Queue Length 50th (ft) | ~98 | 92 | 187 | 128 | 318 | 33 | 282 | 0 | ~417 | 232 | 0 |
| Queue Length 95th (ft) | #218 | 126 | 308 | 195 | 396 | 72 | 336 | 19 | #543 | 294 | 29 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 94 | 1057 | 534 | 700 | 1622 | 89 | 1213 | 923 | 644 | 1354 | 663 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.02 | 0.21 | 0.49 | 0.29 | 0.65 | 0.40 | 0.74 | 0.23 | 1.14 | 0.47 | 0.08 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 88 | 162 | 41 | 241 | 189 | 967 | 33 | 823 | 191 | 673 | 592 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | 4.5 | 3.5 | 3.8 | 3.8 | 3.5 | 3.8 | 3.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 1.00 | 0.88 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.97 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3093 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1513 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3093 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1513 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 96 | 176 | 45 | 262 | 205 | 1051 | 36 | 895 | 208 | 732 | 643 | 54 |
| RTOR Reduction (vph) | 0 | 21 | 0 | 0 | 0 | 16 | 0 | 0 | 90 | 0 | 0 | 32 |
| Lane Group Flow (vph) | 96 | 200 | 0 | 262 | 205 | 1035 | 36 | 895 | 118 | 732 | 643 | 22 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 7.6 | 16.0 | | 43.0 | 51.4 | 83.6 | 5.2 | 34.0 | 77.0 | 27.7 | 56.5 | 56.5 |
| Effective Green, g (s) | 7.6 | 16.0 | | 43.0 | 51.4 | 83.6 | 5.2 | 34.0 | 77.0 | 27.7 | 56.5 | 56.5 |
| Actuated g/C Ratio | 0.06 | 0.12 | | 0.32 | 0.38 | 0.61 | 0.04 | 0.25 | 0.57 | 0.20 | 0.42 | 0.42 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 3.0 | | 2.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 94 | 364 | | 531 | 638 | 1624 | 62 | 1164 | 820 | 640 | 1346 | 629 |
| v/s Ratio Prot | c0.06 | 0.06 | | 0.16 | 0.12 | c0.39 | 0.02 | c0.19 | 0.08 | c0.23 | 0.20 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.01 |
| v/c Ratio | 1.02 | 0.55 | | 0.49 | 0.32 | 0.64 | 0.58 | 0.77 | 0.14 | 1.14 | 0.48 | 0.04 |
| Uniform Delay, d1 | 64.2 | 56.6 | | 37.7 | 30.0 | 16.6 | 64.3 | 47.4 | 13.9 | 54.1 | 29.0 | 23.6 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 98.7 | 2.5 | | 0.3 | 0.4 | 0.9 | 8.6 | 3.1 | 0.1 | 82.3 | 0.3 | 0.0 |
| Delay (s) | 162.9 | 59.1 | | 37.9 | 30.4 | 17.5 | 72.9 | 50.5 | 14.0 | 136.4 | 29.3 | 23.6 |
| Level of Service | F | E | | D | C | B | E | D | B | F | C | C |
| Approach Delay (s) | | 90.6 | | | 22.8 | | | 44.5 | | | 83.9 | |
| Approach LOS | | F | | | C | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 53.1 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.83 | | |
| Actuated Cycle Length (s) | 136.0 | Sum of lost time (s) | 15.3 |
| Intersection Capacity Utilization | 71.4% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 154 | 1120 | 108 | 1645 | 700 | 53 | 235 | 564 | 281 |
| v/c Ratio | 0.94 | 0.66 | 0.66 | 1.01 | 0.72 | 0.46 | 0.89 | 0.93 | 0.65 |
| Control Delay | 110.8 | 23.3 | 81.4 | 38.8 | 5.2 | 66.4 | 48.6 | 71.2 | 22.7 |
| Queue Delay | 0.0 | 89.0 | 0.0 | 0.6 | 2.1 | 0.0 | 17.1 | 0.0 | 0.0 |
| Total Delay | 110.8 | 112.3 | 81.4 | 39.4 | 7.2 | 66.4 | 65.8 | 71.2 | 22.7 |
| Queue Length 50th (ft) | 121 | 318 | 87 | ~753 | 1 | 40 | 42 | 226 | 60 |
| Queue Length 95th (ft) | #255 | 423 | m105 | m#879 | m2 | 83 | #177 | #342 | 161 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 163 | 1685 | 203 | 1621 | 979 | 140 | 284 | 606 | 430 |
| Starvation Cap Reductn | 0 | 0 | 0 | 3 | 153 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 745 | 0 | 0 | 0 | 0 | 42 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.94 | 1.19 | 0.53 | 1.02 | 0.85 | 0.38 | 0.97 | 0.93 | 0.65 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 142 | 1016 | 15 | 99 | 1434 | 723 | 49 | 8 | 208 | 519 | 41 | 217 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.91 | 0.91 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | | 1.00 | 0.96 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.99 | 0.85 | 1.00 | 0.86 | | 1.00 | 0.87 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3171 | | 1620 | 3049 | 1318 | 1678 | 1438 | | 3143 | 1424 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3171 | | 1620 | 3049 | 1318 | 1678 | 1438 | | 3143 | 1424 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 154 | 1104 | 16 | 108 | 1559 | 786 | 53 | 9 | 226 | 564 | 45 | 236 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 3 | 279 | 0 | 167 | 0 | 0 | 156 | 0 |
| Lane Group Flow (vph) | 154 | 1119 | 0 | 108 | 1642 | 421 | 53 | 68 | 0 | 564 | 125 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 12.1 | 63.8 | | 12.0 | 63.7 | 63.7 | 8.1 | 8.1 | | 23.1 | 23.1 | |
| Effective Green, g (s) | 12.1 | 63.8 | | 12.0 | 63.7 | 63.7 | 8.1 | 8.1 | | 23.1 | 23.1 | |
| Actuated g/C Ratio | 0.10 | 0.53 | | 0.10 | 0.53 | 0.53 | 0.07 | 0.07 | | 0.19 | 0.19 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 163 | 1686 | | 162 | 1619 | 700 | 113 | 97 | | 605 | 274 | |
| v/s Ratio Prot | c0.10 | 0.35 | | 0.07 | c0.54 | | 0.03 | c0.05 | | c0.18 | 0.09 | |
| v/s Ratio Perm | | | | | | 0.32 | | | | | | |
| v/c Ratio | 0.94 | 0.66 | | 0.67 | 1.01 | 0.60 | 0.47 | 0.70 | | 0.93 | 0.46 | |
| Uniform Delay, d1 | 53.6 | 20.3 | | 52.1 | 28.1 | 19.4 | 53.9 | 54.8 | | 47.7 | 42.9 | |
| Progression Factor | 1.00 | 1.00 | | 1.33 | 0.56 | 0.71 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 53.5 | 2.1 | | 4.8 | 21.0 | 2.3 | 1.1 | 17.1 | | 21.4 | 1.2 | |
| Delay (s) | 107.1 | 22.4 | | 74.0 | 36.6 | 16.1 | 55.0 | 71.8 | | 69.0 | 44.1 | |
| Level of Service | F | C | | E | D | B | D | E | | E | D | |
| Approach Delay (s) | | 32.7 | | | 32.4 | | | 68.7 | | | 60.8 | |
| Approach LOS | | C | | | C | | | E | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 39.6 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.96 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 96.7% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 57 | 2020 | 658 | 2213 | 314 | 559 | 70 | 58 |
| v/c Ratio | 0.48 | 1.00 | 0.97 | 0.77 | 0.99 | 0.50 | 0.90 | 0.56 |
| Control Delay | 61.9 | 49.8 | 66.7 | 16.6 | 98.9 | 20.4 | 133.4 | 50.2 |
| Queue Delay | 0.0 | 52.2 | 0.0 | 1.3 | 0.0 | 0.0 | 0.0 | 0.6 |
| Total Delay | 61.9 | 102.0 | 66.7 | 17.9 | 98.9 | 20.4 | 133.4 | 50.8 |
| Queue Length 50th (ft) | 44 | ~589 | 255 | 400 | 246 | 139 | 55 | 19 |
| Queue Length 95th (ft) | m63 | m#699 | m#335 | 496 | #433 | 186 | #148 | #75 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 135 | 2018 | 689 | 2865 | 316 | 1119 | 78 | 103 |
| Starvation Cap Reductn | 0 | 239 | 0 | 416 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 413 | 0 | 0 | 0 | 3 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.42 | 1.14 | 0.96 | 0.90 | 0.99 | 0.50 | 0.90 | 0.58 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 52 | 1689 | 169 | 605 | 1913 | 123 | 258 | 31 | 514 | 64 | 23 | 30 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.91 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.99 | 1.00 | 0.95 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4505 | | 3143 | 4726 | | | 1807 | 2808 | 1562 | 1428 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4505 | | 3143 | 4726 | | | 1807 | 2808 | 1562 | 1428 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 57 | 1836 | 184 | 658 | 2079 | 134 | 280 | 34 | 559 | 70 | 25 | 33 |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 6 | 0 | 0 | 0 | 23 | 0 | 31 | 0 |
| Lane Group Flow (vph) | 57 | 2010 | 0 | 658 | 2207 | 0 | 0 | 314 | 536 | 70 | 27 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 8.0 | 53.5 | | 26.0 | 72.0 | | | 21.0 | 47.0 | 6.0 | 6.0 | |
| Effective Green, g (s) | 8.0 | 53.5 | | 26.0 | 72.0 | | | 21.0 | 47.0 | 6.0 | 6.0 | |
| Actuated g/C Ratio | 0.07 | 0.45 | | 0.22 | 0.60 | | | 0.18 | 0.39 | 0.05 | 0.05 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 108 | 2008 | | 681 | 2836 | | | 316 | 1100 | 78 | 71 | |
| v/s Ratio Prot | 0.04 | c0.45 | | c0.21 | 0.47 | | | c0.17 | 0.11 | c0.04 | 0.02 | |
| v/s Ratio Perm | | | | | | | | | 0.09 | | | |
| v/c Ratio | 0.53 | 1.00 | | 0.97 | 0.78 | | | 0.99 | 0.49 | 0.90 | 0.38 | |
| Uniform Delay, d1 | 54.2 | 33.2 | | 46.6 | 18.0 | | | 49.4 | 27.4 | 56.7 | 55.2 | |
| Progression Factor | 0.99 | 0.98 | | 1.03 | 0.84 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.5 | 17.1 | | 17.7 | 1.2 | | | 48.6 | 0.1 | 66.4 | 1.2 | |
| Delay (s) | 55.0 | 49.9 | | 65.7 | 16.3 | | | 98.0 | 27.6 | 123.1 | 56.4 | |
| Level of Service | D | D | | E | B | | | F | C | F | E | |
| Approach Delay (s) | | 50.0 | | | 27.6 | | | 52.9 | | | 92.9 | |
| Approach LOS | | D | | | C | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 40.6 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.98 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 86.3% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1236 | 1516 | 2066 | 795 | 611 | 592 |
| v/c Ratio | 0.36 | 0.60 | 0.89 | 0.62 | 0.82 | 0.87 |
| Control Delay | 7.0 | 1.4 | 19.0 | 2.7 | 54.3 | 56.3 |
| Queue Delay | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | 0.1 |
| Total Delay | 7.0 | 1.4 | 19.7 | 2.7 | 54.3 | 56.4 |
| Queue Length 50th (ft) | 123 | 0 | 573 | 0 | 233 | 237 |
| Queue Length 95th (ft) | m129 | m0 | 720 | 32 | #304 | #343 |
| Internal Link Dist (ft) | 509 | | 867 | | | |
| Turn Bay Length (ft) | | 400 | | | | 150 |
| Base Capacity (vph) | 3429 | 2533 | 2327 | 1284 | 747 | 681 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 71 | 0 | 0 | 1 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.36 | 0.60 | 0.92 | 0.62 | 0.82 | 0.87 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1137 | 1395 | 0 | 1901 | 731 | 0 | 0 | 0 | 562 | 0 | 545 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | | 3.0 |
| Lane Util. Factor | | 0.91 | 0.88 | | 0.95 | 1.00 | | | | 0.97 | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1236 | 1516 | 0 | 2066 | 795 | 0 | 0 | 0 | 611 | 0 | 592 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 225 | 0 | 0 | 0 | 0 | 0 | 31 |
| Lane Group Flow (vph) | 0 | 1236 | 1516 | 0 | 2066 | 570 | 0 | 0 | 0 | 611 | 0 | 561 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Perm | | | | custom | | custom |
| Protected Phases | | 2 | | | 6 | | | | | 4 | | |
| Permitted Phases | | | 2 4 | | | 6 | | | | 4 | | 4 |
| Actuated Green, G (s) | | 86.0 | 120.0 | | 86.0 | 86.0 | | | | 26.0 | | 26.0 |
| Effective Green, g (s) | | 87.0 | 120.0 | | 87.0 | 86.0 | | | | 27.0 | | 27.0 |
| Actuated g/C Ratio | | 0.72 | 1.00 | | 0.72 | 0.72 | | | | 0.22 | | 0.22 |
| Clearance Time (s) | | 4.0 | | | 4.0 | 4.0 | | | | 4.0 | | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | 4.5 | | | | 4.0 | | 4.0 |
| Lane Grp Cap (vph) | | 3429 | 2533 | | 2327 | 1059 | | | | 747 | | 650 |
| v/s Ratio Prot | | 0.26 | | | c0.64 | | | | | 0.18 | | |
| v/s Ratio Perm | | | 0.60 | | | 0.39 | | | | | | c0.19 |
| v/c Ratio | | 0.36 | 0.60 | | 0.89 | 0.54 | | | | 0.82 | | 0.86 |
| Uniform Delay, d1 | | 6.1 | 0.0 | | 12.7 | 7.8 | | | | 44.2 | | 44.7 |
| Progression Factor | | 1.10 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | | 0.2 | 0.3 | | 5.5 | 2.0 | | | | 7.3 | | 11.8 |
| Delay (s) | | 7.0 | 0.3 | | 18.3 | 9.8 | | | | 51.5 | | 56.5 |
| Level of Service | | A | A | | B | A | | | | D | | E |
| Approach Delay (s) | | 3.3 | | | 15.9 | | | 0.0 | | | 53.9 | |
| Approach LOS | | A | | | B | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.5 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 6.0 |
| Intersection Capacity Utilization | 78.3% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 604 | 59 | 62 | 259 | 236 | 428 |
| v/c Ratio | 0.79 | 0.08 | 0.40 | 0.40 | 0.51 | 0.58 |
| Control Delay | 21.9 | 3.5 | 36.8 | 13.8 | 21.4 | 5.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 21.9 | 3.5 | 36.8 | 13.8 | 21.4 | 5.9 |
| Queue Length 50th (ft) | 156 | 0 | 20 | 58 | 68 | 0 |
| Queue Length 95th (ft) | #348 | 16 | #72 | 109 | 130 | 57 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 1077 | 985 | 155 | 1092 | 693 | 887 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.56 | 0.06 | 0.40 | 0.24 | 0.34 | 0.48 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 556 | 54 | 57 | 238 | 217 | 394 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1559 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1559 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 604 | 59 | 62 | 259 | 236 | 428 |
| RTOR Reduction (vph) | 0 | 33 | 0 | 0 | 0 | 315 |
| Lane Group Flow (vph) | 604 | 26 | 62 | 259 | 236 | 113 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 21.4 | 21.4 | 1.9 | 18.5 | 12.6 | 12.6 |
| Effective Green, g (s) | 21.4 | 21.4 | 1.9 | 18.5 | 12.6 | 12.6 |
| Actuated g/C Ratio | 0.45 | 0.45 | 0.04 | 0.39 | 0.26 | 0.26 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 750 | 671 | 64 | 706 | 448 | 410 |
| v/s Ratio Prot | c0.36 | | c0.04 | 0.14 | c0.14 | |
| v/s Ratio Perm | | 0.02 | | | | 0.07 |
| v/c Ratio | 0.81 | 0.04 | 0.97 | 0.37 | 0.53 | 0.27 |
| Uniform Delay, d1 | 11.5 | 7.5 | 23.0 | 10.5 | 15.1 | 14.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 6.3 | 0.0 | 100.3 | 0.3 | 1.1 | 0.4 |
| Delay (s) | 17.7 | 7.5 | 123.3 | 10.8 | 16.2 | 14.4 |
| Level of Service | B | A | F | B | B | B |
| Approach Delay (s) | 16.8 | | | 32.6 | 15.0 | |
| Approach LOS | B | | | C | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 19.2 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 47.9 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 55.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 85 | 125 | 138 | 26 | 1130 | 71 | 692 |
| v/c Ratio | 0.24 | 0.36 | 0.37 | 0.06 | 0.58 | 0.32 | 0.35 |
| Control Delay | 15.0 | 18.5 | 12.6 | 7.4 | 9.5 | 13.7 | 7.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 15.0 | 18.5 | 12.6 | 7.4 | 9.5 | 13.7 | 7.2 |
| Queue Length 50th (ft) | 17 | 29 | 18 | 3 | 87 | 9 | 44 |
| Queue Length 95th (ft) | 45 | 68 | 55 | 17 | 251 | 56 | 128 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 744 | 734 | 733 | 454 | 2115 | 238 | 2121 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.11 | 0.17 | 0.19 | 0.06 | 0.53 | 0.30 | 0.33 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 24 | 44 | 10 | 63 | 52 | 127 | 24 | 963 | 76 | 65 | 607 | 29 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | | 0.98 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1531 | | | 1685 | 1306 | 1616 | 3039 | | 1561 | 3053 | |
| Flt Permitted | | 0.88 | | | 0.78 | 1.00 | 0.39 | 1.00 | | 0.21 | 1.00 | |
| Satd. Flow (perm) | | 1365 | | | 1357 | 1306 | 655 | 3039 | | 344 | 3053 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 26 | 48 | 11 | 68 | 57 | 138 | 26 | 1047 | 83 | 71 | 660 | 32 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 0 | 47 | 0 | 7 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 0 | 76 | 0 | 0 | 125 | 91 | 26 | 1123 | 0 | 71 | 688 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 9.9 | | | 9.9 | 9.9 | 28.6 | 28.6 | | 28.6 | 28.6 | |
| Effective Green, g (s) | | 9.9 | | | 9.9 | 9.9 | 28.6 | 28.6 | | 28.6 | 28.6 | |
| Actuated g/C Ratio | | 0.21 | | | 0.21 | 0.21 | 0.60 | 0.60 | | 0.60 | 0.60 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 283 | | | 282 | 271 | 393 | 1822 | | 206 | 1831 | |
| v/s Ratio Prot | | | | | | | | c0.37 | | | 0.23 | |
| v/s Ratio Perm | | 0.06 | | | c0.09 | 0.07 | 0.04 | | | 0.21 | | |
| v/c Ratio | | 0.27 | | | 0.44 | 0.34 | 0.07 | 0.62 | | 0.34 | 0.38 | |
| Uniform Delay, d1 | | 15.9 | | | 16.5 | 16.1 | 4.0 | 6.1 | | 4.8 | 4.9 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.7 | | | 1.5 | 1.0 | 0.1 | 0.7 | | 1.4 | 0.2 | |
| Delay (s) | | 16.6 | | | 18.0 | 17.1 | 4.1 | 6.8 | | 6.2 | 5.1 | |
| Level of Service | | B | | | B | B | A | A | | A | A | |
| Approach Delay (s) | | 16.6 | | | 17.5 | | | 6.7 | | | 5.2 | |
| Approach LOS | | B | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 7.8 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.57 | | |
| Actuated Cycle Length (s) | 47.7 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 59.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 20 | 210 | 367 | 178 | 157 | 34 |
| v/c Ratio | 0.07 | 0.24 | 0.49 | 0.15 | 0.36 | 0.08 |
| Control Delay | 19.6 | 6.9 | 12.1 | 0.6 | 15.5 | 6.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 19.6 | 6.9 | 12.1 | 0.6 | 15.5 | 6.8 |
| Queue Length 50th (ft) | 3 | 19 | 37 | 0 | 18 | 0 |
| Queue Length 95th (ft) | 25 | 62 | 179 | 10 | 95 | 18 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 467 | 1827 | 1645 | 1520 | 1247 | 1085 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.04 | 0.11 | 0.22 | 0.12 | 0.13 | 0.03 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 18 | 193 | 338 | 164 | 144 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.98 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1618 | 1562 | 1362 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1618 | 1562 | 1362 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 20 | 210 | 367 | 178 | 157 | 34 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 59 | 0 | 25 |
| Lane Group Flow (vph) | 20 | 210 | 367 | 119 | 157 | 9 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 0.9 | 21.5 | 16.6 | 27.2 | 10.6 | 10.6 |
| Effective Green, g (s) | 0.9 | 21.5 | 16.6 | 27.2 | 10.6 | 10.6 |
| Actuated g/C Ratio | 0.02 | 0.53 | 0.41 | 0.67 | 0.26 | 0.26 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 36 | 965 | 695 | 1081 | 407 | 355 |
| v/s Ratio Prot | 0.01 | c0.11 | c0.22 | 0.03 | c0.10 | |
| v/s Ratio Perm | | | | 0.04 | | 0.01 |
| v/c Ratio | 0.56 | 0.22 | 0.53 | 0.11 | 0.39 | 0.02 |
| Uniform Delay, d1 | 19.7 | 5.1 | 9.1 | 2.4 | 12.4 | 11.2 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 17.3 | 0.1 | 0.7 | 0.0 | 0.6 | 0.0 |
| Delay (s) | 37.0 | 5.2 | 9.8 | 2.5 | 13.0 | 11.2 |
| Level of Service | D | A | A | A | B | B |
| Approach Delay (s) | | 8.0 | 7.4 | | 12.7 | |
| Approach LOS | | A | A | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 8.6 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.49 | | |
| Actuated Cycle Length (s) | 40.7 | Sum of lost time (s) | 13.2 |
| Intersection Capacity Utilization | 34.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 217 | 151 | 341 | 299 | 306 | 239 |
| v/c Ratio | 0.60 | 0.36 | 0.71 | 0.32 | 0.53 | 0.41 |
| Control Delay | 42.9 | 8.8 | 38.7 | 12.0 | 30.2 | 13.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 42.9 | 8.8 | 38.7 | 12.0 | 30.2 | 13.6 |
| Queue Length 50th (ft) | 111 | 0 | 167 | 83 | 137 | 40 |
| Queue Length 95th (ft) | 230 | 54 | 338 | 163 | 283 | 122 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 |
| Base Capacity (vph) | 758 | 716 | 722 | 1470 | 712 | 716 |
| Starvation Cap Reductn | 5 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.29 | 0.21 | 0.47 | 0.20 | 0.43 | 0.33 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1 | 199 | 139 | 314 | 274 | 1 | 280 | 2 | 220 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.98 | | | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | | 1758 | 1460 | 1562 | 1704 | | | 1682 | 1724 | | | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | | 1756 | 1460 | 1562 | 1704 | | | 1682 | 1724 | | | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1 | 216 | 151 | 341 | 298 | 1 | 304 | 2 | 239 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 120 | 0 | 0 | 0 | 0 | 0 | 98 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 217 | 31 | 341 | 299 | 0 | 0 | 306 | 141 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 18.3 | 18.3 | 27.6 | 49.9 | | | 29.8 | 25.8 | | | |
| Effective Green, g (s) | | 18.3 | 18.3 | 27.6 | 49.9 | | | 29.8 | 25.8 | | | |
| Actuated g/C Ratio | | 0.21 | 0.21 | 0.31 | 0.56 | | | 0.34 | 0.29 | | | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | | |
| Lane Grp Cap (vph) | | 362 | 301 | 485 | 958 | | | 564 | 501 | | | |
| v/s Ratio Prot | | | | c0.22 | 0.18 | | | c0.18 | 0.03 | | | |
| v/s Ratio Perm | | c0.12 | 0.02 | | | | | | 0.06 | | | |
| v/c Ratio | | 0.60 | 0.10 | 0.70 | 0.31 | | | 0.54 | 0.28 | | | |
| Uniform Delay, d1 | | 31.9 | 28.6 | 27.0 | 10.3 | | | 24.0 | 24.3 | | | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 2.7 | 0.2 | 4.6 | 0.2 | | | 1.1 | 0.3 | | | |
| Delay (s) | | 34.6 | 28.7 | 31.6 | 10.5 | | | 25.0 | 24.6 | | | |
| Level of Service | | C | C | C | B | | | C | C | | | |
| Approach Delay (s) | | 32.2 | | | 21.7 | | | 24.9 | | | 0.0 | |
| Approach LOS | | C | | | C | | | C | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 25.3 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.61 | | |
| Actuated Cycle Length (s) | 88.8 | Sum of lost time (s) | 12.6 |
| Intersection Capacity Utilization | 61.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 166 | 408 | 64 | 245 | 386 | 704 | 24 | 555 | 143 | 263 | 688 |
| v/c Ratio | 0.75 | 0.79 | 0.14 | 0.83 | 0.64 | 0.95 | 0.29 | 0.81 | 0.43 | 0.90 | 0.60 |
| Control Delay | 76.6 | 54.4 | 24.2 | 74.7 | 41.5 | 41.2 | 72.3 | 58.4 | 28.6 | 86.1 | 35.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 76.6 | 54.4 | 24.2 | 74.7 | 41.5 | 41.2 | 72.3 | 58.4 | 28.6 | 86.1 | 35.6 |
| Queue Length 50th (ft) | 143 | 331 | 25 | 209 | 283 | 321 | 21 | 244 | 56 | 234 | 264 |
| Queue Length 95th (ft) | #247 | 464 | 62 | #342 | 401 | #611 | 53 | 314 | 124 | #414 | 335 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 251 | 572 | 494 | 337 | 668 | 779 | 86 | 804 | 380 | 298 | 1176 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.71 | 0.13 | 0.73 | 0.58 | 0.90 | 0.28 | 0.69 | 0.38 | 0.88 | 0.59 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 153 | 375 | 59 | 225 | 355 | 648 | 22 | 511 | 132 | 242 | 526 | 107 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.99 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1452 | 1620 | 1739 | 1391 | 1652 | 3240 | 1331 | 1620 | 2994 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1452 | 1620 | 1739 | 1391 | 1652 | 3240 | 1331 | 1620 | 2994 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 166 | 408 | 64 | 245 | 386 | 704 | 24 | 555 | 143 | 263 | 572 | 116 |
| RTOR Reduction (vph) | 0 | 0 | 18 | 0 | 0 | 262 | 0 | 0 | 52 | 0 | 12 | 0 |
| Lane Group Flow (vph) | 166 | 408 | 46 | 245 | 386 | 442 | 24 | 555 | 91 | 263 | 676 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 17.1 | 37.9 | 37.9 | 23.3 | 44.1 | 44.1 | 4.2 | 29.0 | 29.0 | 23.9 | 48.7 | |
| Effective Green, g (s) | 17.0 | 37.8 | 37.8 | 23.2 | 44.0 | 44.0 | 3.2 | 28.5 | 28.5 | 22.9 | 48.2 | |
| Actuated g/C Ratio | 0.13 | 0.29 | 0.29 | 0.18 | 0.34 | 0.34 | 0.02 | 0.22 | 0.22 | 0.18 | 0.38 | |
| Clearance Time (s) | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 219 | 512 | 427 | 293 | 596 | 477 | 41 | 719 | 295 | 289 | 1124 | |
| v/s Ratio Prot | 0.10 | 0.23 | | c0.15 | 0.22 | | 0.01 | c0.17 | | c0.16 | 0.23 | |
| v/s Ratio Perm | | | 0.03 | | | c0.32 | | | 0.07 | | | |
| v/c Ratio | 0.76 | 0.80 | 0.11 | 0.84 | 0.65 | 0.93 | 0.59 | 0.77 | 0.31 | 0.91 | 0.60 | |
| Uniform Delay, d1 | 53.7 | 41.8 | 33.0 | 50.8 | 35.7 | 40.7 | 61.9 | 46.9 | 41.7 | 51.7 | 32.4 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 14.7 | 8.9 | 0.2 | 19.0 | 2.7 | 24.5 | 22.8 | 5.5 | 0.8 | 31.1 | 1.1 | |
| Delay (s) | 68.5 | 50.6 | 33.2 | 69.8 | 38.4 | 65.1 | 84.7 | 52.4 | 42.5 | 82.9 | 33.4 | |
| Level of Service | E | D | C | E | D | E | F | D | D | F | C | |
| Approach Delay (s) | | 53.5 | | | 58.2 | | | 51.5 | | | 47.1 | |
| Approach LOS | | D | | | E | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 53.2 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.86 | | |
| Actuated Cycle Length (s) | 128.4 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 74.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 47 | 612 | 96 | 1252 | 1206 | 197 | 326 | 577 | 193 | 239 | 15 |
| v/c Ratio | 0.38 | 0.66 | 0.26 | 0.97 | 0.72 | 1.11 | 0.54 | 0.37 | 0.58 | 0.41 | 0.05 |
| Control Delay | 67.0 | 50.4 | 10.2 | 57.7 | 26.1 | 153.2 | 50.1 | 8.3 | 62.4 | 47.5 | 18.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 78.8 | 3.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 67.0 | 50.4 | 10.2 | 136.5 | 29.6 | 153.2 | 50.1 | 8.3 | 62.4 | 47.5 | 18.1 |
| Queue Length 50th (ft) | 37 | 169 | 0 | 521 | 391 | ~188 | 128 | 78 | 78 | 91 | 0 |
| Queue Length 95th (ft) | 85 | 230 | 48 | #795 | 547 | #384 | 183 | 115 | 129 | 135 | 19 |
| Internal Link Dist (ft) | | 238 | | | 387 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 138 | 1129 | 431 | 1286 | 1742 | 177 | 863 | 1785 | 374 | 864 | 404 |
| Starvation Cap Reductn | 0 | 0 | 0 | 232 | 428 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.34 | 0.54 | 0.22 | 1.19 | 0.92 | 1.11 | 0.38 | 0.32 | 0.52 | 0.28 | 0.04 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 43 | 563 | 88 | 1152 | 848 | 261 | 181 | 300 | 531 | 178 | 220 | 14 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 3.1 | 4.0 | 4.0 | 3.1 | 4.0 | | 4.0 | 4.0 | 3.1 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3113 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1471 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3113 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1471 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 47 | 612 | 96 | 1252 | 922 | 284 | 197 | 326 | 577 | 193 | 239 | 15 |
| RTOR Reduction (vph) | 0 | 0 | 76 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| Lane Group Flow (vph) | 47 | 612 | 20 | 1252 | 1187 | 0 | 197 | 326 | 577 | 193 | 239 | 3 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 7.5 | 24.2 | 24.2 | 48.4 | 65.1 | | 13.1 | 21.1 | 69.5 | 12.8 | 20.8 | 20.8 |
| Effective Green, g (s) | 8.4 | 25.7 | 25.7 | 49.3 | 66.6 | | 13.1 | 22.6 | 71.3 | 12.8 | 22.3 | 22.3 |
| Actuated g/C Ratio | 0.07 | 0.20 | 0.20 | 0.39 | 0.53 | | 0.10 | 0.18 | 0.57 | 0.10 | 0.18 | 0.18 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 105 | 953 | 302 | 1279 | 1652 | | 175 | 604 | 1537 | 332 | 576 | 261 |
| v/s Ratio Prot | 0.03 | 0.13 | | c0.38 | c0.38 | | c0.12 | c0.10 | 0.21 | c0.06 | 0.07 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | 0.00 |
| v/c Ratio | 0.45 | 0.64 | 0.07 | 0.98 | 0.72 | | 1.13 | 0.54 | 0.38 | 0.58 | 0.41 | 0.01 |
| Uniform Delay, d1 | 56.3 | 45.7 | 40.2 | 37.6 | 22.3 | | 56.2 | 46.7 | 14.9 | 53.8 | 45.8 | 42.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 4.1 | 1.7 | 0.1 | 20.1 | 1.6 | | 105.8 | 1.2 | 0.2 | 3.1 | 0.7 | 0.0 |
| Delay (s) | 60.4 | 47.4 | 40.3 | 57.7 | 24.0 | | 162.0 | 47.9 | 15.1 | 56.8 | 46.5 | 42.5 |
| Level of Service | E | D | D | E | C | | F | D | B | E | D | D |
| Approach Delay (s) | | 47.3 | | | 41.1 | | | 51.1 | | | 50.8 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 45.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.83 | | |
| Actuated Cycle Length (s) | 125.5 | Sum of lost time (s) | 11.1 |
| Intersection Capacity Utilization | 74.0% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 301 | 1965 | 397 | 203 | 1328 | 224 | 226 | 122 | 143 |
| v/c Ratio | 0.85 | 0.85 | 0.41 | 0.87 | 0.69 | 0.72 | 0.72 | 0.30 | 0.77 |
| Control Delay | 71.2 | 33.7 | 3.4 | 88.7 | 34.6 | 62.0 | 61.4 | 8.8 | 59.0 |
| Queue Delay | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 71.2 | 34.1 | 3.4 | 88.7 | 34.6 | 62.0 | 61.4 | 8.8 | 59.0 |
| Queue Length 50th (ft) | 238 | 512 | 0 | 169 | 341 | 186 | 188 | 0 | 32 |
| Queue Length 95th (ft) | #419 | 678 | 57 | #344 | 450 | 281 | 282 | 50 | #95 |
| Internal Link Dist (ft) | | 660 | | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 520 | 180 | | 200 | | | |
| Base Capacity (vph) | 388 | 2316 | 961 | 234 | 1937 | 435 | 442 | 516 | 185 |
| Starvation Cap Reductn | 0 | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.78 | 0.88 | 0.41 | 0.87 | 0.69 | 0.51 | 0.51 | 0.24 | 0.77 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 277 | 1808 | 365 | 187 | 1185 | 37 | 355 | 59 | 112 | 22 | 44 | 65 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.98 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | | 0.93 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 0.99 | |
| Satd. Flow (prot) | 1620 | 4655 | 1530 | 1678 | 4630 | | 1539 | 1564 | 1514 | | 3026 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 0.99 | |
| Satd. Flow (perm) | 1620 | 4655 | 1530 | 1678 | 4630 | | 1539 | 1564 | 1514 | | 3026 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 301 | 1965 | 397 | 203 | 1288 | 40 | 386 | 64 | 122 | 24 | 48 | 71 |
| RTOR Reduction (vph) | 0 | 0 | 199 | 0 | 2 | 0 | 0 | 0 | 97 | 0 | 68 | 0 |
| Lane Group Flow (vph) | 301 | 1965 | 198 | 203 | 1326 | 0 | 224 | 226 | 25 | 0 | 75 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | Perm | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Actuated Green, G (s) | 27.4 | 63.7 | 63.7 | 17.0 | 53.3 | | 25.5 | 25.5 | 25.5 | | 4.4 | |
| Effective Green, g (s) | 28.4 | 64.7 | 64.7 | 18.0 | 54.3 | | 26.1 | 26.1 | 26.1 | | 5.0 | |
| Actuated g/C Ratio | 0.22 | 0.50 | 0.50 | 0.14 | 0.42 | | 0.20 | 0.20 | 0.20 | | 0.04 | |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | 6.0 | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 354 | 2320 | 763 | 233 | 1937 | | 309 | 314 | 304 | | 117 | |
| v/s Ratio Prot | c0.19 | c0.42 | | 0.12 | 0.29 | | c0.15 | 0.14 | | | c0.02 | |
| v/s Ratio Perm | | | 0.13 | | | | | | 0.02 | | | |
| v/c Ratio | 0.85 | 0.85 | 0.26 | 0.87 | 0.68 | | 0.72 | 0.72 | 0.08 | | 0.64 | |
| Uniform Delay, d1 | 48.7 | 28.3 | 18.7 | 54.8 | 30.8 | | 48.5 | 48.4 | 42.1 | | 61.5 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 18.0 | 3.5 | 0.5 | 28.6 | 1.5 | | 8.7 | 8.2 | 0.2 | | 12.2 | |
| Delay (s) | 66.7 | 31.8 | 19.3 | 83.4 | 32.3 | | 57.2 | 56.6 | 42.3 | | 73.7 | |
| Level of Service | E | C | B | F | C | | E | E | D | | E | |
| Approach Delay (s) | | 33.9 | | | 39.1 | | | 53.8 | | | 73.7 | |
| Approach LOS | | C | | | D | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 39.0 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.80 | | |
| Actuated Cycle Length (s) | 129.8 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 74.1% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 185 | 1665 | 207 | 953 | 267 | 184 | 286 | 27 | 285 |
| v/c Ratio | 0.73 | 0.85 | 0.84 | 0.71 | 0.82 | 0.21 | 0.43 | 0.24 | 0.51 |
| Control Delay | 54.3 | 28.1 | 67.7 | 26.8 | 60.8 | 25.2 | 5.4 | 49.7 | 23.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.3 | 28.1 | 67.7 | 26.8 | 60.8 | 25.2 | 5.4 | 49.7 | 23.0 |
| Queue Length 50th (ft) | 92 | 262 | 108 | 215 | 72 | 38 | 0 | 7 | 45 |
| Queue Length 95th (ft) | #235 | #509 | #290 | #427 | #176 | 70 | 55 | 24 | 80 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 278 | 1957 | 245 | 1350 | 326 | 1366 | 866 | 111 | 1140 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.67 | 0.85 | 0.84 | 0.71 | 0.82 | 0.13 | 0.33 | 0.24 | 0.25 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 170 | 1126 | 406 | 190 | 860 | 17 | 246 | 169 | 263 | 25 | 162 | 100 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 3.1 | 4.0 | | 3.1 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.95 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4534 | | 1652 | 3280 | | 3143 | 3240 | 1660 | 3204 | 3032 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4534 | | 1652 | 3280 | | 3143 | 3240 | 1660 | 3204 | 3032 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 185 | 1224 | 441 | 207 | 935 | 18 | 267 | 184 | 286 | 27 | 176 | 109 |
| RTOR Reduction (vph) | 0 | 57 | 0 | 0 | 1 | 0 | 0 | 0 | 209 | 0 | 90 | 0 |
| Lane Group Flow (vph) | 185 | 1608 | 0 | 207 | 952 | 0 | 267 | 184 | 77 | 27 | 195 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 13.8 | 35.7 | | 13.1 | 35.0 | | 10.1 | 24.4 | 24.4 | 1.5 | 15.8 | |
| Effective Green, g (s) | 13.7 | 36.7 | | 13.0 | 36.0 | | 9.1 | 24.0 | 24.0 | 0.5 | 15.4 | |
| Actuated g/C Ratio | 0.15 | 0.41 | | 0.15 | 0.40 | | 0.10 | 0.27 | 0.27 | 0.01 | 0.17 | |
| Clearance Time (s) | 3.0 | 5.0 | | 3.0 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 249 | 1863 | | 240 | 1322 | | 320 | 871 | 446 | 18 | 523 | |
| v/s Ratio Prot | 0.11 | c0.35 | | c0.13 | 0.29 | | c0.08 | 0.06 | | 0.01 | c0.06 | |
| v/s Ratio Perm | | | | | | | | | 0.05 | | | |
| v/c Ratio | 0.74 | 0.86 | | 0.86 | 0.72 | | 0.83 | 0.21 | 0.17 | 1.50 | 0.37 | |
| Uniform Delay, d1 | 36.1 | 24.0 | | 37.3 | 22.4 | | 39.4 | 25.3 | 25.0 | 44.4 | 32.7 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 11.3 | 4.6 | | 26.5 | 2.0 | | 17.5 | 0.2 | 0.3 | 395.6 | 0.6 | |
| Delay (s) | 47.5 | 28.6 | | 63.8 | 24.5 | | 56.8 | 25.5 | 25.3 | 440.0 | 33.3 | |
| Level of Service | D | C | | E | C | | E | C | C | F | C | |
| Approach Delay (s) | | 30.5 | | | 31.5 | | | 36.8 | | | 68.5 | |
| Approach LOS | | C | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 34.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 89.3 | Sum of lost time (s) | 11.1 |
| Intersection Capacity Utilization | 70.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 21 | 215 | 283 | 5 | 824 | 276 | 566 | 785 |
| v/c Ratio | 0.07 | 0.77 | 0.35 | 0.05 | 0.53 | 0.31 | 0.79 | 0.33 |
| Control Delay | 26.4 | 58.6 | 5.0 | 39.8 | 28.2 | 9.9 | 50.1 | 8.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.4 | 58.6 | 5.0 | 39.8 | 28.2 | 9.9 | 50.1 | 8.6 |
| Queue Length 50th (ft) | 9 | 143 | 0 | 3 | 162 | 2 | 195 | 98 |
| Queue Length 95th (ft) | 28 | 213 | 34 | m7 | 328 | 107 | 248 | 207 |
| Internal Link Dist (ft) | 387 | 301 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 350 | |
| Base Capacity (vph) | 385 | 368 | 977 | 93 | 1544 | 877 | 827 | 2367 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.05 | 0.58 | 0.29 | 0.05 | 0.53 | 0.31 | 0.68 | 0.33 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 15 | 0 | 5 | 196 | 2 | 260 | 5 | 758 | 254 | 521 | 675 | 47 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.97 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.96 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1697 | | | 1775 | 2787 | 1678 | 3355 | 1583 | 3433 | 3432 | |
| Flt Permitted | | 0.78 | | | 0.71 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1375 | | | 1328 | 2787 | 1678 | 3355 | 1583 | 3433 | 3432 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 16 | 0 | 5 | 213 | 2 | 283 | 5 | 824 | 276 | 566 | 734 | 51 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 0 | 224 | 0 | 0 | 149 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 17 | 0 | 0 | 215 | 59 | 5 | 824 | 127 | 566 | 782 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | |
| Actuated Green, G (s) | | 23.1 | | | 23.1 | 23.1 | 1.2 | 50.6 | 50.6 | 22.8 | 72.2 | |
| Effective Green, g (s) | | 23.1 | | | 23.1 | 23.1 | 1.2 | 50.6 | 50.6 | 22.8 | 72.2 | |
| Actuated g/C Ratio | | 0.21 | | | 0.21 | 0.21 | 0.01 | 0.46 | 0.46 | 0.21 | 0.66 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 289 | | | 279 | 585 | 18 | 1543 | 728 | 712 | 2253 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.25 | | c0.16 | 0.23 | |
| v/s Ratio Perm | | 0.01 | | | c0.16 | 0.02 | | | 0.08 | | | |
| v/c Ratio | | 0.06 | | | 0.77 | 0.10 | 0.28 | 0.53 | 0.17 | 0.79 | 0.35 | |
| Uniform Delay, d1 | | 34.8 | | | 41.0 | 35.1 | 54.0 | 21.3 | 17.4 | 41.4 | 8.4 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 0.79 | 1.15 | 3.07 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.1 | | | 12.4 | 0.1 | 7.3 | 1.2 | 0.5 | 6.1 | 0.4 | |
| Delay (s) | | 34.8 | | | 53.3 | 35.2 | 49.7 | 25.7 | 53.9 | 47.5 | 8.8 | |
| Level of Service | | C | | | D | D | D | C | D | D | A | |
| Approach Delay (s) | | 34.8 | | | 43.0 | | | 32.9 | | | 25.0 | |
| Approach LOS | | C | | | D | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 31.0 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.65 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 60.4% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 210 | 67 | 113 | 126 | 298 | 60 | 490 | 228 | 413 |
| v/c Ratio | 0.52 | 0.17 | 0.44 | 0.27 | 0.52 | 0.27 | 0.58 | 0.57 | 0.29 |
| Control Delay | 25.6 | 7.0 | 26.4 | 20.7 | 6.6 | 33.3 | 22.3 | 28.8 | 12.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 25.6 | 7.0 | 26.4 | 20.7 | 6.6 | 33.3 | 22.3 | 28.8 | 12.1 |
| Queue Length 50th (ft) | 60 | 0 | 31 | 33 | 0 | 19 | 68 | 68 | 47 |
| Queue Length 95th (ft) | 160 | 28 | 98 | 96 | 57 | 71 | 165 | 182 | 104 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 799 | 716 | 515 | 946 | 849 | 279 | 1494 | 793 | 2371 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.26 | 0.09 | 0.22 | 0.13 | 0.35 | 0.22 | 0.33 | 0.29 | 0.17 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 70 | 123 | 62 | 104 | 116 | 274 | 55 | 348 | 103 | 210 | 333 | 47 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.98 | |
| Flt Protected | | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1703 | 1260 | 1620 | 1739 | 1316 | 1711 | 2957 | | 1620 | 3018 | |
| Flt Permitted | | 0.85 | 1.00 | 0.56 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1472 | 1260 | 947 | 1739 | 1316 | 1711 | 2957 | | 1620 | 3018 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 76 | 134 | 67 | 113 | 126 | 298 | 60 | 378 | 112 | 228 | 362 | 51 |
| RTOR Reduction (vph) | 0 | 0 | 49 | 0 | 0 | 218 | 0 | 28 | 0 | 0 | 12 | 0 |
| Lane Group Flow (vph) | 0 | 210 | 18 | 113 | 126 | 80 | 60 | 462 | 0 | 228 | 401 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 16.4 | 16.4 | 16.4 | 16.4 | 16.4 | 4.4 | 18.2 | | 14.7 | 28.5 | |
| Effective Green, g (s) | | 16.4 | 16.4 | 16.4 | 16.4 | 16.4 | 4.4 | 18.2 | | 14.7 | 28.5 | |
| Actuated g/C Ratio | | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.07 | 0.30 | | 0.24 | 0.47 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 397 | 340 | 255 | 469 | 355 | 124 | 885 | | 392 | 1415 | |
| v/s Ratio Prot | | | | | 0.07 | | 0.04 | c0.16 | | c0.14 | 0.13 | |
| v/s Ratio Perm | | c0.14 | 0.01 | 0.12 | | 0.06 | | | | | | |
| v/c Ratio | | 0.53 | 0.05 | 0.44 | 0.27 | 0.23 | 0.48 | 0.52 | | 0.58 | 0.28 | |
| Uniform Delay, d1 | | 18.9 | 16.4 | 18.4 | 17.5 | 17.3 | 27.1 | 17.7 | | 20.3 | 9.9 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.3 | 0.1 | 1.2 | 0.3 | 0.3 | 3.0 | 0.7 | | 2.2 | 0.2 | |
| Delay (s) | | 20.2 | 16.5 | 19.6 | 17.8 | 17.6 | 30.1 | 18.4 | | 22.5 | 10.0 | |
| Level of Service | | C | B | B | B | B | C | B | | C | B | |
| Approach Delay (s) | | 19.3 | | | 18.1 | | | 19.7 | | | 14.5 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.5 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.54 | | |
| Actuated Cycle Length (s) | 60.8 | Sum of lost time (s) | 11.5 |
| Intersection Capacity Utilization | 60.9% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 161 | 197 | 117 | 125 | 441 | 152 | 836 | 82 | 872 |
| v/c Ratio | 0.48 | 0.66 | 0.38 | 0.60 | 0.63 | 0.67 | 0.54 | 0.48 | 0.60 |
| Control Delay | 50.5 | 53.3 | 10.4 | 55.5 | 32.4 | 59.3 | 23.2 | 48.6 | 30.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.5 | 53.3 | 10.4 | 55.5 | 32.4 | 59.3 | 23.2 | 48.6 | 30.0 |
| Queue Length 50th (ft) | 56 | 132 | 0 | 80 | 86 | 102 | 219 | 54 | 276 |
| Queue Length 95th (ft) | 87 | 197 | 48 | 154 | 159 | 171 | 320 | m82 | 381 |
| Internal Link Dist (ft) | | 2946 | | | 522 | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 205 | | 200 | | 370 | |
| Base Capacity (vph) | 473 | 409 | 381 | 241 | 810 | 251 | 1549 | 187 | 1452 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.34 | 0.48 | 0.31 | 0.52 | 0.54 | 0.61 | 0.54 | 0.44 | 0.60 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 148 | 181 | 108 | 115 | 221 | 185 | 140 | 651 | 118 | 75 | 711 | 91 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 12 | 12 | 12 | 10 | 10 | 10 | 12 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | | 1.00 | 0.98 | | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3060 | 1845 | 1306 | 1770 | 3275 | | 1652 | 3153 | | 1770 | 3392 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3060 | 1845 | 1306 | 1770 | 3275 | | 1652 | 3153 | | 1770 | 3392 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 161 | 197 | 117 | 125 | 240 | 201 | 152 | 708 | 128 | 82 | 773 | 99 |
| RTOR Reduction (vph) | 0 | 0 | 98 | 0 | 143 | 0 | 0 | 11 | 0 | 0 | 8 | 0 |
| Lane Group Flow (vph) | 161 | 197 | 19 | 125 | 298 | 0 | 152 | 825 | 0 | 82 | 864 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | | | | | | | |
| Actuated Green, G (s) | 12.0 | 17.8 | 17.8 | 13.0 | 18.8 | | 15.2 | 52.8 | | 9.2 | 46.8 | |
| Effective Green, g (s) | 12.0 | 17.8 | 17.8 | 13.0 | 18.8 | | 15.2 | 52.8 | | 9.2 | 46.8 | |
| Actuated g/C Ratio | 0.11 | 0.16 | 0.16 | 0.12 | 0.17 | | 0.14 | 0.48 | | 0.08 | 0.43 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 334 | 299 | 211 | 209 | 560 | | 228 | 1513 | | 148 | 1443 | |
| v/s Ratio Prot | 0.05 | c0.11 | | c0.07 | 0.09 | | c0.09 | 0.26 | | 0.05 | c0.25 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | |
| v/c Ratio | 0.48 | 0.66 | 0.09 | 0.60 | 0.53 | | 0.67 | 0.54 | | 0.55 | 0.60 | |
| Uniform Delay, d1 | 46.1 | 43.3 | 39.2 | 46.0 | 41.6 | | 45.0 | 20.1 | | 48.4 | 24.4 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.95 | 1.14 | | 1.00 | 1.00 | | 0.85 | 1.08 | |
| Incremental Delay, d2 | 1.5 | 5.7 | 0.3 | 5.2 | 1.2 | | 7.9 | 1.4 | | 5.1 | 1.7 | |
| Delay (s) | 47.6 | 49.0 | 39.5 | 48.9 | 48.6 | | 52.9 | 21.6 | | 46.3 | 28.1 | |
| Level of Service | D | D | D | D | D | | D | C | | D | C | |
| Approach Delay (s) | | 46.2 | | | 48.7 | | | 26.4 | | | 29.6 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 34.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.62 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 17.2 |
| Intersection Capacity Utilization | 61.4% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 11 | 315 | 34 | 575 | 11 | 11 | 41 | 56 | 11 |
| v/c Ratio | 0.11 | 0.22 | 0.27 | 0.39 | 0.09 | 0.02 | 0.33 | 0.29 | 0.16 |
| Control Delay | 52.5 | 6.6 | 53.4 | 7.6 | 44.5 | 0.0 | 51.7 | 16.2 | 53.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 52.5 | 6.6 | 53.4 | 7.6 | 44.5 | 0.0 | 51.7 | 16.2 | 53.2 |
| Queue Length 50th (ft) | 8 | 43 | 23 | 68 | 7 | 0 | 28 | 1 | 8 |
| Queue Length 95th (ft) | 28 | 97 | 55 | 384 | 23 | 0 | 58 | 37 | 26 |
| Internal Link Dist (ft) | | 524 | | 1458 | | 986 | | 462 | |
| Turn Bay Length (ft) | 250 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 109 | 1417 | 133 | 1495 | 218 | 790 | 235 | 313 | 72 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.10 | 0.22 | 0.26 | 0.38 | 0.05 | 0.01 | 0.17 | 0.18 | 0.15 |

Intersection Summary

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 10 | 277 | 13 | 31 | 478 | 51 | 10 | 0 | 10 | 38 | 2 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 12 | 11 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 0.85 | | 1.00 | 0.86 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1848 | | 1770 | 1836 | | 1711 | 1583 | | 1770 | 1593 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.72 | 1.00 | | 0.75 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1848 | | 1770 | 1836 | | 1297 | 1583 | | 1398 | 1593 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 11 | 301 | 14 | 34 | 520 | 55 | 11 | 0 | 11 | 41 | 2 | 54 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 50 | 0 |
| Lane Group Flow (vph) | 11 | 314 | 0 | 34 | 575 | 0 | 11 | 1 | 0 | 41 | 6 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 1.5 | 76.2 | | 5.2 | 79.9 | | 8.8 | 8.8 | | 8.8 | 8.8 | |
| Effective Green, g (s) | 1.5 | 76.2 | | 5.2 | 79.9 | | 8.8 | 8.8 | | 8.8 | 8.8 | |
| Actuated g/C Ratio | 0.01 | 0.69 | | 0.05 | 0.73 | | 0.08 | 0.08 | | 0.08 | 0.08 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 24 | 1280 | | 84 | 1334 | | 104 | 127 | | 112 | 127 | |
| v/s Ratio Prot | 0.01 | 0.17 | | c0.02 | c0.31 | | | 0.00 | | | 0.00 | |
| v/s Ratio Perm | | | | | | | 0.01 | | | c0.03 | | |
| v/c Ratio | 0.46 | 0.25 | | 0.40 | 0.43 | | 0.11 | 0.01 | | 0.37 | 0.05 | |
| Uniform Delay, d1 | 53.8 | 6.3 | | 50.9 | 6.0 | | 46.9 | 46.6 | | 48.0 | 46.7 | |
| Progression Factor | 1.03 | 0.82 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 13.1 | 0.5 | | 3.2 | 1.0 | | 0.4 | 0.0 | | 2.0 | 0.2 | |
| Delay (s) | 68.8 | 5.6 | | 54.1 | 7.0 | | 47.4 | 46.6 | | 50.0 | 46.9 | |
| Level of Service | E | A | | D | A | | D | D | | D | D | |
| Approach Delay (s) | | 7.7 | | | 9.6 | | | 47.0 | | | 48.2 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 14.3 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.44 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 53.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Movement | SWR |
|---|---|
| Lane Configurations | |
| Volume (vph) | 10 |
| Ideal Flow (vphpl) | 1900 |
| Lane Width | 12 |
| Total Lost time (s) | 4.5 |
| Lane Util. Factor | 1.00 |
| Frpb, ped/bikes | 1.00 |
| Flpb, ped/bikes | 1.00 |
| Frt | 0.86 |
| Flt Protected | 1.00 |
| Satd. Flow (prot) | 1096 |
| Flt Permitted | 1.00 |
| Satd. Flow (perm) | 1096 |
| Peak-hour factor, PHF | 0.92 |
| Adj. Flow (vph) | 11 |
| RTOR Reduction (vph) | 0 |
| Lane Group Flow (vph) | 11 |
| Confl. Peds. (#/hr) | |
| Heavy Vehicles (%) | 50% |
| Parking (#/hr) | |
| Turn Type | custom |
| Protected Phases | 9 |
| Permitted Phases | 9 |
| Actuated Green, G (s) | 1.8 |
| Effective Green, g (s) | 1.8 |
| Actuated g/C Ratio | 0.02 |
| Clearance Time (s) | 4.5 |
| Vehicle Extension (s) | 3.0 |
| Lane Grp Cap (vph) | 18 |
| v/s Ratio Prot | c0.01 |
| v/s Ratio Perm | |
| v/c Ratio | 0.61 |
| Uniform Delay, d1 | 53.8 |
| Progression Factor | 1.00 |
| Incremental Delay, d2 | 48.7 |
| Delay (s) | 102.4 |
| Level of Service | F |
| Approach Delay (s) | |
| Approach LOS | |

| Intersection Summary |
|---|

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 57 | 379 | 5 | 519 | 41 | 59 | 7 | 37 | 292 |
| v/c Ratio | 0.23 | 0.37 | 0.03 | 0.70 | 0.19 | 0.12 | 0.02 | 0.11 | 0.56 |
| Control Delay | 28.9 | 9.3 | 30.2 | 20.8 | 20.2 | 17.5 | 10.5 | 18.1 | 19.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.9 | 9.3 | 30.2 | 20.8 | 20.2 | 17.5 | 10.5 | 18.1 | 19.1 |
| Queue Length 50th (ft) | 18 | 52 | 2 | 145 | 11 | 16 | 0 | 10 | 71 |
| Queue Length 95th (ft) | 56 | 165 | 12 | #337 | 35 | 42 | 8 | 31 | 146 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 251 | 1331 | 144 | 982 | 445 | 1074 | 767 | 716 | 1049 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 0.28 | 0.03 | 0.53 | 0.09 | 0.05 | 0.01 | 0.05 | 0.28 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 52 | 264 | 85 | 5 | 439 | 39 | 38 | 54 | 6 | 34 | 152 | 117 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1947 | | 1711 | 1698 | | 1652 | 1863 | 1327 | 1644 | 1776 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.44 | 1.00 | 1.00 | 0.72 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1947 | | 1711 | 1698 | | 771 | 1863 | 1327 | 1243 | 1776 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 57 | 287 | 92 | 5 | 477 | 42 | 41 | 59 | 7 | 37 | 165 | 127 |
| RTOR Reduction (vph) | 0 | 13 | 0 | 0 | 4 | 0 | 0 | 0 | 5 | 0 | 43 | 0 |
| Lane Group Flow (vph) | 57 | 366 | 0 | 5 | 515 | 0 | 41 | 59 | 2 | 37 | 249 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 3.4 | 27.0 | | 0.6 | 24.2 | | 14.2 | 14.2 | 14.2 | 14.2 | 14.2 | |
| Effective Green, g (s) | 3.4 | 27.0 | | 0.6 | 24.2 | | 14.2 | 14.2 | 14.2 | 14.2 | 14.2 | |
| Actuated g/C Ratio | 0.06 | 0.49 | | 0.01 | 0.44 | | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 106 | 959 | | 19 | 750 | | 200 | 483 | 344 | 322 | 460 | |
| v/s Ratio Prot | c0.03 | c0.19 | | 0.00 | c0.30 | | | 0.03 | | | c0.14 | |
| v/s Ratio Perm | | | | | | | 0.05 | | 0.00 | 0.03 | | |
| v/c Ratio | 0.54 | 0.38 | | 0.26 | 0.69 | | 0.20 | 0.12 | 0.01 | 0.11 | 0.54 | |
| Uniform Delay, d1 | 24.9 | 8.7 | | 26.9 | 12.3 | | 15.9 | 15.5 | 15.1 | 15.5 | 17.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 6.5 | 0.3 | | 9.9 | 2.8 | | 0.7 | 0.2 | 0.0 | 0.2 | 1.6 | |
| Delay (s) | 31.5 | 9.0 | | 36.7 | 15.1 | | 16.6 | 15.7 | 15.1 | 15.7 | 19.1 | |
| Level of Service | C | A | | D | B | | B | B | B | B | B | |
| Approach Delay (s) | | 12.0 | | | 15.3 | | | 16.0 | | | 18.7 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 15.1 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.68 | | |
| Actuated Cycle Length (s) | 54.8 | Sum of lost time (s) | 17.5 |
| Intersection Capacity Utilization | 63.6% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 120 | 121 | 3 | 96 | 409 | 761 | 40 | 23 | 833 |
| v/c Ratio | 0.93 | 0.25 | 0.04 | 0.34 | 0.86 | 0.39 | 0.05 | 0.21 | 0.79 |
| Control Delay | 104.5 | 9.1 | 42.0 | 30.9 | 48.0 | 11.2 | 7.6 | 44.4 | 31.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 104.5 | 9.1 | 42.0 | 30.9 | 48.0 | 11.2 | 7.6 | 44.4 | 31.5 |
| Queue Length 50th (ft) | 59 | 10 | 1 | 42 | 182 | 72 | 3 | 11 | 174 |
| Queue Length 95th (ft) | #201 | 50 | 11 | 81 | #465 | 232 | 26 | 40 | #377 |
| Internal Link Dist (ft) | | 1442 | | 1025 | | 1609 | | | 1977 |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | |
| Base Capacity (vph) | 129 | 757 | 83 | 736 | 478 | 1958 | 879 | 107 | 1073 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.93 | 0.16 | 0.04 | 0.13 | 0.86 | 0.39 | 0.05 | 0.21 | 0.78 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 110 | 24 | 87 | 3 | 84 | 5 | 380 | 700 | 37 | 21 | 548 | 218 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.88 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1559 | | 1652 | 1718 | | 1652 | 3240 | 1448 | 1711 | 3230 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1559 | | 1652 | 1718 | | 1652 | 3240 | 1448 | 1711 | 3230 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 120 | 26 | 95 | 3 | 91 | 5 | 409 | 761 | 40 | 23 | 596 | 237 |
| RTOR Reduction (vph) | 0 | 71 | 0 | 0 | 2 | 0 | 0 | 0 | 8 | 0 | 38 | 0 |
| Lane Group Flow (vph) | 120 | 50 | 0 | 3 | 94 | 0 | 409 | 761 | 32 | 23 | 795 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 6.1 | 21.2 | | 0.7 | 15.8 | | 23.3 | 48.6 | 48.6 | 1.8 | 27.1 | |
| Effective Green, g (s) | 6.1 | 21.2 | | 0.7 | 15.8 | | 23.3 | 48.6 | 48.6 | 1.8 | 27.1 | |
| Actuated g/C Ratio | 0.07 | 0.25 | | 0.01 | 0.19 | | 0.27 | 0.57 | 0.57 | 0.02 | 0.32 | |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 123 | 390 | | 14 | 320 | | 454 | 1857 | 830 | 36 | 1032 | |
| v/s Ratio Prot | c0.07 | 0.03 | | 0.00 | c0.05 | | c0.25 | 0.23 | | 0.01 | c0.25 | |
| v/s Ratio Perm | | | | | | | | | 0.02 | | | |
| v/c Ratio | 0.98 | 0.13 | | 0.21 | 0.29 | | 0.90 | 0.41 | 0.04 | 0.64 | 0.77 | |
| Uniform Delay, d1 | 39.3 | 24.6 | | 41.8 | 29.7 | | 29.6 | 10.1 | 7.9 | 41.2 | 26.0 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 73.2 | 0.2 | | 10.2 | 0.7 | | 21.1 | 0.2 | 0.0 | 35.1 | 3.8 | |
| Delay (s) | 112.4 | 24.8 | | 52.0 | 30.4 | | 50.7 | 10.3 | 7.9 | 76.2 | 29.9 | |
| Level of Service | F | C | | D | C | | D | B | A | E | C | |
| Approach Delay (s) | | 68.5 | | | 31.0 | | | 23.9 | | | 31.1 | |
| Approach LOS | | E | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 31.2 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 84.8 | Sum of lost time (s) | 12.5 |
| Intersection Capacity Utilization | 66.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 63 | 17 | 16 | 971 | 955 |
| v/c Ratio | 0.20 | 0.06 | 0.04 | 0.39 | 0.38 |
| Control Delay | 18.6 | 8.5 | 5.4 | 5.1 | 5.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 |
| Total Delay | 18.6 | 8.5 | 5.4 | 5.3 | 5.0 |
| Queue Length 50th (ft) | 20 | 0 | 1 | 54 | 52 |
| Queue Length 95th (ft) | 38 | 11 | 10 | 154 | 149 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 701 | 574 | 385 | 2449 | 2436 |
| Starvation Cap Reductn | 0 | 0 | 0 | 731 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.03 | 0.04 | 0.57 | 0.39 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 58 | 16 | 15 | 893 | 843 | 36 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3219 | |
| Flt Permitted | 0.95 | 1.00 | 0.29 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 510 | 3240 | 3219 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 63 | 17 | 16 | 971 | 916 | 39 |
| RTOR Reduction (vph) | 0 | 15 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 63 | 2 | 16 | 971 | 952 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 5.8 | 5.8 | 33.8 | 33.8 | 33.8 | |
| Effective Green, g (s) | 5.8 | 5.8 | 33.8 | 33.8 | 33.8 | |
| Actuated g/C Ratio | 0.12 | 0.12 | 0.70 | 0.70 | 0.70 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 197 | 159 | 355 | 2253 | 2239 | |
| v/s Ratio Prot | c0.04 | | | c0.30 | 0.30 | |
| v/s Ratio Perm | | 0.00 | 0.03 | | | |
| v/c Ratio | 0.32 | 0.01 | 0.05 | 0.43 | 0.43 | |
| Uniform Delay, d1 | 19.6 | 18.9 | 2.3 | 3.2 | 3.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.9 | 0.0 | 0.1 | 0.4 | 0.4 | |
| Delay (s) | 20.5 | 18.9 | 2.5 | 3.6 | 3.6 | |
| Level of Service | C | B | A | A | A | |
| Approach Delay (s) | 20.2 | | | 3.6 | 3.6 | |
| Approach LOS | C | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.2 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.41 | | |
| Actuated Cycle Length (s) | 48.6 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 35.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1157 | 952 | 836 | 1995 | 826 | 1178 |
| v/c Ratio | 0.53 | 0.55 | 0.91 | 1.07 | 0.49 | 1.13 |
| Control Delay | 14.4 | 14.2 | 57.4 | 66.0 | 1.0 | 110.1 |
| Queue Delay | 14.4 | 5.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.8 | 20.0 | 57.4 | 66.0 | 1.0 | 110.1 |
| Queue Length 50th (ft) | 288 | 248 | 394 | ~1062 | 0 | ~703 |
| Queue Length 95th (ft) | 345 | 310 | m391 | m#957 | 0 | #854 |
| Internal Link Dist (ft) | 252 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 2185 | 1737 | 959 | 1857 | 1686 | 1044 |
| Starvation Cap Reductn | 1029 | 718 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.00 | 0.93 | 0.87 | 1.07 | 0.49 | 1.13 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1064 | 876 | 769 | 1835 | 0 | 0 | 0 | 760 | 0 | 0 | 1084 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 3.5 | 3.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.88 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2733 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2733 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1157 | 952 | 836 | 1995 | 0 | 0 | 0 | 826 | 0 | 0 | 1178 |
| RTOR Reduction (vph) | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1157 | 935 | 836 | 1995 | 0 | 0 | 0 | 826 | 0 | 0 | 1178 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 4 | | 1 | 6 | | | | | | | |
| Permitted Phases | | | 2 4 | | | | | | Free | | | 4 |
| Actuated Green, G (s) | | 90.2 | 90.2 | 40.8 | 77.5 | | | | 140.0 | | | 53.5 |
| Effective Green, g (s) | | 90.2 | 90.2 | 40.8 | 77.5 | | | | 140.0 | | | 53.5 |
| Actuated g/C Ratio | | 0.64 | 0.64 | 0.29 | 0.55 | | | | 1.00 | | | 0.38 |
| Clearance Time (s) | | | | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | | | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 2162 | 1702 | 916 | 1857 | | | | 1686 | | | 1044 |
| v/s Ratio Prot | | 0.34 | | 0.27 | c0.59 | | | | | | | |
| v/s Ratio Perm | | | 0.35 | | | | | | 0.49 | | | c0.43 |
| v/c Ratio | | 0.54 | 0.55 | 0.91 | 1.07 | | | | 0.49 | | | 1.13 |
| Uniform Delay, d1 | | 13.5 | 13.7 | 47.9 | 31.2 | | | | 0.0 | | | 43.2 |
| Progression Factor | | 1.00 | 1.00 | 1.06 | 0.88 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 0.3 | 0.4 | 5.8 | 38.1 | | | | 1.0 | | | 70.2 |
| Delay (s) | | 13.8 | 14.1 | 56.8 | 65.8 | | | | 1.0 | | | 113.5 |
| Level of Service | | B | B | E | E | | | | A | | | F |
| Approach Delay (s) | | 13.9 | | | 63.1 | | | 1.0 | | | 113.5 | |
| Approach LOS | | B | | | E | | | A | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 49.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.10 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 96.1% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 697 | 1286 | 1211 | 780 | 947 | 1748 |
| v/c Ratio | 0.84 | 0.38 | 0.60 | 0.83 | 0.59 | 1.14 |
| Control Delay | 31.6 | 0.3 | 10.2 | 20.7 | 1.6 | 80.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 31.6 | 0.3 | 10.2 | 20.7 | 1.6 | 80.7 |
| Queue Length 50th (ft) | 176 | 0 | 155 | 234 | 0 | ~202 |
| Queue Length 95th (ft) | 203 | 0 | 212 | #487 | 0 | #449 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 876 | 3355 | 2035 | 943 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.80 | 0.38 | 0.60 | 0.83 | 0.59 | 1.14 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 641 | 1183 | 0 | 0 | 1114 | 718 | 0 | 0 | 871 | 0 | 0 | 1608 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 697 | 1286 | 0 | 0 | 1211 | 780 | 0 | 0 | 947 | 0 | 0 | 1748 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 697 | 1286 | 0 | 0 | 1211 | 765 | 0 | 0 | 947 | 0 | 0 | 1748 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 18.5 | 70.0 | | | 42.5 | 42.5 | | | 70.0 | | | 70.0 |
| Effective Green, g (s) | 18.5 | 70.0 | | | 42.5 | 42.5 | | | 70.0 | | | 70.0 |
| Actuated g/C Ratio | 0.26 | 1.00 | | | 0.61 | 0.61 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 831 | 3355 | | | 2037 | 930 | | | 1611 | | | 1528 |
| v/s Ratio Prot | 0.22 | 0.38 | | | 0.36 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.50 | | | 0.59 | | | c1.14 |
| v/c Ratio | 0.84 | 0.38 | | | 0.59 | 0.82 | | | 0.59 | | | 1.14 |
| Uniform Delay, d1 | 24.3 | 0.0 | | | 8.5 | 10.8 | | | 0.0 | | | 35.0 |
| Progression Factor | 0.94 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 6.5 | 0.3 | | | 1.3 | 8.2 | | | 1.6 | | | 73.1 |
| Delay (s) | 29.5 | 0.3 | | | 9.7 | 19.0 | | | 1.6 | | | 108.1 |
| Level of Service | C | A | | | A | B | | | A | | | F |
| Approach Delay (s) | | 10.6 | | | 13.4 | | | 1.6 | | | 108.1 | |
| Approach LOS | | B | | | B | | | A | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 35.7 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.14 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 70.2% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 325 | 458 | 512 | 401 | 21 | 504 | 770 | 15 | 58 | 693 | 275 |
| v/c Ratio | 1.01 | 0.62 | 0.29 | 1.00 | 0.06 | 0.73 | 0.55 | 0.03 | 0.41 | 0.86 | 0.58 |
| Control Delay | 81.7 | 29.0 | 0.4 | 85.9 | 23.7 | 45.3 | 27.2 | 14.9 | 55.8 | 50.7 | 24.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 81.7 | 29.0 | 0.4 | 85.9 | 23.7 | 45.3 | 27.2 | 14.9 | 55.8 | 50.7 | 24.9 |
| Queue Length 50th (ft) | ~175 | 236 | 0 | 272 | 6 | 164 | 220 | 3 | 37 | 236 | 86 |
| Queue Length 95th (ft) | #398 | 386 | 0 | #515 | 28 | 220 | 280 | 17 | 84 | #371 | 188 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 323 | 741 | 1770 | 403 | 350 | 999 | 1636 | 609 | 156 | 809 | 474 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.01 | 0.62 | 0.29 | 1.00 | 0.06 | 0.50 | 0.47 | 0.02 | 0.37 | 0.86 | 0.58 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 299 | 421 | 471 | 3 | 366 | 19 | 464 | 708 | 14 | 53 | 638 | 253 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.96 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1738 | 1473 | 3204 | 3539 | 1337 | 1652 | 3303 | 1550 |
| Flt Permitted | 0.14 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 242 | 1739 | 1770 | | 1733 | 1473 | 3204 | 3539 | 1337 | 1652 | 3303 | 1550 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 325 | 458 | 512 | 3 | 398 | 21 | 504 | 770 | 15 | 58 | 693 | 275 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 5 | 0 | 0 | 94 |
| Lane Group Flow (vph) | 325 | 458 | 512 | 0 | 401 | 13 | 504 | 770 | 10 | 58 | 693 | 181 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 44.7 | 44.7 | 107.0 | | 24.2 | 24.2 | 21.8 | 40.9 | 40.9 | 7.0 | 26.0 | 26.0 |
| Effective Green, g (s) | 45.2 | 45.2 | 107.0 | | 24.7 | 24.7 | 22.8 | 41.9 | 40.9 | 7.9 | 27.0 | 27.0 |
| Actuated g/C Ratio | 0.42 | 0.42 | 1.00 | | 0.23 | 0.23 | 0.21 | 0.39 | 0.38 | 0.07 | 0.25 | 0.25 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.9 | 5.0 | 5.0 |
| Vehicle Extension (s) | 4.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 320 | 735 | 1770 | | 400 | 340 | 683 | 1386 | 511 | 122 | 833 | 391 |
| v/s Ratio Prot | c0.16 | 0.26 | | | | | c0.16 | 0.22 | | 0.04 | c0.21 | |
| v/s Ratio Perm | c0.27 | | 0.29 | | 0.23 | 0.01 | | | 0.01 | | | 0.12 |
| v/c Ratio | 1.02 | 0.62 | 0.29 | | 1.00 | 0.04 | 0.74 | 0.56 | 0.02 | 0.48 | 0.83 | 0.46 |
| Uniform Delay, d1 | 30.5 | 24.2 | 0.0 | | 41.1 | 31.9 | 39.3 | 25.3 | 20.6 | 47.6 | 37.9 | 33.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 54.3 | 1.9 | 0.4 | | 45.6 | 0.1 | 4.2 | 1.0 | 0.0 | 3.4 | 8.3 | 2.4 |
| Delay (s) | 84.9 | 26.1 | 0.4 | | 86.8 | 32.0 | 43.5 | 26.4 | 20.6 | 51.0 | 46.1 | 36.3 |
| Level of Service | F | C | A | | F | C | D | C | C | D | D | D |
| Approach Delay (s) | | 30.7 | | | 84.0 | | | 33.0 | | | 43.8 | |
| Approach LOS | | C | | | F | | | C | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 40.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 107.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 85.8% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBT | WBR | NBT | SBL | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 29 | 90 | 1017 | 160 | 1323 |
| v/c Ratio | 0.12 | 0.26 | 0.27 | 0.45 | 0.49 |
| Control Delay | 17.3 | 6.5 | 3.8 | 13.9 | 5.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.3 | 6.5 | 3.8 | 13.9 | 5.6 |
| Queue Length 50th (ft) | 8 | 0 | 29 | 16 | 72 |
| Queue Length 95th (ft) | 22 | 25 | 90 | #125 | 229 |
| Internal Link Dist (ft) | 217 | | 650 | | 443 |
| Turn Bay Length (ft) | | | | 150 | |
| Base Capacity (vph) | 572 | 691 | 3760 | 352 | 2653 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.05 | 0.13 | 0.27 | 0.45 | 0.50 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 26 | 1 | 83 | 0 | 894 | 41 | 147 | 1215 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.99 | | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | | 0.99 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1570 | 1400 | | 4916 | | 1619 | 3470 | |
| Flt Permitted | | | | | 0.76 | 1.00 | | 1.00 | | 0.27 | 1.00 | |
| Satd. Flow (perm) | | | | | 1244 | 1400 | | 4916 | | 459 | 3470 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 28 | 1 | 90 | 0 | 972 | 45 | 160 | 1321 | 2 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 80 | 0 | 6 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 29 | 10 | 0 | 1011 | 0 | 160 | 1323 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 5.2 | 5.2 | | 31.1 | | 31.1 | 31.1 | |
| Effective Green, g (s) | | | | | 5.2 | 5.2 | | 31.1 | | 31.1 | 31.1 | |
| Actuated g/C Ratio | | | | | 0.12 | 0.12 | | 0.69 | | 0.69 | 0.69 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 144 | 162 | | 3405 | | 318 | 2403 | |
| v/s Ratio Prot | | | | | | | | 0.21 | | | c0.38 | |
| v/s Ratio Perm | | | | | c0.02 | 0.01 | | | | 0.35 | | |
| v/c Ratio | | | | | 0.20 | 0.06 | | 0.30 | | 0.50 | 0.55 | |
| Uniform Delay, d1 | | | | | 18.0 | 17.7 | | 2.7 | | 3.3 | 3.4 | |
| Progression Factor | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | | | | 0.7 | 0.2 | | 0.0 | | 0.5 | 0.2 | |
| Delay (s) | | | | | 18.7 | 17.9 | | 2.7 | | 3.7 | 3.6 | |
| Level of Service | | | | | B | B | | A | | A | A | |
| Approach Delay (s) | | 0.0 | | | 18.0 | | | 2.7 | | | 3.6 | |
| Approach LOS | | A | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 3.9 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.50 | | |
| Actuated Cycle Length (s) | 44.9 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 53.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 11 | 334 | 646 | 42 | 26 |
| v/c Ratio | 0.11 | 0.21 | 0.22 | 0.32 | 0.18 |
| Control Delay | 70.6 | 0.5 | 1.7 | 54.0 | 19.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 70.6 | 0.5 | 1.7 | 54.0 | 19.8 |
| Queue Length 50th (ft) | 8 | 3 | 29 | 29 | 0 |
| Queue Length 95th (ft) | m17 | 9 | 33 | 63 | 27 |
| Internal Link Dist (ft) | | 522 | 524 | 200 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 185 | 1623 | 2968 | 426 | 401 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.06 | 0.21 | 0.22 | 0.10 | 0.06 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 10 | 307 | 544 | 51 | 39 | 24 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.99 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3494 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3494 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 11 | 334 | 591 | 55 | 42 | 26 |
| RTOR Reduction (vph) | 0 | 0 | 3 | 0 | 0 | 24 |
| Lane Group Flow (vph) | 11 | 334 | 643 | 0 | 42 | 2 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 1.5 | 94.0 | 88.0 | | 7.0 | 7.0 |
| Effective Green, g (s) | 1.5 | 94.0 | 88.0 | | 7.0 | 7.0 |
| Actuated g/C Ratio | 0.01 | 0.85 | 0.80 | | 0.06 | 0.06 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 24 | 1592 | 2795 | | 113 | 101 |
| v/s Ratio Prot | 0.01 | c0.18 | c0.18 | | c0.02 | |
| v/s Ratio Perm | | | | | | 0.00 |
| v/c Ratio | 0.46 | 0.21 | 0.23 | | 0.37 | 0.02 |
| Uniform Delay, d1 | 53.8 | 1.4 | 2.7 | | 49.4 | 48.3 |
| Progression Factor | 1.41 | 0.16 | 0.62 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 11.8 | 0.3 | 0.2 | | 2.1 | 0.1 |
| Delay (s) | 87.6 | 0.5 | 1.9 | | 51.4 | 48.3 |
| Level of Service | F | A | A | | D | D |
| Approach Delay (s) | | 3.3 | 1.9 | | 50.3 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 5.4 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.24 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 29.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBL | WBT | NBR |
|---|---|---|---|---|
| Lane Group Flow (vph) | 1416 | 543 | 2458 | 563 |
| v/c Ratio | 0.52 | 0.69 | 0.48 | 0.78 |
| Control Delay | 16.9 | 19.5 | 0.3 | 23.8 |
| Queue Delay | 0.0 | 1.2 | 0.0 | 0.0 |
| Total Delay | 16.9 | 20.7 | 0.3 | 23.8 |
| Queue Length 50th (ft) | 129 | 171 | 0 | 188 |
| Queue Length 95th (ft) | 188 | 224 | 0 | 253 |
| Internal Link Dist (ft) | 387 | | 252 | |
| Turn Bay Length (ft) | | | | |
| Base Capacity (vph) | 2718 | 974 | 5085 | 887 |
| Starvation Cap Reductn | 0 | 229 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.52 | 0.73 | 0.48 | 0.63 |

Intersection Summary

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 1272 | 30 | 500 | 2261 | 0 | 518 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Lane Util. Factor | 0.86 | | 1.00 | 0.91 | | 1.00 |
| Frt | 1.00 | | 1.00 | 1.00 | | 0.86 |
| Flt Protected | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 6385 | | 1770 | 5085 | | 1611 |
| Flt Permitted | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 6385 | | 1770 | 5085 | | 1611 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1383 | 33 | 543 | 2458 | 0 | 563 |
| RTOR Reduction (vph) | 4 | 0 | 0 | 0 | 0 | 2 |
| Lane Group Flow (vph) | 1412 | 0 | 543 | 2458 | 0 | 561 |
| Turn Type | | | Prot | | | Over |
| Protected Phases | 2 | | 1 | 6 | | 1 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 29.7 | | 31.3 | 70.0 | | 31.3 |
| Effective Green, g (s) | 29.7 | | 31.3 | 70.0 | | 31.3 |
| Actuated g/C Ratio | 0.42 | | 0.45 | 1.00 | | 0.45 |
| Clearance Time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 2709 | | 791 | 5085 | | 720 |
| v/s Ratio Prot | 0.22 | | 0.31 | c0.48 | | c0.35 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.52 | | 0.69 | 0.48 | | 0.78 |
| Uniform Delay, d1 | 14.9 | | 15.4 | 0.0 | | 16.4 |
| Progression Factor | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Incremental Delay, d2 | 0.7 | | 2.5 | 0.3 | | 5.4 |
| Delay (s) | 15.6 | | 17.9 | 0.3 | | 21.8 |
| Level of Service | B | | B | A | | C |
| Approach Delay (s) | 15.6 | | | 3.5 | 21.8 | |
| Approach LOS | B | | | A | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 9.0 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.62 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 4.5 |
| Intersection Capacity Utilization | 58.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 58 | 173 | 289 | 166 | 1208 | 27 | 1334 | 257 | 1426 | 1209 | 90 |
| v/c Ratio | 0.97 | 0.44 | 0.90 | 0.36 | 0.70 | 0.38 | 1.09 | 0.34 | 1.27 | 0.62 | 0.10 |
| Control Delay | 173.0 | 55.2 | 85.8 | 43.6 | 18.0 | 80.0 | 100.7 | 6.5 | 165.2 | 20.4 | 2.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 173.0 | 55.2 | 85.8 | 43.6 | 18.0 | 80.0 | 100.7 | 6.5 | 165.2 | 20.4 | 2.7 |
| Queue Length 50th (ft) | 54 | 73 | 257 | 123 | 369 | 24 | ~501 | 33 | ~846 | 382 | 0 |
| Queue Length 95th (ft) | #151 | 102 | #555 | 192 | 457 | 58 | #599 | 73 | #984 | 456 | 24 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 60 | 702 | 320 | 467 | 1732 | 79 | 1228 | 756 | 1126 | 1943 | 945 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.97 | 0.25 | 0.90 | 0.36 | 0.70 | 0.34 | 1.09 | 0.34 | 1.27 | 0.62 | 0.10 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 53 | 134 | 25 | 266 | 153 | 1111 | 25 | 1227 | 236 | 1312 | 1112 | 83 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 2.5 | 2.5 | | 2.5 | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 2.5 | 1.8 | 1.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 1.00 | 0.88 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3113 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1515 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3113 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1515 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 58 | 146 | 27 | 289 | 166 | 1208 | 27 | 1334 | 257 | 1426 | 1209 | 90 |
| RTOR Reduction (vph) | 0 | 12 | 0 | 0 | 0 | 8 | 0 | 0 | 89 | 0 | 0 | 37 |
| Lane Group Flow (vph) | 58 | 161 | 0 | 289 | 166 | 1200 | 27 | 1334 | 168 | 1426 | 1209 | 53 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 4.0 | 15.1 | | 25.9 | 37.0 | 91.0 | 3.5 | 36.6 | 62.5 | 49.5 | 82.6 | 82.6 |
| Effective Green, g (s) | 5.0 | 17.1 | | 26.9 | 39.0 | 93.0 | 4.5 | 38.6 | 66.5 | 50.5 | 84.6 | 84.6 |
| Actuated g/C Ratio | 0.04 | 0.12 | | 0.19 | 0.27 | 0.65 | 0.03 | 0.27 | 0.47 | 0.35 | 0.59 | 0.59 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 4.0 | | 2.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 59 | 374 | | 317 | 463 | 1725 | 51 | 1262 | 677 | 1115 | 1925 | 900 |
| v/s Ratio Prot | c0.03 | 0.05 | | c0.17 | 0.10 | c0.45 | 0.02 | c0.29 | 0.12 | c0.45 | 0.37 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.04 |
| v/c Ratio | 0.98 | 0.43 | | 0.91 | 0.36 | 0.70 | 0.53 | 1.06 | 0.25 | 1.28 | 0.63 | 0.06 |
| Uniform Delay, d1 | 68.7 | 58.1 | | 56.6 | 41.6 | 15.7 | 67.9 | 51.9 | 22.9 | 46.0 | 18.7 | 12.2 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 110.3 | 1.4 | | 28.6 | 0.7 | 1.3 | 4.5 | 41.9 | 0.3 | 132.5 | 0.6 | 0.0 |
| Delay (s) | 179.0 | 59.5 | | 85.2 | 42.3 | 17.0 | 72.4 | 93.8 | 23.1 | 178.5 | 19.4 | 12.2 |
| Level of Service | F | E | | F | D | B | E | F | C | F | B | B |
| Approach Delay (s) | | 89.5 | | | 31.4 | | | 82.2 | | | 102.4 | |
| Approach LOS | | F | | | C | | | F | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 77.7 | HCM Level of Service | E |
| HCM Volume to Capacity ratio | 1.08 | | |
| Actuated Cycle Length (s) | 142.4 | Sum of lost time (s) | 11.8 |
| Intersection Capacity Utilization | 97.9% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 149 | 1713 | 25 | 1543 | 183 | 28 | 148 | 187 | 124 |
| v/c Ratio | 0.60 | 0.78 | 0.15 | 0.84 | 0.20 | 0.25 | 0.64 | 0.49 | 0.52 |
| Control Delay | 52.8 | 17.4 | 52.9 | 15.4 | 0.5 | 50.9 | 21.2 | 46.7 | 28.5 |
| Queue Delay | 0.0 | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Total Delay | 52.8 | 20.6 | 52.9 | 15.4 | 0.5 | 50.9 | 21.4 | 46.7 | 28.5 |
| Queue Length 50th (ft) | 95 | 245 | 17 | 85 | 0 | 18 | 1 | 62 | 36 |
| Queue Length 95th (ft) | 162 | #758 | m24 | #678 | m1 | 45 | 60 | 94 | 92 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 247 | 2210 | 170 | 1842 | 896 | 224 | 318 | 462 | 274 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 386 | 0 | 0 | 0 | 0 | 18 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.60 | 0.94 | 0.15 | 0.84 | 0.20 | 0.13 | 0.49 | 0.40 | 0.45 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 137 | 1560 | 16 | 23 | 1420 | 168 | 26 | 2 | 134 | 172 | 42 | 72 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 2.0 | 3.0 | | 2.0 | 3.0 | 3.0 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.98 | | 1.00 | 0.95 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3174 | | 1620 | 3209 | 1435 | 1678 | 1431 | | 3143 | 1474 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3174 | | 1620 | 3209 | 1435 | 1678 | 1431 | | 3143 | 1474 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 149 | 1696 | 17 | 25 | 1543 | 183 | 28 | 2 | 146 | 187 | 46 | 78 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 74 | 0 | 136 | 0 | 0 | 59 | 0 |
| Lane Group Flow (vph) | 149 | 1713 | 0 | 25 | 1543 | 109 | 28 | 12 | 0 | 187 | 65 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 16.8 | 70.3 | | 4.0 | 57.5 | 57.5 | 5.9 | 5.9 | | 11.8 | 11.8 | |
| Effective Green, g (s) | 17.8 | 71.3 | | 5.0 | 58.5 | 58.5 | 6.9 | 6.9 | | 12.8 | 12.8 | |
| Actuated g/C Ratio | 0.17 | 0.68 | | 0.05 | 0.56 | 0.56 | 0.07 | 0.07 | | 0.12 | 0.12 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 275 | 2155 | | 77 | 1788 | 800 | 110 | 94 | | 383 | 180 | |
| v/s Ratio Prot | 0.09 | c0.54 | | 0.02 | c0.48 | | c0.02 | 0.01 | | c0.06 | 0.04 | |
| v/s Ratio Perm | | | | | | 0.08 | | | | | | |
| v/c Ratio | 0.54 | 0.79 | | 0.32 | 0.86 | 0.14 | 0.25 | 0.12 | | 0.49 | 0.36 | |
| Uniform Delay, d1 | 39.9 | 11.7 | | 48.4 | 19.8 | 11.1 | 46.6 | 46.2 | | 43.0 | 42.3 | |
| Progression Factor | 1.00 | 1.00 | | 1.19 | 0.50 | 0.01 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.2 | 3.1 | | 0.8 | 5.0 | 0.3 | 0.4 | 0.2 | | 1.0 | 1.2 | |
| Delay (s) | 41.0 | 14.9 | | 58.2 | 14.9 | 0.5 | 47.1 | 46.4 | | 44.0 | 43.6 | |
| Level of Service | D | B | | E | B | A | D | D | | D | D | |
| Approach Delay (s) | | 17.0 | | | 14.1 | | | 46.5 | | | 43.9 | |
| Approach LOS | | B | | | B | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 19.0 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.75 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 7.0 |
| Intersection Capacity Utilization | 78.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 33 | 1947 | 374 | 1637 | 179 | 223 | 147 | 93 |
| v/c Ratio | 0.38 | 0.82 | 0.86 | 0.54 | 0.76 | 0.28 | 0.81 | 0.47 |
| Control Delay | 51.2 | 20.4 | 64.0 | 8.4 | 64.3 | 11.8 | 77.1 | 42.4 |
| Queue Delay | 0.0 | 2.6 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 51.2 | 23.0 | 64.0 | 8.5 | 64.3 | 11.8 | 77.1 | 42.4 |
| Queue Length 50th (ft) | 22 | 421 | 122 | 157 | 116 | 27 | 96 | 46 |
| Queue Length 95th (ft) | m30 | 293 | m#173 | m182 | #190 | 52 | #198 | 98 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 93 | 2377 | 442 | 3047 | 275 | 816 | 197 | 211 |
| Starvation Cap Reductn | 0 | 306 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 216 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.35 | 0.94 | 0.85 | 0.58 | 0.65 | 0.27 | 0.75 | 0.44 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 30 | 1630 | 161 | 344 | 1452 | 54 | 146 | 18 | 205 | 135 | 58 | 28 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 2.0 | 3.0 | | 2.5 | 3.0 | | | 2.0 | 2.5 | 2.0 | 2.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.91 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.99 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.95 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4506 | | 3143 | 4746 | | | 1808 | 2807 | 1562 | 1542 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4506 | | 3143 | 4746 | | | 1808 | 2807 | 1562 | 1542 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 33 | 1772 | 175 | 374 | 1578 | 59 | 159 | 20 | 223 | 147 | 63 | 30 |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 3 | 0 | 0 | 0 | 68 | 0 | 17 | 0 |
| Lane Group Flow (vph) | 33 | 1937 | 0 | 374 | 1634 | 0 | 0 | 179 | 155 | 147 | 76 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 3.0 | 54.1 | | 13.5 | 65.1 | | | 12.7 | 26.2 | 11.2 | 11.2 | |
| Effective Green, g (s) | 4.0 | 55.1 | | 14.5 | 66.1 | | | 13.7 | 28.2 | 12.2 | 12.2 | |
| Actuated g/C Ratio | 0.04 | 0.52 | | 0.14 | 0.63 | | | 0.13 | 0.27 | 0.12 | 0.12 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 62 | 2365 | | 434 | 2988 | | | 236 | 754 | 181 | 179 | |
| v/s Ratio Prot | 0.02 | c0.43 | | c0.12 | 0.34 | | | c0.10 | 0.03 | c0.09 | 0.05 | |
| v/s Ratio Perm | | | | | | | | | 0.03 | | | |
| v/c Ratio | 0.53 | 0.82 | | 0.86 | 0.55 | | | 0.76 | 0.21 | 0.81 | 0.43 | |
| Uniform Delay, d1 | 49.6 | 20.8 | | 44.3 | 11.0 | | | 44.1 | 29.7 | 45.3 | 43.1 | |
| Progression Factor | 0.89 | 0.83 | | 1.11 | 0.69 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 3.0 | 2.3 | | 11.3 | 0.5 | | | 11.7 | 0.0 | 22.4 | 0.6 | |
| Delay (s) | 47.2 | 19.6 | | 60.4 | 8.1 | | | 55.7 | 29.8 | 67.7 | 43.7 | |
| Level of Service | D | B | | E | A | | | E | C | E | D | |
| Approach Delay (s) | | 20.0 | | | 17.8 | | | 41.3 | | | 58.4 | |
| Approach LOS | | C | | | B | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 22.9 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.81 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 70.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 663 | 2151 | 1379 | 424 | 191 | 672 |
| v/c Ratio | 0.18 | 0.85 | 0.56 | 0.35 | 0.32 | 1.01 |
| Control Delay | 1.9 | 12.4 | 6.3 | 1.2 | 39.1 | 70.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 1.9 | 12.4 | 6.3 | 1.2 | 39.1 | 70.1 |
| Queue Length 50th (ft) | 20 | 339 | 167 | 0 | 58 | ~203 |
| Queue Length 95th (ft) | m25 | 360 | 211 | 21 | 91 | #340 |
| Internal Link Dist (ft) | 509 | | 867 | | | |
| Turn Bay Length (ft) | | 400 | | | | 150 |
| Base Capacity (vph) | 3604 | 2533 | 2445 | 1217 | 601 | 665 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.18 | 0.85 | 0.56 | 0.35 | 0.32 | 1.01 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 610 | 1979 | 0 | 1269 | 390 | 0 | 0 | 0 | 176 | 0 | 618 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | | 3.0 |
| Lane Util. Factor | | 0.91 | 0.88 | | 0.95 | 1.00 | | | | 0.97 | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 663 | 2151 | 0 | 1379 | 424 | 0 | 0 | 0 | 191 | 0 | 672 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 105 | 0 | 0 | 0 | 0 | 0 | 143 |
| Lane Group Flow (vph) | 0 | 663 | 2151 | 0 | 1379 | 319 | 0 | 0 | 0 | 191 | 0 | 529 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Perm | | | | custom | | custom |
| Protected Phases | | 2 | | | 6 | | | | | 4 | | 4 |
| Permitted Phases | | | 2 4 | | | 6 | | | | 4 | | |
| Actuated Green, G (s) | | 79.0 | 105.0 | | 79.0 | 79.0 | | | | 18.0 | | 18.0 |
| Effective Green, g (s) | | 80.0 | 105.0 | | 80.0 | 79.0 | | | | 19.0 | | 19.0 |
| Actuated g/C Ratio | | 0.76 | 1.00 | | 0.76 | 0.75 | | | | 0.18 | | 0.18 |
| Clearance Time (s) | | 4.0 | | | 4.0 | 4.0 | | | | 4.0 | | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | 4.5 | | | | 4.0 | | 4.0 |
| Lane Grp Cap (vph) | | 3604 | 2533 | | 2445 | 1112 | | | | 601 | | 523 |
| v/s Ratio Prot | | 0.14 | | | 0.43 | | | | | 0.06 | | c0.18 |
| v/s Ratio Perm | | | c0.85 | | | 0.22 | | | | | | |
| v/c Ratio | | 0.18 | 0.85 | | 0.56 | 0.29 | | | | 0.32 | | 1.01 |
| Uniform Delay, d1 | | 3.5 | 0.0 | | 5.2 | 4.1 | | | | 37.4 | | 43.0 |
| Progression Factor | | 0.52 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | | 0.1 | 2.5 | | 0.9 | 0.6 | | | | 0.4 | | 42.5 |
| Delay (s) | | 1.9 | 2.5 | | 6.2 | 4.8 | | | | 37.8 | | 85.5 |
| Level of Service | | A | A | | A | A | | | | D | | F |
| Approach Delay (s) | | 2.3 | | | 5.8 | | | 0.0 | | | 74.9 | |
| Approach LOS | | A | | | A | | | A | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 14.9 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 3.0 |
| Intersection Capacity Utilization | 73.0% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 196 | 25 | 40 | 133 | 352 | 122 |
| v/c Ratio | 0.53 | 0.07 | 0.20 | 0.11 | 0.34 | 0.12 |
| Control Delay | 25.2 | 7.7 | 25.9 | 4.4 | 9.7 | 2.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 25.2 | 7.7 | 25.9 | 4.4 | 9.7 | 2.9 |
| Queue Length 50th (ft) | 63 | 0 | 13 | 13 | 41 | 0 |
| Queue Length 95th (ft) | 105 | 14 | 37 | 37 | 156 | 25 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 587 | 542 | 216 | 1242 | 1034 | 994 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.33 | 0.05 | 0.19 | 0.11 | 0.34 | 0.12 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 180 | 23 | 37 | 122 | 324 | 112 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1562 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1562 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 196 | 25 | 40 | 133 | 352 | 122 |
| RTOR Reduction (vph) | 0 | 20 | 0 | 0 | 0 | 53 |
| Lane Group Flow (vph) | 196 | 6 | 40 | 133 | 352 | 69 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 12.2 | 12.2 | 2.8 | 39.8 | 33.0 | 33.0 |
| Effective Green, g (s) | 13.2 | 13.2 | 3.8 | 40.8 | 34.0 | 34.0 |
| Actuated g/C Ratio | 0.22 | 0.22 | 0.06 | 0.68 | 0.57 | 0.57 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 369 | 330 | 103 | 1242 | 966 | 885 |
| v/s Ratio Prot | c0.12 | | c0.02 | 0.07 | c0.21 | |
| v/s Ratio Perm | | 0.00 | | | | 0.04 |
| v/c Ratio | 0.53 | 0.02 | 0.39 | 0.11 | 0.36 | 0.08 |
| Uniform Delay, d1 | 20.7 | 18.3 | 27.0 | 3.3 | 7.1 | 5.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.5 | 0.0 | 2.4 | 0.2 | 1.1 | 0.2 |
| Delay (s) | 22.1 | 18.3 | 29.4 | 3.5 | 8.2 | 6.1 |
| Level of Service | C | B | C | A | A | A |
| Approach Delay (s) | 21.7 | | | 9.5 | 7.6 | |
| Approach LOS | C | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 11.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.41 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 40.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 214 | 249 | 296 | 30 | 1401 | 71 | 1241 |
| v/c Ratio | 0.52 | 0.66 | 0.70 | 0.23 | 0.87 | 0.62 | 0.77 |
| Control Delay | 20.1 | 26.4 | 25.3 | 15.0 | 21.3 | 43.1 | 16.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 20.1 | 26.4 | 25.3 | 15.0 | 21.3 | 43.1 | 16.3 |
| Queue Length 50th (ft) | 57 | 74 | 81 | 5 | 206 | 16 | 166 |
| Queue Length 95th (ft) | 111 | 141 | 155 | 26 | #414 | #89 | #310 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 557 | 511 | 565 | 134 | 1649 | 116 | 1652 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.38 | 0.49 | 0.52 | 0.22 | 0.85 | 0.61 | 0.75 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 59 | 116 | 22 | 136 | 93 | 272 | 28 | 1205 | 84 | 65 | 1092 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | | 0.99 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1536 | | | 1681 | 1306 | 1618 | 3043 | | 1562 | 3054 | |
| Flt Permitted | | 0.84 | | | 0.70 | 1.00 | 0.15 | 1.00 | | 0.13 | 1.00 | |
| Satd. Flow (perm) | | 1310 | | | 1215 | 1306 | 249 | 3043 | | 215 | 3054 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 64 | 126 | 24 | 148 | 101 | 296 | 30 | 1310 | 91 | 71 | 1187 | 54 |
| RTOR Reduction (vph) | 0 | 8 | 0 | 0 | 0 | 19 | 0 | 7 | 0 | 0 | 5 | 0 |
| Lane Group Flow (vph) | 0 | 206 | 0 | 0 | 249 | 277 | 30 | 1394 | 0 | 71 | 1236 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 17.8 | | | 17.8 | 17.8 | 30.6 | 30.6 | | 30.6 | 30.6 | |
| Effective Green, g (s) | | 17.8 | | | 17.8 | 17.8 | 30.6 | 30.6 | | 30.6 | 30.6 | |
| Actuated g/C Ratio | | 0.31 | | | 0.31 | 0.31 | 0.53 | 0.53 | | 0.53 | 0.53 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 405 | | | 375 | 404 | 132 | 1617 | | 114 | 1622 | |
| v/s Ratio Prot | | | | | | | | c0.46 | | | 0.40 | |
| v/s Ratio Perm | | 0.16 | | | 0.20 | c0.21 | 0.12 | | | 0.33 | | |
| v/c Ratio | | 0.51 | | | 0.66 | 0.69 | 0.23 | 0.86 | | 0.62 | 0.76 | |
| Uniform Delay, d1 | | 16.3 | | | 17.3 | 17.5 | 7.2 | 11.7 | | 9.5 | 10.6 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.4 | | | 4.8 | 5.2 | 1.2 | 5.2 | | 11.4 | 2.3 | |
| Delay (s) | | 17.7 | | | 22.1 | 22.6 | 8.4 | 16.8 | | 20.9 | 12.9 | |
| Level of Service | | B | | | C | C | A | B | | C | B | |
| Approach Delay (s) | | 17.7 | | | 22.4 | | | 16.7 | | | 13.4 | |
| Approach LOS | | B | | | C | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 16.4 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.80 | | |
| Actuated Cycle Length (s) | 57.6 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 77.1% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 28 | 298 | 646 | 193 | 341 | 27 |
| v/c Ratio | 0.27 | 0.22 | 0.57 | 0.14 | 1.14 | 0.10 |
| Control Delay | 55.2 | 5.2 | 9.9 | 0.2 | 138.0 | 22.8 |
| Queue Delay | 0.0 | 0.0 | 1.1 | 0.0 | 14.7 | 0.0 |
| Total Delay | 55.2 | 5.2 | 10.9 | 0.2 | 152.8 | 22.8 |
| Queue Length 50th (ft) | 19 | 58 | 115 | 0 | ~283 | 6 |
| Queue Length 95th (ft) | 49 | 88 | 305 | m0 | #464 | 31 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 118 | 1335 | 1137 | 1385 | 298 | 270 |
| Starvation Cap Reductn | 0 | 0 | 258 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 3 | 0 | 0 | 9 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.24 | 0.22 | 0.73 | 0.14 | 1.18 | 0.10 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 26 | 274 | 594 | 178 | 314 | 25 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1574 | 1562 | 1349 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1574 | 1562 | 1349 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 28 | 298 | 646 | 193 | 341 | 27 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 30 | 0 | 13 |
| Lane Group Flow (vph) | 28 | 298 | 646 | 163 | 341 | 14 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 4.7 | 80.4 | 71.7 | 92.7 | 21.0 | 21.0 |
| Effective Green, g (s) | 4.7 | 80.4 | 71.7 | 92.7 | 21.0 | 21.0 |
| Actuated g/C Ratio | 0.04 | 0.73 | 0.65 | 0.84 | 0.19 | 0.19 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 69 | 1335 | 1111 | 1326 | 298 | 258 |
| v/s Ratio Prot | c0.02 | 0.16 | c0.38 | 0.02 | c0.22 | |
| v/s Ratio Perm | | | | 0.08 | | 0.01 |
| v/c Ratio | 0.41 | 0.22 | 0.58 | 0.12 | 1.14 | 0.05 |
| Uniform Delay, d1 | 51.3 | 4.8 | 10.7 | 1.5 | 44.5 | 36.4 |
| Progression Factor | 1.00 | 1.00 | 0.73 | 0.27 | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.9 | 0.4 | 1.8 | 0.0 | 97.0 | 0.1 |
| Delay (s) | 55.2 | 5.1 | 9.6 | 0.4 | 141.5 | 36.5 |
| Level of Service | E | A | A | A | F | D |
| Approach Delay (s) | | 9.4 | 7.5 | | 133.8 | |
| Approach LOS | | A | A | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 38.2 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.69 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 12.6 |
| Intersection Capacity Utilization | 55.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 374 | 348 | 448 | 394 | 439 | 280 | 3 |
| v/c Ratio | 0.78 | 0.53 | 1.12 | 0.41 | 0.77 | 0.46 | 0.04 |
| Control Delay | 32.5 | 2.7 | 119.4 | 15.8 | 42.7 | 15.5 | 51.3 |
| Queue Delay | 2.5 | 0.1 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 |
| Total Delay | 35.0 | 2.7 | 119.4 | 15.8 | 44.2 | 15.5 | 51.3 |
| Queue Length 50th (ft) | 156 | 0 | ~346 | 143 | 274 | 66 | 2 |
| Queue Length 95th (ft) | m229 | m0 | #638 | 257 | 400 | 139 | 12 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | | 217 |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 | |
| Base Capacity (vph) | 478 | 651 | 401 | 963 | 562 | 613 | 81 |
| Starvation Cap Reductn | 39 | 12 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 35 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.85 | 0.54 | 1.12 | 0.41 | 0.83 | 0.46 | 0.04 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1 | 343 | 320 | 412 | 362 | 1 | 401 | 3 | 258 | 2 | 1 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | 4.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.98 | | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | 1.00 | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.97 | |
| Satd. Flow (prot) | | 1759 | 1462 | 1562 | 1704 | | | 1682 | 1725 | | 1754 | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.97 | |
| Satd. Flow (perm) | | 1758 | 1462 | 1562 | 1704 | | | 1682 | 1725 | | 1754 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1 | 373 | 348 | 448 | 393 | 1 | 436 | 3 | 280 | 2 | 1 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 264 | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 374 | 84 | 448 | 394 | 0 | 0 | 439 | 176 | 0 | 3 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 26.7 | 26.7 | 28.3 | 59.0 | | | 36.9 | 32.9 | | 1.0 | |
| Effective Green, g (s) | | 26.7 | 26.7 | 28.3 | 59.0 | | | 36.9 | 32.9 | | 1.0 | |
| Actuated g/C Ratio | | 0.24 | 0.24 | 0.26 | 0.54 | | | 0.34 | 0.30 | | 0.01 | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | 4.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | | 427 | 355 | 402 | 914 | | | 564 | 516 | | 16 | |
| v/s Ratio Prot | | | | c0.29 | 0.23 | | | c0.26 | 0.04 | | c0.00 | |
| v/s Ratio Perm | | c0.21 | 0.06 | | | | | | 0.06 | | | |
| v/c Ratio | | 0.88 | 0.24 | 1.11 | 0.43 | | | 0.78 | 0.34 | | 0.19 | |
| Uniform Delay, d1 | | 40.1 | 33.5 | 40.9 | 15.4 | | | 32.9 | 30.1 | | 54.1 | |
| Progression Factor | | 0.59 | 0.07 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | | 17.5 | 1.2 | 79.7 | 1.5 | | | 6.7 | 0.4 | | 5.6 | |
| Delay (s) | | 41.2 | 3.6 | 120.5 | 16.9 | | | 39.6 | 30.5 | | 59.7 | |
| Level of Service | | D | A | F | B | | | D | C | | E | |
| Approach Delay (s) | | 23.1 | | | 72.0 | | | 36.0 | | | 59.7 | |
| Approach LOS | | C | | | E | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 45.2 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.90 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 16.6 |
| Intersection Capacity Utilization | 81.0% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 79 | 160 | 27 | 142 | 121 | 666 | 15 | 754 | 139 | 264 | 851 |
| v/c Ratio | 0.59 | 0.36 | 0.07 | 0.69 | 0.21 | 0.94 | 0.16 | 0.80 | 0.33 | 0.86 | 0.58 |
| Control Delay | 78.3 | 41.1 | 14.8 | 71.6 | 33.0 | 40.6 | 65.1 | 48.7 | 25.0 | 77.4 | 27.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 78.3 | 41.1 | 14.8 | 71.6 | 33.0 | 40.6 | 65.1 | 48.7 | 25.0 | 77.4 | 27.9 |
| Queue Length 50th (ft) | 67 | 108 | 1 | 120 | 75 | 291 | 13 | 320 | 57 | 229 | 265 |
| Queue Length 95th (ft) | #134 | 184 | 27 | 194 | 130 | #581 | 38 | 397 | 116 | #416 | 396 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 154 | 542 | 470 | 273 | 661 | 759 | 154 | 1149 | 506 | 315 | 1502 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.51 | 0.30 | 0.06 | 0.52 | 0.18 | 0.88 | 0.10 | 0.66 | 0.27 | 0.84 | 0.57 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 73 | 147 | 25 | 131 | 111 | 613 | 14 | 694 | 128 | 243 | 734 | 49 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1451 | 1620 | 1739 | 1392 | 1652 | 3240 | 1331 | 1620 | 3047 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1451 | 1620 | 1739 | 1392 | 1652 | 3240 | 1331 | 1620 | 3047 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 79 | 160 | 27 | 142 | 121 | 666 | 15 | 754 | 139 | 264 | 798 | 53 |
| RTOR Reduction (vph) | 0 | 0 | 19 | 0 | 0 | 253 | 0 | 0 | 37 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 79 | 160 | 8 | 142 | 121 | 413 | 15 | 754 | 102 | 264 | 848 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 8.6 | 32.9 | 32.9 | 16.7 | 41.0 | 41.0 | 3.3 | 38.3 | 38.3 | 24.4 | 59.4 | |
| Effective Green, g (s) | 7.6 | 32.4 | 32.4 | 15.7 | 40.5 | 40.5 | 2.3 | 37.8 | 37.8 | 23.4 | 58.9 | |
| Actuated g/C Ratio | 0.06 | 0.26 | 0.26 | 0.13 | 0.32 | 0.32 | 0.02 | 0.30 | 0.30 | 0.19 | 0.47 | |
| Clearance Time (s) | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 100 | 450 | 375 | 203 | 562 | 450 | 30 | 977 | 402 | 303 | 1432 | |
| v/s Ratio Prot | 0.05 | 0.09 | | c0.09 | 0.07 | | 0.01 | c0.23 | | c0.16 | 0.28 | |
| v/s Ratio Perm | | | 0.01 | | | c0.30 | | | 0.08 | | | |
| v/c Ratio | 0.79 | 0.36 | 0.02 | 0.70 | 0.22 | 0.92 | 0.50 | 0.77 | 0.25 | 0.87 | 0.59 | |
| Uniform Delay, d1 | 58.1 | 37.9 | 34.6 | 52.5 | 30.8 | 40.8 | 60.9 | 39.8 | 33.1 | 49.5 | 24.4 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 34.9 | 0.7 | 0.0 | 10.8 | 0.3 | 23.7 | 16.8 | 4.1 | 0.5 | 23.4 | 0.8 | |
| Delay (s) | 93.0 | 38.6 | 34.7 | 63.4 | 31.1 | 64.5 | 77.7 | 43.9 | 33.5 | 72.9 | 25.2 | |
| Level of Service | F | D | C | E | C | E | E | D | C | E | C | |
| Approach Delay (s) | | 54.3 | | | 60.0 | | | 42.9 | | | 36.5 | |
| Approach LOS | | D | | | E | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 46.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.85 | | |
| Actuated Cycle Length (s) | 125.3 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 72.9% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 34 | 615 | 89 | 1503 | 1305 | 186 | 470 | 800 | 258 | 514 | 45 |
| v/c Ratio | 0.44 | 0.83 | 0.29 | 1.04 | 0.71 | 1.02 | 0.71 | 0.44 | 0.91 | 0.91 | 0.16 |
| Control Delay | 82.6 | 67.6 | 12.2 | 70.0 | 20.6 | 141.8 | 43.6 | 11.2 | 97.1 | 77.3 | 27.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 32.4 | 0.7 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 |
| Total Delay | 82.6 | 67.6 | 12.2 | 102.4 | 21.3 | 141.8 | 43.6 | 11.4 | 97.1 | 77.3 | 27.5 |
| Queue Length 50th (ft) | 31 | 201 | 0 | ~760 | 256 | ~151 | 172 | 334 | 122 | 244 | 15 |
| Queue Length 95th (ft) | 70 | 249 | 50 | #897 | 515 | #350 | 183 | 27 | #207 | #347 | 52 |
| Internal Link Dist (ft) | | 238 | | | 389 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 78 | 748 | 312 | 1442 | 1843 | 183 | 659 | 1807 | 284 | 567 | 279 |
| Starvation Cap Reductn | 0 | 0 | 0 | 102 | 225 | 0 | 0 | 314 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.44 | 0.82 | 0.29 | 1.12 | 0.81 | 1.02 | 0.71 | 0.54 | 0.91 | 0.91 | 0.16 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 31 | 566 | 82 | 1383 | 970 | 231 | 171 | 432 | 736 | 237 | 473 | 41 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3136 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1470 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3136 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1470 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 34 | 615 | 89 | 1503 | 1054 | 251 | 186 | 470 | 800 | 258 | 514 | 45 |
| RTOR Reduction (vph) | 0 | 0 | 75 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 21 |
| Lane Group Flow (vph) | 34 | 615 | 14 | 1503 | 1291 | 0 | 186 | 470 | 800 | 258 | 514 | 24 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 4.2 | 20.8 | 20.8 | 62.0 | 78.6 | | 15.2 | 26.0 | 93.5 | 12.2 | 23.0 | 23.0 |
| Effective Green, g (s) | 4.2 | 22.3 | 22.3 | 62.0 | 80.1 | | 15.2 | 27.5 | 88.0 | 12.2 | 24.5 | 24.5 |
| Actuated g/C Ratio | 0.03 | 0.16 | 0.16 | 0.44 | 0.57 | | 0.11 | 0.20 | 0.63 | 0.09 | 0.18 | 0.18 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 47 | 741 | 235 | 1442 | 1794 | | 182 | 659 | 1701 | 284 | 567 | 257 |
| v/s Ratio Prot | 0.02 | c0.13 | | c0.46 | 0.41 | | c0.11 | c0.14 | 0.30 | 0.08 | c0.16 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | 0.02 |
| v/c Ratio | 0.72 | 0.83 | 0.06 | 1.04 | 0.72 | | 1.02 | 0.71 | 0.47 | 0.91 | 0.91 | 0.09 |
| Uniform Delay, d1 | 67.3 | 57.0 | 50.0 | 39.0 | 21.8 | | 62.4 | 52.6 | 13.7 | 63.3 | 56.6 | 48.4 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.88 | | 1.21 | 0.70 | 0.94 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 44.8 | 10.4 | 0.5 | 33.7 | 2.1 | | 71.9 | 3.8 | 0.3 | 30.9 | 18.4 | 0.2 |
| Delay (s) | 112.1 | 67.4 | 50.4 | 70.6 | 21.3 | | 147.1 | 40.8 | 13.1 | 94.3 | 75.0 | 48.6 |
| Level of Service | F | E | D | E | C | | F | D | B | F | E | D |
| Approach Delay (s) | | 67.5 | | | 47.7 | | | 39.2 | | | 79.7 | |
| Approach LOS | | E | | | D | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 52.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.00 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 20.0 |
| Intersection Capacity Utilization | 86.7% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 189 | 1499 | 253 | 1908 | 150 | 153 | 89 | 368 |
| v/c Ratio | 0.96 | 0.59 | 0.79 | 0.80 | 0.61 | 0.61 | 0.28 | 0.88 |
| Control Delay | 104.5 | 20.7 | 77.0 | 26.5 | 64.0 | 63.8 | 10.5 | 57.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 104.5 | 20.7 | 77.0 | 26.5 | 64.0 | 63.8 | 10.5 | 57.9 |
| Queue Length 50th (ft) | 174 | 246 | 235 | 361 | 137 | 141 | 0 | 99 |
| Queue Length 95th (ft) | #337 | 374 | m246 | m#716 | 189 | 191 | 44 | #190 |
| Internal Link Dist (ft) | | 660 | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 180 | | 200 | | | |
| Base Capacity (vph) | 197 | 2556 | 333 | 2393 | 403 | 412 | 463 | 417 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.96 | 0.59 | 0.76 | 0.80 | 0.37 | 0.37 | 0.19 | 0.88 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 174 | 1030 | 349 | 233 | 1693 | 63 | 226 | 52 | 82 | 41 | 116 | 181 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.86 | | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | | 0.92 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 0.99 | |
| Satd. Flow (prot) | 1620 | 5622 | | 1678 | 4625 | | 1539 | 1571 | 1512 | | 3031 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 0.99 | |
| Satd. Flow (perm) | 1620 | 5622 | | 1678 | 4625 | | 1539 | 1571 | 1512 | | 3031 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 189 | 1120 | 379 | 253 | 1840 | 68 | 246 | 57 | 89 | 45 | 126 | 197 |
| RTOR Reduction (vph) | 0 | 37 | 0 | 0 | 2 | 0 | 0 | 0 | 75 | 0 | 149 | 0 |
| Lane Group Flow (vph) | 189 | 1462 | 0 | 253 | 1906 | 0 | 150 | 153 | 14 | 0 | 219 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 16.0 | 61.8 | | 25.6 | 71.4 | | 21.7 | 21.7 | 21.7 | | 11.7 | |
| Effective Green, g (s) | 17.0 | 62.8 | | 26.6 | 72.4 | | 22.3 | 22.3 | 22.3 | | 12.3 | |
| Actuated g/C Ratio | 0.12 | 0.45 | | 0.19 | 0.52 | | 0.16 | 0.16 | 0.16 | | 0.09 | |
| Clearance Time (s) | 5.0 | 5.0 | | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 197 | 2522 | | 319 | 2392 | | 245 | 250 | 241 | | 266 | |
| v/s Ratio Prot | c0.12 | 0.26 | | 0.15 | c0.41 | | c0.10 | 0.10 | | | c0.07 | |
| v/s Ratio Perm | | | | | | | | | 0.01 | | | |
| v/c Ratio | 0.96 | 0.58 | | 0.79 | 0.80 | | 0.61 | 0.61 | 0.06 | | 0.82 | |
| Uniform Delay, d1 | 61.2 | 28.8 | | 54.1 | 27.8 | | 54.8 | 54.8 | 49.9 | | 62.8 | |
| Progression Factor | 0.83 | 0.68 | | 1.25 | 0.85 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 50.7 | 0.9 | | 7.3 | 1.5 | | 5.1 | 5.0 | 0.1 | | 19.1 | |
| Delay (s) | 101.7 | 20.4 | | 75.1 | 25.2 | | 59.9 | 59.8 | 50.1 | | 81.9 | |
| Level of Service | F | C | | E | C | | E | E | D | | F | |
| Approach Delay (s) | | 29.5 | | | 31.0 | | | 57.7 | | | 81.9 | |
| Approach LOS | | C | | | C | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 36.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.79 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 76.4% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 152 | 1212 | 439 | 1503 | 263 | 248 | 226 | 54 | 610 |
| v/c Ratio | 0.87 | 0.83 | 0.96 | 0.95 | 0.98 | 0.28 | 0.37 | 0.47 | 0.90 |
| Control Delay | 85.3 | 32.4 | 83.0 | 48.2 | 112.5 | 41.4 | 6.5 | 80.1 | 66.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 85.3 | 32.4 | 83.0 | 48.2 | 112.5 | 41.4 | 6.5 | 80.1 | 66.2 |
| Queue Length 50th (ft) | 133 | 110 | 394 | 684 | 125 | 94 | 0 | 25 | 264 |
| Queue Length 95th (ft) | m#258 | 254 | #609 | #861 | #217 | 134 | 64 | 49 | #359 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 174 | 1467 | 462 | 1585 | 269 | 886 | 618 | 114 | 708 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.87 | 0.83 | 0.95 | 0.95 | 0.98 | 0.28 | 0.37 | 0.47 | 0.86 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 140 | 764 | 351 | 404 | 1353 | 29 | 242 | 228 | 208 | 50 | 388 | 173 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.95 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.95 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4494 | | 1652 | 3278 | | 3143 | 3240 | 1658 | 3204 | 3072 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4494 | | 1652 | 3278 | | 3143 | 3240 | 1658 | 3204 | 3072 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 152 | 830 | 382 | 439 | 1471 | 32 | 263 | 248 | 226 | 54 | 422 | 188 |
| RTOR Reduction (vph) | 0 | 59 | 0 | 0 | 1 | 0 | 0 | 0 | 164 | 0 | 37 | 0 |
| Lane Group Flow (vph) | 152 | 1153 | 0 | 439 | 1502 | 0 | 263 | 248 | 62 | 54 | 573 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 15.2 | 42.2 | | 38.9 | 65.9 | | 13.0 | 38.6 | 38.6 | 4.8 | 30.4 | |
| Effective Green, g (s) | 15.1 | 43.2 | | 38.8 | 66.9 | | 12.0 | 38.2 | 38.2 | 3.8 | 30.0 | |
| Actuated g/C Ratio | 0.11 | 0.31 | | 0.28 | 0.48 | | 0.09 | 0.27 | 0.27 | 0.03 | 0.21 | |
| Clearance Time (s) | 3.9 | 5.0 | | 3.9 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 175 | 1387 | | 458 | 1566 | | 269 | 884 | 452 | 87 | 658 | |
| v/s Ratio Prot | 0.09 | c0.26 | | 0.27 | c0.46 | | c0.08 | 0.08 | | 0.02 | c0.19 | |
| v/s Ratio Perm | | | | | | | | | 0.04 | | | |
| v/c Ratio | 0.87 | 0.83 | | 0.96 | 0.96 | | 0.98 | 0.28 | 0.14 | 0.62 | 0.87 | |
| Uniform Delay, d1 | 61.5 | 45.0 | | 49.8 | 35.2 | | 63.9 | 40.1 | 38.4 | 67.4 | 53.1 | |
| Progression Factor | 0.76 | 0.66 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 30.2 | 5.2 | | 31.5 | 14.9 | | 48.3 | 0.2 | 0.2 | 14.6 | 12.4 | |
| Delay (s) | 77.0 | 34.8 | | 81.3 | 50.1 | | 112.2 | 40.3 | 38.6 | 82.0 | 65.6 | |
| Level of Service | E | C | | F | D | | F | D | D | F | E | |
| Approach Delay (s) | | 39.5 | | | 57.2 | | | 65.4 | | | 66.9 | |
| Approach LOS | | D | | | E | | | E | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 54.7 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.91 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 83.3% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 45 | 67 | 265 | 17 | 1088 | 78 | 880 | 1270 |
| v/c Ratio | 0.38 | 0.54 | 0.54 | 0.22 | 0.62 | 0.09 | 0.87 | 0.45 |
| Control Delay | 59.1 | 76.4 | 10.6 | 77.4 | 29.2 | 6.4 | 46.5 | 9.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 |
| Total Delay | 59.1 | 76.4 | 10.6 | 77.4 | 29.2 | 6.4 | 46.5 | 9.7 |
| Queue Length 50th (ft) | 32 | 60 | 0 | 15 | 442 | 16 | 335 | 156 |
| Queue Length 95th (ft) | 72 | 107 | 45 | m29 | 590 | m56 | 395 | 502 |
| Internal Link Dist (ft) | 387 | 301 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 350 | |
| Base Capacity (vph) | 171 | 183 | 598 | 78 | 1741 | 854 | 1165 | 2794 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 845 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.26 | 0.37 | 0.44 | 0.22 | 0.62 | 0.09 | 0.76 | 0.65 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 32 | 0 | 9 | 60 | 2 | 244 | 16 | 1001 | 72 | 810 | 1085 | 84 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.97 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.96 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1697 | | | 1777 | 2787 | 1678 | 3355 | 1583 | 3433 | 3427 | |
| Flt Permitted | | 0.70 | | | 0.74 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1241 | | | 1387 | 2787 | 1678 | 3355 | 1583 | 3433 | 3427 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 35 | 0 | 10 | 65 | 2 | 265 | 17 | 1088 | 78 | 880 | 1179 | 91 |
| RTOR Reduction (vph) | 0 | 7 | 0 | 0 | 0 | 242 | 0 | 0 | 33 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 38 | 0 | 0 | 67 | 23 | 17 | 1088 | 45 | 880 | 1267 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | |
| Actuated Green, G (s) | | 12.4 | | | 12.4 | 12.4 | 2.8 | 72.6 | 72.6 | 41.5 | 111.3 | |
| Effective Green, g (s) | | 12.4 | | | 12.4 | 12.4 | 2.8 | 72.6 | 72.6 | 41.5 | 111.3 | |
| Actuated g/C Ratio | | 0.09 | | | 0.09 | 0.09 | 0.02 | 0.52 | 0.52 | 0.30 | 0.79 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 110 | | | 123 | 247 | 34 | 1740 | 821 | 1018 | 2724 | |
| v/s Ratio Prot | | | | | | | 0.01 | c0.32 | | c0.26 | 0.37 | |
| v/s Ratio Perm | | 0.03 | | | c0.05 | 0.01 | | | 0.03 | | | |
| v/c Ratio | | 0.34 | | | 0.54 | 0.10 | 0.50 | 0.63 | 0.06 | 0.86 | 0.47 | |
| Uniform Delay, d1 | | 60.0 | | | 61.1 | 58.6 | 67.9 | 24.0 | 16.7 | 46.6 | 4.7 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.11 | 1.07 | 1.01 | 0.84 | 1.86 | |
| Incremental Delay, d2 | | 1.9 | | | 4.9 | 0.2 | 9.7 | 1.5 | 0.1 | 6.2 | 0.4 | |
| Delay (s) | | 61.8 | | | 66.0 | 58.8 | 85.1 | 27.1 | 17.0 | 45.1 | 9.1 | |
| Level of Service | | E | | | E | E | F | C | B | D | A | |
| Approach Delay (s) | | 61.8 | | | 60.3 | | | 27.3 | | | 23.8 | |
| Approach LOS | | E | | | E | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 28.7 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.70 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 71.0% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 186 | 26 | 109 | 92 | 466 | 32 | 531 | 403 | 559 |
| v/c Ratio | 0.55 | 0.08 | 0.49 | 0.22 | 0.70 | 0.21 | 0.65 | 0.77 | 0.31 |
| Control Delay | 32.4 | 10.4 | 34.0 | 25.4 | 9.1 | 41.5 | 28.2 | 35.4 | 9.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 32.4 | 10.4 | 34.0 | 25.4 | 9.1 | 41.5 | 28.2 | 35.4 | 9.3 |
| Queue Length 50th (ft) | 73 | 0 | 42 | 33 | 0 | 14 | 105 | 155 | 47 |
| Queue Length 95th (ft) | 156 | 19 | 104 | 80 | 84 | 49 | 197 | #379 | 134 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 622 | 566 | 409 | 760 | 835 | 155 | 1210 | 709 | 2218 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.30 | 0.05 | 0.27 | 0.12 | 0.56 | 0.21 | 0.44 | 0.57 | 0.25 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 77 | 94 | 24 | 100 | 85 | 429 | 29 | 410 | 78 | 371 | 485 | 29 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | | 1.00 | 0.99 | |
| Flt Protected | | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1692 | 1259 | 1620 | 1739 | 1313 | 1711 | 2993 | | 1620 | 3050 | |
| Flt Permitted | | 0.82 | 1.00 | 0.55 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1424 | 1259 | 936 | 1739 | 1313 | 1711 | 2993 | | 1620 | 3050 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 84 | 102 | 26 | 109 | 92 | 466 | 32 | 446 | 85 | 403 | 527 | 32 |
| RTOR Reduction (vph) | 0 | 0 | 20 | 0 | 0 | 357 | 0 | 16 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 0 | 186 | 6 | 109 | 92 | 109 | 32 | 515 | 0 | 403 | 555 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 16.9 | 16.9 | 16.9 | 16.9 | 16.9 | 1.9 | 21.1 | | 23.0 | 42.2 | |
| Effective Green, g (s) | | 16.9 | 16.9 | 16.9 | 16.9 | 16.9 | 1.9 | 21.1 | | 23.0 | 42.2 | |
| Actuated g/C Ratio | | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.03 | 0.29 | | 0.32 | 0.58 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 332 | 293 | 218 | 405 | 306 | 45 | 871 | | 514 | 1775 | |
| v/s Ratio Prot | | | | | 0.05 | | 0.02 | c0.17 | | c0.25 | 0.18 | |
| v/s Ratio Perm | | c0.13 | 0.00 | 0.12 | | 0.08 | | | | | | |
| v/c Ratio | | 0.56 | 0.02 | 0.50 | 0.23 | 0.35 | 0.71 | 0.59 | | 0.78 | 0.31 | |
| Uniform Delay, d1 | | 24.5 | 21.4 | 24.1 | 22.5 | 23.2 | 35.0 | 22.0 | | 22.5 | 7.7 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 2.2 | 0.0 | 1.8 | 0.3 | 0.7 | 41.4 | 1.3 | | 7.7 | 0.1 | |
| Delay (s) | | 26.7 | 21.5 | 25.9 | 22.8 | 24.0 | 76.4 | 23.3 | | 30.2 | 7.9 | |
| Level of Service | | C | C | C | C | C | E | C | | C | A | |
| Approach Delay (s) | | 26.0 | | | 24.1 | | | 26.3 | | | 17.2 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 22.0 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.66 | | |
| Actuated Cycle Length (s) | 72.5 | Sum of lost time (s) | 11.5 |
| Intersection Capacity Utilization | 61.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 146 | 220 | 328 | 175 | 586 | 229 | 1164 | 43 | 1214 |
| v/c Ratio | 0.63 | 0.77 | 0.75 | 0.81 | 0.82 | 0.86 | 0.46 | 0.41 | 0.81 |
| Control Delay | 75.7 | 74.3 | 21.7 | 86.0 | 60.4 | 85.2 | 19.1 | 89.0 | 13.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 75.7 | 74.3 | 21.7 | 86.0 | 60.4 | 85.2 | 19.1 | 89.0 | 13.9 |
| Queue Length 50th (ft) | 67 | 192 | 39 | 157 | 256 | 203 | 229 | 39 | 421 |
| Queue Length 95th (ft) | #120 | #288 | 157 | #271 | 317 | #337 | 270 | 83 | 135 |
| Internal Link Dist (ft) | | 2946 | | | 522 | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 205 | | 200 | | 370 | |
| Base Capacity (vph) | 230 | 308 | 450 | 228 | 809 | 283 | 2511 | 114 | 1494 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.63 | 0.71 | 0.73 | 0.77 | 0.72 | 0.81 | 0.46 | 0.38 | 0.81 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 134 | 202 | 302 | 161 | 406 | 133 | 211 | 839 | 232 | 40 | 1032 | 85 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 12 | 12 | 12 | 10 | 10 | 10 | 12 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 0.97 | | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3060 | 1845 | 1305 | 1770 | 3394 | | 1652 | 4473 | | 1770 | 3409 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3060 | 1845 | 1305 | 1770 | 3394 | | 1652 | 4473 | | 1770 | 3409 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 146 | 220 | 328 | 175 | 441 | 145 | 229 | 912 | 252 | 43 | 1122 | 92 |
| RTOR Reduction (vph) | 0 | 0 | 236 | 0 | 24 | 0 | 0 | 33 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 146 | 220 | 92 | 175 | 562 | 0 | 229 | 1131 | 0 | 43 | 1210 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | | | | | | | |
| Actuated Green, G (s) | 10.5 | 21.8 | 21.8 | 17.2 | 28.5 | | 22.6 | 76.7 | | 7.1 | 61.2 | |
| Effective Green, g (s) | 10.5 | 21.8 | 21.8 | 17.2 | 28.5 | | 22.6 | 76.7 | | 7.1 | 61.2 | |
| Actuated g/C Ratio | 0.08 | 0.16 | 0.16 | 0.12 | 0.20 | | 0.16 | 0.55 | | 0.05 | 0.44 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 230 | 287 | 203 | 217 | 691 | | 267 | 2451 | | 90 | 1490 | |
| v/s Ratio Prot | 0.05 | c0.12 | | 0.10 | c0.17 | | c0.14 | 0.25 | | 0.02 | c0.35 | |
| v/s Ratio Perm | | | 0.07 | | | | | | | | | |
| v/c Ratio | 0.63 | 0.77 | 0.46 | 0.81 | 0.81 | | 0.86 | 0.46 | | 0.48 | 0.81 | |
| Uniform Delay, d1 | 62.9 | 56.7 | 53.7 | 59.8 | 53.2 | | 57.1 | 19.1 | | 64.6 | 34.4 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.24 | 0.25 | |
| Incremental Delay, d2 | 6.3 | 12.2 | 2.2 | 20.2 | 7.6 | | 23.5 | 0.6 | | 4.9 | 4.5 | |
| Delay (s) | 69.2 | 68.9 | 55.9 | 80.0 | 60.9 | | 80.6 | 19.8 | | 85.1 | 13.3 | |
| Level of Service | E | E | E | E | E | | F | B | | F | B | |
| Approach Delay (s) | | 62.8 | | | 65.3 | | | 29.8 | | | 15.7 | |
| Approach LOS | | E | | | E | | | C | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 37.6 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.80 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 13.2 |
| Intersection Capacity Utilization | 77.3% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 75 | 352 | 101 | 1101 | 16 | 14 | 50 | 61 | 22 |
| v/c Ratio | 0.54 | 0.29 | 0.57 | 0.90 | 0.14 | 0.09 | 0.42 | 0.32 | 0.28 |
| Control Delay | 63.2 | 11.6 | 59.9 | 29.9 | 47.8 | 22.8 | 57.3 | 17.4 | 56.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 63.2 | 11.6 | 59.9 | 29.9 | 47.8 | 22.8 | 57.3 | 17.4 | 56.4 |
| Queue Length 50th (ft) | 50 | 63 | 69 | 546 | 11 | 1 | 34 | 2 | 15 |
| Queue Length 95th (ft) | #129 | 236 | 124 | #1126 | 32 | 20 | 72 | 41 | 40 |
| Internal Link Dist (ft) | | 524 | | 1458 | | 986 | | 462 | |
| Turn Bay Length (ft) | 205 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 140 | 1210 | 208 | 1223 | 211 | 273 | 228 | 310 | 79 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.54 | 0.29 | 0.49 | 0.90 | 0.08 | 0.05 | 0.22 | 0.20 | 0.28 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 69 | 293 | 31 | 93 | 790 | 223 | 15 | 1 | 12 | 46 | 3 | 53 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 12 | 11 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.97 | | 1.00 | 0.86 | | 1.00 | 0.86 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1831 | | 1770 | 1801 | | 1711 | 1603 | | 1770 | 1597 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.72 | 1.00 | | 0.75 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1831 | | 1770 | 1801 | | 1291 | 1603 | | 1394 | 1597 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 75 | 318 | 34 | 101 | 859 | 242 | 16 | 1 | 13 | 50 | 3 | 58 |
| RTOR Reduction (vph) | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 54 | 0 |
| Lane Group Flow (vph) | 75 | 349 | 0 | 101 | 1101 | 0 | 16 | 2 | 0 | 50 | 7 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 8.7 | 69.0 | | 10.9 | 71.2 | | 8.2 | 8.2 | | 8.2 | 8.2 | |
| Effective Green, g (s) | 8.7 | 69.0 | | 10.9 | 71.2 | | 8.2 | 8.2 | | 8.2 | 8.2 | |
| Actuated g/C Ratio | 0.08 | 0.63 | | 0.10 | 0.65 | | 0.07 | 0.07 | | 0.07 | 0.07 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 140 | 1149 | | 175 | 1166 | | 96 | 119 | | 104 | 119 | |
| v/s Ratio Prot | 0.04 | 0.19 | | c0.06 | c0.61 | | | 0.00 | | | 0.00 | |
| v/s Ratio Perm | | | | | | | 0.01 | | | c0.04 | | |
| v/c Ratio | 0.54 | 0.30 | | 0.58 | 0.94 | | 0.17 | 0.02 | | 0.48 | 0.06 | |
| Uniform Delay, d1 | 48.7 | 9.4 | | 47.3 | 17.6 | | 47.7 | 47.2 | | 48.9 | 47.3 | |
| Progression Factor | 0.99 | 1.01 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 3.8 | 0.7 | | 4.6 | 16.0 | | 0.8 | 0.1 | | 3.5 | 0.2 | |
| Delay (s) | 52.0 | 10.2 | | 51.9 | 33.6 | | 48.5 | 47.2 | | 52.3 | 47.5 | |
| Level of Service | D | B | | D | C | | D | D | | D | D | |
| Approach Delay (s) | | 17.6 | | | 35.1 | | | 47.9 | | | 49.7 | |
| Approach LOS | | B | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 32.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.82 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 89.4% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Movement | SWR |
|---|---|
| Lane Configurations | |
| Volume (vph) | 20 |
| Ideal Flow (vphpl) | 1900 |
| Lane Width | 12 |
| Total Lost time (s) | 4.5 |
| Lane Util. Factor | 1.00 |
| Frpb, ped/bikes | 1.00 |
| Flpb, ped/bikes | 1.00 |
| Frt | 0.86 |
| Flt Protected | 1.00 |
| Satd. Flow (prot) | 1096 |
| Flt Permitted | 1.00 |
| Satd. Flow (perm) | 1096 |
| Peak-hour factor, PHF | 0.92 |
| Adj. Flow (vph) | 22 |
| RTOR Reduction (vph) | 0 |
| Lane Group Flow (vph) | 22 |
| Confl. Peds. (#/hr) | |
| Heavy Vehicles (%) | 50% |
| Parking (#/hr) | |
| Turn Type | custom |
| Protected Phases | 9 |
| Permitted Phases | 9 |
| Actuated Green, G (s) | 3.9 |
| Effective Green, g (s) | 3.9 |
| Actuated g/C Ratio | 0.04 |
| Clearance Time (s) | 4.5 |
| Vehicle Extension (s) | 3.0 |
| Lane Grp Cap (vph) | 39 |
| v/s Ratio Prot | c0.02 |
| v/s Ratio Perm | |
| v/c Ratio | 0.56 |
| Uniform Delay, d1 | 52.2 |
| Progression Factor | 1.00 |
| Incremental Delay, d2 | 17.3 |
| Delay (s) | 69.6 |
| Level of Service | E |
| Approach Delay (s) | |
| Approach LOS | |

| Intersection Summary |
|---|

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 90 | 320 | 12 | 955 | 67 | 126 | 14 | 78 | 429 |
| v/c Ratio | 0.97 | 0.26 | 0.19 | 0.99 | 1.06 | 0.26 | 0.04 | 0.27 | 0.86 |
| Control Delay | 138.2 | 8.5 | 58.7 | 52.4 | 174.7 | 33.6 | 14.1 | 35.2 | 53.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 138.2 | 8.5 | 58.7 | 52.4 | 174.7 | 33.6 | 14.1 | 35.2 | 53.4 |
| Queue Length 50th (ft) | 65 | 74 | 8 | 633 | ~52 | 70 | 0 | 44 | 265 |
| Queue Length 95th (ft) | #168 | 143 | 29 | #947 | #145 | 122 | 16 | 87 | #441 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 93 | 1240 | 62 | 961 | 63 | 493 | 359 | 289 | 497 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.97 | 0.26 | 0.19 | 0.99 | 1.06 | 0.26 | 0.04 | 0.27 | 0.86 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 83 | 199 | 96 | 11 | 824 | 54 | 62 | 116 | 13 | 72 | 206 | 189 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1918 | | 1711 | 1702 | | 1652 | 1863 | 1320 | 1638 | 1764 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.14 | 1.00 | 1.00 | 0.63 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1918 | | 1711 | 1702 | | 239 | 1863 | 1320 | 1092 | 1764 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 90 | 216 | 104 | 12 | 896 | 59 | 67 | 126 | 14 | 78 | 224 | 205 |
| RTOR Reduction (vph) | 0 | 14 | 0 | 0 | 2 | 0 | 0 | 0 | 10 | 0 | 30 | 0 |
| Lane Group Flow (vph) | 90 | 306 | 0 | 12 | 953 | 0 | 67 | 126 | 4 | 78 | 399 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 6.0 | 70.3 | | 0.8 | 65.1 | | 29.1 | 29.1 | 29.1 | 29.1 | 29.1 | |
| Effective Green, g (s) | 6.0 | 70.3 | | 0.8 | 65.1 | | 29.1 | 29.1 | 29.1 | 29.1 | 29.1 | |
| Actuated g/C Ratio | 0.05 | 0.62 | | 0.01 | 0.58 | | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 91 | 1191 | | 12 | 979 | | 61 | 479 | 339 | 281 | 453 | |
| v/s Ratio Prot | c0.05 | 0.16 | | 0.01 | c0.56 | | | 0.07 | | | 0.23 | |
| v/s Ratio Perm | | | | | | | c0.28 | | 0.00 | 0.07 | | |
| v/c Ratio | 0.99 | 0.26 | | 1.00 | 0.97 | | 1.10 | 0.26 | 0.01 | 0.28 | 0.88 | |
| Uniform Delay, d1 | 53.6 | 9.7 | | 56.2 | 23.2 | | 42.0 | 33.5 | 31.3 | 33.6 | 40.4 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 90.1 | 0.2 | | 259.8 | 22.4 | | 144.9 | 0.4 | 0.0 | 0.7 | 17.9 | |
| Delay (s) | 143.6 | 9.8 | | 316.0 | 45.6 | | 187.0 | 33.9 | 31.3 | 34.4 | 58.2 | |
| Level of Service | F | A | | F | D | | F | C | C | C | E | |
| Approach Delay (s) | | 39.2 | | | 49.0 | | | 83.3 | | | 54.6 | |
| Approach LOS | | D | | | D | | | F | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 51.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.01 | | |
| Actuated Cycle Length (s) | 113.2 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 93.3% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 191 | 96 | 4 | 28 | 563 | 674 | 13 | 27 | 1067 |
| v/c Ratio | 1.04 | 0.23 | 0.06 | 0.15 | 0.99 | 0.33 | 0.01 | 0.27 | 0.97 |
| Control Delay | 122.5 | 9.8 | 54.2 | 25.0 | 71.7 | 10.9 | 8.8 | 56.4 | 52.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 122.5 | 9.8 | 54.2 | 25.0 | 71.7 | 10.9 | 8.8 | 56.4 | 52.0 |
| Queue Length 50th (ft) | 121 | 6 | 2 | 7 | 339 | 95 | 2 | 16 | 303 |
| Queue Length 95th (ft) | #338 | 46 | 16 | 32 | #756 | 216 | 14 | 52 | #609 |
| Internal Link Dist (ft) | | 1442 | | 221 | | 1609 | | | 1977 |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | |
| Base Capacity (vph) | 184 | 665 | 65 | 534 | 566 | 2072 | 920 | 101 | 1101 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.04 | 0.14 | 0.06 | 0.05 | 0.99 | 0.33 | 0.01 | 0.27 | 0.97 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 176 | 10 | 78 | 4 | 11 | 15 | 524 | 620 | 12 | 25 | 582 | 399 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.87 | | 1.00 | 0.91 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1529 | | 1652 | 1571 | | 1652 | 3240 | 1442 | 1711 | 3176 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1529 | | 1652 | 1571 | | 1652 | 3240 | 1442 | 1711 | 3176 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 191 | 11 | 85 | 4 | 12 | 16 | 563 | 674 | 13 | 27 | 633 | 434 |
| RTOR Reduction (vph) | 0 | 66 | 0 | 0 | 14 | 0 | 0 | 0 | 2 | 0 | 90 | 0 |
| Lane Group Flow (vph) | 191 | 30 | 0 | 4 | 14 | 0 | 563 | 674 | 11 | 27 | 977 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 11.1 | 24.1 | | 0.7 | 13.7 | | 35.3 | 65.8 | 65.8 | 3.5 | 34.0 | |
| Effective Green, g (s) | 11.1 | 24.1 | | 0.7 | 13.7 | | 35.3 | 65.8 | 65.8 | 3.5 | 34.0 | |
| Actuated g/C Ratio | 0.10 | 0.23 | | 0.01 | 0.13 | | 0.33 | 0.62 | 0.62 | 0.03 | 0.32 | |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 178 | 346 | | 11 | 202 | | 547 | 2000 | 890 | 56 | 1013 | |
| v/s Ratio Prot | c0.11 | c0.02 | | 0.00 | 0.01 | | c0.34 | 0.21 | | 0.02 | c0.31 | |
| v/s Ratio Perm | | | | | | | | | 0.01 | | | |
| v/c Ratio | 1.07 | 0.09 | | 0.36 | 0.07 | | 1.03 | 0.34 | 0.01 | 0.48 | 0.96 | |
| Uniform Delay, d1 | 47.8 | 32.6 | | 52.7 | 40.8 | | 35.6 | 9.9 | 7.9 | 50.7 | 35.7 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 88.2 | 0.1 | | 25.7 | 0.2 | | 46.2 | 0.1 | 0.0 | 8.7 | 20.2 | |
| Delay (s) | 136.0 | 32.7 | | 78.5 | 41.0 | | 81.8 | 10.0 | 7.9 | 59.3 | 55.9 | |
| Level of Service | F | C | | E | D | | F | A | A | E | E | |
| Approach Delay (s) | | 101.4 | | | 45.7 | | | 42.3 | | | 56.0 | |
| Approach LOS | | F | | | D | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 54.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.85 | | |
| Actuated Cycle Length (s) | 106.6 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 84.8% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 38 | 7 | 17 | 1348 | 1502 |
| v/c Ratio | 0.27 | 0.06 | 0.07 | 0.47 | 0.53 |
| Control Delay | 49.5 | 24.2 | 3.2 | 3.2 | 3.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 1.1 | 0.0 |
| Total Delay | 49.5 | 24.2 | 3.2 | 4.2 | 3.6 |
| Queue Length 50th (ft) | 26 | 0 | 1 | 92 | 111 |
| Queue Length 95th (ft) | 54 | 13 | 9 | 221 | 267 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 300 | 248 | 245 | 2874 | 2848 |
| Starvation Cap Reductn | 0 | 0 | 0 | 1184 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.13 | 0.03 | 0.07 | 0.80 | 0.53 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 35 | 6 | 16 | 1240 | 1299 | 83 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3209 | |
| Flt Permitted | 0.95 | 1.00 | 0.16 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 277 | 3240 | 3209 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 38 | 7 | 17 | 1348 | 1412 | 90 |
| RTOR Reduction (vph) | 0 | 7 | 0 | 0 | 2 | 0 |
| Lane Group Flow (vph) | 38 | 0 | 17 | 1348 | 1500 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 7.0 | 7.0 | 94.0 | 94.0 | 94.0 | |
| Effective Green, g (s) | 7.0 | 7.0 | 94.0 | 94.0 | 94.0 | |
| Actuated g/C Ratio | 0.06 | 0.06 | 0.85 | 0.85 | 0.85 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 105 | 85 | 237 | 2769 | 2742 | |
| v/s Ratio Prot | c0.02 | | | 0.42 | c0.47 | |
| v/s Ratio Perm | | 0.00 | 0.06 | | | |
| v/c Ratio | 0.36 | 0.01 | 0.07 | 0.49 | 0.55 | |
| Uniform Delay, d1 | 49.4 | 48.2 | 1.2 | 2.0 | 2.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 2.1 | 0.0 | 0.6 | 0.6 | 0.8 | |
| Delay (s) | 51.5 | 48.3 | 1.8 | 2.6 | 3.0 | |
| Level of Service | D | D | A | A | A | |
| Approach Delay (s) | 51.0 | | | 2.6 | 3.0 | |
| Approach LOS | D | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 3.5 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.53 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 49.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1097 | 778 | 1079 | 2077 | 763 | 876 |
| v/c Ratio | 0.66 | 0.58 | 0.98 | 1.09 | 0.50 | 0.91 |
| Control Delay | 23.0 | 20.9 | 56.3 | 69.2 | 1.2 | 60.6 |
| Queue Delay | 0.6 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.6 | 21.2 | 56.3 | 69.2 | 1.2 | 60.6 |
| Queue Length 50th (ft) | 278 | 201 | 481 | ~1116 | 0 | 336 |
| Queue Length 95th (ft) | 316 | 238 | m#601 | m#1227 | 0 | #436 |
| Internal Link Dist (ft) | 248 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 1671 | 1336 | 1105 | 1909 | 1517 | 967 |
| Starvation Cap Reductn | 228 | 148 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.76 | 0.65 | 0.98 | 1.09 | 0.50 | 0.91 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1009 | 716 | 993 | 1911 | 0 | 0 | 0 | 702 | 0 | 0 | 806 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 3.5 | 3.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.76 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3020 | 2378 | 2828 | 3020 | | | | 1517 | | | 3187 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3020 | 2378 | 2828 | 3020 | | | | 1517 | | | 3187 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1097 | 778 | 1079 | 2077 | 0 | 0 | 0 | 763 | 0 | 0 | 876 |
| RTOR Reduction (vph) | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1097 | 758 | 1079 | 2077 | 0 | 0 | 0 | 763 | 0 | 0 | 876 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 4 | | 1 | 6 | | | | | | | |
| Permitted Phases | | | 2 4 | | | | | | Free | | | 4 |
| Actuated Green, G (s) | | 76.5 | 76.5 | 54.5 | 88.5 | | | | 140.0 | | | 42.5 |
| Effective Green, g (s) | | 76.5 | 76.5 | 54.5 | 88.5 | | | | 140.0 | | | 42.5 |
| Actuated g/C Ratio | | 0.55 | 0.55 | 0.39 | 0.63 | | | | 1.00 | | | 0.30 |
| Clearance Time (s) | | | | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | | | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 1650 | 1299 | 1101 | 1909 | | | | 1517 | | | 967 |
| v/s Ratio Prot | | 0.36 | | 0.38 | c0.69 | | | | | | | |
| v/s Ratio Perm | | | 0.32 | | | | | | 0.50 | | | c0.27 |
| v/c Ratio | | 0.66 | 0.58 | 0.98 | 1.09 | | | | 0.50 | | | 0.91 |
| Uniform Delay, d1 | | 22.6 | 21.1 | 42.2 | 25.8 | | | | 0.0 | | | 46.8 |
| Progression Factor | | 0.95 | 0.98 | 0.98 | 0.92 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 2.0 | 1.8 | 14.6 | 44.7 | | | | 1.2 | | | 13.6 |
| Delay (s) | | 23.4 | 22.5 | 56.1 | 68.5 | | | | 1.2 | | | 60.4 |
| Level of Service | | C | C | E | E | | | | A | | | E |
| Approach Delay (s) | | 23.0 | | | 64.2 | | | 1.2 | | | 60.4 | |
| Approach LOS | | C | | | E | | | A | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 44.9 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.03 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 87.1% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 627 | 1182 | 1638 | 516 | 565 | 1468 |
| v/c Ratio | 0.80 | 0.35 | 0.78 | 0.53 | 0.35 | 0.96 |
| Control Delay | 31.7 | 0.2 | 16.7 | 8.7 | 0.6 | 18.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 31.7 | 0.2 | 16.7 | 8.7 | 0.6 | 18.5 |
| Queue Length 50th (ft) | 173 | 0 | 535 | 201 | 0 | 0 |
| Queue Length 95th (ft) | 227 | 0 | 293 | m135 | 0 | #183 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 831 | 3355 | 2093 | 972 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.75 | 0.35 | 0.78 | 0.53 | 0.35 | 0.96 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 577 | 1087 | 0 | 0 | 1507 | 475 | 0 | 0 | 520 | 0 | 0 | 1351 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 627 | 1182 | 0 | 0 | 1638 | 516 | 0 | 0 | 565 | 0 | 0 | 1468 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 627 | 1182 | 0 | 0 | 1638 | 499 | 0 | 0 | 565 | 0 | 0 | 1468 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 17.3 | 70.0 | | | 43.7 | 43.7 | | | 70.0 | | | 70.0 |
| Effective Green, g (s) | 17.3 | 70.0 | | | 43.7 | 43.7 | | | 70.0 | | | 70.0 |
| Actuated g/C Ratio | 0.25 | 1.00 | | | 0.62 | 0.62 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 777 | 3355 | | | 2094 | 956 | | | 1611 | | | 1528 |
| v/s Ratio Prot | 0.20 | 0.35 | | | 0.49 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.33 | | | 0.35 | | | c0.96 |
| v/c Ratio | 0.81 | 0.35 | | | 0.78 | 0.52 | | | 0.35 | | | 0.96 |
| Uniform Delay, d1 | 24.8 | 0.0 | | | 9.7 | 7.3 | | | 0.0 | | | 0.0 |
| Progression Factor | 0.99 | 1.00 | | | 1.45 | 1.05 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 5.0 | 0.2 | | | 1.9 | 1.3 | | | 0.6 | | | 15.4 |
| Delay (s) | 29.7 | 0.2 | | | 15.9 | 9.0 | | | 0.6 | | | 15.4 |
| Level of Service | C | A | | | B | A | | | A | | | B |
| Approach Delay (s) | | 10.4 | | | 14.3 | | | 0.6 | | | 15.4 | |
| Approach LOS | | B | | | B | | | A | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 12.1 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.96 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 65.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 393 | 392 | 486 | 666 | 21 | 835 | 1113 | 11 | 74 | 998 | 550 |
| v/c Ratio | 1.59 | 0.55 | 0.27 | 1.46 | 0.05 | 1.18 | 0.75 | 0.02 | 0.65 | 1.25 | 1.01 |
| Control Delay | 306.3 | 24.9 | 0.4 | 247.0 | 20.1 | 130.4 | 23.8 | 11.7 | 70.2 | 153.3 | 63.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 306.3 | 24.9 | 0.4 | 247.0 | 20.1 | 130.4 | 23.8 | 11.7 | 70.2 | 153.3 | 63.7 |
| Queue Length 50th (ft) | ~296 | 176 | 0 | ~553 | 6 | ~317 | 255 | 2 | 42 | ~404 | ~236 |
| Queue Length 95th (ft) | #480 | 267 | 0 | #766 | 24 | #424 | 352 | m7 | m#106 | #532 | #452 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 247 | 714 | 1770 | 457 | 395 | 708 | 1475 | 546 | 113 | 800 | 542 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.59 | 0.55 | 0.27 | 1.46 | 0.05 | 1.18 | 0.75 | 0.02 | 0.65 | 1.25 | 1.01 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 362 | 361 | 447 | 2 | 611 | 19 | 768 | 1024 | 10 | 68 | 918 | 506 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.97 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1738 | 1477 | 3204 | 3539 | 1338 | 1652 | 3303 | 1552 |
| Flt Permitted | 0.14 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 240 | 1739 | 1770 | | 1737 | 1477 | 3204 | 3539 | 1338 | 1652 | 3303 | 1552 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 393 | 392 | 486 | 2 | 664 | 21 | 835 | 1113 | 11 | 74 | 998 | 550 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 3 | 0 | 0 | 167 |
| Lane Group Flow (vph) | 393 | 392 | 486 | 0 | 666 | 15 | 835 | 1113 | 8 | 74 | 998 | 383 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 38.5 | 38.5 | 95.0 | | 24.5 | 24.5 | 20.0 | 37.7 | 37.7 | 4.8 | 22.0 | 22.0 |
| Effective Green, g (s) | 39.0 | 39.0 | 95.0 | | 25.0 | 25.0 | 21.0 | 38.7 | 37.7 | 5.3 | 23.0 | 23.0 |
| Actuated g/C Ratio | 0.41 | 0.41 | 1.00 | | 0.26 | 0.26 | 0.22 | 0.41 | 0.40 | 0.06 | 0.24 | 0.24 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.5 | 5.0 | 5.0 |
| Vehicle Extension (s) | 3.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 247 | 714 | 1770 | | 457 | 389 | 708 | 1442 | 531 | 92 | 800 | 376 |
| v/s Ratio Prot | c0.17 | 0.23 | | | | | c0.26 | 0.31 | | 0.04 | c0.30 | |
| v/s Ratio Perm | c0.49 | | 0.27 | | 0.38 | 0.01 | | | 0.01 | | | 0.25 |
| v/c Ratio | 1.59 | 0.55 | 0.27 | | 1.46 | 0.04 | 1.18 | 0.77 | 0.02 | 0.80 | 1.25 | 1.02 |
| Uniform Delay, d1 | 23.8 | 21.3 | 0.0 | | 35.0 | 26.1 | 37.0 | 24.3 | 17.4 | 44.3 | 36.0 | 36.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.04 | 0.82 | 0.81 | 0.99 | 0.95 | 0.89 |
| Incremental Delay, d2 | 284.3 | 1.1 | 0.4 | | 217.7 | 0.1 | 94.8 | 4.0 | 0.1 | 38.8 | 121.7 | 51.3 |
| Delay (s) | 308.2 | 22.4 | 0.4 | | 252.7 | 26.1 | 133.3 | 23.9 | 14.1 | 82.7 | 155.8 | 83.4 |
| Level of Service | F | C | A | | F | C | F | C | B | F | F | F |
| Approach Delay (s) | | 102.3 | | | 245.7 | | | 70.5 | | | 127.9 | |
| Approach LOS | | F | | | F | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 116.3 | HCM Level of Service | F |
| HCM Volume to Capacity ratio | 1.37 | | |
| Actuated Cycle Length (s) | 95.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 112.9% | ICU Level of Service | H |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 18 | 14 | 1 | 1320 | 83 | 2067 |
| v/c Ratio | 0.21 | 0.12 | 0.01 | 0.29 | 0.28 | 0.65 |
| Control Delay | 63.5 | 25.2 | 1.0 | 2.4 | 1.0 | 1.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| Total Delay | 63.5 | 25.2 | 1.0 | 2.4 | 1.0 | 1.9 |
| Queue Length 50th (ft) | 16 | 0 | 0 | 138 | 0 | 4 |
| Queue Length 95th (ft) | 39 | 21 | m0 | 187 | m2 | m26 |
| Internal Link Dist (ft) | 217 | | | 650 | | 443 |
| Turn Bay Length (ft) | | | 115 | | 150 | |
| Base Capacity (vph) | 195 | 236 | 128 | 4489 | 300 | 3156 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 275 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.06 | 0.01 | 0.29 | 0.28 | 0.72 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 16 | 1 | 13 | 1 | 1188 | 27 | 76 | 1898 | 4 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | 1.00 | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1572 | 1395 | 1652 | 4935 | | 1618 | 3470 | |
| Flt Permitted | | | | | 0.74 | 1.00 | 0.08 | 1.00 | | 0.19 | 1.00 | |
| Satd. Flow (perm) | | | | | 1214 | 1395 | 141 | 4935 | | 331 | 3470 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 17 | 1 | 14 | 1 | 1291 | 29 | 83 | 2063 | 4 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 1 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 18 | 1 | 1 | 1319 | 0 | 83 | 2067 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 7.5 | 7.5 | 123.9 | 123.9 | | 123.9 | 123.9 | |
| Effective Green, g (s) | | | | | 7.5 | 7.5 | 123.9 | 123.9 | | 123.9 | 123.9 | |
| Actuated g/C Ratio | | | | | 0.05 | 0.05 | 0.89 | 0.89 | | 0.89 | 0.89 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 65 | 75 | 125 | 4367 | | 293 | 3071 | |
| v/s Ratio Prot | | | | | | | | 0.27 | | | c0.60 | |
| v/s Ratio Perm | | | | | c0.01 | 0.00 | 0.01 | | | 0.25 | | |
| v/c Ratio | | | | | 0.28 | 0.01 | 0.01 | 0.30 | | 0.28 | 0.67 | |
| Uniform Delay, d1 | | | | | 63.6 | 62.7 | 0.9 | 1.3 | | 1.2 | 2.3 | |
| Progression Factor | | | | | 1.00 | 1.00 | 0.55 | 1.32 | | 0.09 | 0.41 | |
| Incremental Delay, d2 | | | | | 2.3 | 0.1 | 0.1 | 0.1 | | 0.7 | 0.4 | |
| Delay (s) | | | | | 66.0 | 62.8 | 0.6 | 1.8 | | 0.9 | 1.3 | |
| Level of Service | | | | | E | E | A | A | | A | A | |
| Approach Delay (s) | | 0.0 | | | 64.6 | | | 1.8 | | | 1.3 | |
| Approach LOS | | A | | | E | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 2.1 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.65 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 73.2% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 75 | 440 | 1212 | 57 | 64 |
| v/c Ratio | 0.47 | 0.27 | 0.47 | 0.39 | 0.34 |
| Control Delay | 56.2 | 2.4 | 3.8 | 55.0 | 16.6 |
| Queue Delay | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| Total Delay | 56.2 | 2.4 | 4.0 | 55.0 | 16.6 |
| Queue Length 50th (ft) | 51 | 48 | 62 | 39 | 0 |
| Queue Length 95th (ft) | 95 | 88 | m103 | 78 | 40 |
| Internal Link Dist (ft) | | 522 | 524 | 160 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 205 | 1609 | 2590 | 378 | 389 |
| Starvation Cap Reductn | 0 | 0 | 523 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.37 | 0.27 | 0.59 | 0.15 | 0.16 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 69 | 405 | 892 | 223 | 52 | 59 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.97 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3433 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3433 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 75 | 440 | 970 | 242 | 57 | 64 |
| RTOR Reduction (vph) | 0 | 0 | 12 | 0 | 0 | 59 |
| Lane Group Flow (vph) | 75 | 440 | 1200 | 0 | 57 | 5 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 8.8 | 93.2 | 79.9 | | 7.8 | 7.8 |
| Effective Green, g (s) | 8.8 | 93.2 | 79.9 | | 7.8 | 7.8 |
| Actuated g/C Ratio | 0.08 | 0.85 | 0.73 | | 0.07 | 0.07 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 142 | 1578 | 2494 | | 126 | 112 |
| v/s Ratio Prot | c0.04 | 0.24 | c0.35 | | c0.03 | |
| v/s Ratio Perm | | | | | | 0.00 |
| v/c Ratio | 0.53 | 0.28 | 0.48 | | 0.45 | 0.04 |
| Uniform Delay, d1 | 48.6 | 1.7 | 6.3 | | 49.0 | 47.6 |
| Progression Factor | 1.00 | 1.00 | 0.47 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.5 | 0.4 | 0.5 | | 2.6 | 0.1 |
| Delay (s) | 52.1 | 2.1 | 3.5 | | 51.6 | 47.8 |
| Level of Service | D | A | A | | D | D |
| Approach Delay (s) | | 9.4 | 3.5 | | 49.6 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 8.1 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.48 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 53.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBL | WBT | NBR |
|---|---|---|---|---|
| Lane Group Flow (vph) | 1684 | 217 | 2809 | 164 |
| v/c Ratio | 0.39 | 0.62 | 0.55 | 0.49 |
| Control Delay | 3.9 | 26.6 | 0.0 | 26.6 |
| Queue Delay | 0.0 | 0.0 | 0.1 | 0.2 |
| Total Delay | 3.9 | 26.6 | 0.2 | 26.7 |
| Queue Length 50th (ft) | 122 | 97 | 0 | 56 |
| Queue Length 95th (ft) | 122 | m85 | m0 | 100 |
| Internal Link Dist (ft) | 389 | | 248 | |
| Turn Bay Length (ft) | | | | |
| Base Capacity (vph) | 4315 | 569 | 5085 | 529 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 103 | 0 | 907 | 59 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.40 | 0.38 | 0.67 | 0.35 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 1539 | 10 | 200 | 2584 | 0 | 151 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Lane Util. Factor | 0.86 | | 1.00 | 0.91 | | 1.00 |
| Frt | 1.00 | | 1.00 | 1.00 | | 0.86 |
| Flt Protected | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 6402 | | 1770 | 5085 | | 1611 |
| Flt Permitted | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 6402 | | 1770 | 5085 | | 1611 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1673 | 11 | 217 | 2809 | 0 | 164 |
| RTOR Reduction (vph) | 1 | 0 | 0 | 0 | 0 | 14 |
| Lane Group Flow (vph) | 1683 | 0 | 217 | 2809 | 0 | 150 |
| Turn Type | | | Prot | | | Over |
| Protected Phases | 2 | | 1 | 6 | | 1 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 47.2 | | 13.8 | 70.0 | | 13.8 |
| Effective Green, g (s) | 47.2 | | 13.8 | 70.0 | | 13.8 |
| Actuated g/C Ratio | 0.67 | | 0.20 | 1.00 | | 0.20 |
| Clearance Time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 4317 | | 349 | 5085 | | 318 |
| v/s Ratio Prot | 0.26 | | 0.12 | c0.55 | | 0.09 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.39 | | 0.62 | 0.55 | | 0.47 |
| Uniform Delay, d1 | 5.0 | | 25.7 | 0.0 | | 24.9 |
| Progression Factor | 0.69 | | 1.03 | 1.00 | | 1.00 |
| Incremental Delay, d2 | 0.2 | | 0.3 | 0.0 | | 1.1 |
| Delay (s) | 3.7 | | 26.9 | 0.0 | | 26.0 |
| Level of Service | A | | C | A | | C |
| Approach Delay (s) | 3.7 | | | 2.0 | 26.0 | |
| Approach LOS | A | | | A | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 3.4 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.55 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 53.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 114 | 183 | 315 | 58 | 1488 | 46 | 1213 | 451 | 993 | 1047 | 70 |
| v/c Ratio | 1.48 | 0.51 | 0.49 | 0.08 | 0.90 | 0.72 | 1.05 | 0.44 | 1.98 | 0.85 | 0.12 |
| Control Delay | 316.7 | 47.7 | 38.1 | 23.6 | 32.0 | 117.5 | 91.2 | 3.2 | 477.4 | 48.6 | 10.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 316.7 | 47.7 | 38.1 | 23.6 | 32.0 | 117.5 | 91.2 | 3.2 | 477.4 | 48.6 | 10.3 |
| Queue Length 50th (ft) | ~143 | 63 | 213 | 31 | 630 | 42 | ~442 | 20 | ~728 | 471 | 8 |
| Queue Length 95th (ft) | #275 | 93 | 358 | 59 | 785 | #111 | #539 | 53 | #862 | 568 | 43 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 77 | 1077 | 638 | 739 | 1648 | 68 | 1155 | 1034 | 502 | 1229 | 607 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.48 | 0.17 | 0.49 | 0.08 | 0.90 | 0.68 | 1.05 | 0.44 | 1.98 | 0.85 | 0.12 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 105 | 120 | 49 | 290 | 53 | 1369 | 42 | 1116 | 415 | 914 | 963 | 64 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | 4.5 | 3.5 | 3.8 | 3.8 | 3.5 | 3.8 | 3.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 1.00 | 0.88 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3057 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1512 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3057 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1512 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 114 | 130 | 53 | 315 | 58 | 1488 | 46 | 1213 | 451 | 993 | 1047 | 70 |
| RTOR Reduction (vph) | 0 | 43 | 0 | 0 | 0 | 4 | 0 | 0 | 125 | 0 | 0 | 35 |
| Lane Group Flow (vph) | 114 | 140 | 0 | 315 | 58 | 1484 | 46 | 1213 | 326 | 993 | 1047 | 35 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 6.5 | 14.6 | | 53.6 | 61.7 | 88.7 | 4.7 | 35.7 | 89.3 | 22.5 | 53.5 | 53.5 |
| Effective Green, g (s) | 6.5 | 14.6 | | 53.6 | 61.7 | 88.7 | 4.7 | 35.7 | 89.3 | 22.5 | 53.5 | 53.5 |
| Actuated g/C Ratio | 0.05 | 0.10 | | 0.38 | 0.44 | 0.63 | 0.03 | 0.25 | 0.63 | 0.16 | 0.38 | 0.38 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 4.0 | | 2.0 | 4.5 | 4.5 |
| Lane Grp Cap (vph) | 77 | 315 | | 635 | 735 | 1654 | 54 | 1173 | 913 | 499 | 1223 | 571 |
| v/s Ratio Prot | c0.07 | 0.05 | | 0.19 | 0.03 | c0.56 | 0.03 | c0.26 | 0.22 | c0.32 | 0.32 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.02 |
| v/c Ratio | 1.48 | 0.44 | | 0.50 | 0.08 | 0.90 | 0.85 | 1.03 | 0.36 | 1.99 | 0.86 | 0.06 |
| Uniform Delay, d1 | 67.6 | 59.7 | | 33.7 | 23.4 | 22.6 | 68.2 | 53.0 | 12.5 | 59.6 | 40.6 | 28.1 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 273.2 | 1.7 | | 0.2 | 0.1 | 7.0 | 68.8 | 35.5 | 0.3 | 452.6 | 6.5 | 0.1 |
| Delay (s) | 340.8 | 61.5 | | 33.9 | 23.4 | 29.6 | 137.0 | 88.5 | 12.8 | 512.2 | 47.1 | 28.2 |
| Level of Service | F | E | | C | C | C | F | F | B | F | D | C |
| Approach Delay (s) | | 168.7 | | | 30.1 | | | 69.8 | | | 265.4 | |
| Approach LOS | | F | | | C | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 131.4 | HCM Level of Service | F |
| HCM Volume to Capacity ratio | 1.17 | | |
| Actuated Cycle Length (s) | 141.7 | Sum of lost time (s) | 15.3 |
| Intersection Capacity Utilization | 86.5% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 179 | 1360 | 157 | 1490 | 634 | 74 | 290 | 901 | 557 |
| v/c Ratio | 1.05 | 1.04 | 0.80 | 1.08 | 0.68 | 0.58 | 0.99 | 1.08 | 1.02 |
| Control Delay | 130.3 | 67.1 | 72.7 | 66.0 | 2.9 | 65.5 | 67.8 | 90.9 | 67.0 |
| Queue Delay | 0.0 | 232.4 | 0.0 | 15.5 | 1.6 | 0.0 | 53.2 | 5.2 | 0.0 |
| Total Delay | 130.3 | 299.5 | 72.7 | 81.5 | 4.5 | 65.5 | 121.0 | 96.1 | 67.0 |
| Queue Length 50th (ft) | ~132 | ~536 | 90 | ~592 | 0 | 49 | 62 | ~348 | ~263 |
| Queue Length 95th (ft) | #270 | #674 | m126 | m#689 | m23 | #108 | #238 | #471 | #489 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 170 | 1309 | 216 | 1375 | 934 | 128 | 293 | 838 | 547 |
| Starvation Cap Reductn | 0 | 0 | 0 | 45 | 151 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 442 | 0 | 0 | 0 | 0 | 40 | 10 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.05 | 1.57 | 0.73 | 1.12 | 0.81 | 0.58 | 1.15 | 1.09 | 1.02 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 165 | 1241 | 10 | 144 | 1371 | 583 | 68 | 3 | 264 | 829 | 57 | 455 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | | 1.00 | 0.96 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 | 0.87 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3174 | | 1620 | 3209 | 1435 | 1678 | 1431 | | 3143 | 1420 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3174 | | 1620 | 3209 | 1435 | 1678 | 1431 | | 3143 | 1420 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 179 | 1349 | 11 | 157 | 1490 | 634 | 74 | 3 | 287 | 901 | 62 | 495 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 0 | 305 | 0 | 184 | 0 | 0 | 168 | 0 |
| Lane Group Flow (vph) | 179 | 1359 | 0 | 157 | 1490 | 329 | 74 | 106 | 0 | 901 | 389 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 11.0 | 43.3 | | 12.7 | 45.0 | 45.0 | 8.0 | 8.0 | | 28.0 | 28.0 | |
| Effective Green, g (s) | 11.0 | 43.3 | | 12.7 | 45.0 | 46.0 | 8.0 | 8.0 | | 28.0 | 28.0 | |
| Actuated g/C Ratio | 0.10 | 0.41 | | 0.12 | 0.43 | 0.44 | 0.08 | 0.08 | | 0.27 | 0.27 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 170 | 1309 | | 196 | 1375 | 629 | 128 | 109 | | 838 | 379 | |
| v/s Ratio Prot | 0.11 | c0.43 | | 0.10 | c0.46 | | 0.04 | c0.07 | | c0.29 | 0.27 | |
| v/s Ratio Perm | | | | | | 0.23 | | | | | | |
| v/c Ratio | 1.05 | 1.04 | | 0.80 | 1.08 | 0.52 | 0.58 | 0.97 | | 1.08 | 1.03 | |
| Uniform Delay, d1 | 47.0 | 30.9 | | 44.9 | 30.0 | 21.5 | 46.9 | 48.4 | | 38.5 | 38.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.20 | 0.58 | 0.09 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 83.7 | 35.5 | | 13.0 | 46.3 | 2.0 | 3.9 | 77.1 | | 53.3 | 53.2 | |
| Delay (s) | 130.7 | 66.3 | | 66.7 | 63.6 | 4.0 | 50.8 | 125.5 | | 91.8 | 91.7 | |
| Level of Service | F | E | | E | E | A | D | F | | F | F | |
| Approach Delay (s) | | 73.8 | | | 47.2 | | | 110.3 | | | 91.8 | |
| Approach LOS | | E | | | D | | | F | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 70.1 | HCM Level of Service | E |
| HCM Volume to Capacity ratio | 1.05 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 10.0 |
| Intersection Capacity Utilization | 100.5% | ICU Level of Service | G |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 87 | 2564 | 322 | 1969 | 365 | 849 | 83 | 54 |
| v/c Ratio | 0.58 | 1.11 | 0.91 | 0.76 | 1.06 | 0.99 | 0.93 | 0.48 |
| Control Delay | 40.8 | 69.9 | 70.0 | 16.9 | 106.6 | 57.1 | 129.5 | 39.4 |
| Queue Delay | 0.0 | 70.1 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| Total Delay | 40.8 | 140.0 | 70.0 | 17.8 | 106.6 | 57.1 | 129.5 | 39.7 |
| Queue Length 50th (ft) | 53 | ~711 | 108 | 312 | ~270 | 253 | 57 | 14 |
| Queue Length 95th (ft) | m53 | m#660 | m#153 | 408 | #452 | #330 | #154 | #55 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 170 | 2318 | 353 | 2602 | 345 | 858 | 89 | 112 |
| Starvation Cap Reductn | 0 | 290 | 0 | 185 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 350 | 0 | 0 | 0 | 2 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.51 | 1.26 | 0.91 | 0.87 | 1.06 | 0.99 | 0.93 | 0.49 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 80 | 2168 | 190 | 296 | 1672 | 140 | 298 | 38 | 781 | 76 | 19 | 30 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.91 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.99 | 1.00 | 0.95 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4513 | | 3143 | 4713 | | | 1808 | 2802 | 1562 | 1422 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4513 | | 3143 | 4713 | | | 1808 | 2802 | 1562 | 1422 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 87 | 2357 | 207 | 322 | 1817 | 152 | 324 | 41 | 849 | 83 | 21 | 33 |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 9 | 0 | 0 | 0 | 23 | 0 | 31 | 0 |
| Lane Group Flow (vph) | 87 | 2554 | 0 | 322 | 1960 | 0 | 0 | 365 | 826 | 83 | 23 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 8.8 | 53.7 | | 11.8 | 57.2 | | | 20.0 | 31.8 | 6.0 | 6.0 | |
| Effective Green, g (s) | 8.8 | 53.7 | | 11.8 | 57.2 | | | 20.0 | 31.8 | 6.0 | 6.0 | |
| Actuated g/C Ratio | 0.08 | 0.51 | | 0.11 | 0.54 | | | 0.19 | 0.30 | 0.06 | 0.06 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 136 | 2308 | | 353 | 2567 | | | 344 | 849 | 89 | 81 | |
| v/s Ratio Prot | 0.05 | c0.57 | | 0.10 | 0.42 | | | c0.20 | c0.11 | c0.05 | 0.02 | |
| v/s Ratio Perm | | | | | | | | | 0.19 | | | |
| v/c Ratio | 0.64 | 1.11 | | 0.91 | 0.76 | | | 1.06 | 0.97 | 0.93 | 0.28 | |
| Uniform Delay, d1 | 46.6 | 25.6 | | 46.1 | 18.6 | | | 42.5 | 36.2 | 49.3 | 47.4 | |
| Progression Factor | 0.86 | 0.77 | | 1.10 | 0.83 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.7 | 48.7 | | 16.5 | 1.2 | | | 65.6 | 24.2 | 72.3 | 0.7 | |
| Delay (s) | 40.9 | 68.5 | | 67.1 | 16.6 | | | 108.1 | 60.3 | 121.6 | 48.1 | |
| Level of Service | D | E | | E | B | | | F | E | F | D | |
| Approach Delay (s) | | 67.6 | | | 23.7 | | | 74.7 | | | 92.6 | |
| Approach LOS | | E | | | C | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 53.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.07 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 90.9% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1729 | 653 | 2073 | 538 | 422 | 426 |
| v/c Ratio | 0.48 | 0.26 | 0.85 | 0.43 | 0.71 | 0.76 |
| Control Delay | 3.9 | 0.0 | 12.8 | 1.4 | 47.7 | 46.2 |
| Queue Delay | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 4.1 | 0.0 | 12.8 | 1.4 | 47.7 | 46.2 |
| Queue Length 50th (ft) | 106 | 0 | 407 | 0 | 138 | 138 |
| Queue Length 95th (ft) | m96 | m0 | 533 | 23 | 192 | #201 |
| Internal Link Dist (ft) | 509 | | 867 | | | |
| Turn Bay Length (ft) | | 400 | | | | 150 |
| Base Capacity (vph) | 3609 | 2521 | 2449 | 1246 | 601 | 562 |
| Starvation Cap Reductn | 820 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 4 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.62 | 0.26 | 0.85 | 0.43 | 0.70 | 0.76 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1591 | 601 | 0 | 1907 | 495 | 0 | 0 | 0 | 388 | 0 | 392 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | | 3.0 |
| Lane Util. Factor | | 0.91 | 0.88 | | 0.95 | 1.00 | | | | 0.97 | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1729 | 653 | 0 | 2073 | 538 | 0 | 0 | 0 | 422 | 0 | 426 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 133 | 0 | 0 | 0 | 0 | 0 | 39 |
| Lane Group Flow (vph) | 0 | 1729 | 653 | 0 | 2073 | 405 | 0 | 0 | 0 | 422 | 0 | 387 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Perm | | | | custom | | custom |
| Protected Phases | | 2 | | | 6 | | | | | 4 | | 4 |
| Permitted Phases | | | 2 4 | | | 6 | | | | 4 | | |
| Actuated Green, G (s) | | 79.1 | 105.0 | | 79.1 | 79.1 | | | | 17.9 | | 17.9 |
| Effective Green, g (s) | | 80.1 | 105.0 | | 80.1 | 79.1 | | | | 18.9 | | 18.9 |
| Actuated g/C Ratio | | 0.76 | 1.00 | | 0.76 | 0.75 | | | | 0.18 | | 0.18 |
| Clearance Time (s) | | 4.0 | | | 4.0 | 4.0 | | | | 4.0 | | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | 4.5 | | | | 4.0 | | 4.0 |
| Lane Grp Cap (vph) | | 3608 | 2533 | | 2448 | 1113 | | | | 597 | | 520 |
| v/s Ratio Prot | | 0.37 | | | c0.65 | | | | | 0.13 | | c0.13 |
| v/s Ratio Perm | | | 0.26 | | | 0.27 | | | | | | |
| v/c Ratio | | 0.48 | 0.26 | | 0.85 | 0.36 | | | | 0.71 | | 0.74 |
| Uniform Delay, d1 | | 4.7 | 0.0 | | 8.3 | 4.4 | | | | 40.4 | | 40.8 |
| Progression Factor | | 0.82 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | | 0.0 | 0.0 | | 3.8 | 0.9 | | | | 4.1 | | 6.1 |
| Delay (s) | | 3.9 | 0.0 | | 12.2 | 5.3 | | | | 44.5 | | 46.8 |
| Level of Service | | A | A | | B | A | | | | D | | D |
| Approach Delay (s) | | 2.8 | | | 10.8 | | | 0.0 | | | 45.7 | |
| Approach LOS | | A | | | B | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 12.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.83 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 6.0 |
| Intersection Capacity Utilization | 73.1% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 618 | 45 | 39 | 271 | 190 | 428 |
| v/c Ratio | 0.86 | 0.07 | 0.39 | 0.33 | 0.28 | 0.49 |
| Control Delay | 29.9 | 3.6 | 41.0 | 14.2 | 17.5 | 4.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.9 | 3.6 | 41.0 | 14.2 | 17.5 | 4.5 |
| Queue Length 50th (ft) | 197 | 0 | 15 | 71 | 48 | 0 |
| Queue Length 95th (ft) | #365 | 14 | #44 | 127 | 113 | 60 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 800 | 739 | 100 | 819 | 680 | 879 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.77 | 0.06 | 0.39 | 0.33 | 0.28 | 0.49 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 569 | 41 | 36 | 249 | 175 | 394 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1560 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1560 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 618 | 45 | 39 | 271 | 190 | 428 |
| RTOR Reduction (vph) | 0 | 26 | 0 | 0 | 0 | 273 |
| Lane Group Flow (vph) | 618 | 19 | 39 | 271 | 190 | 155 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 27.9 | 27.9 | 1.6 | 29.1 | 23.5 | 23.5 |
| Effective Green, g (s) | 27.9 | 27.9 | 1.6 | 29.1 | 23.5 | 23.5 |
| Actuated g/C Ratio | 0.43 | 0.43 | 0.02 | 0.45 | 0.36 | 0.36 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 720 | 644 | 40 | 818 | 616 | 564 |
| v/s Ratio Prot | c0.37 | | c0.02 | c0.15 | 0.11 | |
| v/s Ratio Perm | | 0.01 | | | | 0.10 |
| v/c Ratio | 0.86 | 0.03 | 0.97 | 0.33 | 0.31 | 0.27 |
| Uniform Delay, d1 | 16.8 | 10.7 | 31.7 | 11.6 | 14.9 | 14.7 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 10.0 | 0.0 | 131.6 | 1.1 | 1.3 | 1.2 |
| Delay (s) | 26.7 | 10.7 | 163.3 | 12.7 | 16.2 | 15.9 |
| Level of Service | C | B | F | B | B | B |
| Approach Delay (s) | 25.6 | | | 31.7 | 16.0 | |
| Approach LOS | C | | | C | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 23.1 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.64 | | |
| Actuated Cycle Length (s) | 65.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 58.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 148 | 181 | 145 | 14 | 1304 | 202 | 1272 |
| v/c Ratio | 0.41 | 0.53 | 0.40 | 0.09 | 0.74 | 1.43 | 0.71 |
| Control Delay | 17.6 | 22.8 | 14.9 | 9.6 | 13.8 | 250.6 | 13.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.6 | 22.8 | 14.9 | 9.6 | 13.8 | 250.6 | 13.3 |
| Queue Length 50th (ft) | 34 | 49 | 27 | 2 | 133 | ~90 | 128 |
| Queue Length 95th (ft) | 73 | 96 | 64 | 13 | #367 | #195 | #352 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 595 | 577 | 581 | 155 | 1769 | 141 | 1781 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.25 | 0.31 | 0.25 | 0.09 | 0.74 | 1.43 | 0.71 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 35 | 80 | 21 | 91 | 75 | 133 | 13 | 1074 | 126 | 186 | 1127 | 43 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.98 | | 1.00 | 0.99 | |
| Flt Protected | | 0.99 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1529 | | | 1685 | 1305 | 1618 | 3022 | | 1561 | 3058 | |
| Flt Permitted | | 0.89 | | | 0.78 | 1.00 | 0.16 | 1.00 | | 0.15 | 1.00 | |
| Satd. Flow (perm) | | 1372 | | | 1352 | 1305 | 266 | 3022 | | 242 | 3058 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 38 | 87 | 23 | 99 | 82 | 145 | 14 | 1167 | 137 | 202 | 1225 | 47 |
| RTOR Reduction (vph) | 0 | 13 | 0 | 0 | 0 | 31 | 0 | 11 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 135 | 0 | 0 | 181 | 114 | 14 | 1293 | 0 | 202 | 1269 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 14.4 | | | 14.4 | 14.4 | 32.9 | 32.9 | | 32.9 | 32.9 | |
| Effective Green, g (s) | | 14.4 | | | 14.4 | 14.4 | 32.9 | 32.9 | | 32.9 | 32.9 | |
| Actuated g/C Ratio | | 0.25 | | | 0.25 | 0.25 | 0.58 | 0.58 | | 0.58 | 0.58 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 350 | | | 345 | 333 | 155 | 1760 | | 141 | 1781 | |
| v/s Ratio Prot | | | | | | | | 0.43 | | | 0.41 | |
| v/s Ratio Perm | | 0.10 | | | c0.13 | 0.09 | 0.05 | | | c0.83 | | |
| v/c Ratio | | 0.39 | | | 0.52 | 0.34 | 0.09 | 0.73 | | 1.43 | 0.71 | |
| Uniform Delay, d1 | | 17.4 | | | 18.1 | 17.2 | 5.2 | 8.6 | | 11.8 | 8.4 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.0 | | | 1.9 | 0.8 | 0.3 | 1.7 | | 230.4 | 1.5 | |
| Delay (s) | | 18.4 | | | 20.0 | 18.0 | 5.5 | 10.3 | | 242.2 | 9.9 | |
| Level of Service | | B | | | B | B | A | B | | F | A | |
| Approach Delay (s) | | 18.4 | | | 19.1 | | | 10.3 | | | 41.7 | |
| Approach LOS | | B | | | B | | | B | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 25.7 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 1.16 | | |
| Actuated Cycle Length (s) | 56.5 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 72.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 43 | 511 | 340 | 234 | 164 | 26 |
| v/c Ratio | 0.34 | 0.36 | 0.29 | 0.17 | 0.68 | 0.11 |
| Control Delay | 54.9 | 5.5 | 11.3 | 1.1 | 57.8 | 14.2 |
| Queue Delay | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.9 | 5.5 | 11.6 | 1.1 | 57.8 | 14.2 |
| Queue Length 50th (ft) | 29 | 96 | 92 | 0 | 111 | 0 |
| Queue Length 95th (ft) | 65 | 184 | 194 | 22 | 172 | 24 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 151 | 1403 | 1181 | 1491 | 454 | 411 |
| Starvation Cap Reductn | 0 | 0 | 411 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 11 | 0 | 0 | 2 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.28 | 0.37 | 0.44 | 0.16 | 0.36 | 0.06 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 40 | 470 | 313 | 215 | 151 | 24 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1570 | 1562 | 1349 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1570 | 1562 | 1349 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 43 | 511 | 340 | 234 | 164 | 26 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 39 | 0 | 22 |
| Lane Group Flow (vph) | 43 | 511 | 340 | 195 | 164 | 4 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 5.9 | 84.5 | 74.6 | 91.5 | 16.9 | 16.9 |
| Effective Green, g (s) | 5.9 | 84.5 | 74.6 | 91.5 | 16.9 | 16.9 |
| Actuated g/C Ratio | 0.05 | 0.77 | 0.68 | 0.83 | 0.15 | 0.15 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 87 | 1403 | 1156 | 1306 | 240 | 207 |
| v/s Ratio Prot | c0.03 | c0.28 | 0.20 | 0.02 | c0.10 | |
| v/s Ratio Perm | | | | 0.10 | | 0.00 |
| v/c Ratio | 0.49 | 0.36 | 0.29 | 0.15 | 0.68 | 0.02 |
| Uniform Delay, d1 | 50.6 | 4.1 | 7.1 | 1.8 | 44.0 | 39.5 |
| Progression Factor | 1.00 | 1.00 | 1.23 | 3.37 | 1.00 | 1.00 |
| Incremental Delay, d2 | 4.4 | 0.7 | 0.6 | 0.0 | 7.8 | 0.0 |
| Delay (s) | 55.0 | 4.8 | 9.3 | 6.0 | 51.8 | 39.6 |
| Level of Service | D | A | A | A | D | D |
| Approach Delay (s) | | 8.7 | 8.0 | | 50.1 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 14.4 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.42 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 41.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 401 | 273 | 175 | 193 | 367 | 487 | 3 |
| v/c Ratio | 0.54 | 0.35 | 0.73 | 0.18 | 0.75 | 0.74 | 0.04 |
| Control Delay | 22.8 | 2.5 | 62.6 | 11.4 | 45.0 | 19.6 | 45.3 |
| Queue Delay | 0.9 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.7 | 2.7 | 62.6 | 11.4 | 45.0 | 19.6 | 45.3 |
| Queue Length 50th (ft) | 140 | 0 | 119 | 54 | 231 | 107 | 1 |
| Queue Length 95th (ft) | 287 | 19 | #218 | 119 | 323 | 214 | 11 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | | 217 |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 | |
| Base Capacity (vph) | 744 | 777 | 241 | 1046 | 566 | 656 | 83 |
| Starvation Cap Reductn | 142 | 96 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.67 | 0.40 | 0.73 | 0.18 | 0.65 | 0.74 | 0.04 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 369 | 251 | 161 | 177 | 1 | 336 | 2 | 448 | 1 | 1 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | 4.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.99 | | 0.90 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | 0.95 | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.98 | |
| Satd. Flow (prot) | | 1759 | 1465 | 1562 | 1703 | | | 1682 | 1727 | | 1538 | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.98 | |
| Satd. Flow (perm) | | 1759 | 1465 | 1562 | 1703 | | | 1682 | 1727 | | 1538 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 401 | 273 | 175 | 192 | 1 | 365 | 2 | 487 | 1 | 1 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 166 | 0 | 0 | 0 | 0 | 0 | 229 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 401 | 107 | 175 | 193 | 0 | 0 | 367 | 258 | 0 | 2 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 43.3 | 43.3 | 17.0 | 64.3 | | | 32.1 | 27.6 | | 1.0 | |
| Effective Green, g (s) | | 43.3 | 43.3 | 17.0 | 64.3 | | | 27.6 | 27.6 | | 1.0 | |
| Actuated g/C Ratio | | 0.39 | 0.39 | 0.15 | 0.58 | | | 0.25 | 0.25 | | 0.01 | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | 4.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | | 692 | 577 | 241 | 995 | | | 422 | 504 | | 14 | |
| v/s Ratio Prot | | c0.23 | | c0.11 | 0.11 | | | c0.22 | 0.05 | | c0.00 | |
| v/s Ratio Perm | | | 0.07 | | | | | | 0.10 | | | |
| v/c Ratio | | 0.58 | 0.19 | 0.73 | 0.19 | | | 0.87 | 0.51 | | 0.14 | |
| Uniform Delay, d1 | | 26.2 | 21.8 | 44.3 | 10.7 | | | 39.5 | 35.4 | | 54.1 | |
| Progression Factor | | 0.76 | 0.41 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | | 3.3 | 0.7 | 10.4 | 0.4 | | | 17.1 | 0.9 | | 4.7 | |
| Delay (s) | | 23.3 | 9.5 | 54.7 | 11.1 | | | 56.6 | 36.3 | | 58.8 | |
| Level of Service | | C | A | D | B | | | E | D | | E | |
| Approach Delay (s) | | 17.7 | | | 31.8 | | | 45.0 | | | 58.8 | |
| Approach LOS | | B | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 32.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.69 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 20.6 |
| Intersection Capacity Utilization | 69.1% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 61 | 140 | 25 | 222 | 249 | 364 | 26 | 791 | 116 | 362 | 971 |
| v/c Ratio | 0.45 | 0.59 | 0.11 | 0.79 | 0.56 | 0.58 | 0.29 | 0.85 | 0.28 | 0.86 | 0.59 |
| Control Delay | 66.3 | 59.6 | 17.5 | 69.8 | 46.1 | 8.0 | 67.0 | 50.0 | 25.5 | 62.0 | 21.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 66.3 | 59.6 | 17.5 | 69.8 | 46.1 | 8.0 | 67.0 | 50.0 | 25.5 | 62.0 | 21.7 |
| Queue Length 50th (ft) | 47 | 106 | 0 | 171 | 180 | 0 | 20 | 307 | 45 | 269 | 277 |
| Queue Length 95th (ft) | 100 | 178 | 26 | #335 | 276 | 84 | 55 | #461 | 106 | #455 | 392 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 157 | 424 | 372 | 297 | 591 | 712 | 95 | 1021 | 447 | 509 | 1747 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.39 | 0.33 | 0.07 | 0.75 | 0.42 | 0.51 | 0.27 | 0.77 | 0.26 | 0.71 | 0.56 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 56 | 129 | 23 | 204 | 229 | 335 | 24 | 728 | 107 | 333 | 825 | 68 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 3.1 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1444 | 1620 | 1739 | 1392 | 1652 | 3240 | 1331 | 1620 | 3040 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1444 | 1620 | 1739 | 1392 | 1652 | 3240 | 1331 | 1620 | 3040 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 61 | 140 | 25 | 222 | 249 | 364 | 26 | 791 | 116 | 362 | 897 | 74 |
| RTOR Reduction (vph) | 0 | 0 | 21 | 0 | 0 | 272 | 0 | 0 | 28 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 61 | 140 | 4 | 222 | 249 | 92 | 26 | 791 | 88 | 362 | 967 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 7.9 | 16.9 | 16.9 | 20.3 | 30.2 | 30.2 | 4.2 | 35.7 | 35.7 | 31.6 | 63.1 | |
| Effective Green, g (s) | 7.8 | 16.8 | 16.8 | 20.2 | 30.1 | 30.1 | 3.2 | 35.2 | 35.2 | 30.6 | 62.6 | |
| Actuated g/C Ratio | 0.07 | 0.14 | 0.14 | 0.17 | 0.25 | 0.25 | 0.03 | 0.30 | 0.30 | 0.26 | 0.53 | |
| Clearance Time (s) | 3.0 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 108 | 246 | 204 | 275 | 441 | 353 | 44 | 960 | 394 | 417 | 1602 | |
| v/s Ratio Prot | 0.04 | 0.08 | | c0.14 | c0.14 | | 0.02 | c0.24 | | c0.22 | 0.32 | |
| v/s Ratio Perm | | | 0.00 | | | 0.07 | | | 0.07 | | | |
| v/c Ratio | 0.56 | 0.57 | 0.02 | 0.81 | 0.56 | 0.26 | 0.59 | 0.82 | 0.22 | 0.87 | 0.60 | |
| Uniform Delay, d1 | 53.9 | 47.6 | 43.9 | 47.4 | 38.6 | 35.5 | 57.2 | 38.9 | 31.5 | 42.2 | 19.5 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 8.0 | 3.6 | 0.0 | 16.6 | 2.0 | 0.5 | 22.4 | 6.1 | 0.4 | 17.6 | 0.7 | |
| Delay (s) | 61.8 | 51.3 | 43.9 | 64.0 | 40.7 | 36.0 | 79.6 | 45.0 | 31.9 | 59.8 | 20.2 | |
| Level of Service | E | D | D | E | D | D | E | D | C | E | C | |
| Approach Delay (s) | | 53.3 | | | 44.8 | | | 44.3 | | | 31.0 | |
| Approach LOS | | D | | | D | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 39.7 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.77 | | |
| Actuated Cycle Length (s) | 118.8 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 70.2% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 74 | 723 | 88 | 1204 | 826 | 401 | 688 | 1178 | 414 | 243 | 20 |
| v/c Ratio | 0.57 | 0.93 | 0.27 | 1.11 | 0.60 | 1.11 | 0.86 | 0.76 | 0.87 | 0.44 | 0.07 |
| Control Delay | 79.0 | 75.8 | 11.9 | 104.5 | 33.2 | 123.3 | 52.8 | 10.8 | 76.9 | 54.5 | 18.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 36.1 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 79.0 | 75.8 | 11.9 | 140.6 | 33.8 | 123.3 | 52.8 | 10.8 | 76.9 | 54.5 | 18.7 |
| Queue Length 50th (ft) | 65 | 240 | 0 | ~650 | 322 | ~411 | 277 | 277 | 191 | 105 | 0 |
| Queue Length 95th (ft) | 120 | #319 | 49 | #789 | 387 | #620 | #388 | 41 | #274 | 150 | 24 |
| Internal Link Dist (ft) | | 238 | | | 390 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 145 | 781 | 321 | 1080 | 1369 | 360 | 803 | 1545 | 488 | 567 | 274 |
| Starvation Cap Reductn | 0 | 0 | 0 | 75 | 220 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.51 | 0.93 | 0.27 | 1.20 | 0.72 | 1.11 | 0.86 | 0.76 | 0.85 | 0.43 | 0.07 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 68 | 665 | 81 | 1108 | 575 | 185 | 369 | 633 | 1084 | 381 | 224 | 18 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3108 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1470 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3108 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1470 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 74 | 723 | 88 | 1204 | 625 | 201 | 401 | 688 | 1178 | 414 | 243 | 20 |
| RTOR Reduction (vph) | 0 | 0 | 73 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 17 |
| Lane Group Flow (vph) | 74 | 723 | 15 | 1204 | 805 | 0 | 401 | 688 | 1178 | 414 | 243 | 3 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 10.0 | 22.0 | 22.0 | 46.4 | 58.4 | | 30.0 | 32.0 | 78.4 | 20.6 | 22.6 | 22.6 |
| Effective Green, g (s) | 10.0 | 23.5 | 23.5 | 46.4 | 59.9 | | 30.0 | 33.5 | 78.4 | 20.6 | 24.1 | 24.1 |
| Actuated g/C Ratio | 0.07 | 0.17 | 0.17 | 0.33 | 0.43 | | 0.21 | 0.24 | 0.56 | 0.15 | 0.17 | 0.17 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 112 | 781 | 248 | 1079 | 1330 | | 360 | 803 | 1515 | 479 | 558 | 253 |
| v/s Ratio Prot | 0.05 | c0.16 | | c0.37 | 0.26 | | c0.24 | 0.21 | 0.44 | c0.13 | c0.08 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | 0.00 |
| v/c Ratio | 0.66 | 0.93 | 0.06 | 1.12 | 0.61 | | 1.11 | 0.86 | 0.78 | 0.86 | 0.44 | 0.01 |
| Uniform Delay, d1 | 63.3 | 57.4 | 49.0 | 46.8 | 30.9 | | 55.0 | 51.0 | 24.0 | 58.3 | 51.9 | 48.1 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.93 | 1.04 | | 0.87 | 0.83 | 0.64 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 14.9 | 18.5 | 0.5 | 64.3 | 1.9 | | 79.2 | 8.3 | 2.4 | 15.4 | 0.7 | 0.0 |
| Delay (s) | 78.3 | 75.9 | 49.4 | 107.7 | 33.9 | | 126.9 | 50.5 | 17.9 | 73.7 | 52.6 | 48.1 |
| Level of Service | E | E | D | F | C | | F | D | B | E | D | D |
| Approach Delay (s) | | 73.5 | | | 77.7 | | | 47.1 | | | 65.4 | |
| Approach LOS | | E | | | E | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 63.8 | HCM Level of Service | E |
| HCM Volume to Capacity ratio | 1.04 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 20.0 |
| Intersection Capacity Utilization | 86.4% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 423 | 2210 | 299 | 1434 | 265 | 266 | 178 | 299 |
| v/c Ratio | 1.04 | 0.96 | 0.86 | 0.87 | 0.78 | 0.77 | 0.38 | 0.87 |
| Control Delay | 95.8 | 42.0 | 70.1 | 32.8 | 66.9 | 66.1 | 7.8 | 51.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 95.8 | 42.0 | 70.1 | 32.8 | 66.9 | 66.1 | 7.8 | 51.1 |
| Queue Length 50th (ft) | ~414 | 529 | 261 | 362 | 237 | 238 | 0 | 58 |
| Queue Length 95th (ft) | #631 | #653 | m#401 | m#560 | 335 | 335 | 59 | #141 |
| Internal Link Dist (ft) | | 660 | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 180 | | 200 | | | |
| Base Capacity (vph) | 405 | 2311 | 346 | 1645 | 402 | 407 | 528 | 344 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.04 | 0.96 | 0.86 | 0.87 | 0.66 | 0.65 | 0.34 | 0.87 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 389 | 1836 | 197 | 275 | 1275 | 44 | 436 | 52 | 164 | 61 | 52 | 162 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.86 | | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.98 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | | 0.99 | |
| Satd. Flow (prot) | 1620 | 5772 | | 1678 | 4627 | | 1539 | 1559 | 1514 | | 2978 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | | 0.99 | |
| Satd. Flow (perm) | 1620 | 5772 | | 1678 | 4627 | | 1539 | 1559 | 1514 | | 2978 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 423 | 1996 | 214 | 299 | 1386 | 48 | 474 | 57 | 178 | 66 | 57 | 176 |
| RTOR Reduction (vph) | 0 | 13 | 0 | 0 | 3 | 0 | 0 | 0 | 139 | 0 | 165 | 0 |
| Lane Group Flow (vph) | 423 | 2197 | 0 | 299 | 1431 | 0 | 265 | 266 | 39 | 0 | 134 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 34.0 | 54.8 | | 27.9 | 48.7 | | 30.3 | 30.3 | 30.3 | | 7.8 | |
| Effective Green, g (s) | 35.0 | 55.8 | | 28.9 | 49.7 | | 30.9 | 30.9 | 30.9 | | 8.4 | |
| Actuated g/C Ratio | 0.25 | 0.40 | | 0.21 | 0.36 | | 0.22 | 0.22 | 0.22 | | 0.06 | |
| Clearance Time (s) | 5.0 | 5.0 | | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 405 | 2301 | | 346 | 1643 | | 340 | 344 | 334 | | 179 | |
| v/s Ratio Prot | c0.26 | c0.38 | | 0.18 | c0.31 | | c0.17 | 0.17 | | | c0.04 | |
| v/s Ratio Perm | | | | | | | | | 0.03 | | | |
| v/c Ratio | 1.04 | 0.95 | | 0.86 | 0.87 | | 0.78 | 0.77 | 0.12 | | 0.75 | |
| Uniform Delay, d1 | 52.5 | 40.9 | | 53.7 | 42.2 | | 51.3 | 51.3 | 43.6 | | 64.8 | |
| Progression Factor | 0.84 | 0.79 | | 0.95 | 0.63 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 52.5 | 9.3 | | 15.5 | 5.0 | | 11.4 | 10.9 | 0.2 | | 16.4 | |
| Delay (s) | 96.6 | 41.8 | | 66.4 | 31.4 | | 62.7 | 62.2 | 43.9 | | 81.2 | |
| Level of Service | F | D | | E | C | | E | E | D | | F | |
| Approach Delay (s) | | 50.6 | | | 37.4 | | | 57.8 | | | 81.2 | |
| Approach LOS | | D | | | D | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 49.0 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.92 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 20.0 |
| Intersection Capacity Utilization | 83.5% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 265 | 1822 | 170 | 764 | 495 | 295 | 563 | 92 | 701 |
| v/c Ratio | 0.88 | 0.97 | 0.93 | 0.71 | 1.00 | 0.27 | 0.80 | 0.67 | 0.99 |
| Control Delay | 69.6 | 14.1 | 111.3 | 46.3 | 99.3 | 34.8 | 35.1 | 89.3 | 83.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 69.6 | 14.1 | 111.3 | 46.3 | 99.3 | 34.8 | 35.1 | 89.3 | 83.0 |
| Queue Length 50th (ft) | 172 | 28 | 156 | 329 | ~236 | 103 | 301 | 43 | 328 |
| Queue Length 95th (ft) | m199 | m#54 | #301 | 408 | #356 | 142 | 464 | #84 | #465 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 331 | 1871 | 183 | 1071 | 494 | 1088 | 702 | 137 | 710 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.80 | 0.97 | 0.93 | 0.71 | 1.00 | 0.27 | 0.80 | 0.67 | 0.99 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 244 | 1183 | 493 | 156 | 681 | 22 | 455 | 271 | 518 | 85 | 507 | 138 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 3.1 | 4.0 | | 3.1 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.95 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4511 | | 1652 | 3273 | | 3143 | 3240 | 1659 | 3204 | 3123 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4511 | | 1652 | 3273 | | 3143 | 3240 | 1659 | 3204 | 3123 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 265 | 1286 | 536 | 170 | 740 | 24 | 495 | 295 | 563 | 92 | 551 | 150 |
| RTOR Reduction (vph) | 0 | 54 | 0 | 0 | 1 | 0 | 0 | 0 | 145 | 0 | 18 | 0 |
| Lane Group Flow (vph) | 265 | 1768 | 0 | 170 | 763 | 0 | 495 | 295 | 418 | 92 | 683 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 26.2 | 55.4 | | 15.6 | 44.8 | | 23.0 | 47.4 | 47.4 | 7.0 | 31.4 | |
| Effective Green, g (s) | 26.1 | 56.4 | | 15.5 | 45.8 | | 22.0 | 47.0 | 47.0 | 6.0 | 31.0 | |
| Actuated g/C Ratio | 0.19 | 0.40 | | 0.11 | 0.33 | | 0.16 | 0.34 | 0.34 | 0.04 | 0.22 | |
| Clearance Time (s) | 3.0 | 5.0 | | 3.0 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 302 | 1817 | | 183 | 1071 | | 494 | 1088 | 557 | 137 | 692 | |
| v/s Ratio Prot | 0.16 | c0.39 | | c0.10 | 0.23 | | c0.16 | 0.09 | | 0.03 | c0.22 | |
| v/s Ratio Perm | | | | | | | | | 0.25 | | | |
| v/c Ratio | 0.88 | 0.97 | | 0.93 | 0.71 | | 1.00 | 0.27 | 0.75 | 0.67 | 0.99 | |
| Uniform Delay, d1 | 55.4 | 41.1 | | 61.7 | 41.3 | | 59.0 | 34.0 | 41.3 | 66.0 | 54.3 | |
| Progression Factor | 1.01 | 0.10 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 11.4 | 8.5 | | 46.5 | 4.0 | | 41.0 | 0.2 | 5.8 | 13.3 | 30.7 | |
| Delay (s) | 67.6 | 12.7 | | 108.2 | 45.3 | | 100.0 | 34.2 | 47.1 | 79.3 | 85.0 | |
| Level of Service | E | B | | F | D | | F | C | D | E | F | |
| Approach Delay (s) | | 19.6 | | | 56.8 | | | 63.6 | | | 84.4 | |
| Approach LOS | | B | | | E | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 47.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.98 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 15.1 |
| Intersection Capacity Utilization | 87.8% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 95 | 221 | 872 | 3 | 1266 | 196 | 613 | 871 |
| v/c Ratio | 0.49 | 0.81 | 0.77 | 0.04 | 0.77 | 0.23 | 0.88 | 0.36 |
| Control Delay | 48.7 | 74.5 | 15.6 | 54.7 | 26.3 | 3.9 | 67.9 | 4.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Total Delay | 48.7 | 74.5 | 15.6 | 54.7 | 26.5 | 3.9 | 67.9 | 4.2 |
| Queue Length 50th (ft) | 63 | 188 | 86 | 3 | 603 | 20 | 218 | 92 |
| Queue Length 95th (ft) | 123 | #305 | 176 | m4 | 702 | m37 | 315 | 107 |
| Internal Link Dist (ft) | 387 | 301 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 350 | |
| Base Capacity (vph) | 213 | 300 | 1171 | 72 | 1637 | 850 | 748 | 2440 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 31 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.45 | 0.74 | 0.74 | 0.04 | 0.79 | 0.23 | 0.82 | 0.36 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 57 | 3 | 28 | 203 | 0 | 802 | 3 | 1165 | 180 | 564 | 758 | 43 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | | 0.99 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.96 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.97 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1686 | | | 1770 | 2787 | 1678 | 3355 | 1583 | 3433 | 3438 | |
| Flt Permitted | | 0.50 | | | 0.69 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 867 | | | 1291 | 2787 | 1678 | 3355 | 1583 | 3433 | 3438 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 62 | 3 | 30 | 221 | 0 | 872 | 3 | 1266 | 196 | 613 | 824 | 47 |
| RTOR Reduction (vph) | 0 | 12 | 0 | 0 | 0 | 539 | 0 | 0 | 78 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 83 | 0 | 0 | 221 | 333 | 3 | 1266 | 118 | 613 | 868 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | |
| Actuated Green, G (s) | | 29.6 | | | 29.6 | 29.6 | 1.2 | 68.3 | 68.3 | 28.6 | 95.7 | |
| Effective Green, g (s) | | 29.6 | | | 29.6 | 29.6 | 1.2 | 68.3 | 68.3 | 28.6 | 95.7 | |
| Actuated g/C Ratio | | 0.21 | | | 0.21 | 0.21 | 0.01 | 0.49 | 0.49 | 0.20 | 0.68 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 183 | | | 273 | 589 | 14 | 1637 | 772 | 701 | 2350 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.38 | | c0.18 | 0.25 | |
| v/s Ratio Perm | | 0.10 | | | c0.17 | 0.12 | | | 0.07 | | | |
| v/c Ratio | | 0.45 | | | 0.81 | 0.57 | 0.21 | 0.77 | 0.15 | 0.87 | 0.37 | |
| Uniform Delay, d1 | | 48.2 | | | 52.5 | 49.4 | 68.9 | 29.5 | 19.8 | 54.0 | 9.4 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 0.83 | 0.77 | 0.57 | 1.02 | 0.44 | |
| Incremental Delay, d2 | | 1.8 | | | 16.0 | 1.3 | 5.3 | 2.6 | 0.3 | 10.5 | 0.4 | |
| Delay (s) | | 49.9 | | | 68.6 | 50.7 | 62.8 | 25.1 | 11.6 | 65.6 | 4.6 | |
| Level of Service | | D | | | E | D | E | C | B | E | A | |
| Approach Delay (s) | | 49.9 | | | 54.3 | | | 23.4 | | | 29.8 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 34.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.80 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 76.5% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 114 | 38 | 189 | 148 | 486 | 50 | 604 | 516 | 647 |
| v/c Ratio | 0.30 | 0.12 | 0.69 | 0.36 | 0.71 | 0.35 | 0.78 | 0.87 | 0.36 |
| Control Delay | 29.9 | 9.8 | 44.8 | 30.5 | 9.5 | 48.7 | 35.1 | 43.0 | 10.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.9 | 9.8 | 44.8 | 30.5 | 9.5 | 48.7 | 35.1 | 43.0 | 10.8 |
| Queue Length 50th (ft) | 55 | 0 | 101 | 72 | 0 | 29 | 155 | 274 | 102 |
| Queue Length 95th (ft) | 102 | 24 | 176 | 126 | 92 | 67 | #230 | #480 | 151 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 526 | 442 | 379 | 575 | 758 | 153 | 919 | 721 | 1984 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.22 | 0.09 | 0.50 | 0.26 | 0.64 | 0.33 | 0.66 | 0.72 | 0.33 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 24 | 81 | 35 | 174 | 136 | 447 | 46 | 386 | 169 | 475 | 520 | 75 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.95 | | 1.00 | 0.98 | |
| Flt Protected | | 0.99 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1715 | 1259 | 1620 | 1739 | 1311 | 1711 | 2916 | | 1620 | 3015 | |
| Flt Permitted | | 0.92 | 1.00 | 0.67 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1593 | 1259 | 1146 | 1739 | 1311 | 1711 | 2916 | | 1620 | 3015 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 26 | 88 | 38 | 189 | 148 | 486 | 50 | 420 | 184 | 516 | 565 | 82 |
| RTOR Reduction (vph) | 0 | 0 | 29 | 0 | 0 | 372 | 0 | 50 | 0 | 0 | 11 | 0 |
| Lane Group Flow (vph) | 0 | 114 | 9 | 189 | 148 | 114 | 50 | 554 | 0 | 516 | 636 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 3.7 | 22.3 | | 30.3 | 48.9 | |
| Effective Green, g (s) | | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 3.7 | 22.3 | | 30.3 | 48.9 | |
| Actuated g/C Ratio | | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.04 | 0.27 | | 0.36 | 0.58 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 373 | 295 | 268 | 407 | 307 | 76 | 777 | | 586 | 1761 | |
| v/s Ratio Prot | | | | | 0.09 | | 0.03 | c0.19 | | c0.32 | 0.21 | |
| v/s Ratio Perm | | 0.07 | 0.01 | c0.16 | | 0.09 | | | | | | |
| v/c Ratio | | 0.31 | 0.03 | 0.71 | 0.36 | 0.37 | 0.66 | 0.71 | | 0.88 | 0.36 | |
| Uniform Delay, d1 | | 26.4 | 24.7 | 29.4 | 26.8 | 26.9 | 39.4 | 27.8 | | 25.0 | 9.2 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.5 | 0.0 | 8.2 | 0.6 | 0.8 | 18.7 | 3.3 | | 14.4 | 0.2 | |
| Delay (s) | | 26.9 | 24.8 | 37.6 | 27.4 | 27.6 | 58.1 | 31.1 | | 39.4 | 9.3 | |
| Level of Service | | C | C | D | C | C | E | C | | D | A | |
| Approach Delay (s) | | 26.4 | | | 29.9 | | | 33.2 | | | 22.7 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 27.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.78 | | |
| Actuated Cycle Length (s) | 83.7 | Sum of lost time (s) | 11.5 |
| Intersection Capacity Utilization | 76.0% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 350 | 489 | 243 | 153 | 685 | 282 | 1276 | 86 | 933 |
| v/c Ratio | 0.76 | 0.94 | 0.50 | 0.90 | 0.86 | 0.93 | 0.67 | 0.58 | 0.86 |
| Control Delay | 69.0 | 76.9 | 17.7 | 109.4 | 62.9 | 93.2 | 34.4 | 94.1 | 31.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 69.0 | 76.9 | 17.7 | 109.4 | 62.9 | 93.2 | 34.4 | 94.1 | 31.7 |
| Queue Length 50th (ft) | 160 | 433 | 56 | 141 | 308 | 255 | 338 | 82 | 395 |
| Queue Length 95th (ft) | #240 | #642 | 143 | #279 | 380 | #428 | 395 | m131 | #300 |
| Internal Link Dist (ft) | | 2946 | | | 522 | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 205 | | 200 | | 370 | |
| Base Capacity (vph) | 459 | 532 | 492 | 170 | 858 | 307 | 1900 | 164 | 1082 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.76 | 0.92 | 0.49 | 0.90 | 0.80 | 0.92 | 0.67 | 0.52 | 0.86 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 322 | 450 | 224 | 141 | 534 | 97 | 259 | 962 | 212 | 79 | 764 | 95 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 12 | 12 | 12 | 10 | 10 | 10 | 12 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | | 1.00 | 0.97 | | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3060 | 1845 | 1305 | 1770 | 3449 | | 1652 | 4503 | | 1770 | 3394 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3060 | 1845 | 1305 | 1770 | 3449 | | 1652 | 4503 | | 1770 | 3394 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 350 | 489 | 243 | 153 | 580 | 105 | 282 | 1046 | 230 | 86 | 830 | 103 |
| RTOR Reduction (vph) | 0 | 0 | 116 | 0 | 11 | 0 | 0 | 25 | 0 | 0 | 7 | 0 |
| Lane Group Flow (vph) | 350 | 489 | 127 | 153 | 674 | 0 | 282 | 1251 | 0 | 86 | 926 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | | | | | | | |
| Actuated Green, G (s) | 21.0 | 39.4 | 39.4 | 13.4 | 31.8 | | 25.6 | 58.3 | | 11.7 | 44.4 | |
| Effective Green, g (s) | 21.0 | 39.4 | 39.4 | 13.4 | 31.8 | | 25.6 | 58.3 | | 11.7 | 44.4 | |
| Actuated g/C Ratio | 0.15 | 0.28 | 0.28 | 0.10 | 0.23 | | 0.18 | 0.42 | | 0.08 | 0.32 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 459 | 519 | 367 | 169 | 783 | | 302 | 1875 | | 148 | 1076 | |
| v/s Ratio Prot | 0.11 | c0.27 | | 0.09 | c0.20 | | c0.17 | 0.28 | | 0.05 | c0.27 | |
| v/s Ratio Perm | | | 0.10 | | | | | | | | | |
| v/c Ratio | 0.76 | 0.94 | 0.34 | 0.91 | 0.86 | | 0.93 | 0.67 | | 0.58 | 0.86 | |
| Uniform Delay, d1 | 57.1 | 49.2 | 40.0 | 62.7 | 52.0 | | 56.4 | 33.0 | | 61.8 | 44.9 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.29 | 0.51 | |
| Incremental Delay, d2 | 7.8 | 25.9 | 0.8 | 43.4 | 9.9 | | 34.9 | 1.9 | | 6.2 | 8.4 | |
| Delay (s) | 64.9 | 75.1 | 40.8 | 106.1 | 61.9 | | 91.3 | 34.9 | | 85.8 | 31.2 | |
| Level of Service | E | E | D | F | E | | F | C | | F | C | |
| Approach Delay (s) | | 64.1 | | | 69.9 | | | 45.1 | | | 35.8 | |
| Approach LOS | | E | | | E | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 52.2 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.92 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 17.8 |
| Intersection Capacity Utilization | 84.3% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 65 | 751 | 22 | 676 | 88 | 74 | 328 | 179 | 48 |
| v/c Ratio | 0.59 | 0.77 | 0.23 | 0.78 | 0.32 | 0.15 | 0.90 | 0.32 | 0.59 |
| Control Delay | 72.6 | 26.8 | 55.6 | 33.6 | 35.4 | 8.7 | 67.3 | 6.4 | 76.5 |
| Queue Delay | 0.0 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 72.6 | 28.0 | 55.6 | 33.6 | 35.4 | 8.7 | 67.3 | 6.4 | 76.5 |
| Queue Length 50th (ft) | 43 | 446 | 15 | 444 | 47 | 1 | 210 | 1 | 31 |
| Queue Length 95th (ft) | m#82 | #616 | 42 | #584 | 97 | 37 | #399 | 53 | #91 |
| Internal Link Dist (ft) | | 524 | | 1458 | | 986 | | 462 | |
| Turn Bay Length (ft) | 205 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 113 | 975 | 97 | 906 | 281 | 501 | 372 | 575 | 81 |
| Starvation Cap Reductn | 0 | 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.58 | 0.84 | 0.23 | 0.75 | 0.31 | 0.15 | 0.88 | 0.31 | 0.59 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 60 | 677 | 14 | 20 | 520 | 102 | 81 | 3 | 65 | 302 | 1 | 164 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 12 | 11 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.98 | | 1.00 | 0.86 | | 1.00 | 0.85 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1856 | | 1770 | 1817 | | 1711 | 1595 | | 1770 | 1585 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.55 | 1.00 | | 0.71 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1856 | | 1770 | 1817 | | 996 | 1595 | | 1320 | 1585 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 65 | 736 | 15 | 22 | 565 | 111 | 88 | 3 | 71 | 328 | 1 | 178 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 51 | 0 | 0 | 129 | 0 |
| Lane Group Flow (vph) | 65 | 750 | 0 | 22 | 676 | 0 | 88 | 23 | 0 | 328 | 50 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 5.7 | 54.2 | | 2.4 | 50.9 | | 30.3 | 30.3 | | 30.3 | 30.3 | |
| Effective Green, g (s) | 5.7 | 54.2 | | 2.4 | 50.9 | | 30.3 | 30.3 | | 30.3 | 30.3 | |
| Actuated g/C Ratio | 0.05 | 0.49 | | 0.02 | 0.46 | | 0.28 | 0.28 | | 0.28 | 0.28 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 92 | 915 | | 39 | 841 | | 274 | 439 | | 364 | 437 | |
| v/s Ratio Prot | c0.04 | c0.40 | | 0.01 | 0.37 | | | 0.01 | | | 0.03 | |
| v/s Ratio Perm | | | | | | | 0.09 | | | c0.25 | | |
| v/c Ratio | 0.71 | 0.82 | | 0.56 | 0.80 | | 0.32 | 0.05 | | 0.90 | 0.11 | |
| Uniform Delay, d1 | 51.3 | 23.8 | | 53.3 | 25.3 | | 31.7 | 29.3 | | 38.4 | 29.8 | |
| Progression Factor | 1.10 | 0.92 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 17.9 | 6.6 | | 17.3 | 8.0 | | 0.7 | 0.0 | | 24.4 | 0.1 | |
| Delay (s) | 74.1 | 28.4 | | 70.6 | 33.3 | | 32.4 | 29.3 | | 62.8 | 29.9 | |
| Level of Service | E | C | | E | C | | C | C | | E | C | |
| Approach Delay (s) | | 32.0 | | | 34.5 | | | 31.0 | | | 51.2 | |
| Approach LOS | | C | | | C | | | C | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 38.2 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.85 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 84.0% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Movement | SWR | SWR2 |
|---|---|---|
| Lane Configurations | | |
| Volume (vph) | 40 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Lane Width | 12 | 12 |
| Total Lost time (s) | 4.5 | |
| Lane Util. Factor | 1.00 | |
| Frpb, ped/bikes | 1.00 | |
| Flpb, ped/bikes | 1.00 | |
| Frt | 0.86 | |
| Flt Protected | 1.00 | |
| Satd. Flow (prot) | 1340 | |
| Flt Permitted | 1.00 | |
| Satd. Flow (perm) | 1340 | |
| Peak-hour factor, PHF | 0.92 | 0.92 |
| Adj. Flow (vph) | 43 | 5 |
| RTOR Reduction (vph) | 4 | 0 |
| Lane Group Flow (vph) | 44 | 0 |
| Confl. Peds. (#/hr) | | |
| Heavy Vehicles (%) | 25% | 2% |
| Parking (#/hr) | | |
| Turn Type | custom | |
| Protected Phases | 9 | |
| Permitted Phases | 9 | |
| Actuated Green, G (s) | 5.1 | |
| Effective Green, g (s) | 5.1 | |
| Actuated g/C Ratio | 0.05 | |
| Clearance Time (s) | 4.5 | |
| Vehicle Extension (s) | 3.0 | |
| Lane Grp Cap (vph) | 62 | |
| v/s Ratio Prot | c0.03 | |
| v/s Ratio Perm | | |
| v/c Ratio | 0.71 | |
| Uniform Delay, d1 | 51.7 | |
| Progression Factor | 1.00 | |
| Incremental Delay, d2 | 32.0 | |
| Delay (s) | 83.7 | |
| Level of Service | F | |
| Approach Delay (s) | | |
| Approach LOS | | |

Intersection Summary

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 249 | 1060 | 7 | 545 | 60 | 110 | 13 | 41 | 364 |
| v/c Ratio | 0.95 | 0.95 | 0.07 | 0.86 | 0.44 | 0.22 | 0.04 | 0.13 | 0.70 |
| Control Delay | 77.1 | 35.8 | 33.7 | 36.2 | 30.1 | 19.0 | 8.8 | 18.2 | 25.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 77.1 | 35.8 | 33.7 | 36.2 | 30.1 | 19.0 | 8.8 | 18.2 | 25.7 |
| Queue Length 50th (ft) | 100 | 324 | 3 | 190 | 20 | 34 | 0 | 12 | 112 |
| Queue Length 95th (ft) | #268 | #871 | 15 | #441 | 53 | 68 | 11 | 33 | 193 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 263 | 1111 | 105 | 651 | 209 | 777 | 560 | 495 | 774 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.95 | 0.95 | 0.07 | 0.84 | 0.29 | 0.14 | 0.02 | 0.08 | 0.47 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 229 | 711 | 264 | 6 | 442 | 60 | 55 | 101 | 12 | 38 | 203 | 132 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1937 | | 1711 | 1684 | | 1652 | 1863 | 1326 | 1643 | 1788 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.29 | 1.00 | 1.00 | 0.69 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1937 | | 1711 | 1684 | | 502 | 1863 | 1326 | 1186 | 1788 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 249 | 773 | 287 | 7 | 480 | 65 | 60 | 110 | 13 | 41 | 221 | 143 |
| RTOR Reduction (vph) | 0 | 14 | 0 | 0 | 6 | 0 | 0 | 0 | 10 | 0 | 36 | 0 |
| Lane Group Flow (vph) | 249 | 1046 | 0 | 7 | 539 | 0 | 60 | 110 | 3 | 41 | 328 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 10.1 | 37.2 | | 0.7 | 27.8 | | 17.9 | 17.9 | 17.9 | 17.9 | 17.9 | |
| Effective Green, g (s) | 10.1 | 37.2 | | 0.7 | 27.8 | | 17.9 | 17.9 | 17.9 | 17.9 | 17.9 | |
| Actuated g/C Ratio | 0.15 | 0.54 | | 0.01 | 0.40 | | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 251 | 1047 | | 17 | 680 | | 131 | 485 | 345 | 309 | 465 | |
| v/s Ratio Prot | c0.15 | c0.54 | | 0.00 | 0.32 | | | 0.06 | | | c0.18 | |
| v/s Ratio Perm | | | | | | | 0.12 | | 0.00 | 0.03 | | |
| v/c Ratio | 0.99 | 1.00 | | 0.41 | 0.79 | | 0.46 | 0.23 | 0.01 | 0.13 | 0.70 | |
| Uniform Delay, d1 | 29.3 | 15.8 | | 33.8 | 18.0 | | 21.4 | 20.0 | 18.9 | 19.5 | 23.1 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 54.4 | 27.4 | | 20.6 | 6.7 | | 3.4 | 0.3 | 0.0 | 0.3 | 5.2 | |
| Delay (s) | 83.7 | 43.2 | | 54.5 | 24.6 | | 24.8 | 20.3 | 18.9 | 19.8 | 28.2 | |
| Level of Service | F | D | | D | C | | C | C | B | B | C | |
| Approach Delay (s) | | 50.9 | | | 25.0 | | | 21.7 | | | 27.4 | |
| Approach LOS | | D | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 39.0 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 68.8 | Sum of lost time (s) | 8.5 |
| Intersection Capacity Utilization | 95.1% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 309 | 442 | 10 | 48 | 310 | 738 | 64 | 20 | 947 |
| v/c Ratio | 1.02 | 0.57 | 0.12 | 0.20 | 0.99 | 0.42 | 0.08 | 0.19 | 0.85 |
| Control Delay | 93.2 | 6.3 | 43.7 | 19.2 | 84.6 | 14.0 | 9.0 | 43.4 | 33.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 93.2 | 6.3 | 43.7 | 19.2 | 84.6 | 14.0 | 9.0 | 43.4 | 33.6 |
| Queue Length 50th (ft) | 146 | 13 | 5 | 11 | 145 | 87 | 6 | 9 | 198 |
| Queue Length 95th (ft) | #415 | 82 | 23 | 37 | #412 | 260 | 43 | 37 | #459 |
| Internal Link Dist (ft) | | 1442 | | 221 | | 1609 | | | 1977 |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | |
| Base Capacity (vph) | 303 | 1002 | 84 | 680 | 313 | 1770 | 800 | 108 | 1117 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.02 | 0.44 | 0.12 | 0.07 | 0.99 | 0.42 | 0.08 | 0.19 | 0.85 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 284 | 13 | 394 | 9 | 23 | 21 | 288 | 679 | 59 | 18 | 641 | 230 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1506 | | 1652 | 1597 | | 1652 | 3240 | 1448 | 1711 | 3239 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1506 | | 1652 | 1597 | | 1652 | 3240 | 1448 | 1711 | 3239 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 309 | 14 | 428 | 10 | 25 | 23 | 310 | 738 | 64 | 20 | 697 | 250 |
| RTOR Reduction (vph) | 0 | 272 | 0 | 0 | 19 | 0 | 0 | 0 | 14 | 0 | 32 | 0 |
| Lane Group Flow (vph) | 309 | 170 | 0 | 10 | 29 | 0 | 310 | 738 | 50 | 20 | 915 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 14.2 | 27.3 | | 0.6 | 13.7 | | 15.2 | 43.7 | 43.7 | 0.8 | 29.3 | |
| Effective Green, g (s) | 14.2 | 27.3 | | 0.6 | 13.7 | | 15.2 | 43.7 | 43.7 | 0.8 | 29.3 | |
| Actuated g/C Ratio | 0.17 | 0.32 | | 0.01 | 0.16 | | 0.18 | 0.51 | 0.51 | 0.01 | 0.35 | |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 286 | 484 | | 12 | 258 | | 296 | 1668 | 745 | 16 | 1118 | |
| v/s Ratio Prot | c0.18 | c0.11 | | 0.01 | 0.02 | | c0.19 | 0.23 | | 0.01 | c0.28 | |
| v/s Ratio Perm | | | | | | | | | 0.03 | | | |
| v/c Ratio | 1.08 | 0.35 | | 0.83 | 0.11 | | 1.05 | 0.44 | 0.07 | 1.25 | 0.82 | |
| Uniform Delay, d1 | 35.4 | 22.0 | | 42.1 | 30.4 | | 34.9 | 12.9 | 10.4 | 42.1 | 25.4 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 76.3 | 0.6 | | 172.9 | 0.3 | | 65.2 | 0.3 | 0.1 | 314.0 | 5.0 | |
| Delay (s) | 111.6 | 22.6 | | 215.0 | 30.7 | | 100.1 | 13.2 | 10.4 | 356.1 | 30.4 | |
| Level of Service | F | C | | F | C | | F | B | B | F | C | |
| Approach Delay (s) | | 59.3 | | | 62.4 | | | 37.3 | | | 37.1 | |
| Approach LOS | | E | | | E | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 43.4 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.81 | | |
| Actuated Cycle Length (s) | 84.9 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 76.3% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 73 | 26 | 5 | 1332 | 1328 |
| v/c Ratio | 0.48 | 0.18 | 0.02 | 0.48 | 0.48 |
| Control Delay | 56.7 | 18.5 | 2.4 | 3.5 | 3.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 1.6 | 0.0 |
| Total Delay | 56.7 | 18.5 | 2.4 | 5.2 | 3.5 |
| Queue Length 50th (ft) | 50 | 0 | 0 | 110 | 108 |
| Queue Length 95th (ft) | 94 | 26 | 3 | 178 | 177 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 360 | 311 | 285 | 2763 | 2755 |
| Starvation Cap Reductn | 0 | 0 | 0 | 1186 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.20 | 0.08 | 0.02 | 0.84 | 0.48 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 67 | 24 | 5 | 1225 | 1196 | 26 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3229 | |
| Flt Permitted | 0.95 | 1.00 | 0.19 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 334 | 3240 | 3229 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 73 | 26 | 5 | 1332 | 1300 | 28 |
| RTOR Reduction (vph) | 0 | 24 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 73 | 2 | 5 | 1332 | 1327 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 9.0 | 9.0 | 92.0 | 92.0 | 92.0 | |
| Effective Green, g (s) | 9.0 | 9.0 | 92.0 | 92.0 | 92.0 | |
| Actuated g/C Ratio | 0.08 | 0.08 | 0.84 | 0.84 | 0.84 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 135 | 109 | 279 | 2710 | 2701 | |
| v/s Ratio Prot | c0.04 | | | c0.41 | 0.41 | |
| v/s Ratio Perm | | 0.00 | 0.01 | | | |
| v/c Ratio | 0.54 | 0.02 | 0.02 | 0.49 | 0.49 | |
| Uniform Delay, d1 | 48.5 | 46.4 | 1.5 | 2.5 | 2.5 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 4.4 | 0.1 | 0.1 | 0.6 | 0.6 | |
| Delay (s) | 52.9 | 46.5 | 1.6 | 3.1 | 3.1 | |
| Level of Service | D | D | A | A | A | |
| Approach Delay (s) | 51.2 | | | 3.1 | 3.1 | |
| Approach LOS | D | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.9 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.50 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 45.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1696 | 1162 | 707 | 1667 | 848 | 897 |
| v/c Ratio | 0.82 | 0.71 | 0.97 | 0.94 | 0.56 | 0.81 |
| Control Delay | 17.1 | 11.8 | 65.9 | 37.1 | 1.5 | 48.0 |
| Queue Delay | 92.3 | 7.5 | 0.0 | 0.6 | 0.0 | 0.0 |
| Total Delay | 109.4 | 19.3 | 65.9 | 37.7 | 1.5 | 48.0 |
| Queue Length 50th (ft) | 460 | 52 | 344 | 716 | 0 | 323 |
| Queue Length 95th (ft) | 517 | 60 | #462 | #916 | 0 | 396 |
| Internal Link Dist (ft) | 251 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 2066 | 1642 | 737 | 1771 | 1517 | 1113 |
| Starvation Cap Reductn | 656 | 439 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 17 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.20 | 0.97 | 0.96 | 0.95 | 0.56 | 0.81 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1560 | 1069 | 650 | 1534 | 0 | 0 | 0 | 780 | 0 | 0 | 825 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 3.5 | 3.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.76 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3020 | 2378 | 2828 | 3020 | | | | 1517 | | | 3187 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3020 | 2378 | 2828 | 3020 | | | | 1517 | | | 3187 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1696 | 1162 | 707 | 1667 | 0 | 0 | 0 | 848 | 0 | 0 | 897 |
| RTOR Reduction (vph) | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1696 | 1146 | 707 | 1667 | 0 | 0 | 0 | 848 | 0 | 0 | 897 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 4 | | 1 | 6 | | | | | | | |
| Permitted Phases | | | 2 4 | | | | | | Free | | | 4 |
| Actuated Green, G (s) | | 94.8 | 94.8 | 36.2 | 82.1 | | | | 140.0 | | | 48.9 |
| Effective Green, g (s) | | 94.8 | 94.8 | 36.2 | 82.1 | | | | 140.0 | | | 48.9 |
| Actuated g/C Ratio | | 0.68 | 0.68 | 0.26 | 0.59 | | | | 1.00 | | | 0.35 |
| Clearance Time (s) | | | | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | | | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 2045 | 1610 | 731 | 1771 | | | | 1517 | | | 1113 |
| v/s Ratio Prot | | c0.56 | | 0.25 | c0.55 | | | | | | | |
| v/s Ratio Perm | | | 0.48 | | | | | | 0.56 | | | 0.28 |
| v/c Ratio | | 0.83 | 0.71 | 0.97 | 0.94 | | | | 0.56 | | | 0.81 |
| Uniform Delay, d1 | | 16.6 | 14.1 | 51.3 | 26.7 | | | | 0.0 | | | 41.3 |
| Progression Factor | | 0.88 | 0.76 | 0.87 | 1.04 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 2.7 | 1.8 | 20.6 | 8.9 | | | | 1.5 | | | 6.3 |
| Delay (s) | | 17.3 | 12.5 | 65.0 | 36.6 | | | | 1.5 | | | 47.5 |
| Level of Service | | B | B | E | D | | | | A | | | D |
| Approach Delay (s) | | 15.3 | | | 45.1 | | | 1.5 | | | 47.5 | |
| Approach LOS | | B | | | D | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 27.9 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 4.5 |
| Intersection Capacity Utilization | 76.0% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 746 | 1798 | 1247 | 700 | 1062 | 1118 |
| v/c Ratio | 0.84 | 0.54 | 0.63 | 0.76 | 0.66 | 0.73 |
| Control Delay | 27.6 | 0.4 | 13.2 | 21.2 | 2.1 | 3.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 27.6 | 0.4 | 13.2 | 21.2 | 2.1 | 3.1 |
| Queue Length 50th (ft) | 166 | 0 | 457 | 484 | 0 | 0 |
| Queue Length 95th (ft) | 222 | 0 | 553 | m609 | 0 | 0 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 925 | 3355 | 1976 | 917 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.81 | 0.54 | 0.63 | 0.76 | 0.66 | 0.73 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 686 | 1654 | 0 | 0 | 1147 | 644 | 0 | 0 | 977 | 0 | 0 | 1029 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 746 | 1798 | 0 | 0 | 1247 | 700 | 0 | 0 | 1062 | 0 | 0 | 1118 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 746 | 1798 | 0 | 0 | 1247 | 685 | 0 | 0 | 1062 | 0 | 0 | 1118 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 19.8 | 70.0 | | | 41.2 | 41.2 | | | 70.0 | | | 70.0 |
| Effective Green, g (s) | 19.8 | 70.0 | | | 41.2 | 41.2 | | | 70.0 | | | 70.0 |
| Actuated g/C Ratio | 0.28 | 1.00 | | | 0.59 | 0.59 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 889 | 3355 | | | 1975 | 901 | | | 1611 | | | 1528 |
| v/s Ratio Prot | 0.24 | 0.54 | | | 0.37 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.45 | | | 0.66 | | | c0.73 |
| v/c Ratio | 0.84 | 0.54 | | | 0.63 | 0.76 | | | 0.66 | | | 0.73 |
| Uniform Delay, d1 | 23.6 | 0.0 | | | 9.4 | 10.7 | | | 0.0 | | | 0.0 |
| Progression Factor | 0.89 | 1.00 | | | 1.27 | 1.65 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 4.8 | 0.4 | | | 0.8 | 3.3 | | | 2.1 | | | 3.1 |
| Delay (s) | 25.8 | 0.4 | | | 12.9 | 21.0 | | | 2.1 | | | 3.1 |
| Level of Service | C | A | | | B | C | | | A | | | A |
| Approach Delay (s) | | 7.8 | | | 15.8 | | | 2.1 | | | 3.1 | |
| Approach LOS | | A | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 8.5 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 66.9% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 524 | 779 | 903 | 298 | 36 | 290 | 872 | 21 | 100 | 1038 | 228 |
| v/c Ratio | 1.22 | 0.97 | 0.51 | 0.78 | 0.10 | 0.94 | 0.74 | 0.05 | 0.67 | 0.98 | 0.41 |
| Control Delay | 142.6 | 53.3 | 1.1 | 51.2 | 13.9 | 82.9 | 34.3 | 16.6 | 66.2 | 56.7 | 17.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 142.6 | 53.3 | 1.1 | 51.2 | 13.9 | 82.9 | 34.3 | 16.6 | 66.2 | 56.7 | 17.7 |
| Queue Length 50th (ft) | ~324 | 469 | 0 | 178 | 3 | 96 | 258 | 5 | 63 | 342 | 64 |
| Queue Length 95th (ft) | #530 | #730 | 0 | #306 | 29 | #177 | 331 | 22 | #137 | #483 | 130 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 429 | 803 | 1770 | 383 | 379 | 310 | 1175 | 438 | 152 | 1064 | 562 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.22 | 0.97 | 0.51 | 0.78 | 0.09 | 0.94 | 0.74 | 0.05 | 0.66 | 0.98 | 0.41 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 482 | 717 | 831 | 6 | 268 | 33 | 267 | 802 | 19 | 92 | 955 | 210 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 3.6 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.96 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1737 | 1475 | 3204 | 3539 | 1337 | 1652 | 3303 | 1551 |
| Flt Permitted | 0.27 | 1.00 | 1.00 | | 0.91 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 466 | 1739 | 1770 | | 1582 | 1475 | 3204 | 3539 | 1337 | 1652 | 3303 | 1551 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 524 | 779 | 903 | 7 | 291 | 36 | 290 | 872 | 21 | 100 | 1038 | 228 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 7 | 0 | 0 | 63 |
| Lane Group Flow (vph) | 524 | 779 | 903 | 0 | 298 | 14 | 290 | 872 | 14 | 100 | 1038 | 165 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 45.6 | 45.6 | 100.0 | | 23.6 | 23.6 | 8.7 | 32.2 | 32.2 | 8.2 | 31.2 | 31.2 |
| Effective Green, g (s) | 46.1 | 46.1 | 100.0 | | 24.1 | 24.1 | 9.7 | 33.2 | 32.2 | 9.1 | 32.2 | 32.2 |
| Actuated g/C Ratio | 0.46 | 0.46 | 1.00 | | 0.24 | 0.24 | 0.10 | 0.33 | 0.32 | 0.09 | 0.32 | 0.32 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.5 | 5.0 | 5.0 |
| Vehicle Extension (s) | 3.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 428 | 802 | 1770 | | 381 | 355 | 311 | 1175 | 431 | 150 | 1064 | 499 |
| v/s Ratio Prot | c0.22 | 0.45 | | | | | c0.09 | 0.25 | | 0.06 | c0.31 | |
| v/s Ratio Perm | c0.34 | | c0.51 | | 0.19 | 0.01 | | | 0.01 | | | 0.11 |
| v/c Ratio | 1.22 | 0.97 | 0.51 | | 0.78 | 0.04 | 0.93 | 0.74 | 0.03 | 0.67 | 0.98 | 0.33 |
| Uniform Delay, d1 | 22.2 | 26.3 | 0.0 | | 35.5 | 29.1 | 44.8 | 29.6 | 23.2 | 44.0 | 33.5 | 25.7 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 120.2 | 24.9 | 1.1 | | 10.6 | 0.1 | 33.7 | 4.3 | 0.1 | 11.1 | 22.3 | 1.8 |
| Delay (s) | 142.4 | 51.2 | 1.1 | | 46.1 | 29.1 | 78.5 | 33.9 | 23.4 | 55.1 | 55.8 | 27.5 |
| Level of Service | F | D | A | | D | C | E | C | C | E | E | C |
| Approach Delay (s) | | 52.3 | | | 44.3 | | | 44.6 | | | 51.0 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 49.7 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.09 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 100.7% | ICU Level of Service | G |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBT | WBR | NBT | SBL | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 48 | 90 | 2163 | 141 | 1527 |
| v/c Ratio | 0.45 | 0.63 | 0.51 | 1.34 | 0.52 |
| Control Delay | 72.9 | 61.2 | 5.3 | 203.8 | 2.1 |
| Queue Delay | 0.0 | 0.0 | 0.2 | 0.0 | 0.9 |
| Total Delay | 72.9 | 61.2 | 5.5 | 203.8 | 3.0 |
| Queue Length 50th (ft) | 42 | 56 | 202 | ~163 | 12 |
| Queue Length 95th (ft) | 83 | 112 | 383 | m#189 | m48 |
| Internal Link Dist (ft) | 217 | | 650 | | 443 |
| Turn Bay Length (ft) | | | | 150 | |
| Base Capacity (vph) | 200 | 247 | 4216 | 105 | 2963 |
| Starvation Cap Reductn | 0 | 0 | 1037 | 0 | 1061 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.24 | 0.36 | 0.68 | 1.34 | 0.80 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 44 | 0 | 83 | 0 | 1956 | 34 | 130 | 1404 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.98 | | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1562 | 1393 | | 4939 | | 1619 | 3471 | |
| Flt Permitted | | | | | 0.76 | 1.00 | | 1.00 | | 0.07 | 1.00 | |
| Satd. Flow (perm) | | | | | 1245 | 1393 | | 4939 | | 122 | 3471 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 48 | 0 | 90 | 0 | 2126 | 37 | 141 | 1526 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 1 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 48 | 65 | 0 | 2162 | 0 | 141 | 1527 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 11.9 | 11.9 | | 119.5 | | 119.5 | 119.5 | |
| Effective Green, g (s) | | | | | 11.9 | 11.9 | | 119.5 | | 119.5 | 119.5 | |
| Actuated g/C Ratio | | | | | 0.09 | 0.09 | | 0.85 | | 0.85 | 0.85 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 106 | 118 | | 4216 | | 104 | 2963 | |
| v/s Ratio Prot | | | | | | | | 0.44 | | | 0.44 | |
| v/s Ratio Perm | | | | | 0.04 | c0.05 | | | | c1.15 | | |
| v/c Ratio | | | | | 0.45 | 0.55 | | 0.51 | | 1.36 | 0.52 | |
| Uniform Delay, d1 | | | | | 61.0 | 61.5 | | 2.7 | | 10.2 | 2.7 | |
| Progression Factor | | | | | 1.00 | 1.00 | | 1.69 | | 1.97 | 0.58 | |
| Incremental Delay, d2 | | | | | 3.1 | 5.5 | | 0.3 | | 185.4 | 0.3 | |
| Delay (s) | | | | | 64.0 | 67.0 | | 4.8 | | 205.6 | 1.8 | |
| Level of Service | | | | | E | E | | A | | F | A | |
| Approach Delay (s) | | 0.0 | | | 66.0 | | | 4.8 | | | 19.1 | |
| Approach LOS | | A | | | E | | | A | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 12.9 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 1.28 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 62.6% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 65 | 782 | 921 | 321 | 162 |
| v/c Ratio | 0.45 | 0.61 | 0.45 | 0.79 | 0.33 |
| Control Delay | 57.3 | 12.8 | 10.3 | 53.9 | 6.6 |
| Queue Delay | 0.0 | 1.7 | 0.0 | 0.0 | 0.0 |
| Total Delay | 57.3 | 14.5 | 10.3 | 53.9 | 6.6 |
| Queue Length 50th (ft) | 44 | 265 | 93 | 214 | 0 |
| Queue Length 95th (ft) | 88 | 475 | 173 | 290 | 48 |
| Internal Link Dist (ft) | | 522 | 524 | 200 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 172 | 1284 | 2042 | 539 | 595 |
| Starvation Cap Reductn | 0 | 321 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.38 | 0.81 | 0.45 | 0.60 | 0.27 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 60 | 719 | 745 | 102 | 295 | 149 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.98 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3475 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3475 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 65 | 782 | 810 | 111 | 321 | 162 |
| RTOR Reduction (vph) | 0 | 0 | 8 | 0 | 0 | 125 |
| Lane Group Flow (vph) | 65 | 782 | 913 | 0 | 321 | 37 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 7.8 | 75.8 | 63.5 | | 25.2 | 25.2 |
| Effective Green, g (s) | 7.8 | 75.8 | 63.5 | | 25.2 | 25.2 |
| Actuated g/C Ratio | 0.07 | 0.69 | 0.58 | | 0.23 | 0.23 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 126 | 1284 | 2006 | | 405 | 363 |
| v/s Ratio Prot | 0.04 | c0.42 | 0.26 | | c0.18 | |
| v/s Ratio Perm | | | | | | 0.02 |
| v/c Ratio | 0.52 | 0.61 | 0.46 | | 0.79 | 0.10 |
| Uniform Delay, d1 | 49.3 | 9.2 | 13.3 | | 39.9 | 33.5 |
| Progression Factor | 1.00 | 1.00 | 0.66 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.5 | 2.2 | 0.6 | | 10.2 | 0.1 |
| Delay (s) | 52.8 | 11.3 | 9.5 | | 50.1 | 33.6 |
| Level of Service | D | B | A | | D | C |
| Approach Delay (s) | | 14.5 | 9.5 | | 44.6 | |
| Approach LOS | | B | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 18.9 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.65 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 61.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBL | WBT | NBR |
|---|---|---|---|---|
| Lane Group Flow (vph) | 2348 | 489 | 2030 | 507 |
| v/c Ratio | 0.74 | 0.74 | 0.40 | 0.84 |
| Control Delay | 13.9 | 24.6 | 0.1 | 33.2 |
| Queue Delay | 0.8 | 3.0 | 0.0 | 0.0 |
| Total Delay | 14.7 | 27.6 | 0.1 | 33.2 |
| Queue Length 50th (ft) | 255 | 211 | 0 | 182 |
| Queue Length 95th (ft) | 329 | m223 | m0 | #308 |
| Internal Link Dist (ft) | 390 | | 251 | |
| Turn Bay Length (ft) | | | | |
| Base Capacity (vph) | 3178 | 746 | 5085 | 680 |
| Starvation Cap Reductn | 0 | 159 | 0 | 0 |
| Spillback Cap Reductn | 463 | 0 | 84 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.86 | 0.83 | 0.41 | 0.75 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 2130 | 30 | 450 | 1868 | 0 | 466 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Lane Util. Factor | 0.86 | | 1.00 | 0.91 | | 1.00 |
| Frt | 1.00 | | 1.00 | 1.00 | | 0.86 |
| Flt Protected | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 6394 | | 1770 | 5085 | | 1611 |
| Flt Permitted | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 6394 | | 1770 | 5085 | | 1611 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 2315 | 33 | 489 | 2030 | 0 | 507 |
| RTOR Reduction (vph) | 3 | 0 | 0 | 0 | 0 | 1 |
| Lane Group Flow (vph) | 2345 | 0 | 489 | 2030 | 0 | 506 |
| Turn Type | | | Prot | | | Over |
| Protected Phases | 2 | | 1 | 6 | | 1 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 34.8 | | 26.2 | 70.0 | | 26.2 |
| Effective Green, g (s) | 34.8 | | 26.2 | 70.0 | | 26.2 |
| Actuated g/C Ratio | 0.50 | | 0.37 | 1.00 | | 0.37 |
| Clearance Time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 3179 | | 662 | 5085 | | 603 |
| v/s Ratio Prot | c0.37 | | 0.28 | 0.40 | | c0.31 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.74 | | 0.74 | 0.40 | | 0.84 |
| Uniform Delay, d1 | 14.0 | | 18.9 | 0.0 | | 20.0 |
| Progression Factor | 0.89 | | 1.15 | 1.00 | | 1.00 |
| Incremental Delay, d2 | 0.9 | | 1.9 | 0.1 | | 10.0 |
| Delay (s) | 13.3 | | 23.7 | 0.1 | | 30.0 |
| Level of Service | B | | C | A | | C |
| Approach Delay (s) | 13.3 | | | 4.7 | 30.0 | |
| Approach LOS | B | | | A | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 10.9 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.78 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 67.7% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 96 | 221 | 262 | 205 | 1051 | 36 | 904 | 208 | 732 | 649 | 54 |
| v/c Ratio | 1.03 | 0.57 | 0.49 | 0.32 | 0.65 | 0.49 | 0.79 | 0.23 | 1.14 | 0.48 | 0.08 |
| Control Delay | 163.8 | 56.3 | 42.6 | 31.2 | 18.5 | 87.6 | 54.0 | 1.7 | 129.3 | 31.6 | 7.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 163.8 | 56.3 | 42.6 | 31.2 | 18.5 | 87.6 | 54.0 | 1.7 | 129.3 | 31.6 | 7.0 |
| Queue Length 50th (ft) | ~98 | 92 | 187 | 128 | 318 | 33 | 285 | 1 | ~417 | 234 | 0 |
| Queue Length 95th (ft) | #218 | 126 | 308 | 195 | 396 | 72 | 340 | 19 | #543 | 297 | 29 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 93 | 1053 | 533 | 698 | 1620 | 89 | 1209 | 921 | 641 | 1355 | 664 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.03 | 0.21 | 0.49 | 0.29 | 0.65 | 0.40 | 0.75 | 0.23 | 1.14 | 0.48 | 0.08 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 88 | 162 | 41 | 241 | 189 | 967 | 33 | 832 | 191 | 673 | 597 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | 4.5 | 3.5 | 3.8 | 3.8 | 3.5 | 3.8 | 3.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 1.00 | 0.88 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.97 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3093 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1513 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3093 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1513 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 96 | 176 | 45 | 262 | 205 | 1051 | 36 | 904 | 208 | 732 | 649 | 54 |
| RTOR Reduction (vph) | 0 | 21 | 0 | 0 | 0 | 16 | 0 | 0 | 89 | 0 | 0 | 32 |
| Lane Group Flow (vph) | 96 | 200 | 0 | 262 | 205 | 1035 | 36 | 904 | 119 | 732 | 649 | 22 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 7.5 | 16.0 | | 43.1 | 51.6 | 83.8 | 5.2 | 34.2 | 77.3 | 27.7 | 56.7 | 56.7 |
| Effective Green, g (s) | 7.5 | 16.0 | | 43.1 | 51.6 | 83.8 | 5.2 | 34.2 | 77.3 | 27.7 | 56.7 | 56.7 |
| Actuated g/C Ratio | 0.06 | 0.12 | | 0.32 | 0.38 | 0.61 | 0.04 | 0.25 | 0.57 | 0.20 | 0.42 | 0.42 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 3.0 | | 2.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 92 | 363 | | 531 | 639 | 1624 | 62 | 1168 | 822 | 639 | 1348 | 629 |
| v/s Ratio Prot | c0.06 | 0.06 | | 0.16 | 0.12 | c0.39 | 0.02 | c0.19 | 0.08 | c0.23 | 0.20 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.01 |
| v/c Ratio | 1.04 | 0.55 | | 0.49 | 0.32 | 0.64 | 0.58 | 0.77 | 0.15 | 1.15 | 0.48 | 0.04 |
| Uniform Delay, d1 | 64.4 | 56.8 | | 37.8 | 30.0 | 16.6 | 64.5 | 47.5 | 13.9 | 54.3 | 29.1 | 23.6 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 106.1 | 2.6 | | 0.3 | 0.4 | 0.9 | 8.6 | 3.3 | 0.1 | 83.0 | 0.3 | 0.0 |
| Delay (s) | 170.5 | 59.4 | | 38.0 | 30.4 | 17.6 | 73.1 | 50.7 | 14.0 | 137.3 | 29.3 | 23.6 |
| Level of Service | F | E | | D | C | B | E | D | B | F | C | C |
| Approach Delay (s) | | 93.1 | | | 22.8 | | | 44.8 | | | 84.2 | |
| Approach LOS | | F | | | C | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 53.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.83 | | |
| Actuated Cycle Length (s) | 136.3 | Sum of lost time (s) | 15.3 |
| Intersection Capacity Utilization | 71.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 154 | 1120 | 108 | 1559 | 786 | 53 | 235 | 564 | 281 |
| v/c Ratio | 0.94 | 0.66 | 0.66 | 0.92 | 0.73 | 0.46 | 0.89 | 0.93 | 0.65 |
| Control Delay | 110.8 | 23.3 | 81.2 | 20.6 | 5.5 | 66.4 | 48.6 | 71.2 | 22.7 |
| Queue Delay | 0.0 | 89.0 | 0.0 | 3.8 | 2.3 | 0.0 | 17.1 | 0.0 | 0.0 |
| Total Delay | 110.8 | 112.3 | 81.2 | 24.4 | 7.8 | 66.4 | 65.8 | 71.2 | 22.7 |
| Queue Length 50th (ft) | 121 | 318 | 87 | 578 | 2 | 40 | 42 | 226 | 60 |
| Queue Length 95th (ft) | #255 | 423 | m104 | m#705 | m3 | 83 | #177 | #342 | 161 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 163 | 1685 | 203 | 1703 | 1073 | 140 | 284 | 606 | 430 |
| Starvation Cap Reductn | 0 | 0 | 0 | 94 | 166 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 745 | 0 | 0 | 0 | 0 | 42 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.94 | 1.19 | 0.53 | 0.97 | 0.87 | 0.38 | 0.97 | 0.93 | 0.65 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 142 | 1016 | 15 | 99 | 1434 | 723 | 49 | 8 | 208 | 519 | 41 | 217 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 1.00 | 0.99 | | 1.00 | 0.96 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.86 | | 1.00 | 0.87 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3171 | | 1620 | 3209 | 1434 | 1678 | 1438 | | 3143 | 1424 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3171 | | 1620 | 3209 | 1434 | 1678 | 1438 | | 3143 | 1424 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 154 | 1104 | 16 | 108 | 1559 | 786 | 53 | 9 | 226 | 564 | 45 | 236 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 0 | 312 | 0 | 167 | 0 | 0 | 156 | 0 |
| Lane Group Flow (vph) | 154 | 1119 | 0 | 108 | 1559 | 474 | 53 | 68 | 0 | 564 | 125 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 12.1 | 63.8 | | 12.0 | 63.7 | 63.7 | 8.1 | 8.1 | | 23.1 | 23.1 | |
| Effective Green, g (s) | 12.1 | 63.8 | | 12.0 | 63.7 | 63.7 | 8.1 | 8.1 | | 23.1 | 23.1 | |
| Actuated g/C Ratio | 0.10 | 0.53 | | 0.10 | 0.53 | 0.53 | 0.07 | 0.07 | | 0.19 | 0.19 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 163 | 1686 | | 162 | 1703 | 761 | 113 | 97 | | 605 | 274 | |
| v/s Ratio Prot | c0.10 | 0.35 | | 0.07 | c0.49 | | 0.03 | c0.05 | | c0.18 | 0.09 | |
| v/s Ratio Perm | | | | | | 0.33 | | | | | | |
| v/c Ratio | 0.94 | 0.66 | | 0.67 | 0.92 | 0.62 | 0.47 | 0.70 | | 0.93 | 0.46 | |
| Uniform Delay, d1 | 53.6 | 20.3 | | 52.1 | 25.7 | 19.7 | 53.9 | 54.8 | | 47.7 | 42.9 | |
| Progression Factor | 1.00 | 1.00 | | 1.33 | 0.53 | 0.82 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 53.5 | 2.1 | | 4.8 | 6.0 | 2.3 | 1.1 | 17.1 | | 21.4 | 1.2 | |
| Delay (s) | 107.1 | 22.4 | | 73.9 | 19.6 | 18.5 | 55.0 | 71.8 | | 69.0 | 44.1 | |
| Level of Service | F | C | | E | B | B | D | E | | E | D | |
| Approach Delay (s) | | 32.7 | | | 21.7 | | | 68.7 | | | 60.8 | |
| Approach LOS | | C | | | C | | | E | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 34.1 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.91 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 88.9% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 57 | 2020 | 670 | 2213 | 316 | 559 | 70 | 58 |
| v/c Ratio | 0.48 | 1.01 | 0.97 | 0.77 | 1.00 | 0.50 | 0.90 | 0.56 |
| Control Delay | 61.9 | 51.1 | 67.7 | 16.7 | 100.5 | 20.3 | 133.4 | 50.2 |
| Queue Delay | 0.0 | 53.8 | 0.0 | 1.4 | 0.0 | 0.0 | 0.0 | 0.4 |
| Total Delay | 61.9 | 104.9 | 67.7 | 18.0 | 100.5 | 20.3 | 133.4 | 50.6 |
| Queue Length 50th (ft) | 44 | ~589 | 261 | 403 | 247 | 139 | 55 | 19 |
| Queue Length 95th (ft) | m63 | m#699 | m#344 | 498 | #435 | 186 | #148 | #75 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 135 | 2008 | 689 | 2865 | 316 | 1119 | 78 | 103 |
| Starvation Cap Reductn | 0 | 239 | 0 | 418 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 339 | 0 | 0 | 0 | 2 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.42 | 1.14 | 0.97 | 0.90 | 1.00 | 0.50 | 0.90 | 0.57 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 52 | 1689 | 169 | 616 | 1913 | 123 | 259 | 31 | 514 | 64 | 23 | 30 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.91 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.99 | 1.00 | 0.95 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4505 | | 3143 | 4726 | | | 1807 | 2808 | 1562 | 1428 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4505 | | 3143 | 4726 | | | 1807 | 2808 | 1562 | 1428 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 57 | 1836 | 184 | 670 | 2079 | 134 | 282 | 34 | 559 | 70 | 25 | 33 |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 6 | 0 | 0 | 0 | 23 | 0 | 31 | 0 |
| Lane Group Flow (vph) | 57 | 2010 | 0 | 670 | 2207 | 0 | 0 | 316 | 536 | 70 | 27 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 8.0 | 53.2 | | 26.3 | 72.0 | | | 21.0 | 47.3 | 6.0 | 6.0 | |
| Effective Green, g (s) | 8.0 | 53.2 | | 26.3 | 72.0 | | | 21.0 | 47.3 | 6.0 | 6.0 | |
| Actuated g/C Ratio | 0.07 | 0.44 | | 0.22 | 0.60 | | | 0.18 | 0.39 | 0.05 | 0.05 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 108 | 1997 | | 689 | 2836 | | | 316 | 1107 | 78 | 71 | |
| v/s Ratio Prot | 0.04 | c0.45 | | c0.21 | 0.47 | | | c0.17 | 0.11 | c0.04 | 0.02 | |
| v/s Ratio Perm | | | | | | | | | 0.08 | | | |
| v/c Ratio | 0.53 | 1.01 | | 0.97 | 0.78 | | | 1.00 | 0.48 | 0.90 | 0.38 | |
| Uniform Delay, d1 | 54.2 | 33.4 | | 46.5 | 18.0 | | | 49.5 | 27.2 | 56.7 | 55.2 | |
| Progression Factor | 0.99 | 0.99 | | 1.03 | 0.84 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.5 | 18.5 | | 18.7 | 1.2 | | | 50.6 | 0.1 | 66.4 | 1.2 | |
| Delay (s) | 55.0 | 51.4 | | 66.5 | 16.4 | | | 100.1 | 27.3 | 123.1 | 56.4 | |
| Level of Service | D | D | | E | B | | | F | C | F | E | |
| Approach Delay (s) | | 51.5 | | | 28.0 | | | 53.6 | | | 92.9 | |
| Approach LOS | | D | | | C | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 41.4 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.99 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 86.7% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1236 | 1516 | 2066 | 797 | 611 | 605 |
| v/c Ratio | 0.36 | 0.60 | 0.89 | 0.62 | 0.82 | 0.89 |
| Control Delay | 7.1 | 1.4 | 19.0 | 2.7 | 54.3 | 58.4 |
| Queue Delay | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | 0.1 |
| Total Delay | 7.1 | 1.4 | 19.7 | 2.7 | 54.3 | 58.5 |
| Queue Length 50th (ft) | 123 | 0 | 573 | 0 | 233 | 244 |
| Queue Length 95th (ft) | m129 | m0 | 720 | 32 | #304 | #355 |
| Internal Link Dist (ft) | 509 | | 867 | | | |
| Turn Bay Length (ft) | | 400 | | | | 150 |
| Base Capacity (vph) | 3429 | 2533 | 2327 | 1285 | 747 | 681 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 72 | 0 | 0 | 1 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.36 | 0.60 | 0.92 | 0.62 | 0.82 | 0.89 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1137 | 1395 | 0 | 1901 | 733 | 0 | 0 | 0 | 562 | 0 | 557 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | | 3.0 |
| Lane Util. Factor | | 0.91 | 0.88 | | 0.95 | 1.00 | | | | 0.97 | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1236 | 1516 | 0 | 2066 | 797 | 0 | 0 | 0 | 611 | 0 | 605 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 226 | 0 | 0 | 0 | 0 | 0 | 31 |
| Lane Group Flow (vph) | 0 | 1236 | 1516 | 0 | 2066 | 571 | 0 | 0 | 0 | 611 | 0 | 574 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Perm | | | | custom | | custom |
| Protected Phases | | 2 | | | 6 | | | | | 4 | | |
| Permitted Phases | | | 2 4 | | | 6 | | | | 4 | | 4 |
| Actuated Green, G (s) | | 86.0 | 120.0 | | 86.0 | 86.0 | | | | 26.0 | | 26.0 |
| Effective Green, g (s) | | 87.0 | 120.0 | | 87.0 | 86.0 | | | | 27.0 | | 27.0 |
| Actuated g/C Ratio | | 0.72 | 1.00 | | 0.72 | 0.72 | | | | 0.22 | | 0.22 |
| Clearance Time (s) | | 4.0 | | | 4.0 | 4.0 | | | | 4.0 | | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | 4.5 | | | | 4.0 | | 4.0 |
| Lane Grp Cap (vph) | | 3429 | 2533 | | 2327 | 1059 | | | | 747 | | 650 |
| v/s Ratio Prot | | 0.26 | | | c0.64 | | | | | 0.18 | | |
| v/s Ratio Perm | | | 0.60 | | | 0.39 | | | | | | c0.20 |
| v/c Ratio | | 0.36 | 0.60 | | 0.89 | 0.54 | | | | 0.82 | | 0.88 |
| Uniform Delay, d1 | | 6.1 | 0.0 | | 12.7 | 7.9 | | | | 44.2 | | 45.0 |
| Progression Factor | | 1.12 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | | 0.2 | 0.3 | | 5.5 | 2.0 | | | | 7.3 | | 13.8 |
| Delay (s) | | 7.0 | 0.3 | | 18.3 | 9.8 | | | | 51.5 | | 58.8 |
| Level of Service | | A | A | | B | A | | | | D | | E |
| Approach Delay (s) | | 3.3 | | | 15.9 | | | 0.0 | | | 55.1 | |
| Approach LOS | | A | | | B | | | A | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.8 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.89 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 6.0 |
| Intersection Capacity Utilization | 78.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 604 | 59 | 63 | 260 | 248 | 428 |
| v/c Ratio | 0.79 | 0.08 | 0.41 | 0.40 | 0.53 | 0.58 |
| Control Delay | 22.1 | 3.5 | 37.5 | 13.8 | 21.7 | 5.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 22.1 | 3.5 | 37.5 | 13.8 | 21.7 | 5.9 |
| Queue Length 50th (ft) | 159 | 0 | 21 | 59 | 73 | 0 |
| Queue Length 95th (ft) | #348 | 16 | #73 | 110 | 136 | 57 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 1072 | 980 | 154 | 1085 | 689 | 884 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.56 | 0.06 | 0.41 | 0.24 | 0.36 | 0.48 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 556 | 54 | 58 | 239 | 228 | 394 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1559 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1559 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 604 | 59 | 63 | 260 | 248 | 428 |
| RTOR Reduction (vph) | 0 | 33 | 0 | 0 | 0 | 314 |
| Lane Group Flow (vph) | 604 | 26 | 63 | 260 | 248 | 114 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 21.5 | 21.5 | 1.9 | 18.7 | 12.8 | 12.8 |
| Effective Green, g (s) | 21.5 | 21.5 | 1.9 | 18.7 | 12.8 | 12.8 |
| Actuated g/C Ratio | 0.45 | 0.45 | 0.04 | 0.39 | 0.27 | 0.27 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 748 | 670 | 64 | 709 | 453 | 414 |
| v/s Ratio Prot | c0.36 | | c0.04 | 0.14 | c0.15 | |
| v/s Ratio Perm | | 0.02 | | | | 0.07 |
| v/c Ratio | 0.81 | 0.04 | 0.98 | 0.37 | 0.55 | 0.27 |
| Uniform Delay, d1 | 11.6 | 7.5 | 23.1 | 10.5 | 15.2 | 14.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 6.4 | 0.0 | 106.4 | 0.3 | 1.4 | 0.4 |
| Delay (s) | 18.0 | 7.6 | 129.5 | 10.8 | 16.6 | 14.4 |
| Level of Service | B | A | F | B | B | B |
| Approach Delay (s) | 17.0 | | | 34.0 | 15.2 | |
| Approach LOS | B | | | C | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 19.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 48.2 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 56.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 85 | 125 | 138 | 26 | 1140 | 71 | 698 |
| v/c Ratio | 0.24 | 0.36 | 0.37 | 0.06 | 0.58 | 0.33 | 0.36 |
| Control Delay | 15.1 | 18.7 | 12.9 | 7.4 | 9.6 | 13.8 | 7.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 15.1 | 18.7 | 12.9 | 7.4 | 9.6 | 13.8 | 7.2 |
| Queue Length 50th (ft) | 17 | 30 | 19 | 3 | 90 | 9 | 44 |
| Queue Length 95th (ft) | 45 | 68 | 55 | 17 | 254 | 56 | 129 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 738 | 728 | 727 | 447 | 2098 | 234 | 2105 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.12 | 0.17 | 0.19 | 0.06 | 0.54 | 0.30 | 0.33 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 24 | 44 | 10 | 63 | 52 | 127 | 24 | 972 | 76 | 65 | 613 | 29 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | | 0.98 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1531 | | | 1685 | 1306 | 1616 | 3039 | | 1561 | 3053 | |
| Flt Permitted | | 0.88 | | | 0.78 | 1.00 | 0.38 | 1.00 | | 0.21 | 1.00 | |
| Satd. Flow (perm) | | 1365 | | | 1357 | 1306 | 650 | 3039 | | 339 | 3053 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 26 | 48 | 11 | 68 | 57 | 138 | 26 | 1057 | 83 | 71 | 666 | 32 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 0 | 45 | 0 | 7 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 0 | 76 | 0 | 0 | 125 | 93 | 26 | 1133 | 0 | 71 | 694 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 9.9 | | | 9.9 | 9.9 | 28.9 | 28.9 | | 28.9 | 28.9 | |
| Effective Green, g (s) | | 9.9 | | | 9.9 | 9.9 | 28.9 | 28.9 | | 28.9 | 28.9 | |
| Actuated g/C Ratio | | 0.21 | | | 0.21 | 0.21 | 0.60 | 0.60 | | 0.60 | 0.60 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 282 | | | 280 | 269 | 391 | 1830 | | 204 | 1838 | |
| v/s Ratio Prot | | | | | | | | c0.37 | | | 0.23 | |
| v/s Ratio Perm | | 0.06 | | | c0.09 | 0.07 | 0.04 | | | 0.21 | | |
| v/c Ratio | | 0.27 | | | 0.45 | 0.34 | 0.07 | 0.62 | | 0.35 | 0.38 | |
| Uniform Delay, d1 | | 16.0 | | | 16.7 | 16.3 | 4.0 | 6.1 | | 4.8 | 4.9 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.7 | | | 1.5 | 1.1 | 0.1 | 0.7 | | 1.4 | 0.2 | |
| Delay (s) | | 16.7 | | | 18.2 | 17.3 | 4.1 | 6.8 | | 6.2 | 5.1 | |
| Level of Service | | B | | | B | B | A | A | | A | A | |
| Approach Delay (s) | | 16.7 | | | 17.7 | | | 6.7 | | | 5.2 | |
| Approach LOS | | B | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 7.9 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.58 | | |
| Actuated Cycle Length (s) | 48.0 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 60.1% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 20 | 210 | 368 | 180 | 168 | 34 |
| v/c Ratio | 0.07 | 0.24 | 0.50 | 0.15 | 0.38 | 0.08 |
| Control Delay | 19.8 | 6.9 | 12.2 | 0.6 | 15.8 | 6.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 19.8 | 6.9 | 12.2 | 0.6 | 15.8 | 6.9 |
| Queue Length 50th (ft) | 3 | 20 | 39 | 0 | 20 | 0 |
| Queue Length 95th (ft) | 25 | 62 | 179 | 10 | 102 | 18 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 464 | 1827 | 1642 | 1524 | 1245 | 1083 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.04 | 0.11 | 0.22 | 0.12 | 0.13 | 0.03 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 18 | 193 | 339 | 166 | 155 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.98 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1618 | 1562 | 1362 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1618 | 1562 | 1362 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 20 | 210 | 368 | 180 | 168 | 34 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 59 | 0 | 25 |
| Lane Group Flow (vph) | 20 | 210 | 368 | 121 | 168 | 9 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 0.9 | 21.5 | 16.6 | 27.5 | 10.9 | 10.9 |
| Effective Green, g (s) | 0.9 | 21.5 | 16.6 | 27.5 | 10.9 | 10.9 |
| Actuated g/C Ratio | 0.02 | 0.52 | 0.40 | 0.67 | 0.27 | 0.27 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 36 | 958 | 690 | 1085 | 415 | 362 |
| v/s Ratio Prot | 0.01 | c0.11 | c0.22 | 0.03 | c0.11 | |
| v/s Ratio Perm | | | | 0.05 | | 0.01 |
| v/c Ratio | 0.56 | 0.22 | 0.53 | 0.11 | 0.40 | 0.02 |
| Uniform Delay, d1 | 19.9 | 5.2 | 9.3 | 2.4 | 12.4 | 11.1 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 17.3 | 0.1 | 0.8 | 0.0 | 0.6 | 0.0 |
| Delay (s) | 37.1 | 5.4 | 10.1 | 2.4 | 13.0 | 11.2 |
| Level of Service | D | A | B | A | B | B |
| Approach Delay (s) | | 8.1 | 7.6 | | 12.7 | |
| Approach LOS | | A | A | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 8.8 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.50 | | |
| Actuated Cycle Length (s) | 41.0 | Sum of lost time (s) | 13.2 |
| Intersection Capacity Utilization | 34.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 217 | 163 | 341 | 299 | 310 | 241 |
| v/c Ratio | 0.61 | 0.38 | 0.72 | 0.32 | 0.54 | 0.41 |
| Control Delay | 43.0 | 8.7 | 39.0 | 12.1 | 30.2 | 13.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 43.0 | 8.7 | 39.0 | 12.1 | 30.2 | 13.8 |
| Queue Length 50th (ft) | 111 | 0 | 168 | 84 | 139 | 41 |
| Queue Length 95th (ft) | 232 | 55 | 341 | 165 | 287 | 124 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 |
| Base Capacity (vph) | 756 | 722 | 720 | 1468 | 712 | 716 |
| Starvation Cap Reductn | 5 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.29 | 0.23 | 0.47 | 0.20 | 0.44 | 0.34 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1 | 199 | 150 | 314 | 274 | 1 | 283 | 2 | 222 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.98 | | | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | | 1758 | 1460 | 1562 | 1704 | | | 1682 | 1724 | | | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | | 1756 | 1460 | 1562 | 1704 | | | 1682 | 1724 | | | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1 | 216 | 163 | 341 | 298 | 1 | 308 | 2 | 241 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 129 | 0 | 0 | 0 | 0 | 0 | 97 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 217 | 34 | 341 | 299 | 0 | 0 | 310 | 144 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 18.3 | 18.3 | 27.6 | 49.9 | | | 30.0 | 26.0 | | | |
| Effective Green, g (s) | | 18.3 | 18.3 | 27.6 | 49.9 | | | 30.0 | 26.0 | | | |
| Actuated g/C Ratio | | 0.21 | 0.21 | 0.31 | 0.56 | | | 0.34 | 0.29 | | | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | | |
| Lane Grp Cap (vph) | | 361 | 300 | 484 | 955 | | | 567 | 504 | | | |
| v/s Ratio Prot | | | | c0.22 | 0.18 | | | c0.18 | 0.03 | | | |
| v/s Ratio Perm | | c0.12 | 0.02 | | | | | | 0.06 | | | |
| v/c Ratio | | 0.60 | 0.11 | 0.70 | 0.31 | | | 0.55 | 0.29 | | | |
| Uniform Delay, d1 | | 32.0 | 28.7 | 27.1 | 10.4 | | | 24.0 | 24.3 | | | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 2.8 | 0.2 | 4.6 | 0.2 | | | 1.1 | 0.3 | | | |
| Delay (s) | | 34.9 | 28.9 | 31.7 | 10.6 | | | 25.1 | 24.6 | | | |
| Level of Service | | C | C | C | B | | | C | C | | | |
| Approach Delay (s) | | 32.3 | | | 21.9 | | | 24.9 | | | 0.0 | |
| Approach LOS | | C | | | C | | | C | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 25.4 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.61 | | |
| Actuated Cycle Length (s) | 89.0 | Sum of lost time (s) | 12.6 |
| Intersection Capacity Utilization | 61.4% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 166 | 408 | 64 | 245 | 386 | 716 | 24 | 555 | 143 | 271 | 688 |
| v/c Ratio | 0.76 | 0.78 | 0.14 | 0.84 | 0.63 | 0.96 | 0.30 | 0.81 | 0.43 | 0.92 | 0.60 |
| Control Delay | 77.6 | 53.6 | 24.0 | 76.0 | 41.3 | 43.7 | 72.6 | 59.2 | 28.5 | 90.3 | 35.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 77.6 | 53.6 | 24.0 | 76.0 | 41.3 | 43.7 | 72.6 | 59.2 | 28.5 | 90.3 | 35.9 |
| Queue Length 50th (ft) | 143 | 331 | 25 | 209 | 283 | 341 | 21 | 244 | 56 | 243 | 264 |
| Queue Length 95th (ft) | #247 | 464 | 62 | #342 | 401 | #635 | 53 | 314 | 124 | #431 | 335 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 247 | 562 | 487 | 331 | 656 | 772 | 84 | 789 | 375 | 293 | 1155 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.67 | 0.73 | 0.13 | 0.74 | 0.59 | 0.93 | 0.29 | 0.70 | 0.38 | 0.92 | 0.60 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 153 | 375 | 59 | 225 | 355 | 659 | 22 | 511 | 132 | 249 | 526 | 107 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.99 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1452 | 1620 | 1739 | 1391 | 1652 | 3240 | 1331 | 1620 | 2994 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1452 | 1620 | 1739 | 1391 | 1652 | 3240 | 1331 | 1620 | 2994 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 166 | 408 | 64 | 245 | 386 | 716 | 24 | 555 | 143 | 271 | 572 | 116 |
| RTOR Reduction (vph) | 0 | 0 | 18 | 0 | 0 | 260 | 0 | 0 | 52 | 0 | 12 | 0 |
| Lane Group Flow (vph) | 166 | 408 | 46 | 245 | 386 | 456 | 24 | 555 | 91 | 271 | 676 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 17.1 | 38.9 | 38.9 | 23.4 | 45.2 | 45.2 | 4.2 | 29.0 | 29.0 | 24.3 | 49.1 | |
| Effective Green, g (s) | 17.0 | 38.8 | 38.8 | 23.3 | 45.1 | 45.1 | 3.2 | 28.5 | 28.5 | 23.3 | 48.6 | |
| Actuated g/C Ratio | 0.13 | 0.30 | 0.30 | 0.18 | 0.35 | 0.35 | 0.02 | 0.22 | 0.22 | 0.18 | 0.37 | |
| Clearance Time (s) | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 216 | 519 | 434 | 291 | 604 | 483 | 41 | 711 | 292 | 291 | 1120 | |
| v/s Ratio Prot | 0.10 | 0.23 | | c0.15 | 0.22 | | 0.01 | c0.17 | | c0.17 | 0.23 | |
| v/s Ratio Perm | | | 0.03 | | | c0.33 | | | 0.07 | | | |
| v/c Ratio | 0.77 | 0.79 | 0.11 | 0.84 | 0.64 | 0.94 | 0.59 | 0.78 | 0.31 | 0.93 | 0.60 | |
| Uniform Delay, d1 | 54.5 | 41.7 | 33.0 | 51.5 | 35.6 | 41.2 | 62.7 | 47.8 | 42.5 | 52.5 | 32.9 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 15.9 | 8.1 | 0.1 | 20.0 | 2.5 | 27.6 | 22.8 | 5.9 | 0.8 | 35.3 | 1.1 | |
| Delay (s) | 70.5 | 49.9 | 33.1 | 71.5 | 38.1 | 68.8 | 85.5 | 53.6 | 43.3 | 87.8 | 33.9 | |
| Level of Service | E | D | C | E | D | E | F | D | D | F | C | |
| Approach Delay (s) | | 53.6 | | | 60.5 | | | 52.6 | | | 49.2 | |
| Approach LOS | | D | | | E | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 54.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.87 | | |
| Actuated Cycle Length (s) | 129.9 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 75.4% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 47 | 612 | 102 | 1346 | 1206 | 208 | 332 | 621 | 193 | 239 | 15 |
| v/c Ratio | 0.38 | 0.66 | 0.27 | 1.06 | 0.72 | 1.20 | 0.53 | 0.39 | 0.58 | 0.40 | 0.05 |
| Control Delay | 67.7 | 51.0 | 10.0 | 79.5 | 26.8 | 177.6 | 49.6 | 8.5 | 63.2 | 47.0 | 18.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 94.1 | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 67.7 | 51.0 | 10.0 | 173.6 | 30.7 | 177.6 | 49.6 | 8.5 | 63.2 | 47.0 | 18.1 |
| Queue Length 50th (ft) | 37 | 171 | 0 | ~643 | 401 | ~212 | 132 | 86 | 79 | 91 | 0 |
| Queue Length 95th (ft) | 85 | 230 | 49 | #890 | 548 | #410 | 187 | 126 | 129 | 135 | 19 |
| Internal Link Dist (ft) | | 238 | | | 391 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 136 | 1117 | 432 | 1274 | 1726 | 174 | 854 | 1767 | 370 | 855 | 400 |
| Starvation Cap Reductn | 0 | 0 | 0 | 218 | 426 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.35 | 0.55 | 0.24 | 1.27 | 0.93 | 1.20 | 0.39 | 0.35 | 0.52 | 0.28 | 0.04 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 43 | 563 | 94 | 1238 | 848 | 261 | 191 | 305 | 571 | 178 | 220 | 14 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 3.1 | 4.0 | 4.0 | 3.1 | 4.0 | | 4.0 | 4.0 | 3.1 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3113 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1471 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3113 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1471 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 47 | 612 | 102 | 1346 | 922 | 284 | 208 | 332 | 621 | 193 | 239 | 15 |
| RTOR Reduction (vph) | 0 | 0 | 81 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| Lane Group Flow (vph) | 47 | 612 | 21 | 1346 | 1187 | 0 | 208 | 332 | 621 | 193 | 239 | 3 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 7.5 | 24.3 | 24.3 | 48.4 | 65.2 | | 13.1 | 22.2 | 70.6 | 12.8 | 21.9 | 21.9 |
| Effective Green, g (s) | 8.4 | 25.8 | 25.8 | 49.3 | 66.7 | | 13.1 | 23.7 | 72.4 | 12.8 | 23.4 | 23.4 |
| Actuated g/C Ratio | 0.07 | 0.20 | 0.20 | 0.39 | 0.53 | | 0.10 | 0.19 | 0.57 | 0.10 | 0.18 | 0.18 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 104 | 948 | 301 | 1267 | 1639 | | 173 | 628 | 1546 | 329 | 598 | 272 |
| v/s Ratio Prot | 0.03 | 0.13 | | c0.41 | c0.38 | | c0.12 | c0.10 | 0.23 | c0.06 | 0.07 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | 0.00 |
| v/c Ratio | 0.45 | 0.65 | 0.07 | 1.06 | 0.72 | | 1.20 | 0.53 | 0.40 | 0.59 | 0.40 | 0.01 |
| Uniform Delay, d1 | 56.9 | 46.3 | 40.7 | 38.7 | 23.0 | | 56.8 | 46.5 | 15.1 | 54.4 | 45.5 | 42.2 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 4.2 | 1.7 | 0.1 | 43.6 | 1.7 | | 133.3 | 1.0 | 0.2 | 3.1 | 0.6 | 0.0 |
| Delay (s) | 61.1 | 48.0 | 40.9 | 82.3 | 24.7 | | 190.1 | 47.5 | 15.3 | 57.6 | 46.1 | 42.2 |
| Level of Service | E | D | D | F | C | | F | D | B | E | D | D |
| Approach Delay (s) | | 47.8 | | | 55.1 | | | 55.8 | | | 50.9 | |
| Approach LOS | | D | | | E | | | E | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 53.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.87 | | |
| Actuated Cycle Length (s) | 126.7 | Sum of lost time (s) | 11.1 |
| Intersection Capacity Utilization | 77.0% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 301 | 2380 | 203 | 1375 | 224 | 226 | 122 | 143 |
| v/c Ratio | 0.85 | 0.83 | 0.87 | 0.71 | 0.72 | 0.72 | 0.30 | 0.77 |
| Control Delay | 71.2 | 31.5 | 88.7 | 35.2 | 62.0 | 61.4 | 8.8 | 59.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 71.2 | 31.5 | 88.7 | 35.2 | 62.0 | 61.4 | 8.8 | 59.0 |
| Queue Length 50th (ft) | 238 | 477 | 169 | 358 | 186 | 188 | 0 | 32 |
| Queue Length 95th (ft) | #419 | 615 | #344 | 472 | 281 | 282 | 50 | #95 |
| Internal Link Dist (ft) | | 660 | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 180 | | 200 | | | |
| Base Capacity (vph) | 388 | 2860 | 234 | 1939 | 435 | 442 | 516 | 185 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.78 | 0.83 | 0.87 | 0.71 | 0.51 | 0.51 | 0.24 | 0.77 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 277 | 1810 | 380 | 187 | 1228 | 37 | 355 | 59 | 112 | 22 | 44 | 65 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.86 | | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.98 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 0.97 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 0.99 | |
| Satd. Flow (prot) | 1620 | 5698 | | 1678 | 4631 | | 1539 | 1564 | 1514 | | 3026 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 0.99 | |
| Satd. Flow (perm) | 1620 | 5698 | | 1678 | 4631 | | 1539 | 1564 | 1514 | | 3026 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 301 | 1967 | 413 | 203 | 1335 | 40 | 386 | 64 | 122 | 24 | 48 | 71 |
| RTOR Reduction (vph) | 0 | 25 | 0 | 0 | 2 | 0 | 0 | 0 | 97 | 0 | 68 | 0 |
| Lane Group Flow (vph) | 301 | 2355 | 0 | 203 | 1373 | 0 | 224 | 226 | 25 | 0 | 75 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 27.4 | 63.7 | | 17.0 | 53.3 | | 25.5 | 25.5 | 25.5 | | 4.4 | |
| Effective Green, g (s) | 28.4 | 64.7 | | 18.0 | 54.3 | | 26.1 | 26.1 | 26.1 | | 5.0 | |
| Actuated g/C Ratio | 0.22 | 0.50 | | 0.14 | 0.42 | | 0.20 | 0.20 | 0.20 | | 0.04 | |
| Clearance Time (s) | 5.0 | 5.0 | | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 354 | 2840 | | 233 | 1937 | | 309 | 314 | 304 | | 117 | |
| v/s Ratio Prot | c0.19 | c0.41 | | 0.12 | 0.30 | | c0.15 | 0.14 | | | c0.02 | |
| v/s Ratio Perm | | | | | | | | | 0.02 | | | |
| v/c Ratio | 0.85 | 0.83 | | 0.87 | 0.71 | | 0.72 | 0.72 | 0.08 | | 0.64 | |
| Uniform Delay, d1 | 48.7 | 27.8 | | 54.8 | 31.2 | | 48.5 | 48.4 | 42.1 | | 61.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 18.0 | 2.5 | | 28.6 | 1.8 | | 8.7 | 8.2 | 0.2 | | 12.2 | |
| Delay (s) | 66.7 | 30.3 | | 83.4 | 33.0 | | 57.2 | 56.6 | 42.3 | | 73.7 | |
| Level of Service | E | C | | F | C | | E | E | D | | E | |
| Approach Delay (s) | | 34.4 | | | 39.5 | | | 53.8 | | | 73.7 | |
| Approach LOS | | C | | | D | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 39.4 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.79 | | |
| Actuated Cycle Length (s) | 129.8 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 71.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 185 | 1668 | 233 | 997 | 267 | 184 | 300 | 27 | 290 |
| v/c Ratio | 0.73 | 0.85 | 0.95 | 0.74 | 0.82 | 0.21 | 0.45 | 0.24 | 0.51 |
| Control Delay | 54.3 | 28.3 | 86.4 | 27.8 | 61.0 | 25.2 | 5.4 | 49.7 | 23.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.3 | 28.3 | 86.4 | 27.8 | 61.0 | 25.2 | 5.4 | 49.7 | 23.0 |
| Queue Length 50th (ft) | 92 | 263 | 123 | 230 | 72 | 38 | 0 | 7 | 46 |
| Queue Length 95th (ft) | #235 | #510 | #334 | #461 | #176 | 70 | 56 | 24 | 82 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 278 | 1955 | 245 | 1349 | 326 | 1365 | 873 | 111 | 1141 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.67 | 0.85 | 0.95 | 0.74 | 0.82 | 0.13 | 0.34 | 0.24 | 0.25 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 170 | 1129 | 406 | 214 | 901 | 17 | 246 | 169 | 276 | 25 | 165 | 102 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 3.1 | 4.0 | | 3.1 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.95 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4535 | | 1652 | 3280 | | 3143 | 3240 | 1660 | 3204 | 3032 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4535 | | 1652 | 3280 | | 3143 | 3240 | 1660 | 3204 | 3032 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 185 | 1227 | 441 | 233 | 979 | 18 | 267 | 184 | 300 | 27 | 179 | 111 |
| RTOR Reduction (vph) | 0 | 57 | 0 | 0 | 1 | 0 | 0 | 0 | 219 | 0 | 92 | 0 |
| Lane Group Flow (vph) | 185 | 1611 | 0 | 233 | 996 | 0 | 267 | 184 | 81 | 27 | 198 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 13.8 | 35.7 | | 13.1 | 35.0 | | 10.1 | 24.5 | 24.5 | 1.5 | 15.9 | |
| Effective Green, g (s) | 13.7 | 36.7 | | 13.0 | 36.0 | | 9.1 | 24.1 | 24.1 | 0.5 | 15.5 | |
| Actuated g/C Ratio | 0.15 | 0.41 | | 0.15 | 0.40 | | 0.10 | 0.27 | 0.27 | 0.01 | 0.17 | |
| Clearance Time (s) | 3.0 | 5.0 | | 3.0 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 248 | 1862 | | 240 | 1321 | | 320 | 873 | 447 | 18 | 526 | |
| v/s Ratio Prot | 0.11 | c0.36 | | c0.14 | 0.30 | | c0.08 | 0.06 | | 0.01 | c0.07 | |
| v/s Ratio Perm | | | | | | | | | 0.05 | | | |
| v/c Ratio | 0.75 | 0.87 | | 0.97 | 0.75 | | 0.83 | 0.21 | 0.18 | 1.50 | 0.38 | |
| Uniform Delay, d1 | 36.2 | 24.1 | | 38.0 | 22.9 | | 39.4 | 25.3 | 25.1 | 44.5 | 32.7 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 11.5 | 4.6 | | 49.8 | 2.6 | | 17.5 | 0.2 | 0.3 | 395.6 | 0.6 | |
| Delay (s) | 47.7 | 28.7 | | 87.9 | 25.5 | | 56.9 | 25.5 | 25.3 | 440.1 | 33.3 | |
| Level of Service | D | C | | F | C | | E | C | C | F | C | |
| Approach Delay (s) | | 30.6 | | | 37.4 | | | 36.6 | | | 67.9 | |
| Approach LOS | | C | | | D | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 36.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.74 | | |
| Actuated Cycle Length (s) | 89.4 | Sum of lost time (s) | 11.1 |
| Intersection Capacity Utilization | 72.2% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 21 | 215 | 343 | 5 | 824 | 276 | 667 | 785 |
| v/c Ratio | 0.07 | 0.78 | 0.40 | 0.05 | 0.57 | 0.33 | 0.82 | 0.33 |
| Control Delay | 26.7 | 59.2 | 4.9 | 48.0 | 20.7 | 3.0 | 48.5 | 8.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.7 | 59.2 | 4.9 | 48.0 | 20.7 | 3.0 | 48.5 | 8.5 |
| Queue Length 50th (ft) | 9 | 143 | 0 | 3 | 143 | 6 | 229 | 98 |
| Queue Length 95th (ft) | 29 | 217 | 37 | m9 | 184 | 20 | 286 | 201 |
| Internal Link Dist (ft) | 387 | 301 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 350 | |
| Base Capacity (vph) | 370 | 354 | 994 | 93 | 1448 | 840 | 927 | 2372 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.06 | 0.61 | 0.35 | 0.05 | 0.57 | 0.33 | 0.72 | 0.33 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 15 | 0 | 5 | 196 | 2 | 316 | 5 | 758 | 254 | 614 | 675 | 47 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.97 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.96 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1697 | | | 1775 | 2787 | 1678 | 3355 | 1583 | 3433 | 3432 | |
| Flt Permitted | | 0.78 | | | 0.71 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1374 | | | 1328 | 2787 | 1678 | 3355 | 1583 | 3433 | 3432 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 16 | 0 | 5 | 213 | 2 | 343 | 5 | 824 | 276 | 667 | 734 | 51 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 0 | 271 | 0 | 0 | 157 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 17 | 0 | 0 | 215 | 72 | 5 | 824 | 119 | 667 | 782 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | |
| Actuated Green, G (s) | | 23.0 | | | 23.0 | 23.0 | 1.2 | 47.4 | 47.4 | 26.1 | 72.3 | |
| Effective Green, g (s) | | 23.0 | | | 23.0 | 23.0 | 1.2 | 47.4 | 47.4 | 26.1 | 72.3 | |
| Actuated g/C Ratio | | 0.21 | | | 0.21 | 0.21 | 0.01 | 0.43 | 0.43 | 0.24 | 0.66 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 287 | | | 278 | 583 | 18 | 1446 | 682 | 815 | 2256 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.25 | | c0.19 | 0.23 | |
| v/s Ratio Perm | | 0.01 | | | c0.16 | 0.03 | | | 0.08 | | | |
| v/c Ratio | | 0.06 | | | 0.77 | 0.12 | 0.28 | 0.57 | 0.17 | 0.82 | 0.35 | |
| Uniform Delay, d1 | | 34.8 | | | 41.0 | 35.3 | 54.0 | 23.6 | 19.3 | 39.7 | 8.4 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 0.95 | 0.74 | 0.62 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.1 | | | 12.6 | 0.1 | 7.7 | 1.5 | 0.5 | 6.4 | 0.4 | |
| Delay (s) | | 34.9 | | | 53.6 | 35.4 | 58.9 | 19.1 | 12.4 | 46.1 | 8.8 | |
| Level of Service | | C | | | D | D | E | B | B | D | A | |
| Approach Delay (s) | | 34.9 | | | 42.4 | | | 17.6 | | | 25.9 | |
| Approach LOS | | C | | | D | | | B | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 26.0 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.69 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 63.1% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 210 | 67 | 116 | 126 | 300 | 60 | 492 | 229 | 413 |
| v/c Ratio | 0.52 | 0.17 | 0.45 | 0.27 | 0.52 | 0.27 | 0.59 | 0.58 | 0.29 |
| Control Delay | 25.6 | 7.0 | 26.7 | 20.8 | 6.6 | 33.5 | 22.4 | 29.0 | 12.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 25.6 | 7.0 | 26.7 | 20.8 | 6.6 | 33.5 | 22.4 | 29.0 | 12.1 |
| Queue Length 50th (ft) | 60 | 0 | 32 | 33 | 0 | 19 | 69 | 68 | 47 |
| Queue Length 95th (ft) | 160 | 29 | 101 | 96 | 57 | 71 | 167 | 184 | 105 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 797 | 715 | 514 | 944 | 848 | 278 | 1489 | 791 | 2365 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.26 | 0.09 | 0.23 | 0.13 | 0.35 | 0.22 | 0.33 | 0.29 | 0.17 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 70 | 123 | 62 | 107 | 116 | 276 | 55 | 348 | 105 | 211 | 333 | 47 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.98 | |
| Flt Protected | | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1703 | 1260 | 1620 | 1739 | 1316 | 1711 | 2955 | | 1620 | 3018 | |
| Flt Permitted | | 0.85 | 1.00 | 0.56 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1472 | 1260 | 947 | 1739 | 1316 | 1711 | 2955 | | 1620 | 3018 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 76 | 134 | 67 | 116 | 126 | 300 | 60 | 378 | 114 | 229 | 362 | 51 |
| RTOR Reduction (vph) | 0 | 0 | 49 | 0 | 0 | 219 | 0 | 29 | 0 | 0 | 12 | 0 |
| Lane Group Flow (vph) | 0 | 210 | 18 | 116 | 126 | 81 | 60 | 463 | 0 | 229 | 401 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 4.4 | 18.2 | | 14.8 | 28.6 | |
| Effective Green, g (s) | | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 4.4 | 18.2 | | 14.8 | 28.6 | |
| Actuated g/C Ratio | | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.07 | 0.30 | | 0.24 | 0.47 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 398 | 341 | 256 | 470 | 356 | 123 | 882 | | 393 | 1415 | |
| v/s Ratio Prot | | | | | 0.07 | | 0.04 | c0.16 | | c0.14 | 0.13 | |
| v/s Ratio Perm | | c0.14 | 0.01 | 0.12 | | 0.06 | | | | | | |
| v/c Ratio | | 0.53 | 0.05 | 0.45 | 0.27 | 0.23 | 0.49 | 0.53 | | 0.58 | 0.28 | |
| Uniform Delay, d1 | | 18.9 | 16.5 | 18.5 | 17.5 | 17.3 | 27.2 | 17.8 | | 20.4 | 9.9 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.3 | 0.1 | 1.3 | 0.3 | 0.3 | 3.0 | 0.7 | | 2.2 | 0.2 | |
| Delay (s) | | 20.2 | 16.5 | 19.8 | 17.8 | 17.6 | 30.2 | 18.5 | | 22.6 | 10.1 | |
| Level of Service | | C | B | B | B | B | C | B | | C | B | |
| Approach Delay (s) | | 19.3 | | | 18.1 | | | 19.8 | | | 14.5 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.54 | | |
| Actuated Cycle Length (s) | 61.0 | Sum of lost time (s) | 11.5 |
| Intersection Capacity Utilization | 61.0% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 161 | 200 | 117 | 146 | 462 | 152 | 844 | 82 | 873 |
| v/c Ratio | 0.48 | 0.66 | 0.38 | 0.65 | 0.63 | 0.67 | 0.39 | 0.48 | 0.62 |
| Control Delay | 50.5 | 53.4 | 10.4 | 56.7 | 38.8 | 59.5 | 20.2 | 56.7 | 27.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.5 | 53.4 | 10.4 | 56.7 | 38.8 | 59.5 | 20.2 | 56.7 | 27.6 |
| Queue Length 50th (ft) | 56 | 134 | 0 | 102 | 117 | 102 | 139 | 45 | 281 |
| Queue Length 95th (ft) | 87 | 200 | 47 | 167 | 193 | 171 | 196 | m100 | 377 |
| Internal Link Dist (ft) | | 2946 | | | 522 | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 205 | | 200 | | 370 | |
| Base Capacity (vph) | 473 | 409 | 381 | 257 | 833 | 250 | 2179 | 186 | 1416 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.34 | 0.49 | 0.31 | 0.57 | 0.55 | 0.61 | 0.39 | 0.44 | 0.62 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 148 | 184 | 108 | 134 | 240 | 185 | 140 | 651 | 125 | 75 | 711 | 92 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 12 | 12 | 12 | 10 | 10 | 10 | 12 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | | 1.00 | 0.98 | | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3060 | 1845 | 1306 | 1770 | 3287 | | 1652 | 4524 | | 1770 | 3392 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3060 | 1845 | 1306 | 1770 | 3287 | | 1652 | 4524 | | 1770 | 3392 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 161 | 200 | 117 | 146 | 261 | 201 | 152 | 708 | 136 | 82 | 773 | 100 |
| RTOR Reduction (vph) | 0 | 0 | 98 | 0 | 132 | 0 | 0 | 22 | 0 | 0 | 8 | 0 |
| Lane Group Flow (vph) | 161 | 200 | 19 | 146 | 330 | 0 | 152 | 822 | 0 | 82 | 865 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | | | | | | | |
| Actuated Green, G (s) | 12.0 | 18.0 | 18.0 | 14.0 | 20.0 | | 15.1 | 51.7 | | 9.1 | 45.7 | |
| Effective Green, g (s) | 12.0 | 18.0 | 18.0 | 14.0 | 20.0 | | 15.1 | 51.7 | | 9.1 | 45.7 | |
| Actuated g/C Ratio | 0.11 | 0.16 | 0.16 | 0.13 | 0.18 | | 0.14 | 0.47 | | 0.08 | 0.42 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 334 | 302 | 214 | 225 | 598 | | 227 | 2126 | | 146 | 1409 | |
| v/s Ratio Prot | 0.05 | c0.11 | | c0.08 | 0.10 | | c0.09 | 0.18 | | 0.05 | c0.25 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | |
| v/c Ratio | 0.48 | 0.66 | 0.09 | 0.65 | 0.55 | | 0.67 | 0.39 | | 0.56 | 0.61 | |
| Uniform Delay, d1 | 46.1 | 43.1 | 39.0 | 45.7 | 40.9 | | 45.1 | 18.9 | | 48.5 | 25.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.96 | 1.33 | | 1.00 | 1.00 | | 1.02 | 0.95 | |
| Incremental Delay, d2 | 1.5 | 5.9 | 0.2 | 6.9 | 1.3 | | 8.0 | 0.5 | | 5.5 | 1.9 | |
| Delay (s) | 47.6 | 49.0 | 39.3 | 50.6 | 55.8 | | 53.1 | 19.4 | | 55.1 | 25.8 | |
| Level of Service | D | D | D | D | E | | D | B | | E | C | |
| Approach Delay (s) | | 46.2 | | | 54.5 | | | 24.6 | | | 28.3 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 35.1 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.63 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 17.2 |
| Intersection Capacity Utilization | 62.3% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 16 | 322 | 34 | 605 | 11 | 11 | 61 | 79 | 11 |
| v/c Ratio | 0.15 | 0.23 | 0.27 | 0.42 | 0.09 | 0.02 | 0.47 | 0.37 | 0.16 |
| Control Delay | 59.5 | 5.0 | 53.4 | 8.6 | 45.4 | 0.0 | 58.3 | 15.9 | 53.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 59.5 | 5.0 | 53.4 | 8.6 | 45.4 | 0.0 | 58.3 | 15.9 | 53.2 |
| Queue Length 50th (ft) | 12 | 37 | 23 | 83 | 7 | 0 | 42 | 2 | 8 |
| Queue Length 95th (ft) | 36 | 199 | 55 | 387 | 24 | 0 | 82 | 46 | 26 |
| Internal Link Dist (ft) | | 524 | | 1458 | | 986 | | 462 | |
| Turn Bay Length (ft) | 205 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 112 | 1402 | 133 | 1431 | 210 | 784 | 235 | 331 | 72 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.23 | 0.26 | 0.42 | 0.05 | 0.01 | 0.26 | 0.24 | 0.15 |

Intersection Summary

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 15 | 283 | 13 | 31 | 478 | 78 | 10 | 0 | 10 | 56 | 3 | 70 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 12 | 11 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.98 | | 1.00 | 0.85 | | 1.00 | 0.86 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1849 | | 1770 | 1823 | | 1711 | 1583 | | 1770 | 1594 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.69 | 1.00 | | 0.75 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1849 | | 1770 | 1823 | | 1251 | 1583 | | 1398 | 1594 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 16 | 308 | 14 | 34 | 520 | 85 | 11 | 0 | 11 | 61 | 3 | 76 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 70 | 0 |
| Lane Group Flow (vph) | 16 | 321 | 0 | 34 | 605 | 0 | 11 | 1 | 0 | 61 | 9 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 3.1 | 76.0 | | 5.2 | 78.1 | | 9.0 | 9.0 | | 9.0 | 9.0 | |
| Effective Green, g (s) | 3.1 | 76.0 | | 5.2 | 78.1 | | 9.0 | 9.0 | | 9.0 | 9.0 | |
| Actuated g/C Ratio | 0.03 | 0.69 | | 0.05 | 0.71 | | 0.08 | 0.08 | | 0.08 | 0.08 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 50 | 1277 | | 84 | 1294 | | 102 | 130 | | 114 | 130 | |
| v/s Ratio Prot | 0.01 | 0.17 | | c0.02 | c0.33 | | | 0.00 | | | 0.01 | |
| v/s Ratio Perm | | | | | | | 0.01 | | | c0.04 | | |
| v/c Ratio | 0.32 | 0.25 | | 0.40 | 0.47 | | 0.11 | 0.01 | | 0.54 | 0.07 | |
| Uniform Delay, d1 | 52.4 | 6.4 | | 50.9 | 6.9 | | 46.8 | 46.4 | | 48.5 | 46.6 | |
| Progression Factor | 1.17 | 0.63 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 3.6 | 0.5 | | 3.2 | 1.2 | | 0.5 | 0.0 | | 4.8 | 0.2 | |
| Delay (s) | 64.7 | 4.5 | | 54.1 | 8.1 | | 47.2 | 46.4 | | 53.3 | 46.9 | |
| Level of Service | E | A | | D | A | | D | D | | D | D | |
| Approach Delay (s) | | 7.3 | | | 10.6 | | | 46.8 | | | 49.7 | |
| Approach LOS | | A | | | B | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 16.0 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.46 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 55.9% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Movement | SWR |
|---|---|
| Lane Configurations | |
| Volume (vph) | 10 |
| Ideal Flow (vphpl) | 1900 |
| Lane Width | 12 |
| Total Lost time (s) | 4.5 |
| Lane Util. Factor | 1.00 |
| Frpb, ped/bikes | 1.00 |
| Flpb, ped/bikes | 1.00 |
| Frt | 0.86 |
| Flt Protected | 1.00 |
| Satd. Flow (prot) | 1096 |
| Flt Permitted | 1.00 |
| Satd. Flow (perm) | 1096 |
| Peak-hour factor, PHF | 0.92 |
| Adj. Flow (vph) | 11 |
| RTOR Reduction (vph) | 0 |
| Lane Group Flow (vph) | 11 |
| Confl. Peds. (#/hr) | |
| Heavy Vehicles (%) | 50% |
| Parking (#/hr) | |
| Turn Type | custom |
| Protected Phases | 9 |
| Permitted Phases | 9 |
| Actuated Green, G (s) | 1.8 |
| Effective Green, g (s) | 1.8 |
| Actuated g/C Ratio | 0.02 |
| Clearance Time (s) | 4.5 |
| Vehicle Extension (s) | 3.0 |
| Lane Grp Cap (vph) | 18 |
| v/s Ratio Prot | c0.01 |
| v/s Ratio Perm | |
| v/c Ratio | 0.61 |
| Uniform Delay, d1 | 53.8 |
| Progression Factor | 1.00 |
| Incremental Delay, d2 | 48.7 |
| Delay (s) | 102.4 |
| Level of Service | F |
| Approach Delay (s) | |
| Approach LOS | |

| Intersection Summary |
|---|

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 57 | 417 | 5 | 525 | 41 | 59 | 7 | 37 | 308 |
| v/c Ratio | 0.23 | 0.41 | 0.03 | 0.71 | 0.20 | 0.11 | 0.02 | 0.11 | 0.57 |
| Control Delay | 29.3 | 10.0 | 30.6 | 21.6 | 20.4 | 17.4 | 10.3 | 17.9 | 19.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.3 | 10.0 | 30.6 | 21.6 | 20.4 | 17.4 | 10.3 | 17.9 | 19.1 |
| Queue Length 50th (ft) | 19 | 60 | 2 | 149 | 12 | 16 | 0 | 10 | 76 |
| Queue Length 95th (ft) | 56 | 189 | 12 | #350 | 35 | 42 | 8 | 31 | 152 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 250 | 1330 | 143 | 977 | 420 | 1069 | 763 | 713 | 1042 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 0.31 | 0.03 | 0.54 | 0.10 | 0.06 | 0.01 | 0.05 | 0.30 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 52 | 291 | 93 | 5 | 444 | 39 | 38 | 54 | 6 | 34 | 152 | 132 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1947 | | 1711 | 1698 | | 1652 | 1863 | 1327 | 1644 | 1768 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.42 | 1.00 | 1.00 | 0.72 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1947 | | 1711 | 1698 | | 731 | 1863 | 1327 | 1243 | 1768 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 57 | 316 | 101 | 5 | 483 | 42 | 41 | 59 | 7 | 37 | 165 | 143 |
| RTOR Reduction (vph) | 0 | 13 | 0 | 0 | 4 | 0 | 0 | 0 | 5 | 0 | 49 | 0 |
| Lane Group Flow (vph) | 57 | 404 | 0 | 5 | 521 | 0 | 41 | 59 | 2 | 37 | 259 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 3.4 | 27.0 | | 0.6 | 24.2 | | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | |
| Effective Green, g (s) | 3.4 | 27.0 | | 0.6 | 24.2 | | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | |
| Actuated g/C Ratio | 0.06 | 0.49 | | 0.01 | 0.44 | | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 105 | 952 | | 19 | 744 | | 193 | 493 | 351 | 329 | 468 | |
| v/s Ratio Prot | c0.03 | c0.21 | | 0.00 | c0.31 | | | 0.03 | | | c0.15 | |
| v/s Ratio Perm | | | | | | | 0.06 | | 0.00 | 0.03 | | |
| v/c Ratio | 0.54 | 0.42 | | 0.26 | 0.70 | | 0.21 | 0.12 | 0.01 | 0.11 | 0.55 | |
| Uniform Delay, d1 | 25.1 | 9.1 | | 27.1 | 12.6 | | 15.8 | 15.4 | 15.0 | 15.4 | 17.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 7.0 | 0.4 | | 9.9 | 3.2 | | 0.8 | 0.1 | 0.0 | 0.2 | 1.8 | |
| Delay (s) | 32.2 | 9.5 | | 36.9 | 15.8 | | 16.6 | 15.6 | 15.0 | 15.6 | 19.3 | |
| Level of Service | C | A | | D | B | | B | B | B | B | B | |
| Approach Delay (s) | | 12.2 | | | 16.0 | | | 15.9 | | | 18.9 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 15.4 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.70 | | |
| Actuated Cycle Length (s) | 55.2 | Sum of lost time (s) | 17.5 |
| Intersection Capacity Utilization | 64.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 134 | 173 | 3 | 10 | 494 | 761 | 40 | 23 | 861 |
| v/c Ratio | 1.01 | 0.36 | 0.04 | 0.05 | 1.01 | 0.38 | 0.04 | 0.21 | 0.78 |
| Control Delay | 122.3 | 7.0 | 41.0 | 20.9 | 73.5 | 10.2 | 7.1 | 43.0 | 29.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 122.3 | 7.0 | 41.0 | 20.9 | 73.5 | 10.2 | 7.1 | 43.0 | 29.5 |
| Queue Length 50th (ft) | 62 | 4 | 1 | 2 | 219 | 58 | 2 | 10 | 165 |
| Queue Length 95th (ft) | #224 | 49 | 11 | 14 | #588 | 232 | 26 | 40 | #393 |
| Internal Link Dist (ft) | | 1442 | | 221 | | 1609 | | | 1977 |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | |
| Base Capacity (vph) | 133 | 790 | 85 | 701 | 490 | 2029 | 911 | 110 | 1104 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.01 | 0.22 | 0.04 | 0.01 | 1.01 | 0.38 | 0.04 | 0.21 | 0.78 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 123 | 9 | 150 | 3 | 5 | 5 | 459 | 700 | 37 | 21 | 548 | 244 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.86 | | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.95 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1514 | | 1652 | 1592 | | 1652 | 3240 | 1449 | 1711 | 3220 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1514 | | 1652 | 1592 | | 1652 | 3240 | 1449 | 1711 | 3220 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 134 | 10 | 163 | 3 | 5 | 5 | 494 | 761 | 40 | 23 | 596 | 265 |
| RTOR Reduction (vph) | 0 | 126 | 0 | 0 | 4 | 0 | 0 | 0 | 8 | 0 | 45 | 0 |
| Lane Group Flow (vph) | 134 | 47 | 0 | 3 | 6 | 0 | 494 | 761 | 32 | 23 | 816 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 6.1 | 18.7 | | 0.6 | 13.2 | | 23.3 | 49.2 | 49.2 | 1.9 | 27.8 | |
| Effective Green, g (s) | 6.1 | 18.7 | | 0.6 | 13.2 | | 23.3 | 49.2 | 49.2 | 1.9 | 27.8 | |
| Actuated g/C Ratio | 0.07 | 0.23 | | 0.01 | 0.16 | | 0.28 | 0.59 | 0.59 | 0.02 | 0.34 | |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 126 | 342 | | 12 | 253 | | 464 | 1923 | 860 | 39 | 1080 | |
| v/s Ratio Prot | c0.08 | c0.03 | | 0.00 | 0.00 | | c0.30 | 0.23 | | 0.01 | c0.25 | |
| v/s Ratio Perm | | | | | | | | | 0.02 | | | |
| v/c Ratio | 1.06 | 0.14 | | 0.25 | 0.02 | | 1.06 | 0.40 | 0.04 | 0.59 | 0.76 | |
| Uniform Delay, d1 | 38.4 | 25.7 | | 40.9 | 29.4 | | 29.8 | 9.0 | 7.0 | 40.1 | 24.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 98.2 | 0.2 | | 14.4 | 0.1 | | 60.0 | 0.2 | 0.0 | 24.2 | 3.3 | |
| Delay (s) | 136.6 | 25.9 | | 55.3 | 29.5 | | 89.8 | 9.1 | 7.0 | 64.3 | 27.8 | |
| Level of Service | F | C | | E | C | | F | A | A | E | C | |
| Approach Delay (s) | | 74.2 | | | 35.4 | | | 39.9 | | | 28.7 | |
| Approach LOS | | E | | | D | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 40.1 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.74 | | |
| Actuated Cycle Length (s) | 82.9 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 72.5% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 63 | 17 | 16 | 974 | 968 |
| v/c Ratio | 0.20 | 0.06 | 0.04 | 0.39 | 0.39 |
| Control Delay | 18.6 | 8.5 | 5.4 | 5.1 | 5.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 |
| Total Delay | 18.6 | 8.5 | 5.4 | 5.3 | 5.0 |
| Queue Length 50th (ft) | 20 | 0 | 1 | 54 | 53 |
| Queue Length 95th (ft) | 38 | 11 | 10 | 155 | 153 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 701 | 574 | 379 | 2449 | 2436 |
| Starvation Cap Reductn | 0 | 0 | 0 | 730 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.03 | 0.04 | 0.57 | 0.40 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 58 | 16 | 15 | 896 | 855 | 36 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3219 | |
| Flt Permitted | 0.95 | 1.00 | 0.29 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 502 | 3240 | 3219 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 63 | 17 | 16 | 974 | 929 | 39 |
| RTOR Reduction (vph) | 0 | 15 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 63 | 2 | 16 | 974 | 965 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 5.8 | 5.8 | 33.8 | 33.8 | 33.8 | |
| Effective Green, g (s) | 5.8 | 5.8 | 33.8 | 33.8 | 33.8 | |
| Actuated g/C Ratio | 0.12 | 0.12 | 0.70 | 0.70 | 0.70 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 197 | 159 | 349 | 2253 | 2239 | |
| v/s Ratio Prot | c0.04 | | | c0.30 | 0.30 | |
| v/s Ratio Perm | | 0.00 | 0.03 | | | |
| v/c Ratio | 0.32 | 0.01 | 0.05 | 0.43 | 0.43 | |
| Uniform Delay, d1 | 19.6 | 18.9 | 2.3 | 3.2 | 3.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.9 | 0.0 | 0.2 | 0.4 | 0.4 | |
| Delay (s) | 20.5 | 18.9 | 2.5 | 3.6 | 3.6 | |
| Level of Service | C | B | A | A | A | |
| Approach Delay (s) | 20.2 | | | 3.6 | 3.6 | |
| Approach LOS | C | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.2 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.42 | | |
| Actuated Cycle Length (s) | 48.6 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 35.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1184 | 958 | 836 | 2087 | 848 | 1178 |
| v/c Ratio | 0.67 | 0.67 | 0.84 | 1.11 | 0.56 | 1.19 |
| Control Delay | 21.7 | 20.4 | 48.0 | 74.1 | 1.5 | 137.7 |
| Queue Delay | 78.9 | 36.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 100.6 | 56.5 | 48.0 | 74.1 | 1.5 | 137.7 |
| Queue Length 50th (ft) | 366 | 296 | 388 | ~1140 | 0 | ~565 |
| Queue Length 95th (ft) | 444 | 378 | m376 | m#999 | 0 | #682 |
| Internal Link Dist (ft) | 249 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 1780 | 1434 | 1000 | 1888 | 1517 | 990 |
| Starvation Cap Reductn | 767 | 534 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.17 | 1.06 | 0.84 | 1.11 | 0.56 | 1.19 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1089 | 881 | 769 | 1920 | 0 | 0 | 0 | 780 | 0 | 0 | 1084 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 3.5 | 3.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.76 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3020 | 2378 | 2828 | 3020 | | | | 1517 | | | 3187 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3020 | 2378 | 2828 | 3020 | | | | 1517 | | | 3187 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1184 | 958 | 836 | 2087 | 0 | 0 | 0 | 848 | 0 | 0 | 1178 |
| RTOR Reduction (vph) | 0 | 0 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1184 | 925 | 836 | 2087 | 0 | 0 | 0 | 848 | 0 | 0 | 1178 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 4 | | 1 | 6 | | | | | | | |
| Permitted Phases | | | 2 4 | | | | | | Free | | | 4 |
| Actuated Green, G (s) | | 81.5 | 81.5 | 49.5 | 87.5 | | | | 140.0 | | | 43.5 |
| Effective Green, g (s) | | 81.5 | 81.5 | 49.5 | 87.5 | | | | 140.0 | | | 43.5 |
| Actuated g/C Ratio | | 0.58 | 0.58 | 0.35 | 0.62 | | | | 1.00 | | | 0.31 |
| Clearance Time (s) | | | | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | | | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 1758 | 1384 | 1000 | 1888 | | | | 1517 | | | 990 |
| v/s Ratio Prot | | 0.39 | | 0.30 | c0.69 | | | | | | | |
| v/s Ratio Perm | | | 0.39 | | | | | | 0.56 | | | c0.37 |
| v/c Ratio | | 0.67 | 0.67 | 0.84 | 1.11 | | | | 0.56 | | | 1.19 |
| Uniform Delay, d1 | | 20.1 | 20.0 | 41.5 | 26.2 | | | | 0.0 | | | 48.2 |
| Progression Factor | | 1.00 | 1.00 | 1.07 | 0.85 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 1.0 | 1.2 | 2.9 | 50.5 | | | | 1.5 | | | 95.6 |
| Delay (s) | | 21.1 | 21.2 | 47.5 | 72.9 | | | | 1.5 | | | 143.9 |
| Level of Service | | C | C | D | E | | | | A | | | F |
| Approach Delay (s) | | 21.2 | | | 65.6 | | | 1.5 | | | 143.9 | |
| Approach LOS | | C | | | E | | | A | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 57.5 | HCM Level of Service | E |
| HCM Volume to Capacity ratio | 1.13 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 94.6% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 722 | 1310 | 1255 | 780 | 963 | 1797 |
| v/c Ratio | 0.85 | 0.39 | 0.62 | 0.84 | 0.60 | 1.18 |
| Control Delay | 30.9 | 0.3 | 10.9 | 21.6 | 1.6 | 94.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 30.9 | 0.3 | 10.9 | 21.6 | 1.6 | 94.8 |
| Queue Length 50th (ft) | 170 | 0 | 167 | 239 | 0 | ~247 |
| Queue Length 95th (ft) | 191 | 0 | 229 | #491 | 0 | #495 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 894 | 3355 | 2013 | 933 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.81 | 0.39 | 0.62 | 0.84 | 0.60 | 1.18 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 664 | 1205 | 0 | 0 | 1155 | 718 | 0 | 0 | 886 | 0 | 0 | 1653 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 722 | 1310 | 0 | 0 | 1255 | 780 | 0 | 0 | 963 | 0 | 0 | 1797 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 722 | 1310 | 0 | 0 | 1255 | 766 | 0 | 0 | 963 | 0 | 0 | 1797 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 19.0 | 70.0 | | | 42.0 | 42.0 | | | 70.0 | | | 70.0 |
| Effective Green, g (s) | 19.0 | 70.0 | | | 42.0 | 42.0 | | | 70.0 | | | 70.0 |
| Actuated g/C Ratio | 0.27 | 1.00 | | | 0.60 | 0.60 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 853 | 3355 | | | 2013 | 919 | | | 1611 | | | 1528 |
| v/s Ratio Prot | 0.23 | 0.39 | | | 0.37 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.50 | | | 0.60 | | | c1.18 |
| v/c Ratio | 0.85 | 0.39 | | | 0.62 | 0.83 | | | 0.60 | | | 1.18 |
| Uniform Delay, d1 | 24.1 | 0.0 | | | 8.9 | 11.2 | | | 0.0 | | | 35.0 |
| Progression Factor | 0.94 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 6.2 | 0.3 | | | 1.5 | 8.8 | | | 1.6 | | | 86.4 |
| Delay (s) | 28.9 | 0.3 | | | 10.4 | 20.0 | | | 1.6 | | | 121.4 |
| Level of Service | C | A | | | B | B | | | A | | | F |
| Approach Delay (s) | | 10.4 | | | 14.1 | | | 1.6 | | | 121.4 | |
| Approach LOS | | B | | | B | | | A | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 39.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.18 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 70.9% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 332 | 462 | 517 | 429 | 21 | 536 | 770 | 15 | 58 | 693 | 285 |
| v/c Ratio | 1.04 | 0.63 | 0.29 | 1.08 | 0.06 | 0.75 | 0.54 | 0.03 | 0.41 | 0.87 | 0.60 |
| Control Delay | 91.2 | 30.1 | 0.4 | 107.7 | 24.2 | 45.5 | 26.8 | 14.7 | 56.7 | 52.3 | 25.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 91.2 | 30.1 | 0.4 | 107.7 | 24.2 | 45.5 | 26.8 | 14.7 | 56.7 | 52.3 | 25.7 |
| Queue Length 50th (ft) | ~198 | 243 | 0 | ~328 | 6 | 177 | 220 | 3 | 38 | 240 | 92 |
| Queue Length 95th (ft) | #419 | 399 | 0 | #572 | 28 | 235 | 278 | 17 | 85 | #380 | 199 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 319 | 733 | 1770 | 398 | 346 | 988 | 1617 | 603 | 155 | 800 | 474 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.04 | 0.63 | 0.29 | 1.08 | 0.06 | 0.54 | 0.48 | 0.02 | 0.37 | 0.87 | 0.60 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 305 | 425 | 476 | 3 | 392 | 19 | 493 | 708 | 14 | 53 | 638 | 262 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.96 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1738 | 1473 | 3204 | 3539 | 1337 | 1652 | 3303 | 1550 |
| Flt Permitted | 0.14 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 242 | 1739 | 1770 | | 1733 | 1473 | 3204 | 3539 | 1337 | 1652 | 3303 | 1550 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 332 | 462 | 517 | 3 | 426 | 21 | 536 | 770 | 15 | 58 | 693 | 285 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 5 | 0 | 0 | 98 |
| Lane Group Flow (vph) | 332 | 462 | 517 | 0 | 429 | 13 | 536 | 770 | 10 | 58 | 693 | 187 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 44.7 | 44.7 | 108.3 | | 24.2 | 24.2 | 23.0 | 42.2 | 42.2 | 7.0 | 26.1 | 26.1 |
| Effective Green, g (s) | 45.2 | 45.2 | 108.3 | | 24.7 | 24.7 | 24.0 | 43.2 | 42.2 | 7.9 | 27.1 | 27.1 |
| Actuated g/C Ratio | 0.42 | 0.42 | 1.00 | | 0.23 | 0.23 | 0.22 | 0.40 | 0.39 | 0.07 | 0.25 | 0.25 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.9 | 5.0 | 5.0 |
| Vehicle Extension (s) | 4.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 316 | 726 | 1770 | | 395 | 336 | 710 | 1412 | 521 | 121 | 827 | 388 |
| v/s Ratio Prot | c0.16 | 0.27 | | | | | c0.17 | 0.22 | | 0.04 | c0.21 | |
| v/s Ratio Perm | c0.28 | | 0.29 | | 0.25 | 0.01 | | | 0.01 | | | 0.12 |
| v/c Ratio | 1.05 | 0.64 | 0.29 | | 1.09 | 0.04 | 0.75 | 0.55 | 0.02 | 0.48 | 0.84 | 0.48 |
| Uniform Delay, d1 | 31.0 | 25.0 | 0.0 | | 41.8 | 32.6 | 39.4 | 25.0 | 20.3 | 48.2 | 38.5 | 34.6 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 64.5 | 2.1 | 0.4 | | 70.4 | 0.1 | 4.6 | 1.0 | 0.0 | 3.5 | 8.6 | 2.6 |
| Delay (s) | 95.5 | 27.1 | 0.4 | | 112.2 | 32.6 | 44.0 | 26.0 | 20.4 | 51.7 | 47.1 | 37.2 |
| Level of Service | F | C | A | | F | C | D | C | C | D | D | D |
| Approach Delay (s) | | 33.9 | | | 108.5 | | | 33.2 | | | 44.7 | |
| Approach LOS | | C | | | F | | | C | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 44.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.90 | | |
| Actuated Cycle Length (s) | 108.3 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 88.2% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBT | WBR | NBT | SBL | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 29 | 90 | 1078 | 160 | 1423 |
| v/c Ratio | 0.12 | 0.27 | 0.28 | 0.47 | 0.52 |
| Control Delay | 17.9 | 8.3 | 3.8 | 15.5 | 5.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.9 | 8.3 | 3.8 | 15.5 | 5.9 |
| Queue Length 50th (ft) | 9 | 4 | 31 | 16 | 81 |
| Queue Length 95th (ft) | 22 | 29 | 96 | #131 | 258 |
| Internal Link Dist (ft) | 217 | | 650 | | 443 |
| Turn Bay Length (ft) | | | | 150 | |
| Base Capacity (vph) | 527 | 649 | 3836 | 336 | 2704 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.06 | 0.14 | 0.28 | 0.48 | 0.53 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 26 | 1 | 83 | 0 | 950 | 41 | 147 | 1307 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.99 | | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | | 0.99 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1570 | 1400 | | 4918 | | 1619 | 3470 | |
| Flt Permitted | | | | | 0.74 | 1.00 | | 1.00 | | 0.25 | 1.00 | |
| Satd. Flow (perm) | | | | | 1220 | 1400 | | 4918 | | 431 | 3470 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 28 | 1 | 90 | 0 | 1033 | 45 | 160 | 1421 | 2 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 69 | 0 | 5 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 29 | 21 | 0 | 1073 | 0 | 160 | 1423 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 5.3 | 5.3 | | 33.1 | | 33.1 | 33.1 | |
| Effective Green, g (s) | | | | | 5.3 | 5.3 | | 33.1 | | 33.1 | 33.1 | |
| Actuated g/C Ratio | | | | | 0.11 | 0.11 | | 0.70 | | 0.70 | 0.70 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 138 | 158 | | 3464 | | 304 | 2444 | |
| v/s Ratio Prot | | | | | | | | 0.22 | | | c0.41 | |
| v/s Ratio Perm | | | | | c0.02 | 0.01 | | | | 0.37 | | |
| v/c Ratio | | | | | 0.21 | 0.13 | | 0.31 | | 0.53 | 0.58 | |
| Uniform Delay, d1 | | | | | 18.9 | 18.8 | | 2.6 | | 3.3 | 3.5 | |
| Progression Factor | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | | | | 0.8 | 0.4 | | 0.0 | | 0.8 | 0.2 | |
| Delay (s) | | | | | 19.7 | 19.2 | | 2.6 | | 4.0 | 3.7 | |
| Level of Service | | | | | B | B | | A | | A | A | |
| Approach Delay (s) | | 0.0 | | | 19.3 | | | 2.6 | | | 3.7 | |
| Approach LOS | | A | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.0 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.53 | | |
| Actuated Cycle Length (s) | 47.0 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 56.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 16 | 346 | 693 | 64 | 41 |
| v/c Ratio | 0.15 | 0.22 | 0.24 | 0.42 | 0.24 |
| Control Delay | 53.7 | 1.6 | 3.3 | 55.4 | 17.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 53.7 | 1.6 | 3.3 | 55.4 | 17.1 |
| Queue Length 50th (ft) | 7 | 0 | 35 | 44 | 0 |
| Queue Length 95th (ft) | m19 | 1 | 42 | 85 | 33 |
| Internal Link Dist (ft) | | 522 | 524 | 200 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 169 | 1602 | 2840 | 459 | 441 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.22 | 0.24 | 0.14 | 0.09 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 15 | 318 | 559 | 78 | 59 | 38 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.98 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3474 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3474 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 16 | 346 | 608 | 85 | 64 | 41 |
| RTOR Reduction (vph) | 0 | 0 | 5 | 0 | 0 | 38 |
| Lane Group Flow (vph) | 16 | 346 | 688 | 0 | 64 | 3 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 3.1 | 92.8 | 85.2 | | 8.2 | 8.2 |
| Effective Green, g (s) | 3.1 | 92.8 | 85.2 | | 8.2 | 8.2 |
| Actuated g/C Ratio | 0.03 | 0.84 | 0.77 | | 0.07 | 0.07 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 50 | 1572 | 2691 | | 132 | 118 |
| v/s Ratio Prot | 0.01 | c0.19 | c0.20 | | c0.04 | |
| v/s Ratio Perm | | | | | | 0.00 |
| v/c Ratio | 0.32 | 0.22 | 0.26 | | 0.48 | 0.03 |
| Uniform Delay, d1 | 52.4 | 1.7 | 3.5 | | 48.9 | 47.2 |
| Progression Factor | 1.05 | 0.68 | 0.84 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.4 | 0.3 | 0.2 | | 2.8 | 0.1 |
| Delay (s) | 58.4 | 1.4 | 3.1 | | 51.7 | 47.3 |
| Level of Service | E | A | A | | D | D |
| Approach Delay (s) | | 3.9 | 3.1 | | 50.0 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 7.6 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.28 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 30.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBL | WBT | NBR |
|---|---|---|---|---|
| Lane Group Flow (vph) | 1459 | 543 | 2551 | 554 |
| v/c Ratio | 0.60 | 0.68 | 0.50 | 0.76 |
| Control Delay | 16.6 | 16.9 | 0.4 | 20.3 |
| Queue Delay | 0.0 | 0.2 | 0.0 | 0.0 |
| Total Delay | 16.6 | 17.2 | 0.4 | 20.3 |
| Queue Length 50th (ft) | 109 | 144 | 0 | 155 |
| Queue Length 95th (ft) | 191 | 232 | 0 | 257 |
| Internal Link Dist (ft) | 391 | | 249 | |
| Turn Bay Length (ft) | | | | |
| Base Capacity (vph) | 2822 | 1229 | 5085 | 1120 |
| Starvation Cap Reductn | 0 | 196 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.52 | 0.53 | 0.50 | 0.49 |

Intersection Summary

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 1312 | 30 | 500 | 2347 | 0 | 510 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Lane Util. Factor | 0.86 | | 1.00 | 0.91 | | 1.00 |
| Frt | 1.00 | | 1.00 | 1.00 | | 0.86 |
| Flt Protected | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 6386 | | 1770 | 5085 | | 1611 |
| Flt Permitted | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 6386 | | 1770 | 5085 | | 1611 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1426 | 33 | 543 | 2551 | 0 | 554 |
| RTOR Reduction (vph) | 4 | 0 | 0 | 0 | 0 | 2 |
| Lane Group Flow (vph) | 1455 | 0 | 543 | 2551 | 0 | 552 |
| Turn Type | | | Prot | | | Over |
| Protected Phases | 2 | | 1 | 6 | | 1 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 22.0 | | 25.8 | 56.8 | | 25.8 |
| Effective Green, g (s) | 22.0 | | 25.8 | 56.8 | | 25.8 |
| Actuated g/C Ratio | 0.39 | | 0.45 | 1.00 | | 0.45 |
| Clearance Time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 2473 | | 804 | 5085 | | 732 |
| v/s Ratio Prot | 0.23 | | 0.31 | c0.50 | | c0.34 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.59 | | 0.68 | 0.50 | | 0.75 |
| Uniform Delay, d1 | 13.8 | | 12.2 | 0.0 | | 12.9 |
| Progression Factor | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Incremental Delay, d2 | 0.4 | | 2.3 | 0.1 | | 4.4 |
| Delay (s) | 14.2 | | 14.5 | 0.1 | | 17.3 |
| Level of Service | B | | B | A | | B |
| Approach Delay (s) | 14.2 | | | 2.6 | 17.3 | |
| Approach LOS | B | | | A | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 7.5 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.63 | | |
| Actuated Cycle Length (s) | 56.8 | Sum of lost time (s) | 4.5 |
| Intersection Capacity Utilization | 58.6% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 59 | 173 | 289 | 166 | 1162 | 27 | 1471 | 264 | 1446 | 1247 | 89 |
| v/c Ratio | 0.98 | 0.44 | 0.90 | 0.36 | 0.67 | 0.38 | 1.20 | 0.35 | 1.28 | 0.64 | 0.09 |
| Control Delay | 177.5 | 55.2 | 85.8 | 43.6 | 17.2 | 80.0 | 141.6 | 7.4 | 172.5 | 20.9 | 2.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 177.5 | 55.2 | 85.8 | 43.6 | 17.2 | 80.0 | 141.6 | 7.4 | 172.5 | 20.9 | 2.8 |
| Queue Length 50th (ft) | 55 | 73 | 257 | 123 | 344 | 24 | ~597 | 40 | ~866 | 401 | 0 |
| Queue Length 95th (ft) | #155 | 102 | #555 | 192 | 426 | 58 | #695 | 83 | #1004 | 481 | 24 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 60 | 702 | 320 | 467 | 1732 | 79 | 1228 | 750 | 1126 | 1943 | 944 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.98 | 0.25 | 0.90 | 0.36 | 0.67 | 0.34 | 1.20 | 0.35 | 1.28 | 0.64 | 0.09 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 54 | 134 | 25 | 266 | 153 | 1069 | 25 | 1353 | 243 | 1330 | 1147 | 82 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 2.5 | 2.5 | | 2.5 | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 2.5 | 1.8 | 1.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 1.00 | 0.88 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3113 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1515 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3113 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1515 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 59 | 146 | 27 | 289 | 166 | 1162 | 27 | 1471 | 264 | 1446 | 1247 | 89 |
| RTOR Reduction (vph) | 0 | 12 | 0 | 0 | 0 | 8 | 0 | 0 | 83 | 0 | 0 | 36 |
| Lane Group Flow (vph) | 59 | 161 | 0 | 289 | 166 | 1154 | 27 | 1471 | 181 | 1446 | 1247 | 53 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 4.0 | 15.1 | | 25.9 | 37.0 | 91.0 | 3.5 | 36.6 | 62.5 | 49.5 | 82.6 | 82.6 |
| Effective Green, g (s) | 5.0 | 17.1 | | 26.9 | 39.0 | 93.0 | 4.5 | 38.6 | 66.5 | 50.5 | 84.6 | 84.6 |
| Actuated g/C Ratio | 0.04 | 0.12 | | 0.19 | 0.27 | 0.65 | 0.03 | 0.27 | 0.47 | 0.35 | 0.59 | 0.59 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 4.0 | | 2.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 59 | 374 | | 317 | 463 | 1725 | 51 | 1262 | 677 | 1115 | 1925 | 900 |
| v/s Ratio Prot | c0.04 | 0.05 | | c0.17 | 0.10 | c0.44 | 0.02 | c0.32 | 0.12 | c0.46 | 0.38 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.03 |
| v/c Ratio | 1.00 | 0.43 | | 0.91 | 0.36 | 0.67 | 0.53 | 1.17 | 0.27 | 1.30 | 0.65 | 0.06 |
| Uniform Delay, d1 | 68.7 | 58.1 | | 56.6 | 41.6 | 15.2 | 67.9 | 51.9 | 23.1 | 46.0 | 19.1 | 12.2 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 117.2 | 1.4 | | 28.6 | 0.7 | 1.1 | 4.5 | 83.5 | 0.3 | 140.3 | 0.8 | 0.0 |
| Delay (s) | 185.9 | 59.5 | | 85.2 | 42.3 | 16.3 | 72.4 | 135.4 | 23.4 | 186.3 | 19.8 | 12.2 |
| Level of Service | F | E | | F | D | B | E | F | C | F | B | B |
| Approach Delay (s) | | 91.6 | | | 31.3 | | | 117.6 | | | 106.1 | |
| Approach LOS | | F | | | C | | | F | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 89.8 | HCM Level of Service | F |
| HCM Volume to Capacity ratio | 1.12 | | |
| Actuated Cycle Length (s) | 142.4 | Sum of lost time (s) | 11.8 |
| Intersection Capacity Utilization | 100.7% | ICU Level of Service | G |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 145 | 1726 | 25 | 1499 | 183 | 28 | 148 | 187 | 124 |
| v/c Ratio | 0.59 | 0.78 | 0.15 | 0.81 | 0.20 | 0.25 | 0.64 | 0.49 | 0.52 |
| Control Delay | 52.1 | 17.6 | 52.2 | 14.5 | 0.5 | 50.9 | 21.2 | 46.7 | 28.5 |
| Queue Delay | 0.0 | 3.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Total Delay | 52.1 | 21.5 | 52.2 | 14.5 | 0.5 | 50.9 | 21.4 | 46.7 | 28.5 |
| Queue Length 50th (ft) | 92 | 249 | 17 | 87 | 0 | 18 | 1 | 62 | 36 |
| Queue Length 95th (ft) | 159 | #767 | m25 | #648 | m1 | 45 | 60 | 94 | 92 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 247 | 2210 | 170 | 1842 | 898 | 224 | 318 | 462 | 274 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 394 | 0 | 0 | 0 | 0 | 18 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.59 | 0.95 | 0.15 | 0.81 | 0.20 | 0.13 | 0.49 | 0.40 | 0.45 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 133 | 1572 | 16 | 23 | 1379 | 168 | 26 | 2 | 134 | 172 | 42 | 72 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 2.0 | 3.0 | | 2.0 | 3.0 | 3.0 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.98 | | 1.00 | 0.95 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3174 | | 1620 | 3209 | 1435 | 1678 | 1431 | | 3143 | 1474 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3174 | | 1620 | 3209 | 1435 | 1678 | 1431 | | 3143 | 1474 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 145 | 1709 | 17 | 25 | 1499 | 183 | 28 | 2 | 146 | 187 | 46 | 78 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 77 | 0 | 136 | 0 | 0 | 59 | 0 |
| Lane Group Flow (vph) | 145 | 1726 | 0 | 25 | 1499 | 106 | 28 | 12 | 0 | 187 | 65 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 16.8 | 70.3 | | 4.0 | 57.5 | 57.5 | 5.9 | 5.9 | | 11.8 | 11.8 | |
| Effective Green, g (s) | 17.8 | 71.3 | | 5.0 | 58.5 | 58.5 | 6.9 | 6.9 | | 12.8 | 12.8 | |
| Actuated g/C Ratio | 0.17 | 0.68 | | 0.05 | 0.56 | 0.56 | 0.07 | 0.07 | | 0.12 | 0.12 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 275 | 2155 | | 77 | 1788 | 800 | 110 | 94 | | 383 | 180 | |
| v/s Ratio Prot | 0.09 | c0.54 | | 0.02 | c0.47 | | c0.02 | 0.01 | | c0.06 | 0.04 | |
| v/s Ratio Perm | | | | | | 0.07 | | | | | | |
| v/c Ratio | 0.53 | 0.80 | | 0.32 | 0.84 | 0.13 | 0.25 | 0.12 | | 0.49 | 0.36 | |
| Uniform Delay, d1 | 39.8 | 11.9 | | 48.4 | 19.3 | 11.1 | 46.6 | 46.2 | | 43.0 | 42.3 | |
| Progression Factor | 1.00 | 1.00 | | 1.17 | 0.52 | 0.02 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.8 | 3.2 | | 0.8 | 4.2 | 0.3 | 0.4 | 0.2 | | 1.0 | 1.2 | |
| Delay (s) | 40.6 | 15.1 | | 57.4 | 14.3 | 0.5 | 47.1 | 46.4 | | 44.0 | 43.6 | |
| Level of Service | D | B | | E | B | A | D | D | | D | D | |
| Approach Delay (s) | | 17.1 | | | 13.4 | | | 46.5 | | | 43.9 | |
| Approach LOS | | B | | | B | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 18.9 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.74 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 7.0 |
| Intersection Capacity Utilization | 79.0% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 33 | 1966 | 398 | 1584 | 185 | 227 | 147 | 99 |
| v/c Ratio | 0.38 | 0.84 | 0.88 | 0.52 | 0.77 | 0.27 | 0.82 | 0.51 |
| Control Delay | 51.1 | 21.4 | 65.4 | 8.3 | 65.2 | 11.9 | 78.2 | 43.9 |
| Queue Delay | 0.0 | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 51.1 | 25.3 | 65.4 | 8.3 | 65.2 | 11.9 | 78.2 | 43.9 |
| Queue Length 50th (ft) | 22 | 428 | 131 | 147 | 120 | 28 | 96 | 49 |
| Queue Length 95th (ft) | m29 | 302 | m#190 | m169 | #205 | 53 | #198 | 104 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 93 | 2344 | 451 | 3038 | 275 | 830 | 195 | 210 |
| Starvation Cap Reductn | 0 | 300 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 146 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.35 | 0.96 | 0.88 | 0.55 | 0.67 | 0.27 | 0.75 | 0.47 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 30 | 1646 | 163 | 366 | 1403 | 54 | 152 | 18 | 209 | 135 | 60 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 2.0 | 3.0 | | 2.5 | 3.0 | | | 2.0 | 2.5 | 2.0 | 2.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.91 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.99 | 1.00 | 0.98 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.95 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4506 | | 3143 | 4745 | | | 1807 | 2807 | 1562 | 1535 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4506 | | 3143 | 4745 | | | 1807 | 2807 | 1562 | 1535 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 33 | 1789 | 177 | 398 | 1525 | 59 | 165 | 20 | 227 | 147 | 65 | 34 |
| RTOR Reduction (vph) | 0 | 11 | 0 | 0 | 3 | 0 | 0 | 0 | 67 | 0 | 18 | 0 |
| Lane Group Flow (vph) | 33 | 1955 | 0 | 398 | 1581 | 0 | 0 | 185 | 160 | 147 | 81 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 3.0 | 53.4 | | 14.1 | 65.0 | | | 12.9 | 27.0 | 11.1 | 11.1 | |
| Effective Green, g (s) | 4.0 | 54.4 | | 15.1 | 66.0 | | | 13.9 | 29.0 | 12.1 | 12.1 | |
| Actuated g/C Ratio | 0.04 | 0.52 | | 0.14 | 0.63 | | | 0.13 | 0.28 | 0.12 | 0.12 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 62 | 2335 | | 452 | 2983 | | | 239 | 775 | 180 | 177 | |
| v/s Ratio Prot | 0.02 | c0.43 | | c0.13 | 0.33 | | | c0.10 | 0.03 | c0.09 | 0.05 | |
| v/s Ratio Perm | | | | | | | | | 0.03 | | | |
| v/c Ratio | 0.53 | 0.84 | | 0.88 | 0.53 | | | 0.77 | 0.21 | 0.82 | 0.46 | |
| Uniform Delay, d1 | 49.6 | 21.5 | | 44.1 | 10.9 | | | 44.0 | 29.2 | 45.4 | 43.4 | |
| Progression Factor | 0.89 | 0.84 | | 1.11 | 0.69 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 2.9 | 2.6 | | 12.8 | 0.5 | | | 13.2 | 0.0 | 22.9 | 0.7 | |
| Delay (s) | 47.1 | 20.6 | | 61.8 | 7.9 | | | 57.3 | 29.2 | 68.3 | 44.1 | |
| Level of Service | D | C | | E | A | | | E | C | E | D | |
| Approach Delay (s) | | 21.0 | | | 18.8 | | | 41.8 | | | 58.6 | |
| Approach LOS | | C | | | B | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 23.9 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.82 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 71.9% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 671 | 2150 | 1355 | 424 | 175 | 684 |
| v/c Ratio | 0.19 | 0.85 | 0.55 | 0.35 | 0.29 | 1.02 |
| Control Delay | 1.9 | 12.4 | 6.2 | 1.2 | 38.7 | 71.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 1.9 | 12.4 | 6.2 | 1.2 | 38.7 | 71.4 |
| Queue Length 50th (ft) | 20 | 334 | 162 | 0 | 53 | ~209 |
| Queue Length 95th (ft) | m25 | 363 | 205 | 21 | 85 | #344 |
| Internal Link Dist (ft) | 509 | | 867 | | | |
| Turn Bay Length (ft) | | 400 | | | | 150 |
| Base Capacity (vph) | 3604 | 2533 | 2445 | 1217 | 601 | 672 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.19 | 0.85 | 0.55 | 0.35 | 0.29 | 1.02 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 617 | 1978 | 0 | 1247 | 390 | 0 | 0 | 0 | 161 | 0 | 629 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | | 3.0 |
| Lane Util. Factor | | 0.91 | 0.88 | | 0.95 | 1.00 | | | | 0.97 | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 671 | 2150 | 0 | 1355 | 424 | 0 | 0 | 0 | 175 | 0 | 684 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 105 | 0 | 0 | 0 | 0 | 0 | 149 |
| Lane Group Flow (vph) | 0 | 671 | 2150 | 0 | 1355 | 319 | 0 | 0 | 0 | 175 | 0 | 535 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Perm | | | | custom | | custom |
| Protected Phases | | 2 | | | 6 | | | | | 4 | | 4 |
| Permitted Phases | | | 2 4 | | | 6 | | | | 4 | | |
| Actuated Green, G (s) | | 79.0 | 105.0 | | 79.0 | 79.0 | | | | 18.0 | | 18.0 |
| Effective Green, g (s) | | 80.0 | 105.0 | | 80.0 | 79.0 | | | | 19.0 | | 19.0 |
| Actuated g/C Ratio | | 0.76 | 1.00 | | 0.76 | 0.75 | | | | 0.18 | | 0.18 |
| Clearance Time (s) | | 4.0 | | | 4.0 | 4.0 | | | | 4.0 | | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | 4.5 | | | | 4.0 | | 4.0 |
| Lane Grp Cap (vph) | | 3604 | 2533 | | 2445 | 1112 | | | | 601 | | 523 |
| v/s Ratio Prot | | 0.14 | | | 0.42 | | | | | 0.05 | | c0.19 |
| v/s Ratio Perm | | | c0.85 | | | 0.22 | | | | | | |
| v/c Ratio | | 0.19 | 0.85 | | 0.55 | 0.29 | | | | 0.29 | | 1.02 |
| Uniform Delay, d1 | | 3.5 | 0.0 | | 5.2 | 4.1 | | | | 37.2 | | 43.0 |
| Progression Factor | | 0.52 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | | 0.1 | 2.4 | | 0.9 | 0.6 | | | | 0.4 | | 45.3 |
| Delay (s) | | 1.9 | 2.4 | | 6.1 | 4.8 | | | | 37.5 | | 88.3 |
| Level of Service | | A | A | | A | A | | | | D | | F |
| Approach Delay (s) | | 2.3 | | | 5.8 | | | 0.0 | | | 77.9 | |
| Approach LOS | | A | | | A | | | A | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 15.3 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 3.0 |
| Intersection Capacity Utilization | 73.0% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 196 | 26 | 39 | 126 | 374 | 122 |
| v/c Ratio | 0.53 | 0.07 | 0.19 | 0.10 | 0.36 | 0.12 |
| Control Delay | 25.2 | 7.7 | 25.8 | 4.4 | 9.9 | 2.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 25.2 | 7.7 | 25.8 | 4.4 | 9.9 | 2.9 |
| Queue Length 50th (ft) | 63 | 0 | 13 | 13 | 44 | 0 |
| Queue Length 95th (ft) | 105 | 15 | 37 | 35 | 167 | 25 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 587 | 542 | 216 | 1242 | 1034 | 994 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.33 | 0.05 | 0.18 | 0.10 | 0.36 | 0.12 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 180 | 24 | 36 | 116 | 344 | 112 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1562 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1562 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 196 | 26 | 39 | 126 | 374 | 122 |
| RTOR Reduction (vph) | 0 | 20 | 0 | 0 | 0 | 53 |
| Lane Group Flow (vph) | 196 | 6 | 39 | 126 | 374 | 69 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 12.2 | 12.2 | 2.8 | 39.8 | 33.0 | 33.0 |
| Effective Green, g (s) | 13.2 | 13.2 | 3.8 | 40.8 | 34.0 | 34.0 |
| Actuated g/C Ratio | 0.22 | 0.22 | 0.06 | 0.68 | 0.57 | 0.57 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 369 | 330 | 103 | 1242 | 966 | 885 |
| v/s Ratio Prot | c0.12 | | c0.02 | 0.07 | c0.22 | |
| v/s Ratio Perm | | 0.00 | | | | 0.04 |
| v/c Ratio | 0.53 | 0.02 | 0.38 | 0.10 | 0.39 | 0.08 |
| Uniform Delay, d1 | 20.7 | 18.3 | 27.0 | 3.3 | 7.2 | 5.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.5 | 0.0 | 2.3 | 0.2 | 1.2 | 0.2 |
| Delay (s) | 22.1 | 18.3 | 29.3 | 3.5 | 8.4 | 6.1 |
| Level of Service | C | B | C | A | A | A |
| Approach Delay (s) | 21.7 | | | 9.6 | 7.8 | |
| Approach LOS | C | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 11.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.42 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 41.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 214 | 242 | 296 | 30 | 1502 | 72 | 1292 |
| v/c Ratio | 0.52 | 0.64 | 0.71 | 0.25 | 0.92 | 0.64 | 0.79 |
| Control Delay | 20.0 | 25.4 | 26.2 | 16.5 | 26.7 | 45.6 | 17.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 20.0 | 25.4 | 26.2 | 16.5 | 26.7 | 45.6 | 17.5 |
| Queue Length 50th (ft) | 57 | 71 | 83 | 5 | 238 | 17 | 181 |
| Queue Length 95th (ft) | 111 | 136 | 157 | 27 | #461 | #90 | #362 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 550 | 505 | 552 | 119 | 1625 | 112 | 1628 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.39 | 0.48 | 0.54 | 0.25 | 0.92 | 0.64 | 0.79 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 59 | 116 | 22 | 130 | 93 | 272 | 28 | 1299 | 83 | 66 | 1139 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | | 0.99 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1536 | | | 1682 | 1306 | 1618 | 3046 | | 1562 | 3055 | |
| Flt Permitted | | 0.84 | | | 0.70 | 1.00 | 0.13 | 1.00 | | 0.13 | 1.00 | |
| Satd. Flow (perm) | | 1313 | | | 1220 | 1306 | 224 | 3046 | | 211 | 3055 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 64 | 126 | 24 | 141 | 101 | 296 | 30 | 1412 | 90 | 72 | 1238 | 54 |
| RTOR Reduction (vph) | 0 | 8 | 0 | 0 | 0 | 14 | 0 | 7 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 0 | 206 | 0 | 0 | 242 | 282 | 30 | 1495 | 0 | 72 | 1288 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 18.1 | | | 18.1 | 18.1 | 31.1 | 31.1 | | 31.1 | 31.1 | |
| Effective Green, g (s) | | 18.1 | | | 18.1 | 18.1 | 31.1 | 31.1 | | 31.1 | 31.1 | |
| Actuated g/C Ratio | | 0.31 | | | 0.31 | 0.31 | 0.53 | 0.53 | | 0.53 | 0.53 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 407 | | | 378 | 405 | 119 | 1622 | | 112 | 1627 | |
| v/s Ratio Prot | | | | | | | | c0.49 | | | 0.42 | |
| v/s Ratio Perm | | 0.16 | | | 0.20 | c0.22 | 0.13 | | | 0.34 | | |
| v/c Ratio | | 0.51 | | | 0.64 | 0.70 | 0.25 | 0.92 | | 0.64 | 0.79 | |
| Uniform Delay, d1 | | 16.5 | | | 17.3 | 17.7 | 7.4 | 12.5 | | 9.7 | 11.0 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.4 | | | 4.1 | 5.6 | 1.5 | 9.2 | | 13.3 | 2.9 | |
| Delay (s) | | 17.9 | | | 21.4 | 23.3 | 8.9 | 21.8 | | 23.0 | 13.9 | |
| Level of Service | | B | | | C | C | A | C | | C | B | |
| Approach Delay (s) | | 17.9 | | | 22.5 | | | 21.5 | | | 14.4 | |
| Approach LOS | | B | | | C | | | C | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 18.8 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.84 | | |
| Actuated Cycle Length (s) | 58.4 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 79.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 28 | 299 | 620 | 185 | 361 | 28 |
| v/c Ratio | 0.27 | 0.22 | 0.55 | 0.13 | 1.21 | 0.10 |
| Control Delay | 55.2 | 5.2 | 8.2 | 0.2 | 161.3 | 23.1 |
| Queue Delay | 0.0 | 0.0 | 1.0 | 0.0 | 16.2 | 0.0 |
| Total Delay | 55.2 | 5.2 | 9.3 | 0.2 | 177.6 | 23.1 |
| Queue Length 50th (ft) | 19 | 59 | 87 | 1 | ~312 | 7 |
| Queue Length 95th (ft) | 49 | 89 | m234 | m0 | #496 | 32 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 118 | 1335 | 1137 | 1383 | 298 | 270 |
| Starvation Cap Reductn | 0 | 0 | 278 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 3 | 0 | 0 | 9 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.24 | 0.22 | 0.72 | 0.13 | 1.25 | 0.10 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 26 | 275 | 570 | 170 | 332 | 26 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1574 | 1562 | 1349 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1574 | 1562 | 1349 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 28 | 299 | 620 | 185 | 361 | 28 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 29 | 0 | 13 |
| Lane Group Flow (vph) | 28 | 299 | 620 | 156 | 361 | 15 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 4.7 | 80.4 | 71.7 | 92.7 | 21.0 | 21.0 |
| Effective Green, g (s) | 4.7 | 80.4 | 71.7 | 92.7 | 21.0 | 21.0 |
| Actuated g/C Ratio | 0.04 | 0.73 | 0.65 | 0.84 | 0.19 | 0.19 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 69 | 1335 | 1111 | 1326 | 298 | 258 |
| v/s Ratio Prot | c0.02 | 0.16 | c0.36 | 0.02 | c0.23 | |
| v/s Ratio Perm | | | | 0.08 | | 0.01 |
| v/c Ratio | 0.41 | 0.22 | 0.56 | 0.12 | 1.21 | 0.06 |
| Uniform Delay, d1 | 51.3 | 4.8 | 10.5 | 1.5 | 44.5 | 36.4 |
| Progression Factor | 1.00 | 1.00 | 0.61 | 0.20 | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.9 | 0.4 | 1.6 | 0.0 | 122.1 | 0.1 |
| Delay (s) | 55.2 | 5.2 | 8.0 | 0.3 | 166.6 | 36.5 |
| Level of Service | E | A | A | A | F | D |
| Approach Delay (s) | | 9.4 | 6.2 | | 157.2 | |
| Approach LOS | | A | A | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 45.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.69 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 12.6 |
| Intersection Capacity Utilization | 55.6% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 375 | 364 | 367 | 360 | 475 | 274 | 3 |
| v/c Ratio | 0.78 | 0.55 | 0.92 | 0.37 | 0.83 | 0.45 | 0.04 |
| Control Delay | 31.4 | 2.6 | 69.4 | 15.3 | 47.2 | 16.6 | 51.3 |
| Queue Delay | 2.6 | 0.1 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 |
| Total Delay | 34.0 | 2.6 | 69.4 | 15.3 | 48.1 | 16.6 | 51.3 |
| Queue Length 50th (ft) | 151 | 0 | 247 | 127 | 306 | 71 | 2 |
| Queue Length 95th (ft) | m213 | m0 | #505 | 231 | #479 | 144 | 12 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | | 217 |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 | |
| Base Capacity (vph) | 478 | 663 | 400 | 962 | 574 | 604 | 80 |
| Starvation Cap Reductn | 39 | 12 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 16 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.85 | 0.56 | 0.92 | 0.37 | 0.85 | 0.45 | 0.04 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1 | 344 | 335 | 338 | 330 | 1 | 434 | 3 | 252 | 2 | 1 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | 4.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.98 | | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | 1.00 | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.97 | |
| Satd. Flow (prot) | | 1759 | 1462 | 1562 | 1704 | | | 1682 | 1725 | | 1754 | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.97 | |
| Satd. Flow (perm) | | 1758 | 1462 | 1562 | 1704 | | | 1682 | 1725 | | 1754 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1 | 374 | 364 | 367 | 359 | 1 | 472 | 3 | 274 | 2 | 1 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 276 | 0 | 0 | 0 | 0 | 0 | 94 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 375 | 88 | 367 | 360 | 0 | 0 | 475 | 180 | 0 | 3 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 26.7 | 26.7 | 28.2 | 58.9 | | | 37.0 | 33.0 | | 1.0 | |
| Effective Green, g (s) | | 26.7 | 26.7 | 28.2 | 58.9 | | | 37.0 | 33.0 | | 1.0 | |
| Actuated g/C Ratio | | 0.24 | 0.24 | 0.26 | 0.54 | | | 0.34 | 0.30 | | 0.01 | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | 4.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | | 427 | 355 | 400 | 912 | | | 566 | 518 | | 16 | |
| v/s Ratio Prot | | | | c0.23 | 0.21 | | | c0.28 | 0.04 | | c0.00 | |
| v/s Ratio Perm | | c0.21 | 0.06 | | | | | | 0.07 | | | |
| v/c Ratio | | 0.88 | 0.25 | 0.92 | 0.39 | | | 0.84 | 0.35 | | 0.19 | |
| Uniform Delay, d1 | | 40.1 | 33.6 | 39.8 | 15.1 | | | 33.7 | 30.1 | | 54.1 | |
| Progression Factor | | 0.58 | 0.06 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | | 16.8 | 1.2 | 25.4 | 1.3 | | | 10.5 | 0.4 | | 5.6 | |
| Delay (s) | | 39.9 | 3.3 | 65.2 | 16.3 | | | 44.3 | 30.5 | | 59.7 | |
| Level of Service | | D | A | E | B | | | D | C | | E | |
| Approach Delay (s) | | 21.8 | | | 41.0 | | | 39.2 | | | 59.7 | |
| Approach LOS | | C | | | D | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 34.1 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.86 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 16.6 |
| Intersection Capacity Utilization | 78.8% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 80 | 160 | 27 | 142 | 121 | 676 | 15 | 770 | 139 | 267 | 871 |
| v/c Ratio | 0.61 | 0.35 | 0.07 | 0.70 | 0.21 | 0.95 | 0.17 | 0.82 | 0.33 | 0.88 | 0.60 |
| Control Delay | 79.9 | 40.9 | 14.7 | 73.1 | 32.9 | 42.4 | 65.4 | 50.5 | 25.2 | 80.2 | 28.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 79.9 | 40.9 | 14.7 | 73.1 | 32.9 | 42.4 | 65.4 | 50.5 | 25.2 | 80.2 | 28.7 |
| Queue Length 50th (ft) | 68 | 109 | 1 | 120 | 75 | 313 | 13 | 328 | 58 | 234 | 274 |
| Queue Length 95th (ft) | #136 | 184 | 27 | 194 | 130 | #602 | 38 | 407 | 117 | #423 | 408 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 149 | 535 | 464 | 265 | 641 | 747 | 149 | 1115 | 492 | 305 | 1467 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.54 | 0.30 | 0.06 | 0.54 | 0.19 | 0.90 | 0.10 | 0.69 | 0.28 | 0.88 | 0.59 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 74 | 147 | 25 | 131 | 111 | 622 | 14 | 708 | 128 | 246 | 752 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1451 | 1620 | 1739 | 1391 | 1652 | 3240 | 1331 | 1620 | 3047 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1451 | 1620 | 1739 | 1391 | 1652 | 3240 | 1331 | 1620 | 3047 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 80 | 160 | 27 | 142 | 121 | 676 | 15 | 770 | 139 | 267 | 817 | 54 |
| RTOR Reduction (vph) | 0 | 0 | 18 | 0 | 0 | 249 | 0 | 0 | 36 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 80 | 160 | 9 | 142 | 121 | 427 | 15 | 770 | 103 | 267 | 868 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 8.7 | 34.5 | 34.5 | 16.8 | 42.6 | 42.6 | 3.3 | 38.8 | 38.8 | 24.6 | 60.1 | |
| Effective Green, g (s) | 7.7 | 34.0 | 34.0 | 15.8 | 42.1 | 42.1 | 2.3 | 38.3 | 38.3 | 23.6 | 59.6 | |
| Actuated g/C Ratio | 0.06 | 0.27 | 0.27 | 0.12 | 0.33 | 0.33 | 0.02 | 0.30 | 0.30 | 0.18 | 0.47 | |
| Clearance Time (s) | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 100 | 463 | 386 | 200 | 573 | 459 | 30 | 972 | 399 | 299 | 1422 | |
| v/s Ratio Prot | 0.05 | 0.09 | | c0.09 | 0.07 | | 0.01 | c0.24 | | c0.16 | 0.28 | |
| v/s Ratio Perm | | | 0.01 | | | c0.31 | | | 0.08 | | | |
| v/c Ratio | 0.80 | 0.35 | 0.02 | 0.71 | 0.21 | 0.93 | 0.50 | 0.79 | 0.26 | 0.89 | 0.61 | |
| Uniform Delay, d1 | 59.2 | 37.9 | 34.6 | 53.7 | 30.8 | 41.4 | 62.1 | 41.0 | 33.9 | 50.8 | 25.4 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 36.8 | 0.6 | 0.0 | 11.7 | 0.3 | 25.5 | 16.8 | 4.7 | 0.5 | 27.2 | 0.9 | |
| Delay (s) | 96.0 | 38.5 | 34.6 | 65.5 | 31.1 | 66.8 | 78.9 | 45.8 | 34.4 | 78.0 | 26.3 | |
| Level of Service | F | D | C | E | C | E | E | D | C | E | C | |
| Approach Delay (s) | | 55.3 | | | 62.0 | | | 44.6 | | | 38.4 | |
| Approach LOS | | E | | | E | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 48.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.87 | | |
| Actuated Cycle Length (s) | 127.7 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 73.8% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 39 | 609 | 88 | 1415 | 1397 | 177 | 498 | 710 | 220 | 557 | 48 |
| v/c Ratio | 0.58 | 0.81 | 0.28 | 1.00 | 0.78 | 0.96 | 0.73 | 0.39 | 0.79 | 0.96 | 0.17 |
| Control Delay | 97.9 | 66.2 | 12.2 | 56.6 | 23.8 | 127.1 | 41.8 | 10.7 | 82.7 | 85.1 | 28.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 36.0 | 1.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 |
| Total Delay | 97.9 | 66.2 | 12.2 | 92.7 | 24.8 | 127.1 | 41.8 | 10.9 | 82.7 | 85.1 | 28.3 |
| Queue Length 50th (ft) | 36 | 198 | 0 | 639 | 490 | 129 | 218 | 289 | 103 | 267 | 17 |
| Queue Length 95th (ft) | #92 | 246 | 49 | #824 | 584 | #328 | 184 | 26 | #165 | #386 | 55 |
| Internal Link Dist (ft) | | 238 | | | 387 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 67 | 761 | 315 | 1418 | 1799 | 184 | 681 | 1806 | 279 | 581 | 285 |
| Starvation Cap Reductn | 0 | 0 | 0 | 130 | 180 | 0 | 0 | 378 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.58 | 0.80 | 0.28 | 1.10 | 0.86 | 0.96 | 0.73 | 0.50 | 0.79 | 0.96 | 0.17 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 36 | 560 | 81 | 1302 | 1052 | 234 | 163 | 458 | 653 | 202 | 512 | 44 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3141 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1470 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3141 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1470 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 39 | 609 | 88 | 1415 | 1143 | 254 | 177 | 498 | 710 | 220 | 557 | 48 |
| RTOR Reduction (vph) | 0 | 0 | 74 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 21 |
| Lane Group Flow (vph) | 39 | 609 | 14 | 1415 | 1383 | 0 | 177 | 498 | 710 | 220 | 557 | 27 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 4.8 | 21.1 | 21.1 | 61.0 | 77.3 | | 15.3 | 26.9 | 93.4 | 12.0 | 23.6 | 23.6 |
| Effective Green, g (s) | 4.8 | 22.6 | 22.6 | 61.0 | 78.8 | | 15.3 | 28.4 | 87.9 | 12.0 | 25.1 | 25.1 |
| Actuated g/C Ratio | 0.03 | 0.16 | 0.16 | 0.44 | 0.56 | | 0.11 | 0.20 | 0.63 | 0.09 | 0.18 | 0.18 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 54 | 751 | 238 | 1418 | 1768 | | 183 | 681 | 1699 | 279 | 581 | 264 |
| v/s Ratio Prot | 0.02 | 0.13 | | c0.43 | c0.44 | | c0.11 | c0.15 | 0.26 | 0.07 | c0.17 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | 0.02 |
| v/c Ratio | 0.72 | 0.81 | 0.06 | 1.00 | 0.78 | | 0.97 | 0.73 | 0.42 | 0.79 | 0.96 | 0.10 |
| Uniform Delay, d1 | 66.9 | 56.6 | 49.7 | 39.4 | 23.9 | | 62.1 | 52.2 | 13.1 | 62.8 | 56.9 | 48.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.89 | 0.89 | | 1.17 | 0.67 | 0.94 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 39.9 | 9.3 | 0.5 | 21.3 | 3.0 | | 56.0 | 4.2 | 0.2 | 14.5 | 27.2 | 0.2 |
| Delay (s) | 106.9 | 65.9 | 50.2 | 56.3 | 24.2 | | 128.8 | 39.0 | 12.6 | 77.2 | 84.1 | 48.2 |
| Level of Service | F | E | D | E | C | | F | D | B | E | F | D |
| Approach Delay (s) | | 66.2 | | | 40.3 | | | 37.0 | | | 80.2 | |
| Approach LOS | | E | | | D | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 48.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.95 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 84.8% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 209 | 1494 | 254 | 2057 | 151 | 153 | 85 | 347 |
| v/c Ratio | 1.00 | 0.57 | 0.79 | 0.85 | 0.62 | 0.61 | 0.27 | 0.92 |
| Control Delay | 114.4 | 20.4 | 61.2 | 17.7 | 64.1 | 63.7 | 10.6 | 62.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 114.4 | 20.4 | 61.2 | 17.7 | 64.1 | 63.7 | 10.6 | 62.7 |
| Queue Length 50th (ft) | ~197 | 227 | 179 | 245 | 138 | 141 | 0 | 86 |
| Queue Length 95th (ft) | #371 | 388 | m237 | #835 | 191 | 191 | 43 | #183 |
| Internal Link Dist (ft) | | 660 | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 180 | | 200 | | | |
| Base Capacity (vph) | 208 | 2632 | 363 | 2432 | 402 | 411 | 459 | 377 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.00 | 0.57 | 0.70 | 0.85 | 0.38 | 0.37 | 0.19 | 0.92 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 192 | 1026 | 349 | 234 | 1845 | 48 | 227 | 52 | 78 | 29 | 116 | 174 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.86 | | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | | 0.92 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 1.00 | |
| Satd. Flow (prot) | 1620 | 5621 | | 1678 | 4634 | | 1539 | 1571 | 1512 | | 3027 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 1.00 | |
| Satd. Flow (perm) | 1620 | 5621 | | 1678 | 4634 | | 1539 | 1571 | 1512 | | 3027 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 209 | 1115 | 379 | 254 | 2005 | 52 | 247 | 57 | 85 | 32 | 126 | 189 |
| RTOR Reduction (vph) | 0 | 36 | 0 | 0 | 1 | 0 | 0 | 0 | 71 | 0 | 157 | 0 |
| Lane Group Flow (vph) | 209 | 1458 | 0 | 254 | 2056 | 0 | 151 | 153 | 14 | 0 | 190 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 17.1 | 63.6 | | 25.8 | 72.3 | | 21.8 | 21.8 | 21.8 | | 9.6 | |
| Effective Green, g (s) | 18.1 | 64.6 | | 26.8 | 73.3 | | 22.4 | 22.4 | 22.4 | | 10.2 | |
| Actuated g/C Ratio | 0.13 | 0.46 | | 0.19 | 0.52 | | 0.16 | 0.16 | 0.16 | | 0.07 | |
| Clearance Time (s) | 5.0 | 5.0 | | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 209 | 2594 | | 321 | 2426 | | 246 | 251 | 242 | | 221 | |
| v/s Ratio Prot | c0.13 | 0.26 | | 0.15 | c0.44 | | c0.10 | 0.10 | | | c0.06 | |
| v/s Ratio Perm | | | | | | | | | 0.01 | | | |
| v/c Ratio | 1.00 | 0.56 | | 0.79 | 0.85 | | 0.61 | 0.61 | 0.06 | | 0.86 | |
| Uniform Delay, d1 | 61.0 | 27.4 | | 53.9 | 28.6 | | 54.8 | 54.7 | 49.8 | | 64.2 | |
| Progression Factor | 0.85 | 0.70 | | 0.93 | 0.48 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 60.8 | 0.8 | | 8.0 | 2.3 | | 5.1 | 4.8 | 0.1 | | 28.0 | |
| Delay (s) | 112.8 | 19.9 | | 58.4 | 16.0 | | 59.9 | 59.5 | 50.0 | | 92.2 | |
| Level of Service | F | B | | E | B | | E | E | D | | F | |
| Approach Delay (s) | | 31.3 | | | 20.7 | | | 57.6 | | | 92.2 | |
| Approach LOS | | C | | | C | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 32.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.83 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 79.4% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 166 | 1161 | 334 | 1610 | 321 | 251 | 186 | 55 | 715 |
| v/c Ratio | 0.83 | 0.85 | 0.82 | 0.82 | 0.86 | 0.24 | 0.28 | 0.48 | 0.91 |
| Control Delay | 65.5 | 34.1 | 66.9 | 41.6 | 82.5 | 35.3 | 5.5 | 80.5 | 59.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 65.5 | 34.1 | 66.9 | 41.6 | 82.5 | 35.3 | 5.5 | 80.5 | 59.2 |
| Queue Length 50th (ft) | 149 | 378 | 289 | 493 | 149 | 87 | 0 | 25 | 280 |
| Queue Length 95th (ft) | m#247 | m435 | #440 | 561 | #226 | 124 | 54 | 50 | #384 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 218 | 1363 | 408 | 1954 | 382 | 1060 | 668 | 114 | 818 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.76 | 0.85 | 0.82 | 0.82 | 0.84 | 0.24 | 0.28 | 0.48 | 0.87 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 153 | 728 | 340 | 307 | 1455 | 26 | 295 | 231 | 171 | 51 | 380 | 278 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.91 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4491 | | 1652 | 4720 | | 3143 | 3240 | 1659 | 3204 | 3011 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4491 | | 1652 | 4720 | | 3143 | 3240 | 1659 | 3204 | 3011 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 166 | 791 | 370 | 334 | 1582 | 28 | 321 | 251 | 186 | 55 | 413 | 302 |
| RTOR Reduction (vph) | 0 | 59 | 0 | 0 | 1 | 0 | 0 | 0 | 126 | 0 | 96 | 0 |
| Lane Group Flow (vph) | 166 | 1102 | 0 | 334 | 1609 | 0 | 321 | 251 | 60 | 55 | 619 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 17.4 | 39.1 | | 34.7 | 56.4 | | 17.6 | 45.9 | 45.9 | 4.8 | 33.1 | |
| Effective Green, g (s) | 17.3 | 40.1 | | 34.6 | 57.4 | | 16.6 | 45.5 | 45.5 | 3.8 | 32.7 | |
| Actuated g/C Ratio | 0.12 | 0.29 | | 0.25 | 0.41 | | 0.12 | 0.32 | 0.32 | 0.03 | 0.23 | |
| Clearance Time (s) | 3.9 | 5.0 | | 3.9 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 200 | 1286 | | 408 | 1935 | | 373 | 1053 | 539 | 87 | 703 | |
| v/s Ratio Prot | 0.10 | c0.25 | | 0.20 | c0.34 | | c0.10 | 0.08 | | 0.02 | c0.21 | |
| v/s Ratio Perm | | | | | | | | | 0.04 | | | |
| v/c Ratio | 0.83 | 0.86 | | 0.82 | 0.83 | | 0.86 | 0.24 | 0.11 | 0.63 | 0.88 | |
| Uniform Delay, d1 | 59.9 | 47.2 | | 49.7 | 37.0 | | 60.6 | 34.6 | 33.1 | 67.4 | 51.8 | |
| Progression Factor | 0.62 | 0.63 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 21.3 | 6.6 | | 12.7 | 4.3 | | 18.5 | 0.2 | 0.1 | 15.7 | 12.7 | |
| Delay (s) | 58.4 | 36.4 | | 62.4 | 41.3 | | 79.1 | 34.7 | 33.2 | 83.1 | 64.5 | |
| Level of Service | E | D | | E | D | | E | C | C | F | E | |
| Approach Delay (s) | | 39.1 | | | 44.9 | | | 53.1 | | | 65.8 | |
| Approach LOS | | D | | | D | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 48.0 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.85 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 80.3% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 46 | 68 | 233 | 17 | 977 | 72 | 920 | 1081 |
| v/c Ratio | 0.39 | 0.56 | 0.51 | 0.21 | 0.58 | 0.09 | 0.86 | 0.39 |
| Control Delay | 58.6 | 77.5 | 10.7 | 75.1 | 28.1 | 5.6 | 43.0 | 7.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| Total Delay | 58.6 | 77.5 | 10.7 | 75.1 | 28.1 | 5.6 | 43.0 | 7.9 |
| Queue Length 50th (ft) | 32 | 60 | 0 | 14 | 391 | 11 | 348 | 149 |
| Queue Length 95th (ft) | 73 | 109 | 43 | m33 | 528 | m50 | 390 | 362 |
| Internal Link Dist (ft) | 387 | 301 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 350 | |
| Base Capacity (vph) | 171 | 183 | 570 | 83 | 1688 | 829 | 1263 | 2787 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 940 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.27 | 0.37 | 0.41 | 0.20 | 0.58 | 0.09 | 0.73 | 0.59 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 32 | 0 | 10 | 61 | 2 | 214 | 16 | 899 | 66 | 846 | 912 | 83 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | | 0.99 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.97 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.96 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1694 | | | 1777 | 2787 | 1678 | 3355 | 1583 | 3433 | 3420 | |
| Flt Permitted | | 0.70 | | | 0.74 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1235 | | | 1384 | 2787 | 1678 | 3355 | 1583 | 3433 | 3420 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 35 | 0 | 11 | 66 | 2 | 233 | 17 | 977 | 72 | 920 | 991 | 90 |
| RTOR Reduction (vph) | 0 | 8 | 0 | 0 | 0 | 213 | 0 | 0 | 33 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 0 | 38 | 0 | 0 | 68 | 20 | 17 | 977 | 39 | 920 | 1077 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | |
| Actuated Green, G (s) | | 12.3 | | | 12.3 | 12.3 | 3.0 | 70.4 | 70.4 | 43.8 | 111.2 | |
| Effective Green, g (s) | | 12.3 | | | 12.3 | 12.3 | 3.0 | 70.4 | 70.4 | 43.8 | 111.2 | |
| Actuated g/C Ratio | | 0.09 | | | 0.09 | 0.09 | 0.02 | 0.50 | 0.50 | 0.31 | 0.79 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 109 | | | 122 | 245 | 36 | 1687 | 796 | 1074 | 2716 | |
| v/s Ratio Prot | | | | | | | 0.01 | c0.29 | | c0.27 | 0.32 | |
| v/s Ratio Perm | | 0.03 | | | c0.05 | 0.01 | | | 0.02 | | | |
| v/c Ratio | | 0.35 | | | 0.56 | 0.08 | 0.47 | 0.58 | 0.05 | 0.86 | 0.40 | |
| Uniform Delay, d1 | | 60.1 | | | 61.2 | 58.7 | 67.7 | 24.4 | 17.7 | 45.2 | 4.3 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.09 | 1.02 | 0.87 | 0.81 | 1.65 | |
| Incremental Delay, d2 | | 1.9 | | | 5.4 | 0.1 | 8.5 | 1.3 | 0.1 | 5.2 | 0.3 | |
| Delay (s) | | 62.0 | | | 66.7 | 58.8 | 82.3 | 26.1 | 15.5 | 41.7 | 7.5 | |
| Level of Service | | E | | | E | E | F | C | B | D | A | |
| Approach Delay (s) | | 62.0 | | | 60.6 | | | 26.3 | | | 23.2 | |
| Approach LOS | | E | | | E | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 28.0 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.67 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 69.3% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 186 | 26 | 68 | 92 | 463 | 32 | 524 | 363 | 603 |
| v/c Ratio | 0.54 | 0.08 | 0.29 | 0.22 | 0.69 | 0.20 | 0.64 | 0.73 | 0.34 |
| Control Delay | 31.0 | 10.3 | 27.4 | 24.4 | 8.9 | 40.4 | 26.9 | 33.7 | 9.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 31.0 | 10.3 | 27.4 | 24.4 | 8.9 | 40.4 | 26.9 | 33.7 | 9.7 |
| Queue Length 50th (ft) | 67 | 0 | 23 | 30 | 0 | 13 | 95 | 131 | 51 |
| Queue Length 95th (ft) | 156 | 19 | 67 | 80 | 84 | 49 | 194 | #309 | 146 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 653 | 593 | 437 | 798 | 851 | 163 | 1268 | 743 | 2293 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.28 | 0.04 | 0.16 | 0.12 | 0.54 | 0.20 | 0.41 | 0.49 | 0.26 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 77 | 94 | 24 | 63 | 85 | 426 | 29 | 404 | 78 | 334 | 525 | 29 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | | 1.00 | 0.99 | |
| Flt Protected | | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1693 | 1259 | 1620 | 1739 | 1314 | 1711 | 2992 | | 1620 | 3052 | |
| Flt Permitted | | 0.82 | 1.00 | 0.56 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1426 | 1259 | 952 | 1739 | 1314 | 1711 | 2992 | | 1620 | 3052 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 84 | 102 | 26 | 68 | 92 | 463 | 32 | 439 | 85 | 363 | 571 | 32 |
| RTOR Reduction (vph) | 0 | 0 | 20 | 0 | 0 | 352 | 0 | 16 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 0 | 186 | 6 | 68 | 92 | 111 | 32 | 508 | 0 | 363 | 599 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 16.7 | 16.7 | 16.7 | 16.7 | 16.7 | 1.9 | 20.8 | | 20.9 | 39.8 | |
| Effective Green, g (s) | | 16.7 | 16.7 | 16.7 | 16.7 | 16.7 | 1.9 | 20.8 | | 20.9 | 39.8 | |
| Actuated g/C Ratio | | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.03 | 0.30 | | 0.30 | 0.57 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 341 | 301 | 227 | 415 | 314 | 47 | 890 | | 484 | 1738 | |
| v/s Ratio Prot | | | | | 0.05 | | 0.02 | c0.17 | | c0.22 | 0.20 | |
| v/s Ratio Perm | | c0.13 | 0.00 | 0.07 | | 0.08 | | | | | | |
| v/c Ratio | | 0.55 | 0.02 | 0.30 | 0.22 | 0.35 | 0.68 | 0.57 | | 0.75 | 0.34 | |
| Uniform Delay, d1 | | 23.3 | 20.3 | 21.8 | 21.4 | 22.1 | 33.7 | 20.8 | | 22.1 | 8.1 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.8 | 0.0 | 0.7 | 0.3 | 0.7 | 33.6 | 1.1 | | 6.4 | 0.2 | |
| Delay (s) | | 25.1 | 20.4 | 22.5 | 21.6 | 22.8 | 67.3 | 21.8 | | 28.6 | 8.2 | |
| Level of Service | | C | C | C | C | C | E | C | | C | A | |
| Approach Delay (s) | | 24.5 | | | 22.6 | | | 24.5 | | | 15.9 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 20.4 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.63 | | |
| Actuated Cycle Length (s) | 69.9 | Sum of lost time (s) | 11.5 |
| Intersection Capacity Utilization | 61.3% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 146 | 221 | 285 | 197 | 562 | 203 | 1073 | 43 | 1020 |
| v/c Ratio | 0.50 | 0.78 | 0.64 | 0.78 | 0.79 | 0.80 | 0.44 | 0.40 | 0.70 |
| Control Delay | 66.3 | 75.1 | 12.7 | 79.0 | 59.2 | 79.6 | 20.3 | 94.2 | 13.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 66.3 | 75.1 | 12.7 | 79.0 | 59.2 | 79.6 | 20.3 | 94.2 | 13.1 |
| Queue Length 50th (ft) | 64 | 194 | 0 | 173 | 247 | 178 | 216 | 40 | 340 |
| Queue Length 95th (ft) | 104 | 285 | 89 | #272 | 300 | #280 | 261 | 84 | 320 |
| Internal Link Dist (ft) | | 2946 | | | 522 | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 205 | | 200 | | 370 | |
| Base Capacity (vph) | 302 | 322 | 463 | 278 | 856 | 283 | 2414 | 116 | 1455 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.48 | 0.69 | 0.62 | 0.71 | 0.66 | 0.72 | 0.44 | 0.37 | 0.70 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 134 | 203 | 262 | 181 | 401 | 116 | 187 | 746 | 241 | 40 | 854 | 85 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 12 | 12 | 12 | 10 | 10 | 10 | 12 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.96 | | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3060 | 1845 | 1305 | 1770 | 3408 | | 1652 | 4450 | | 1770 | 3403 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3060 | 1845 | 1305 | 1770 | 3408 | | 1652 | 4450 | | 1770 | 3403 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 146 | 221 | 285 | 197 | 436 | 126 | 203 | 811 | 262 | 43 | 928 | 92 |
| RTOR Reduction (vph) | 0 | 0 | 241 | 0 | 20 | 0 | 0 | 38 | 0 | 0 | 5 | 0 |
| Lane Group Flow (vph) | 146 | 221 | 44 | 197 | 542 | 0 | 203 | 1035 | 0 | 43 | 1015 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | | | | | | | |
| Actuated Green, G (s) | 13.3 | 21.6 | 21.6 | 19.9 | 28.2 | | 21.5 | 74.1 | | 7.2 | 59.8 | |
| Effective Green, g (s) | 13.3 | 21.6 | 21.6 | 19.9 | 28.2 | | 21.5 | 74.1 | | 7.2 | 59.8 | |
| Actuated g/C Ratio | 0.10 | 0.15 | 0.15 | 0.14 | 0.20 | | 0.15 | 0.53 | | 0.05 | 0.43 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 291 | 285 | 201 | 252 | 686 | | 254 | 2355 | | 91 | 1454 | |
| v/s Ratio Prot | 0.05 | c0.12 | | 0.11 | c0.16 | | c0.12 | 0.23 | | 0.02 | c0.30 | |
| v/s Ratio Perm | | | 0.03 | | | | | | | | | |
| v/c Ratio | 0.50 | 0.78 | 0.22 | 0.78 | 0.79 | | 0.80 | 0.44 | | 0.47 | 0.70 | |
| Uniform Delay, d1 | 60.2 | 56.9 | 51.8 | 58.0 | 53.1 | | 57.2 | 20.2 | | 64.6 | 32.7 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.33 | 0.30 | |
| Incremental Delay, d2 | 1.9 | 13.1 | 0.8 | 15.3 | 6.5 | | 16.8 | 0.6 | | 4.9 | 2.6 | |
| Delay (s) | 62.1 | 70.0 | 52.6 | 73.3 | 59.6 | | 74.0 | 20.8 | | 90.5 | 12.5 | |
| Level of Service | E | E | D | E | E | | E | C | | F | B | |
| Approach Delay (s) | | 60.6 | | | 63.2 | | | 29.3 | | | 15.7 | |
| Approach LOS | | E | | | E | | | C | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 37.7 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 13.2 |
| Intersection Capacity Utilization | 72.2% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 71 | 357 | 101 | 1116 | 16 | 14 | 57 | 57 | 22 |
| v/c Ratio | 0.53 | 0.30 | 0.57 | 0.87 | 0.14 | 0.09 | 0.45 | 0.30 | 0.29 |
| Control Delay | 63.8 | 11.9 | 59.9 | 27.4 | 46.9 | 22.5 | 57.9 | 17.2 | 57.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 63.8 | 11.9 | 59.9 | 27.4 | 46.9 | 22.5 | 57.9 | 17.2 | 57.1 |
| Queue Length 50th (ft) | 47 | 65 | 69 | 565 | 11 | 1 | 39 | 2 | 15 |
| Queue Length 95th (ft) | #122 | 240 | 124 | #1146 | 32 | 20 | 78 | 40 | 41 |
| Internal Link Dist (ft) | | 524 | | 1458 | | 986 | | 462 | |
| Turn Bay Length (ft) | 250 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 134 | 1201 | 208 | 1280 | 212 | 273 | 228 | 307 | 77 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.53 | 0.30 | 0.49 | 0.87 | 0.08 | 0.05 | 0.25 | 0.19 | 0.29 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 65 | 292 | 37 | 93 | 822 | 205 | 15 | 1 | 12 | 52 | 3 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 12 | 11 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.98 | | 1.00 | 0.97 | | 1.00 | 0.86 | | 1.00 | 0.86 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1826 | | 1770 | 1807 | | 1711 | 1603 | | 1770 | 1598 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.72 | 1.00 | | 0.75 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1826 | | 1770 | 1807 | | 1296 | 1603 | | 1394 | 1598 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 71 | 317 | 40 | 101 | 893 | 223 | 16 | 1 | 13 | 57 | 3 | 54 |
| RTOR Reduction (vph) | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 50 | 0 |
| Lane Group Flow (vph) | 71 | 354 | 0 | 101 | 1116 | 0 | 16 | 2 | 0 | 57 | 7 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 7.0 | 68.6 | | 10.9 | 72.5 | | 8.7 | 8.7 | | 8.7 | 8.7 | |
| Effective Green, g (s) | 7.0 | 68.6 | | 10.9 | 72.5 | | 8.7 | 8.7 | | 8.7 | 8.7 | |
| Actuated g/C Ratio | 0.06 | 0.62 | | 0.10 | 0.66 | | 0.08 | 0.08 | | 0.08 | 0.08 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 113 | 1139 | | 175 | 1191 | | 103 | 127 | | 110 | 126 | |
| v/s Ratio Prot | 0.04 | 0.19 | | c0.06 | c0.62 | | | 0.00 | | | 0.00 | |
| v/s Ratio Perm | | | | | | | 0.01 | | | c0.04 | | |
| v/c Ratio | 0.63 | 0.31 | | 0.58 | 0.94 | | 0.16 | 0.02 | | 0.52 | 0.06 | |
| Uniform Delay, d1 | 50.2 | 9.7 | | 47.3 | 16.7 | | 47.2 | 46.7 | | 48.6 | 46.9 | |
| Progression Factor | 0.99 | 1.02 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 10.2 | 0.7 | | 4.6 | 14.8 | | 0.7 | 0.1 | | 4.1 | 0.2 | |
| Delay (s) | 60.1 | 10.5 | | 51.9 | 31.5 | | 47.9 | 46.8 | | 52.7 | 47.1 | |
| Level of Service | E | B | | D | C | | D | D | | D | D | |
| Approach Delay (s) | | 18.8 | | | 33.2 | | | 47.4 | | | 49.9 | |
| Approach LOS | | B | | | C | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 31.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.87 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 90.3% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Movement | SWR |
|---|---|
| Lane Configurations | |
| Volume (vph) | 20 |
| Ideal Flow (vphpl) | 1900 |
| Lane Width | 12 |
| Total Lost time (s) | 4.5 |
| Lane Util. Factor | 1.00 |
| Frpb, ped/bikes | 1.00 |
| Flpb, ped/bikes | 1.00 |
| Frt | 0.86 |
| Flt Protected | 1.00 |
| Satd. Flow (prot) | 1096 |
| Flt Permitted | 1.00 |
| Satd. Flow (perm) | 1096 |
| Peak-hour factor, PHF | 0.92 |
| Adj. Flow (vph) | 22 |
| RTOR Reduction (vph) | 0 |
| Lane Group Flow (vph) | 22 |
| Confl. Peds. (#/hr) | |
| Heavy Vehicles (%) | 50% |
| Parking (#/hr) | |
| Turn Type | custom |
| Protected Phases | 9 |
| Permitted Phases | 9 |
| Actuated Green, G (s) | 3.8 |
| Effective Green, g (s) | 3.8 |
| Actuated g/C Ratio | 0.03 |
| Clearance Time (s) | 4.5 |
| Vehicle Extension (s) | 3.0 |
| Lane Grp Cap (vph) | 38 |
| v/s Ratio Prot | c0.02 |
| v/s Ratio Perm | |
| v/c Ratio | 0.58 |
| Uniform Delay, d1 | 52.3 |
| Progression Factor | 1.00 |
| Incremental Delay, d2 | 19.6 |
| Delay (s) | 71.9 |
| Level of Service | E |
| Approach Delay (s) | |
| Approach LOS | |

Intersection Summary

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 92 | 345 | 12 | 961 | 68 | 126 | 14 | 78 | 446 |
| v/c Ratio | 0.99 | 0.28 | 0.19 | 1.02 | 1.08 | 0.25 | 0.04 | 0.26 | 0.87 |
| Control Delay | 143.8 | 9.3 | 58.7 | 59.0 | 178.7 | 32.7 | 13.7 | 34.2 | 52.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 143.8 | 9.3 | 58.7 | 59.0 | 178.7 | 32.7 | 13.7 | 34.2 | 52.7 |
| Queue Length 50th (ft) | 66 | 86 | 8 | ~685 | ~54 | 69 | 0 | 43 | 273 |
| Queue Length 95th (ft) | #173 | 162 | 29 | #969 | #146 | 121 | 16 | 86 | #454 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 93 | 1226 | 62 | 945 | 63 | 510 | 371 | 300 | 514 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.99 | 0.28 | 0.19 | 1.02 | 1.08 | 0.25 | 0.04 | 0.26 | 0.87 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 85 | 222 | 96 | 11 | 830 | 54 | 63 | 116 | 13 | 72 | 206 | 204 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1927 | | 1711 | 1702 | | 1652 | 1863 | 1320 | 1638 | 1758 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.13 | 1.00 | 1.00 | 0.64 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1927 | | 1711 | 1702 | | 231 | 1863 | 1320 | 1098 | 1758 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 92 | 241 | 104 | 12 | 902 | 59 | 68 | 126 | 14 | 78 | 224 | 222 |
| RTOR Reduction (vph) | 0 | 13 | 0 | 0 | 2 | 0 | 0 | 0 | 10 | 0 | 33 | 0 |
| Lane Group Flow (vph) | 92 | 332 | 0 | 12 | 959 | 0 | 68 | 126 | 4 | 78 | 413 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 6.0 | 69.3 | | 0.8 | 64.1 | | 30.1 | 30.1 | 30.1 | 30.1 | 30.1 | |
| Effective Green, g (s) | 6.0 | 69.3 | | 0.8 | 64.1 | | 30.1 | 30.1 | 30.1 | 30.1 | 30.1 | |
| Actuated g/C Ratio | 0.05 | 0.61 | | 0.01 | 0.57 | | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 91 | 1180 | | 12 | 964 | | 61 | 495 | 351 | 292 | 467 | |
| v/s Ratio Prot | c0.05 | 0.17 | | 0.01 | c0.56 | | | 0.07 | | | 0.23 | |
| v/s Ratio Perm | | | | | | | c0.29 | | 0.00 | 0.07 | | |
| v/c Ratio | 1.01 | 0.28 | | 1.00 | 0.99 | | 1.11 | 0.25 | 0.01 | 0.27 | 0.88 | |
| Uniform Delay, d1 | 53.6 | 10.3 | | 56.2 | 24.4 | | 41.5 | 32.7 | 30.6 | 32.8 | 39.9 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 97.4 | 0.2 | | 259.8 | 27.5 | | 150.2 | 0.4 | 0.0 | 0.7 | 18.2 | |
| Delay (s) | 151.0 | 10.5 | | 316.0 | 51.9 | | 191.7 | 33.1 | 30.6 | 33.5 | 58.0 | |
| Level of Service | F | B | | F | D | | F | C | C | C | E | |
| Approach Delay (s) | | 40.0 | | | 55.2 | | | 84.8 | | | 54.4 | |
| Approach LOS | | D | | | E | | | F | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 54.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.03 | | |
| Actuated Cycle Length (s) | 113.2 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 94.7% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 189 | 108 | 65 | 236 | 560 | 590 | 13 | 27 | 563 | 349 |
| v/c Ratio | 1.03 | 0.25 | 0.41 | 0.68 | 1.02 | 0.33 | 0.02 | 0.25 | 0.74 | 0.57 |
| Control Delay | 119.6 | 9.6 | 51.1 | 39.3 | 77.7 | 13.8 | 10.4 | 51.5 | 41.2 | 7.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 119.6 | 9.6 | 51.1 | 39.3 | 77.7 | 13.8 | 10.4 | 51.5 | 41.2 | 7.7 |
| Queue Length 50th (ft) | ~125 | 5 | 37 | 113 | ~367 | 83 | 1 | 16 | 162 | 0 |
| Queue Length 95th (ft) | #302 | 46 | 88 | 192 | #682 | 186 | 13 | 48 | 257 | 77 |
| Internal Link Dist (ft) | | 1442 | | 1508 | | 1609 | | | 1977 | |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | | |
| Base Capacity (vph) | 183 | 595 | 177 | 585 | 549 | 1805 | 805 | 110 | 864 | 653 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.03 | 0.18 | 0.37 | 0.40 | 1.02 | 0.33 | 0.02 | 0.25 | 0.65 | 0.53 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 174 | 10 | 89 | 60 | 121 | 96 | 521 | 543 | 12 | 25 | 518 | 321 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.87 | | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1711 | 1526 | | 1652 | 1608 | | 1652 | 3240 | 1445 | 1711 | 3355 | 1531 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1711 | 1526 | | 1652 | 1608 | | 1652 | 3240 | 1445 | 1711 | 3355 | 1531 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 189 | 11 | 97 | 65 | 132 | 104 | 560 | 590 | 13 | 27 | 563 | 349 |
| RTOR Reduction (vph) | 0 | 75 | 0 | 0 | 30 | 0 | 0 | 0 | 3 | 0 | 0 | 265 |
| Lane Group Flow (vph) | 189 | 33 | 0 | 65 | 206 | 0 | 560 | 590 | 10 | 27 | 563 | 84 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | 4 |
| Actuated Green, G (s) | 10.1 | 22.1 | | 7.5 | 19.5 | | 31.3 | 52.5 | 52.5 | 2.2 | 23.4 | 23.4 |
| Effective Green, g (s) | 10.1 | 22.1 | | 7.5 | 19.5 | | 31.3 | 52.5 | 52.5 | 2.2 | 23.4 | 23.4 |
| Actuated g/C Ratio | 0.10 | 0.23 | | 0.08 | 0.20 | | 0.32 | 0.54 | 0.54 | 0.02 | 0.24 | 0.24 |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 179 | 348 | | 128 | 324 | | 534 | 1757 | 784 | 39 | 811 | 370 |
| v/s Ratio Prot | c0.11 | c0.02 | | 0.04 | c0.13 | | c0.34 | 0.18 | | 0.02 | c0.17 | |
| v/s Ratio Perm | | | | | | | | | 0.01 | | | 0.06 |
| v/c Ratio | 1.06 | 0.10 | | 0.51 | 0.64 | | 1.05 | 0.34 | 0.01 | 0.69 | 0.69 | 0.23 |
| Uniform Delay, d1 | 43.4 | 29.5 | | 42.9 | 35.4 | | 32.8 | 12.4 | 10.2 | 47.0 | 33.4 | 29.5 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 82.8 | 0.2 | | 4.3 | 4.6 | | 52.3 | 0.2 | 0.0 | 44.5 | 2.8 | 0.4 |
| Delay (s) | 126.2 | 29.6 | | 47.1 | 40.0 | | 85.1 | 12.5 | 10.2 | 91.4 | 36.2 | 29.9 |
| Level of Service | F | C | | D | D | | F | B | B | F | D | C |
| Approach Delay (s) | | 91.1 | | | 41.5 | | | 47.4 | | | 35.5 | |
| Approach LOS | | F | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 47.4 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.86 | | |
| Actuated Cycle Length (s) | 96.8 | Sum of lost time (s) | 15.5 |
| Intersection Capacity Utilization | 79.4% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 38 | 7 | 17 | 1279 | 1372 |
| v/c Ratio | 0.27 | 0.06 | 0.06 | 0.45 | 0.48 |
| Control Delay | 49.5 | 24.2 | 3.0 | 3.0 | 3.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Total Delay | 49.5 | 24.2 | 3.0 | 4.0 | 3.2 |
| Queue Length 50th (ft) | 26 | 0 | 1 | 84 | 93 |
| Queue Length 95th (ft) | 54 | 13 | 9 | 202 | 227 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 300 | 248 | 286 | 2874 | 2846 |
| Starvation Cap Reductn | 0 | 0 | 0 | 1230 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.13 | 0.03 | 0.06 | 0.78 | 0.48 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 35 | 6 | 16 | 1177 | 1179 | 83 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3206 | |
| Flt Permitted | 0.95 | 1.00 | 0.19 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 322 | 3240 | 3206 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 38 | 7 | 17 | 1279 | 1282 | 90 |
| RTOR Reduction (vph) | 0 | 7 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 38 | 0 | 17 | 1279 | 1369 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 7.0 | 7.0 | 94.0 | 94.0 | 94.0 | |
| Effective Green, g (s) | 7.0 | 7.0 | 94.0 | 94.0 | 94.0 | |
| Actuated g/C Ratio | 0.06 | 0.06 | 0.85 | 0.85 | 0.85 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 105 | 85 | 275 | 2769 | 2740 | |
| v/s Ratio Prot | c0.02 | | | 0.39 | c0.43 | |
| v/s Ratio Perm | | 0.00 | 0.05 | | | |
| v/c Ratio | 0.36 | 0.01 | 0.06 | 0.46 | 0.50 | |
| Uniform Delay, d1 | 49.4 | 48.2 | 1.2 | 1.9 | 2.0 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 2.1 | 0.0 | 0.4 | 0.6 | 0.7 | |
| Delay (s) | 51.5 | 48.3 | 1.7 | 2.5 | 2.7 | |
| Level of Service | D | D | A | A | A | |
| Approach Delay (s) | 51.0 | | | 2.5 | 2.7 | |
| Approach LOS | D | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 3.4 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.49 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 46.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1068 | 661 | 1149 | 2071 | 701 | 880 |
| v/c Ratio | 0.58 | 0.45 | 0.93 | 0.98 | 0.42 | 1.06 |
| Control Delay | 21.5 | 18.7 | 46.4 | 32.0 | 0.8 | 94.8 |
| Queue Delay | 0.5 | 0.4 | 0.0 | 1.0 | 0.0 | 0.0 |
| Total Delay | 22.0 | 19.1 | 46.4 | 33.1 | 0.8 | 94.8 |
| Queue Length 50th (ft) | 263 | 157 | 489 | 939 | 0 | ~499 |
| Queue Length 95th (ft) | 300 | 194 | m558 | m#1128 | 0 | #643 |
| Internal Link Dist (ft) | 249 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 1837 | 1466 | 1286 | 2121 | 1686 | 830 |
| Starvation Cap Reductn | 343 | 337 | 0 | 15 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.71 | 0.59 | 0.89 | 0.98 | 0.42 | 1.06 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 983 | 608 | 1057 | 1905 | 0 | 0 | 0 | 645 | 0 | 0 | 810 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 3.5 | 3.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.88 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2733 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2733 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1068 | 661 | 1149 | 2071 | 0 | 0 | 0 | 701 | 0 | 0 | 880 |
| RTOR Reduction (vph) | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1068 | 642 | 1149 | 2071 | 0 | 0 | 0 | 701 | 0 | 0 | 880 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 4 | | 1 | 6 | | | | | | | |
| Permitted Phases | | | 2 4 | | | | | | Free | | | 4 |
| Actuated Green, G (s) | | 75.7 | 75.7 | 55.3 | 88.5 | | | | 140.0 | | | 42.5 |
| Effective Green, g (s) | | 75.7 | 75.7 | 55.3 | 88.5 | | | | 140.0 | | | 42.5 |
| Actuated g/C Ratio | | 0.54 | 0.54 | 0.39 | 0.63 | | | | 1.00 | | | 0.30 |
| Clearance Time (s) | | | | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | | | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 1814 | 1429 | 1241 | 2121 | | | | 1686 | | | 830 |
| v/s Ratio Prot | | 0.32 | | 0.37 | c0.62 | | | | | | | |
| v/s Ratio Perm | | | 0.24 | | | | | | 0.42 | | | c0.32 |
| v/c Ratio | | 0.59 | 0.45 | 0.93 | 0.98 | | | | 0.42 | | | 1.06 |
| Uniform Delay, d1 | | 21.7 | 19.5 | 40.4 | 24.7 | | | | 0.0 | | | 48.8 |
| Progression Factor | | 0.94 | 0.98 | 0.97 | 0.91 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 1.3 | 1.0 | 6.4 | 9.2 | | | | 0.8 | | | 48.5 |
| Delay (s) | | 21.6 | 20.0 | 45.7 | 31.6 | | | | 0.8 | | | 97.2 |
| Level of Service | | C | C | D | C | | | | A | | | F |
| Approach Delay (s) | | 21.0 | | | 36.6 | | | 0.8 | | | 97.2 | |
| Approach LOS | | C | | | D | | | A | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 36.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.00 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 88.5% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 595 | 1124 | 1735 | 660 | 621 | 1435 |
| v/c Ratio | 0.80 | 0.34 | 0.81 | 0.67 | 0.39 | 0.94 |
| Control Delay | 33.1 | 0.2 | 19.8 | 12.8 | 0.7 | 15.0 |
| Queue Delay | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 5.8 |
| Total Delay | 33.1 | 0.2 | 20.7 | 12.8 | 0.7 | 20.9 |
| Queue Length 50th (ft) | 169 | 0 | 678 | 425 | 0 | 0 |
| Queue Length 95th (ft) | 221 | 0 | 842 | m189 | 0 | #152 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 786 | 3355 | 2133 | 989 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 168 | 0 | 0 | 76 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.76 | 0.34 | 0.88 | 0.67 | 0.39 | 0.99 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 547 | 1034 | 0 | 0 | 1596 | 607 | 0 | 0 | 571 | 0 | 0 | 1320 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 595 | 1124 | 0 | 0 | 1735 | 660 | 0 | 0 | 621 | 0 | 0 | 1435 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 595 | 1124 | 0 | 0 | 1735 | 644 | 0 | 0 | 621 | 0 | 0 | 1435 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 16.5 | 70.0 | | | 44.5 | 44.5 | | | 70.0 | | | 70.0 |
| Effective Green, g (s) | 16.5 | 70.0 | | | 44.5 | 44.5 | | | 70.0 | | | 70.0 |
| Actuated g/C Ratio | 0.24 | 1.00 | | | 0.64 | 0.64 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 741 | 3355 | | | 2133 | 973 | | | 1611 | | | 1528 |
| v/s Ratio Prot | 0.19 | 0.33 | | | 0.52 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.42 | | | 0.39 | | | c0.94 |
| v/c Ratio | 0.80 | 0.34 | | | 0.81 | 0.66 | | | 0.39 | | | 0.94 |
| Uniform Delay, d1 | 25.2 | 0.0 | | | 9.6 | 8.0 | | | 0.0 | | | 0.0 |
| Progression Factor | 1.00 | 1.00 | | | 1.76 | 1.36 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 5.5 | 0.2 | | | 2.0 | 2.0 | | | 0.7 | | | 12.5 |
| Delay (s) | 30.7 | 0.2 | | | 19.0 | 12.9 | | | 0.7 | | | 12.5 |
| Level of Service | C | A | | | B | B | | | A | | | B |
| Approach Delay (s) | | 10.8 | | | 17.3 | | | 0.7 | | | 12.5 | |
| Approach LOS | | B | | | B | | | A | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 12.7 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.94 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 67.2% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 403 | 387 | 458 | 619 | 18 | 842 | 1074 | 11 | 74 | 922 | 602 |
| v/c Ratio | 1.63 | 0.54 | 0.26 | 1.35 | 0.05 | 1.19 | 0.73 | 0.02 | 0.65 | 1.15 | 1.09 |
| Control Delay | 323.7 | 24.8 | 0.4 | 204.1 | 20.3 | 134.2 | 22.9 | 11.7 | 70.2 | 115.5 | 87.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 323.7 | 24.8 | 0.4 | 204.1 | 20.3 | 134.2 | 22.9 | 11.7 | 70.2 | 115.5 | 87.4 |
| Queue Length 50th (ft) | ~309 | 173 | 0 | ~494 | 5 | ~321 | 243 | 2 | 42 | ~352 | ~303 |
| Queue Length 95th (ft) | #493 | 263 | 0 | #702 | 22 | #428 | 336 | m7 | m#105 | #477 | #514 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 247 | 714 | 1770 | 457 | 394 | 708 | 1475 | 546 | 113 | 800 | 551 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.63 | 0.54 | 0.26 | 1.35 | 0.05 | 1.19 | 0.73 | 0.02 | 0.65 | 1.15 | 1.09 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 371 | 356 | 421 | 2 | 568 | 17 | 775 | 988 | 10 | 68 | 848 | 554 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.97 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1738 | 1477 | 3204 | 3539 | 1338 | 1652 | 3303 | 1552 |
| Flt Permitted | 0.14 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 240 | 1739 | 1770 | | 1737 | 1477 | 3204 | 3539 | 1338 | 1652 | 3303 | 1552 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 403 | 387 | 458 | 2 | 617 | 18 | 842 | 1074 | 11 | 74 | 922 | 602 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 3 | 0 | 0 | 175 |
| Lane Group Flow (vph) | 403 | 387 | 458 | 0 | 619 | 13 | 842 | 1074 | 8 | 74 | 922 | 427 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 38.5 | 38.5 | 95.0 | | 24.5 | 24.5 | 20.0 | 37.7 | 37.7 | 4.8 | 22.0 | 22.0 |
| Effective Green, g (s) | 39.0 | 39.0 | 95.0 | | 25.0 | 25.0 | 21.0 | 38.7 | 37.7 | 5.3 | 23.0 | 23.0 |
| Actuated g/C Ratio | 0.41 | 0.41 | 1.00 | | 0.26 | 0.26 | 0.22 | 0.41 | 0.40 | 0.06 | 0.24 | 0.24 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.5 | 5.0 | 5.0 |
| Vehicle Extension (s) | 3.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 247 | 714 | 1770 | | 457 | 389 | 708 | 1442 | 531 | 92 | 800 | 376 |
| v/s Ratio Prot | c0.17 | 0.22 | | | | | c0.26 | 0.30 | | 0.04 | c0.28 | |
| v/s Ratio Perm | c0.50 | | 0.26 | | 0.36 | 0.01 | | | 0.01 | | | 0.28 |
| v/c Ratio | 1.63 | 0.54 | 0.26 | | 1.35 | 0.03 | 1.19 | 0.74 | 0.02 | 0.80 | 1.15 | 1.14 |
| Uniform Delay, d1 | 23.8 | 21.2 | 0.0 | | 35.0 | 26.0 | 37.0 | 23.9 | 17.4 | 44.3 | 36.0 | 36.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.04 | 0.82 | 0.80 | 0.99 | 0.94 | 0.89 |
| Incremental Delay, d2 | 301.9 | 1.1 | 0.4 | | 173.4 | 0.0 | 98.8 | 3.5 | 0.1 | 38.8 | 82.7 | 88.4 |
| Delay (s) | 325.8 | 22.3 | 0.4 | | 208.4 | 26.1 | 137.3 | 23.0 | 14.0 | 82.7 | 116.7 | 120.6 |
| Level of Service | F | C | A | | F | C | F | C | B | F | F | F |
| Approach Delay (s) | | 112.2 | | | 203.2 | | | 72.9 | | | 116.6 | |
| Approach LOS | | F | | | F | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 110.2 | HCM Level of Service | F |
| HCM Volume to Capacity ratio | 1.36 | | |
| Actuated Cycle Length (s) | 95.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 109.4% | ICU Level of Service | H |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 18 | 14 | 1 | 1268 | 83 | 2121 |
| v/c Ratio | 0.21 | 0.12 | 0.01 | 0.28 | 0.26 | 0.67 |
| Control Delay | 63.5 | 25.2 | 1.0 | 2.2 | 1.2 | 1.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| Total Delay | 63.5 | 25.2 | 1.0 | 2.2 | 1.2 | 1.9 |
| Queue Length 50th (ft) | 16 | 0 | 0 | 130 | 1 | 10 |
| Queue Length 95th (ft) | 39 | 21 | m0 | 164 | m3 | m40 |
| Internal Link Dist (ft) | 217 | | | 650 | | 443 |
| Turn Bay Length (ft) | | | 115 | | 150 | |
| Base Capacity (vph) | 195 | 236 | 120 | 4489 | 319 | 3156 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 202 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.06 | 0.01 | 0.28 | 0.26 | 0.72 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 16 | 1 | 13 | 1 | 1142 | 25 | 76 | 1948 | 4 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | 1.00 | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1572 | 1395 | 1652 | 4935 | | 1618 | 3470 | |
| Flt Permitted | | | | | 0.74 | 1.00 | 0.08 | 1.00 | | 0.21 | 1.00 | |
| Satd. Flow (perm) | | | | | 1214 | 1395 | 131 | 4935 | | 350 | 3470 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 17 | 1 | 14 | 1 | 1241 | 27 | 83 | 2117 | 4 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 1 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 18 | 1 | 1 | 1267 | 0 | 83 | 2121 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 7.5 | 7.5 | 123.9 | 123.9 | | 123.9 | 123.9 | |
| Effective Green, g (s) | | | | | 7.5 | 7.5 | 123.9 | 123.9 | | 123.9 | 123.9 | |
| Actuated g/C Ratio | | | | | 0.05 | 0.05 | 0.89 | 0.89 | | 0.89 | 0.89 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 65 | 75 | 116 | 4367 | | 310 | 3071 | |
| v/s Ratio Prot | | | | | | | | 0.26 | | | c0.61 | |
| v/s Ratio Perm | | | | | c0.01 | 0.00 | 0.01 | | | 0.24 | | |
| v/c Ratio | | | | | 0.28 | 0.01 | 0.01 | 0.29 | | 0.27 | 0.69 | |
| Uniform Delay, d1 | | | | | 63.6 | 62.7 | 0.9 | 1.2 | | 1.2 | 2.4 | |
| Progression Factor | | | | | 1.00 | 1.00 | 0.48 | 1.26 | | 0.14 | 0.37 | |
| Incremental Delay, d2 | | | | | 2.3 | 0.1 | 0.1 | 0.1 | | 0.9 | 0.6 | |
| Delay (s) | | | | | 66.0 | 62.8 | 0.6 | 1.7 | | 1.1 | 1.4 | |
| Level of Service | | | | | E | E | A | A | | A | A | |
| Approach Delay (s) | | 0.0 | | | 64.6 | | | 1.7 | | | 1.4 | |
| Approach LOS | | A | | | E | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 2.1 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.67 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 74.6% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 71 | 441 | 1236 | 60 | 62 |
| v/c Ratio | 0.45 | 0.27 | 0.48 | 0.41 | 0.33 |
| Control Delay | 55.9 | 2.5 | 3.8 | 55.2 | 16.5 |
| Queue Delay | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| Total Delay | 55.9 | 2.5 | 4.0 | 55.2 | 16.5 |
| Queue Length 50th (ft) | 48 | 49 | 62 | 41 | 0 |
| Queue Length 95th (ft) | 92 | 90 | 106 | 82 | 40 |
| Internal Link Dist (ft) | | 522 | 524 | 200 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 204 | 1606 | 2598 | 378 | 387 |
| Starvation Cap Reductn | 0 | 0 | 519 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.35 | 0.27 | 0.59 | 0.16 | 0.16 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 65 | 406 | 932 | 205 | 55 | 57 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.97 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3443 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3443 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 71 | 441 | 1013 | 223 | 60 | 62 |
| RTOR Reduction (vph) | 0 | 0 | 10 | 0 | 0 | 57 |
| Lane Group Flow (vph) | 71 | 441 | 1226 | 0 | 60 | 5 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 8.6 | 93.0 | 79.9 | | 8.0 | 8.0 |
| Effective Green, g (s) | 8.6 | 93.0 | 79.9 | | 8.0 | 8.0 |
| Actuated g/C Ratio | 0.08 | 0.85 | 0.73 | | 0.07 | 0.07 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 138 | 1575 | 2501 | | 129 | 115 |
| v/s Ratio Prot | c0.04 | 0.24 | c0.36 | | c0.03 | |
| v/s Ratio Perm | | | | | | 0.00 |
| v/c Ratio | 0.51 | 0.28 | 0.49 | | 0.47 | 0.04 |
| Uniform Delay, d1 | 48.7 | 1.7 | 6.4 | | 48.9 | 47.4 |
| Progression Factor | 1.00 | 1.00 | 0.45 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.2 | 0.4 | 0.5 | | 2.6 | 0.1 |
| Delay (s) | 51.9 | 2.2 | 3.4 | | 51.6 | 47.6 |
| Level of Service | D | A | A | | D | D |
| Approach Delay (s) | | 9.1 | 3.4 | | 49.5 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 8.0 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.49 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 53.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBL | WBT | NBR |
|---|---|---|---|---|
| Lane Group Flow (vph) | 1549 | 217 | 2813 | 162 |
| v/c Ratio | 0.36 | 0.62 | 0.55 | 0.48 |
| Control Delay | 4.5 | 27.5 | 0.1 | 24.8 |
| Queue Delay | 0.0 | 0.0 | 0.1 | 0.1 |
| Total Delay | 4.5 | 27.5 | 0.2 | 24.8 |
| Queue Length 50th (ft) | 128 | 100 | 0 | 52 |
| Queue Length 95th (ft) | 133 | m88 | m0 | 96 |
| Internal Link Dist (ft) | 387 | | 249 | |
| Turn Bay Length (ft) | | | | |
| Base Capacity (vph) | 4315 | 569 | 5085 | 535 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 65 | 0 | 820 | 24 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.36 | 0.38 | 0.66 | 0.32 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 1415 | 10 | 200 | 2588 | 0 | 149 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Lane Util. Factor | 0.86 | | 1.00 | 0.91 | | 1.00 |
| Frt | 1.00 | | 1.00 | 1.00 | | 0.86 |
| Flt Protected | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 6401 | | 1770 | 5085 | | 1611 |
| Flt Permitted | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 6401 | | 1770 | 5085 | | 1611 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1538 | 11 | 217 | 2813 | 0 | 162 |
| RTOR Reduction (vph) | 1 | 0 | 0 | 0 | 0 | 20 |
| Lane Group Flow (vph) | 1548 | 0 | 217 | 2813 | 0 | 142 |
| Turn Type | | | Prot | | | Over |
| Protected Phases | 2 | | 1 | 6 | | 1 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 47.2 | | 13.8 | 70.0 | | 13.8 |
| Effective Green, g (s) | 47.2 | | 13.8 | 70.0 | | 13.8 |
| Actuated g/C Ratio | 0.67 | | 0.20 | 1.00 | | 0.20 |
| Clearance Time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 4316 | | 349 | 5085 | | 318 |
| v/s Ratio Prot | 0.24 | | 0.12 | c0.55 | | 0.09 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.36 | | 0.62 | 0.55 | | 0.45 |
| Uniform Delay, d1 | 4.9 | | 25.7 | 0.0 | | 24.7 |
| Progression Factor | 0.83 | | 1.01 | 1.00 | | 1.00 |
| Incremental Delay, d2 | 0.2 | | 1.0 | 0.1 | | 1.0 |
| Delay (s) | 4.2 | | 26.9 | 0.1 | | 25.7 |
| Level of Service | A | | C | A | | C |
| Approach Delay (s) | 4.2 | | | 2.0 | 25.7 | |
| Approach LOS | A | | | A | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 3.6 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.55 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 53.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 114 | 183 | 318 | 58 | 1499 | 46 | 1243 | 459 | 1003 | 1064 | 70 |
| v/c Ratio | 1.48 | 0.51 | 0.50 | 0.08 | 0.91 | 0.72 | 1.08 | 0.44 | 2.00 | 0.87 | 0.12 |
| Control Delay | 316.7 | 47.7 | 38.2 | 23.6 | 32.7 | 117.5 | 99.0 | 3.3 | 486.0 | 49.6 | 10.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 316.7 | 47.7 | 38.2 | 23.6 | 32.7 | 117.5 | 99.0 | 3.3 | 486.0 | 49.6 | 10.5 |
| Queue Length 50th (ft) | ~143 | 63 | 215 | 31 | 641 | 42 | ~463 | 22 | ~738 | 483 | 9 |
| Queue Length 95th (ft) | #275 | 93 | 360 | 59 | 798 | #111 | #560 | 56 | #871 | #595 | 43 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 77 | 1077 | 638 | 739 | 1648 | 68 | 1155 | 1034 | 502 | 1229 | 607 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.48 | 0.17 | 0.50 | 0.08 | 0.91 | 0.68 | 1.08 | 0.44 | 2.00 | 0.87 | 0.12 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 105 | 120 | 49 | 293 | 53 | 1379 | 42 | 1144 | 422 | 923 | 979 | 64 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | 4.5 | 3.5 | 3.8 | 3.8 | 3.5 | 3.8 | 3.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 1.00 | 0.88 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3057 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1512 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3057 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1512 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 114 | 130 | 53 | 318 | 58 | 1499 | 46 | 1243 | 459 | 1003 | 1064 | 70 |
| RTOR Reduction (vph) | 0 | 43 | 0 | 0 | 0 | 4 | 0 | 0 | 125 | 0 | 0 | 34 |
| Lane Group Flow (vph) | 114 | 140 | 0 | 318 | 58 | 1495 | 46 | 1243 | 334 | 1003 | 1064 | 36 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 6.5 | 14.6 | | 53.6 | 61.7 | 88.7 | 4.7 | 35.7 | 89.3 | 22.5 | 53.5 | 53.5 |
| Effective Green, g (s) | 6.5 | 14.6 | | 53.6 | 61.7 | 88.7 | 4.7 | 35.7 | 89.3 | 22.5 | 53.5 | 53.5 |
| Actuated g/C Ratio | 0.05 | 0.10 | | 0.38 | 0.44 | 0.63 | 0.03 | 0.25 | 0.63 | 0.16 | 0.38 | 0.38 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 4.0 | | 2.0 | 4.5 | 4.5 |
| Lane Grp Cap (vph) | 77 | 315 | | 635 | 735 | 1654 | 54 | 1173 | 913 | 499 | 1223 | 571 |
| v/s Ratio Prot | c0.07 | 0.05 | | 0.19 | 0.03 | c0.57 | 0.03 | c0.27 | 0.23 | c0.32 | 0.33 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.02 |
| v/c Ratio | 1.48 | 0.44 | | 0.50 | 0.08 | 0.90 | 0.85 | 1.06 | 0.37 | 2.01 | 0.87 | 0.06 |
| Uniform Delay, d1 | 67.6 | 59.7 | | 33.8 | 23.4 | 22.8 | 68.2 | 53.0 | 12.6 | 59.6 | 40.9 | 28.1 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 273.2 | 1.7 | | 0.2 | 0.1 | 7.5 | 68.8 | 43.6 | 0.3 | 461.6 | 7.3 | 0.1 |
| Delay (s) | 340.8 | 61.5 | | 34.0 | 23.4 | 30.3 | 137.0 | 96.6 | 12.9 | 521.2 | 48.2 | 28.2 |
| Level of Service | F | E | | C | C | C | F | F | B | F | D | C |
| Approach Delay (s) | | 168.7 | | | 30.7 | | | 75.7 | | | 269.5 | |
| Approach LOS | | F | | | C | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 134.7 | HCM Level of Service | F |
| HCM Volume to Capacity ratio | 1.19 | | |
| Actuated Cycle Length (s) | 141.7 | Sum of lost time (s) | 15.3 |
| Intersection Capacity Utilization | 87.4% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 179 | 1391 | 157 | 1490 | 634 | 74 | 289 | 896 | 555 |
| v/c Ratio | 1.05 | 1.06 | 0.80 | 1.08 | 0.68 | 0.58 | 0.99 | 1.07 | 1.01 |
| Control Delay | 130.3 | 74.6 | 72.8 | 66.1 | 2.9 | 65.5 | 66.9 | 89.0 | 66.0 |
| Queue Delay | 0.0 | 236.3 | 0.0 | 15.1 | 1.6 | 0.0 | 52.4 | 4.0 | 0.0 |
| Total Delay | 130.3 | 310.9 | 72.8 | 81.2 | 4.5 | 65.5 | 119.3 | 93.1 | 66.0 |
| Queue Length 50th (ft) | ~132 | ~560 | 91 | ~592 | 0 | 49 | 61 | ~344 | ~258 |
| Queue Length 95th (ft) | #270 | #698 | m127 | m#687 | m21 | #108 | #236 | #468 | #486 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 170 | 1309 | 216 | 1375 | 934 | 128 | 293 | 838 | 547 |
| Starvation Cap Reductn | 0 | 0 | 0 | 44 | 150 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 438 | 0 | 0 | 0 | 0 | 40 | 8 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.05 | 1.60 | 0.73 | 1.12 | 0.81 | 0.58 | 1.14 | 1.08 | 1.01 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 165 | 1270 | 10 | 144 | 1371 | 583 | 68 | 3 | 263 | 824 | 57 | 454 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | | 1.00 | 0.96 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 | 0.87 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3175 | | 1620 | 3209 | 1435 | 1678 | 1431 | | 3143 | 1420 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3175 | | 1620 | 3209 | 1435 | 1678 | 1431 | | 3143 | 1420 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 179 | 1380 | 11 | 157 | 1490 | 634 | 74 | 3 | 286 | 896 | 62 | 493 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 0 | 305 | 0 | 184 | 0 | 0 | 168 | 0 |
| Lane Group Flow (vph) | 179 | 1390 | 0 | 157 | 1490 | 329 | 74 | 105 | 0 | 896 | 387 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 11.0 | 43.3 | | 12.7 | 45.0 | 45.0 | 8.0 | 8.0 | | 28.0 | 28.0 | |
| Effective Green, g (s) | 11.0 | 43.3 | | 12.7 | 45.0 | 46.0 | 8.0 | 8.0 | | 28.0 | 28.0 | |
| Actuated g/C Ratio | 0.10 | 0.41 | | 0.12 | 0.43 | 0.44 | 0.08 | 0.08 | | 0.27 | 0.27 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 170 | 1309 | | 196 | 1375 | 629 | 128 | 109 | | 838 | 379 | |
| v/s Ratio Prot | 0.11 | c0.44 | | 0.10 | c0.46 | | 0.04 | c0.07 | | c0.29 | 0.27 | |
| v/s Ratio Perm | | | | | | 0.23 | | | | | | |
| v/c Ratio | 1.05 | 1.06 | | 0.80 | 1.08 | 0.52 | 0.58 | 0.96 | | 1.07 | 1.02 | |
| Uniform Delay, d1 | 47.0 | 30.9 | | 44.9 | 30.0 | 21.5 | 46.9 | 48.4 | | 38.5 | 38.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.20 | 0.58 | 0.09 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 83.7 | 43.2 | | 13.1 | 46.3 | 2.0 | 3.9 | 74.0 | | 51.3 | 51.8 | |
| Delay (s) | 130.7 | 74.1 | | 66.8 | 63.7 | 3.9 | 50.8 | 122.4 | | 89.8 | 90.3 | |
| Level of Service | F | E | | E | E | A | D | F | | F | F | |
| Approach Delay (s) | | 80.5 | | | 47.3 | | | 107.8 | | | 90.0 | |
| Approach LOS | | F | | | D | | | F | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 71.3 | HCM Level of Service | E |
| HCM Volume to Capacity ratio | 1.05 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 10.0 |
| Intersection Capacity Utilization | 100.3% | ICU Level of Service | G |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 86 | 2581 | 322 | 1961 | 366 | 824 | 82 | 54 |
| v/c Ratio | 0.57 | 1.11 | 0.92 | 0.75 | 1.06 | 0.96 | 0.92 | 0.48 |
| Control Delay | 40.2 | 72.5 | 70.8 | 16.8 | 108.3 | 50.7 | 126.9 | 39.4 |
| Queue Delay | 0.0 | 70.8 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 | 0.2 |
| Total Delay | 40.2 | 143.4 | 70.8 | 17.7 | 108.3 | 50.7 | 126.9 | 39.7 |
| Queue Length 50th (ft) | 52 | ~720 | 108 | 311 | ~272 | 242 | 56 | 14 |
| Queue Length 95th (ft) | m51 | m#656 | m#152 | 406 | #453 | #307 | #151 | #55 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 170 | 2320 | 353 | 2602 | 344 | 859 | 89 | 112 |
| Starvation Cap Reductn | 0 | 291 | 0 | 186 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 351 | 0 | 0 | 0 | 2 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.51 | 1.27 | 0.91 | 0.87 | 1.06 | 0.96 | 0.92 | 0.49 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 79 | 2186 | 189 | 296 | 1665 | 139 | 299 | 38 | 758 | 75 | 19 | 30 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.91 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.99 | 1.00 | 0.95 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4513 | | 3143 | 4713 | | | 1808 | 2801 | 1562 | 1422 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4513 | | 3143 | 4713 | | | 1808 | 2801 | 1562 | 1422 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 86 | 2376 | 205 | 322 | 1810 | 151 | 325 | 41 | 824 | 82 | 21 | 33 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 9 | 0 | 0 | 0 | 24 | 0 | 31 | 0 |
| Lane Group Flow (vph) | 86 | 2572 | 0 | 322 | 1952 | 0 | 0 | 366 | 800 | 82 | 23 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 8.8 | 53.8 | | 11.7 | 57.2 | | | 20.0 | 31.7 | 6.0 | 6.0 | |
| Effective Green, g (s) | 8.8 | 53.8 | | 11.7 | 57.2 | | | 20.0 | 31.7 | 6.0 | 6.0 | |
| Actuated g/C Ratio | 0.08 | 0.51 | | 0.11 | 0.54 | | | 0.19 | 0.30 | 0.06 | 0.06 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 136 | 2312 | | 350 | 2567 | | | 344 | 846 | 89 | 81 | |
| v/s Ratio Prot | 0.05 | c0.57 | | 0.10 | 0.41 | | | c0.20 | c0.11 | c0.05 | 0.02 | |
| v/s Ratio Perm | | | | | | | | | 0.18 | | | |
| v/c Ratio | 0.63 | 1.11 | | 0.92 | 0.76 | | | 1.06 | 0.95 | 0.92 | 0.28 | |
| Uniform Delay, d1 | 46.5 | 25.6 | | 46.2 | 18.6 | | | 42.5 | 35.8 | 49.3 | 47.4 | |
| Progression Factor | 0.85 | 0.75 | | 1.10 | 0.82 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.6 | 51.2 | | 17.8 | 1.2 | | | 66.5 | 18.8 | 68.9 | 0.7 | |
| Delay (s) | 40.3 | 70.6 | | 68.7 | 16.5 | | | 109.0 | 54.6 | 118.1 | 48.1 | |
| Level of Service | D | E | | E | B | | | F | D | F | D | |
| Approach Delay (s) | | 69.6 | | | 23.8 | | | 71.3 | | | 90.3 | |
| Approach LOS | | E | | | C | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 53.7 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.07 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 90.4% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1674 | 711 | 2071 | 537 | 448 | 427 |
| v/c Ratio | 0.46 | 0.28 | 0.85 | 0.43 | 0.75 | 0.76 |
| Control Delay | 3.9 | 0.0 | 12.8 | 1.4 | 49.3 | 46.0 |
| Queue Delay | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 4.1 | 0.0 | 12.8 | 1.4 | 49.3 | 46.0 |
| Queue Length 50th (ft) | 102 | 0 | 406 | 0 | 148 | 139 |
| Queue Length 95th (ft) | m91 | m0 | 530 | 23 | 204 | #201 |
| Internal Link Dist (ft) | 509 | | 867 | | | |
| Turn Bay Length (ft) | | 400 | | | | 150 |
| Base Capacity (vph) | 3604 | 2533 | 2445 | 1245 | 601 | 562 |
| Starvation Cap Reductn | 840 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 1 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.61 | 0.28 | 0.85 | 0.43 | 0.75 | 0.76 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1540 | 654 | 0 | 1905 | 494 | 0 | 0 | 0 | 412 | 0 | 393 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | | 3.0 |
| Lane Util. Factor | | 0.91 | 0.88 | | 0.95 | 1.00 | | | | 0.97 | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1674 | 711 | 0 | 2071 | 537 | 0 | 0 | 0 | 448 | 0 | 427 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 133 | 0 | 0 | 0 | 0 | 0 | 39 |
| Lane Group Flow (vph) | 0 | 1674 | 711 | 0 | 2071 | 404 | 0 | 0 | 0 | 448 | 0 | 388 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Perm | | | | custom | | custom |
| Protected Phases | | 2 | | | 6 | | | | | 4 | | 4 |
| Permitted Phases | | | 2 4 | | | 6 | | | | 4 | | |
| Actuated Green, G (s) | | 79.0 | 105.0 | | 79.0 | 79.0 | | | | 18.0 | | 18.0 |
| Effective Green, g (s) | | 80.0 | 105.0 | | 80.0 | 79.0 | | | | 19.0 | | 19.0 |
| Actuated g/C Ratio | | 0.76 | 1.00 | | 0.76 | 0.75 | | | | 0.18 | | 0.18 |
| Clearance Time (s) | | 4.0 | | | 4.0 | 4.0 | | | | 4.0 | | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | 4.5 | | | | 4.0 | | 4.0 |
| Lane Grp Cap (vph) | | 3604 | 2533 | | 2445 | 1112 | | | | 601 | | 523 |
| v/s Ratio Prot | | 0.35 | | | c0.65 | | | | | c0.13 | | 0.13 |
| v/s Ratio Perm | | | 0.28 | | | 0.27 | | | | | | |
| v/c Ratio | | 0.46 | 0.28 | | 0.85 | 0.36 | | | | 0.75 | | 0.74 |
| Uniform Delay, d1 | | 4.6 | 0.0 | | 8.4 | 4.4 | | | | 40.7 | | 40.7 |
| Progression Factor | | 0.83 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | | 0.0 | 0.0 | | 3.9 | 0.9 | | | | 5.3 | | 6.0 |
| Delay (s) | | 3.9 | 0.0 | | 12.3 | 5.4 | | | | 46.0 | | 46.6 |
| Level of Service | | A | A | | B | A | | | | D | | D |
| Approach Delay (s) | | 2.7 | | | 10.8 | | | 0.0 | | | 46.3 | |
| Approach LOS | | A | | | B | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 12.8 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.83 | | |
| Actuated Cycle Length (s) | 105.0 | Sum of lost time (s) | 6.0 |
| Intersection Capacity Utilization | 73.1% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 612 | 50 | 35 | 260 | 198 | 428 |
| v/c Ratio | 0.86 | 0.07 | 0.35 | 0.32 | 0.29 | 0.49 |
| Control Delay | 29.6 | 3.5 | 39.2 | 14.0 | 17.5 | 4.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.6 | 3.5 | 39.2 | 14.0 | 17.5 | 4.5 |
| Queue Length 50th (ft) | 196 | 0 | 14 | 67 | 49 | 0 |
| Queue Length 95th (ft) | #334 | 15 | 39 | 122 | 118 | 60 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 800 | 742 | 100 | 823 | 684 | 881 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.77 | 0.07 | 0.35 | 0.32 | 0.29 | 0.49 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 563 | 46 | 32 | 239 | 182 | 394 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1560 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1560 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 612 | 50 | 35 | 260 | 198 | 428 |
| RTOR Reduction (vph) | 0 | 29 | 0 | 0 | 0 | 272 |
| Lane Group Flow (vph) | 612 | 21 | 35 | 260 | 198 | 156 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 27.7 | 27.7 | 1.6 | 29.3 | 23.7 | 23.7 |
| Effective Green, g (s) | 27.7 | 27.7 | 1.6 | 29.3 | 23.7 | 23.7 |
| Actuated g/C Ratio | 0.43 | 0.43 | 0.02 | 0.45 | 0.36 | 0.36 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 715 | 640 | 40 | 824 | 622 | 569 |
| v/s Ratio Prot | c0.36 | | c0.02 | c0.14 | 0.12 | |
| v/s Ratio Perm | | 0.01 | | | | 0.10 |
| v/c Ratio | 0.86 | 0.03 | 0.88 | 0.32 | 0.32 | 0.27 |
| Uniform Delay, d1 | 16.8 | 10.9 | 31.6 | 11.4 | 14.8 | 14.6 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 9.9 | 0.0 | 93.6 | 1.0 | 1.3 | 1.2 |
| Delay (s) | 26.7 | 10.9 | 125.2 | 12.4 | 16.2 | 15.8 |
| Level of Service | C | B | F | B | B | B |
| Approach Delay (s) | 25.5 | | | 25.8 | 15.9 | |
| Approach LOS | C | | | C | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 21.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.62 | | |
| Actuated Cycle Length (s) | 65.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 57.9% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 148 | 183 | 143 | 14 | 1346 | 199 | 1301 |
| v/c Ratio | 0.41 | 0.53 | 0.40 | 0.10 | 0.76 | 1.53 | 0.73 |
| Control Delay | 17.6 | 22.9 | 15.4 | 9.9 | 14.7 | 294.2 | 13.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.6 | 22.9 | 15.4 | 9.9 | 14.7 | 294.2 | 13.8 |
| Queue Length 50th (ft) | 34 | 50 | 28 | 2 | 142 | ~92 | 134 |
| Queue Length 95th (ft) | 73 | 97 | 65 | 13 | #387 | #200 | #365 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 594 | 574 | 577 | 146 | 1769 | 130 | 1780 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.25 | 0.32 | 0.25 | 0.10 | 0.76 | 1.53 | 0.73 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 35 | 80 | 21 | 93 | 75 | 132 | 13 | 1126 | 112 | 183 | 1154 | 43 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | | 0.99 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1529 | | | 1684 | 1305 | 1618 | 3030 | | 1561 | 3058 | |
| Flt Permitted | | 0.89 | | | 0.78 | 1.00 | 0.15 | 1.00 | | 0.14 | 1.00 | |
| Satd. Flow (perm) | | 1372 | | | 1347 | 1305 | 252 | 3030 | | 224 | 3058 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 38 | 87 | 23 | 101 | 82 | 143 | 14 | 1224 | 122 | 199 | 1254 | 47 |
| RTOR Reduction (vph) | 0 | 13 | 0 | 0 | 0 | 26 | 0 | 10 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 135 | 0 | 0 | 183 | 117 | 14 | 1336 | 0 | 199 | 1298 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 14.5 | | | 14.5 | 14.5 | 32.9 | 32.9 | | 32.9 | 32.9 | |
| Effective Green, g (s) | | 14.5 | | | 14.5 | 14.5 | 32.9 | 32.9 | | 32.9 | 32.9 | |
| Actuated g/C Ratio | | 0.26 | | | 0.26 | 0.26 | 0.58 | 0.58 | | 0.58 | 0.58 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 351 | | | 345 | 334 | 146 | 1761 | | 130 | 1778 | |
| v/s Ratio Prot | | | | | | | | 0.44 | | | 0.42 | |
| v/s Ratio Perm | | 0.10 | | | c0.14 | 0.09 | 0.06 | | | c0.89 | | |
| v/c Ratio | | 0.39 | | | 0.53 | 0.35 | 0.10 | 0.76 | | 1.53 | 0.73 | |
| Uniform Delay, d1 | | 17.4 | | | 18.1 | 17.2 | 5.3 | 8.9 | | 11.9 | 8.6 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.0 | | | 2.0 | 0.9 | 0.4 | 2.1 | | 273.7 | 1.6 | |
| Delay (s) | | 18.3 | | | 20.1 | 18.1 | 5.6 | 10.9 | | 285.5 | 10.3 | |
| Level of Service | | B | | | C | B | A | B | | F | B | |
| Approach Delay (s) | | 18.3 | | | 19.2 | | | 10.9 | | | 46.8 | |
| Approach LOS | | B | | | B | | | B | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 28.2 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 1.22 | | |
| Actuated Cycle Length (s) | 56.6 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 73.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 46 | 486 | 347 | 236 | 178 | 26 |
| v/c Ratio | 0.36 | 0.35 | 0.31 | 0.18 | 0.70 | 0.11 |
| Control Delay | 55.2 | 5.8 | 12.4 | 1.1 | 57.6 | 13.7 |
| Queue Delay | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 |
| Total Delay | 55.2 | 5.8 | 12.9 | 1.1 | 57.6 | 13.7 |
| Queue Length 50th (ft) | 31 | 94 | 97 | 0 | 120 | 0 |
| Queue Length 95th (ft) | 68 | 180 | 201 | 23 | 183 | 23 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 152 | 1387 | 1129 | 1482 | 454 | 411 |
| Starvation Cap Reductn | 0 | 0 | 393 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 7 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.30 | 0.35 | 0.47 | 0.16 | 0.39 | 0.06 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 42 | 447 | 319 | 217 | 164 | 24 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1571 | 1562 | 1349 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1571 | 1562 | 1349 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 46 | 486 | 347 | 236 | 178 | 26 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 43 | 0 | 22 |
| Lane Group Flow (vph) | 46 | 486 | 347 | 193 | 178 | 4 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 7.5 | 83.5 | 72.0 | 89.9 | 17.9 | 17.9 |
| Effective Green, g (s) | 7.5 | 83.5 | 72.0 | 89.9 | 17.9 | 17.9 |
| Actuated g/C Ratio | 0.07 | 0.76 | 0.65 | 0.82 | 0.16 | 0.16 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 110 | 1387 | 1116 | 1284 | 254 | 220 |
| v/s Ratio Prot | 0.03 | c0.27 | 0.20 | 0.02 | c0.11 | |
| v/s Ratio Perm | | | | 0.10 | | 0.00 |
| v/c Ratio | 0.42 | 0.35 | 0.31 | 0.15 | 0.70 | 0.02 |
| Uniform Delay, d1 | 49.2 | 4.3 | 8.2 | 2.1 | 43.5 | 38.7 |
| Progression Factor | 1.00 | 1.00 | 1.19 | 3.14 | 1.00 | 1.00 |
| Incremental Delay, d2 | 2.6 | 0.7 | 0.6 | 0.0 | 8.4 | 0.0 |
| Delay (s) | 51.7 | 5.0 | 10.5 | 6.6 | 52.0 | 38.7 |
| Level of Service | D | A | B | A | D | D |
| Approach Delay (s) | | 9.1 | 8.9 | | 50.3 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 15.4 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.41 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 42.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 387 | 273 | 175 | 196 | 370 | 621 | 3 |
| v/c Ratio | 0.52 | 0.35 | 0.73 | 0.19 | 0.75 | 0.86 | 0.04 |
| Control Delay | 22.2 | 2.5 | 62.6 | 11.5 | 45.0 | 26.6 | 45.7 |
| Queue Delay | 0.9 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.0 | 2.7 | 62.6 | 11.5 | 45.0 | 26.6 | 45.7 |
| Queue Length 50th (ft) | 123 | 0 | 119 | 55 | 233 | 155 | 1 |
| Queue Length 95th (ft) | 287 | 18 | #218 | 121 | 327 | 291 | 11 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | | 217 |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 | |
| Base Capacity (vph) | 742 | 775 | 241 | 1044 | 566 | 719 | 82 |
| Starvation Cap Reductn | 148 | 96 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.65 | 0.40 | 0.73 | 0.19 | 0.65 | 0.86 | 0.04 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 356 | 251 | 161 | 179 | 1 | 339 | 2 | 571 | 1 | 1 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | 4.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.99 | | 0.90 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | 0.95 | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.98 | |
| Satd. Flow (prot) | | 1759 | 1465 | 1562 | 1704 | | | 1682 | 1727 | | 1538 | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.98 | |
| Satd. Flow (perm) | | 1759 | 1465 | 1562 | 1704 | | | 1682 | 1727 | | 1538 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 387 | 273 | 175 | 195 | 1 | 368 | 2 | 621 | 1 | 1 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 166 | 0 | 0 | 0 | 0 | 0 | 290 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 387 | 107 | 175 | 196 | 0 | 0 | 370 | 331 | 0 | 2 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 43.2 | 43.2 | 17.0 | 64.2 | | | 32.2 | 27.7 | | 1.0 | |
| Effective Green, g (s) | | 43.2 | 43.2 | 17.0 | 64.2 | | | 27.7 | 27.7 | | 1.0 | |
| Actuated g/C Ratio | | 0.39 | 0.39 | 0.15 | 0.58 | | | 0.25 | 0.25 | | 0.01 | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | 4.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | | 691 | 575 | 241 | 995 | | | 424 | 506 | | 14 | |
| v/s Ratio Prot | | c0.22 | | c0.11 | 0.12 | | | c0.22 | 0.07 | | c0.00 | |
| v/s Ratio Perm | | | 0.07 | | | | | | 0.12 | | | |
| v/c Ratio | | 0.56 | 0.19 | 0.73 | 0.20 | | | 0.87 | 0.66 | | 0.14 | |
| Uniform Delay, d1 | | 26.0 | 21.9 | 44.3 | 10.8 | | | 39.5 | 36.9 | | 54.1 | |
| Progression Factor | | 0.75 | 0.41 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | | 3.1 | 0.7 | 10.4 | 0.4 | | | 17.6 | 3.0 | | 4.7 | |
| Delay (s) | | 22.6 | 9.6 | 54.7 | 11.2 | | | 57.1 | 39.9 | | 58.8 | |
| Level of Service | | C | A | D | B | | | E | D | | E | |
| Approach Delay (s) | | 17.2 | | | 31.7 | | | 46.3 | | | 58.8 | |
| Approach LOS | | B | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 34.2 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.68 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 20.6 |
| Intersection Capacity Utilization | 70.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 61 | 140 | 25 | 200 | 249 | 423 | 26 | 753 | 116 | 389 | 969 |
| v/c Ratio | 0.45 | 0.59 | 0.11 | 0.76 | 0.58 | 0.64 | 0.29 | 0.83 | 0.29 | 0.86 | 0.58 |
| Control Delay | 66.5 | 59.7 | 17.5 | 68.0 | 47.4 | 8.5 | 67.2 | 49.6 | 25.4 | 61.2 | 21.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 66.5 | 59.7 | 17.5 | 68.0 | 47.4 | 8.5 | 67.2 | 49.6 | 25.4 | 61.2 | 21.1 |
| Queue Length 50th (ft) | 48 | 109 | 0 | 156 | 186 | 0 | 21 | 297 | 45 | 296 | 276 |
| Queue Length 95th (ft) | 100 | 178 | 26 | #289 | 276 | 93 | 55 | #413 | 104 | #507 | 390 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 158 | 425 | 373 | 298 | 592 | 751 | 95 | 1023 | 449 | 510 | 1764 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.39 | 0.33 | 0.07 | 0.67 | 0.42 | 0.56 | 0.27 | 0.74 | 0.26 | 0.76 | 0.55 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 56 | 129 | 23 | 184 | 229 | 389 | 24 | 693 | 107 | 358 | 823 | 68 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 3.1 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1444 | 1620 | 1739 | 1392 | 1652 | 3240 | 1331 | 1620 | 3040 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1444 | 1620 | 1739 | 1392 | 1652 | 3240 | 1331 | 1620 | 3040 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 61 | 140 | 25 | 200 | 249 | 423 | 26 | 753 | 116 | 389 | 895 | 74 |
| RTOR Reduction (vph) | 0 | 0 | 21 | 0 | 0 | 320 | 0 | 0 | 30 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 61 | 140 | 4 | 200 | 249 | 103 | 26 | 753 | 86 | 389 | 965 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 7.9 | 17.0 | 17.0 | 19.2 | 29.2 | 29.2 | 4.2 | 34.8 | 34.8 | 33.7 | 64.3 | |
| Effective Green, g (s) | 7.8 | 16.9 | 16.9 | 19.1 | 29.1 | 29.1 | 3.2 | 34.3 | 34.3 | 32.7 | 63.8 | |
| Actuated g/C Ratio | 0.07 | 0.14 | 0.14 | 0.16 | 0.24 | 0.24 | 0.03 | 0.29 | 0.29 | 0.27 | 0.54 | |
| Clearance Time (s) | 3.0 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 108 | 247 | 205 | 260 | 425 | 340 | 44 | 934 | 384 | 445 | 1630 | |
| v/s Ratio Prot | 0.04 | 0.08 | | c0.12 | c0.14 | | 0.02 | c0.23 | | c0.24 | 0.32 | |
| v/s Ratio Perm | | | 0.00 | | | 0.07 | | | 0.06 | | | |
| v/c Ratio | 0.56 | 0.57 | 0.02 | 0.77 | 0.59 | 0.30 | 0.59 | 0.81 | 0.22 | 0.87 | 0.59 | |
| Uniform Delay, d1 | 54.0 | 47.6 | 43.9 | 47.8 | 39.6 | 36.7 | 57.3 | 39.3 | 32.2 | 41.2 | 18.8 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 8.0 | 3.6 | 0.0 | 13.6 | 2.4 | 0.7 | 22.4 | 5.4 | 0.4 | 17.5 | 0.7 | |
| Delay (s) | 61.9 | 51.2 | 44.0 | 61.4 | 42.1 | 37.4 | 79.7 | 44.7 | 32.6 | 58.7 | 19.4 | |
| Level of Service | E | D | D | E | D | D | E | D | C | E | B | |
| Approach Delay (s) | | 53.3 | | | 44.2 | | | 44.2 | | | 30.7 | |
| Approach LOS | | D | | | D | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 39.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.77 | | |
| Actuated Cycle Length (s) | 119.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 70.0% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 74 | 723 | 113 | 1164 | 859 | 393 | 836 | 1198 | 414 | 243 | 20 |
| v/c Ratio | 0.57 | 0.93 | 0.33 | 1.09 | 0.63 | 1.09 | 0.96 | 0.75 | 0.99 | 0.43 | 0.07 |
| Control Delay | 79.0 | 75.8 | 11.3 | 98.2 | 30.9 | 118.0 | 63.3 | 7.2 | 101.4 | 54.2 | 18.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 38.6 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 79.0 | 75.8 | 11.3 | 136.8 | 31.6 | 118.0 | 63.3 | 7.2 | 101.4 | 54.2 | 18.7 |
| Queue Length 50th (ft) | 65 | 240 | 0 | ~609 | 288 | ~397 | 364 | 122 | 196 | 105 | 0 |
| Queue Length 95th (ft) | 120 | #319 | 56 | #750 | 390 | #607 | #524 | 33 | #308 | 150 | 24 |
| Internal Link Dist (ft) | | 238 | | | 392 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 145 | 781 | 342 | 1070 | 1362 | 360 | 875 | 1595 | 419 | 567 | 274 |
| Starvation Cap Reductn | 0 | 0 | 0 | 82 | 211 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.51 | 0.93 | 0.33 | 1.18 | 0.75 | 1.09 | 0.96 | 0.75 | 0.99 | 0.43 | 0.07 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 68 | 665 | 104 | 1071 | 605 | 185 | 362 | 769 | 1102 | 381 | 224 | 18 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3113 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1470 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3113 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1470 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 74 | 723 | 113 | 1164 | 658 | 201 | 393 | 836 | 1198 | 414 | 243 | 20 |
| RTOR Reduction (vph) | 0 | 0 | 94 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 17 |
| Lane Group Flow (vph) | 74 | 723 | 19 | 1164 | 839 | 0 | 393 | 836 | 1198 | 414 | 243 | 4 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 10.0 | 22.0 | 22.0 | 46.0 | 58.0 | | 30.0 | 35.0 | 81.0 | 18.0 | 23.0 | 23.0 |
| Effective Green, g (s) | 10.0 | 23.5 | 23.5 | 46.0 | 59.5 | | 30.0 | 36.5 | 81.0 | 18.0 | 24.5 | 24.5 |
| Actuated g/C Ratio | 0.07 | 0.17 | 0.17 | 0.33 | 0.42 | | 0.21 | 0.26 | 0.58 | 0.13 | 0.18 | 0.18 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 112 | 781 | 248 | 1070 | 1323 | | 360 | 875 | 1566 | 419 | 567 | 257 |
| v/s Ratio Prot | 0.05 | c0.16 | | c0.36 | 0.27 | | c0.23 | c0.25 | 0.44 | c0.13 | 0.08 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | 0.00 |
| v/c Ratio | 0.66 | 0.93 | 0.08 | 1.09 | 0.63 | | 1.09 | 0.96 | 0.77 | 0.99 | 0.43 | 0.01 |
| Uniform Delay, d1 | 63.3 | 57.4 | 49.1 | 47.0 | 31.7 | | 55.0 | 50.9 | 22.3 | 60.9 | 51.5 | 47.8 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.01 | 0.93 | | 0.92 | 0.86 | 0.40 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 14.9 | 18.5 | 0.6 | 53.8 | 2.2 | | 71.0 | 18.4 | 2.1 | 40.5 | 0.7 | 0.0 |
| Delay (s) | 78.3 | 75.9 | 49.7 | 101.2 | 31.6 | | 121.5 | 62.1 | 11.0 | 101.4 | 52.2 | 47.8 |
| Level of Service | E | E | D | F | C | | F | E | B | F | D | D |
| Approach Delay (s) | | 72.8 | | | 71.6 | | | 46.5 | | | 82.2 | |
| Approach LOS | | E | | | E | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 62.9 | HCM Level of Service | E |
| HCM Volume to Capacity ratio | 1.03 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 88.9% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 400 | 2274 | 293 | 1388 | 229 | 233 | 160 | 323 |
| v/c Ratio | 0.92 | 0.97 | 0.81 | 0.85 | 0.73 | 0.74 | 0.37 | 0.88 |
| Control Delay | 72.0 | 50.2 | 62.6 | 50.2 | 65.7 | 65.7 | 8.4 | 51.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 72.0 | 50.2 | 62.6 | 50.2 | 65.7 | 65.7 | 8.4 | 51.8 |
| Queue Length 50th (ft) | 351 | ~607 | 199 | 464 | 207 | 211 | 0 | 65 |
| Queue Length 95th (ft) | #551 | #693 | m#391 | m#553 | 287 | 291 | 56 | #152 |
| Internal Link Dist (ft) | | 660 | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 180 | | 200 | | | |
| Base Capacity (vph) | 433 | 2338 | 363 | 1630 | 402 | 408 | 514 | 367 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.92 | 0.97 | 0.81 | 0.85 | 0.57 | 0.57 | 0.31 | 0.88 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 368 | 1885 | 207 | 270 | 1236 | 41 | 376 | 49 | 147 | 73 | 52 | 172 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.86 | | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | | 0.99 | |
| Satd. Flow (prot) | 1620 | 5770 | | 1678 | 4628 | | 1539 | 1560 | 1513 | | 2982 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | | 0.99 | |
| Satd. Flow (perm) | 1620 | 5770 | | 1678 | 4628 | | 1539 | 1560 | 1513 | | 2982 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 400 | 2049 | 225 | 293 | 1343 | 45 | 409 | 53 | 160 | 79 | 57 | 187 |
| RTOR Reduction (vph) | 0 | 13 | 0 | 0 | 3 | 0 | 0 | 0 | 128 | 0 | 175 | 0 |
| Lane Group Flow (vph) | 400 | 2261 | 0 | 293 | 1385 | 0 | 229 | 233 | 32 | 0 | 148 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 36.4 | 55.5 | | 29.2 | 48.3 | | 27.7 | 27.7 | 27.7 | | 8.4 | |
| Effective Green, g (s) | 37.4 | 56.5 | | 30.2 | 49.3 | | 28.3 | 28.3 | 28.3 | | 9.0 | |
| Actuated g/C Ratio | 0.27 | 0.40 | | 0.22 | 0.35 | | 0.20 | 0.20 | 0.20 | | 0.06 | |
| Clearance Time (s) | 5.0 | 5.0 | | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 433 | 2329 | | 362 | 1630 | | 311 | 315 | 306 | | 192 | |
| v/s Ratio Prot | 0.25 | c0.39 | | 0.17 | c0.30 | | 0.15 | c0.15 | | | c0.05 | |
| v/s Ratio Perm | | | | | | | | | 0.02 | | | |
| v/c Ratio | 0.92 | 0.97 | | 0.81 | 0.85 | | 0.74 | 0.74 | 0.11 | | 0.77 | |
| Uniform Delay, d1 | 49.9 | 40.9 | | 52.2 | 41.9 | | 52.4 | 52.4 | 45.5 | | 64.5 | |
| Progression Factor | 0.95 | 0.94 | | 0.90 | 1.07 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 22.1 | 11.3 | | 10.8 | 4.7 | | 9.3 | 9.4 | 0.2 | | 18.2 | |
| Delay (s) | 69.7 | 49.9 | | 58.0 | 49.5 | | 61.7 | 61.7 | 45.7 | | 82.7 | |
| Level of Service | E | D | | E | D | | E | E | D | | F | |
| Approach Delay (s) | | 52.9 | | | 51.0 | | | 57.6 | | | 82.7 | |
| Approach LOS | | D | | | D | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 54.7 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 81.1% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 208 | 1960 | 141 | 738 | 503 | 272 | 536 | 95 | 703 |
| v/c Ratio | 0.62 | 1.00 | 0.93 | 0.51 | 1.02 | 0.25 | 0.77 | 0.69 | 0.99 |
| Control Delay | 22.6 | 20.6 | 118.3 | 41.1 | 102.6 | 34.5 | 32.9 | 91.2 | 84.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 22.6 | 20.6 | 118.3 | 41.1 | 102.6 | 34.5 | 32.9 | 91.2 | 84.3 |
| Queue Length 50th (ft) | 135 | ~28 | 130 | 201 | ~249 | 94 | 276 | 44 | 331 |
| Queue Length 95th (ft) | m149 | m#704 | #264 | 245 | #364 | 132 | 429 | #87 | #469 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 334 | 1951 | 152 | 1448 | 494 | 1088 | 698 | 137 | 709 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.62 | 1.00 | 0.93 | 0.51 | 1.02 | 0.25 | 0.77 | 0.69 | 0.99 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 191 | 1182 | 621 | 130 | 657 | 22 | 463 | 250 | 493 | 87 | 522 | 125 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 3.1 | 4.0 | | 3.1 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.91 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4471 | | 1652 | 4708 | | 3143 | 3240 | 1659 | 3204 | 3134 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4471 | | 1652 | 4708 | | 3143 | 3240 | 1659 | 3204 | 3134 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 208 | 1285 | 675 | 141 | 714 | 24 | 503 | 272 | 536 | 95 | 567 | 136 |
| RTOR Reduction (vph) | 0 | 68 | 0 | 0 | 3 | 0 | 0 | 0 | 141 | 0 | 15 | 0 |
| Lane Group Flow (vph) | 208 | 1892 | 0 | 141 | 735 | 0 | 503 | 272 | 395 | 95 | 688 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 29.0 | 58.0 | | 13.0 | 42.0 | | 23.0 | 47.4 | 47.4 | 7.0 | 31.4 | |
| Effective Green, g (s) | 28.9 | 59.0 | | 12.9 | 43.0 | | 22.0 | 47.0 | 47.0 | 6.0 | 31.0 | |
| Actuated g/C Ratio | 0.21 | 0.42 | | 0.09 | 0.31 | | 0.16 | 0.34 | 0.34 | 0.04 | 0.22 | |
| Clearance Time (s) | 3.0 | 5.0 | | 3.0 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 334 | 1884 | | 152 | 1446 | | 494 | 1088 | 557 | 137 | 694 | |
| v/s Ratio Prot | 0.13 | c0.42 | | c0.09 | 0.16 | | c0.16 | 0.08 | | 0.03 | c0.22 | |
| v/s Ratio Perm | | | | | | | | | 0.24 | | | |
| v/c Ratio | 0.62 | 1.00 | | 0.93 | 0.51 | | 1.02 | 0.25 | 0.71 | 0.69 | 0.99 | |
| Uniform Delay, d1 | 50.6 | 40.5 | | 63.1 | 39.8 | | 59.0 | 33.7 | 40.5 | 66.1 | 54.4 | |
| Progression Factor | 0.38 | 0.13 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.4 | 13.7 | | 51.9 | 1.3 | | 45.2 | 0.2 | 4.4 | 15.2 | 32.0 | |
| Delay (s) | 20.4 | 18.8 | | 115.0 | 41.1 | | 104.2 | 33.9 | 45.0 | 81.2 | 86.3 | |
| Level of Service | C | B | | F | D | | F | C | D | F | F | |
| Approach Delay (s) | | 18.9 | | | 53.0 | | | 65.4 | | | 85.7 | |
| Approach LOS | | B | | | D | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 46.9 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.00 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 15.1 |
| Intersection Capacity Utilization | 89.4% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 94 | 296 | 966 | 3 | 1266 | 216 | 543 | 872 |
| v/c Ratio | 0.42 | 0.87 | 0.86 | 0.04 | 0.82 | 0.26 | 0.88 | 0.38 |
| Control Delay | 41.1 | 74.1 | 29.8 | 68.7 | 26.6 | 3.8 | 68.9 | 7.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 41.1 | 74.1 | 29.8 | 68.7 | 26.6 | 3.8 | 68.9 | 7.1 |
| Queue Length 50th (ft) | 58 | 254 | 229 | 2 | 602 | 22 | 203 | 98 |
| Queue Length 95th (ft) | 116 | #410 | 333 | m3 | 696 | m41 | #304 | 280 |
| Internal Link Dist (ft) | 387 | 301 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 350 | |
| Base Capacity (vph) | 234 | 358 | 1155 | 72 | 1546 | 818 | 650 | 2265 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.40 | 0.83 | 0.84 | 0.04 | 0.82 | 0.26 | 0.84 | 0.38 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 57 | 3 | 27 | 272 | 0 | 889 | 3 | 1165 | 199 | 500 | 758 | 44 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.96 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.97 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1688 | | | 1770 | 2787 | 1678 | 3355 | 1583 | 3433 | 3437 | |
| Flt Permitted | | 0.46 | | | 0.70 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 806 | | | 1299 | 2787 | 1678 | 3355 | 1583 | 3433 | 3437 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 62 | 3 | 29 | 296 | 0 | 966 | 3 | 1266 | 216 | 543 | 824 | 48 |
| RTOR Reduction (vph) | 0 | 12 | 0 | 0 | 0 | 394 | 0 | 0 | 88 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 82 | 0 | 0 | 296 | 572 | 3 | 1266 | 128 | 543 | 869 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | |
| Actuated Green, G (s) | | 36.7 | | | 36.7 | 36.7 | 1.2 | 64.6 | 64.6 | 25.2 | 88.6 | |
| Effective Green, g (s) | | 36.7 | | | 36.7 | 36.7 | 1.2 | 64.6 | 64.6 | 25.2 | 88.6 | |
| Actuated g/C Ratio | | 0.26 | | | 0.26 | 0.26 | 0.01 | 0.46 | 0.46 | 0.18 | 0.63 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 211 | | | 341 | 731 | 14 | 1548 | 730 | 618 | 2175 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.38 | | c0.16 | 0.25 | |
| v/s Ratio Perm | | 0.10 | | | c0.23 | 0.21 | | | 0.08 | | | |
| v/c Ratio | | 0.39 | | | 0.87 | 0.78 | 0.21 | 0.82 | 0.18 | 0.88 | 0.40 | |
| Uniform Delay, d1 | | 42.4 | | | 49.3 | 47.9 | 68.9 | 32.6 | 22.1 | 55.9 | 12.6 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.06 | 0.68 | 0.48 | 0.98 | 0.57 | |
| Incremental Delay, d2 | | 1.2 | | | 20.1 | 5.5 | 5.3 | 3.5 | 0.4 | 12.0 | 0.5 | |
| Delay (s) | | 43.6 | | | 69.5 | 53.4 | 78.0 | 25.6 | 10.9 | 66.6 | 7.7 | |
| Level of Service | | D | | | E | D | E | C | B | E | A | |
| Approach Delay (s) | | 43.6 | | | 57.2 | | | 23.6 | | | 30.3 | |
| Approach LOS | | D | | | E | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 36.2 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.84 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 79.6% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 114 | 38 | 178 | 145 | 457 | 50 | 597 | 503 | 646 |
| v/c Ratio | 0.31 | 0.12 | 0.66 | 0.36 | 0.70 | 0.34 | 0.76 | 0.85 | 0.36 |
| Control Delay | 29.8 | 9.8 | 42.5 | 30.2 | 9.3 | 47.7 | 33.8 | 41.1 | 10.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.8 | 9.8 | 42.5 | 30.2 | 9.3 | 47.7 | 33.8 | 41.1 | 10.6 |
| Queue Length 50th (ft) | 53 | 0 | 91 | 68 | 0 | 27 | 144 | 249 | 95 |
| Queue Length 95th (ft) | 102 | 24 | 165 | 123 | 87 | 67 | 224 | #461 | 150 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 544 | 455 | 393 | 594 | 748 | 157 | 946 | 744 | 2045 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.21 | 0.08 | 0.45 | 0.24 | 0.61 | 0.32 | 0.63 | 0.68 | 0.32 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 24 | 81 | 35 | 164 | 133 | 420 | 46 | 381 | 168 | 463 | 519 | 75 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.95 | | 1.00 | 0.98 | |
| Flt Protected | | 0.99 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1715 | 1258 | 1620 | 1739 | 1311 | 1711 | 2915 | | 1620 | 3015 | |
| Flt Permitted | | 0.92 | 1.00 | 0.67 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1593 | 1258 | 1151 | 1739 | 1311 | 1711 | 2915 | | 1620 | 3015 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 26 | 88 | 38 | 178 | 145 | 457 | 50 | 414 | 183 | 503 | 564 | 82 |
| RTOR Reduction (vph) | 0 | 0 | 29 | 0 | 0 | 351 | 0 | 50 | 0 | 0 | 11 | 0 |
| Lane Group Flow (vph) | 0 | 114 | 9 | 178 | 145 | 106 | 50 | 547 | 0 | 503 | 635 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 18.9 | 18.9 | 18.9 | 18.9 | 18.9 | 3.6 | 21.9 | | 29.3 | 47.6 | |
| Effective Green, g (s) | | 18.9 | 18.9 | 18.9 | 18.9 | 18.9 | 3.6 | 21.9 | | 29.3 | 47.6 | |
| Actuated g/C Ratio | | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.04 | 0.27 | | 0.36 | 0.58 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 369 | 291 | 267 | 403 | 304 | 75 | 782 | | 582 | 1759 | |
| v/s Ratio Prot | | | | | 0.08 | | 0.03 | c0.19 | | c0.31 | 0.21 | |
| v/s Ratio Perm | | 0.07 | 0.01 | c0.15 | | 0.08 | | | | | | |
| v/c Ratio | | 0.31 | 0.03 | 0.67 | 0.36 | 0.35 | 0.67 | 0.70 | | 0.86 | 0.36 | |
| Uniform Delay, d1 | | 25.9 | 24.3 | 28.5 | 26.3 | 26.2 | 38.4 | 26.9 | | 24.3 | 9.0 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.5 | 0.0 | 6.2 | 0.6 | 0.7 | 20.1 | 3.0 | | 12.7 | 0.2 | |
| Delay (s) | | 26.4 | 24.3 | 34.7 | 26.8 | 26.9 | 58.6 | 29.8 | | 37.0 | 9.1 | |
| Level of Service | | C | C | C | C | C | E | C | | D | A | |
| Approach Delay (s) | | 25.9 | | | 28.7 | | | 32.1 | | | 21.3 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 26.2 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.76 | | |
| Actuated Cycle Length (s) | 81.6 | Sum of lost time (s) | 11.5 |
| Intersection Capacity Utilization | 74.8% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 351 | 505 | 212 | 141 | 659 | 257 | 1291 | 92 | 925 |
| v/c Ratio | 0.75 | 0.94 | 0.44 | 0.93 | 0.84 | 0.90 | 0.69 | 0.59 | 0.83 |
| Control Delay | 67.6 | 73.8 | 16.8 | 118.7 | 60.5 | 88.3 | 35.6 | 90.3 | 31.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 67.6 | 73.8 | 16.8 | 118.7 | 60.6 | 88.3 | 35.7 | 90.3 | 31.1 |
| Queue Length 50th (ft) | 158 | 442 | 49 | 130 | 294 | 230 | 351 | 86 | 191 |
| Queue Length 95th (ft) | #241 | #649 | 126 | #265 | 358 | #386 | 411 | m134 | #486 |
| Internal Link Dist (ft) | | 2946 | | | 522 | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 205 | | 200 | | 370 | |
| Base Capacity (vph) | 469 | 559 | 492 | 152 | 881 | 296 | 1872 | 177 | 1110 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 7 | 0 | 4 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.75 | 0.90 | 0.43 | 0.93 | 0.75 | 0.87 | 0.69 | 0.52 | 0.83 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 323 | 465 | 195 | 130 | 495 | 111 | 236 | 968 | 220 | 85 | 758 | 93 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 12 | 12 | 12 | 10 | 10 | 10 | 12 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.97 | | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3060 | 1845 | 1305 | 1770 | 3432 | | 1652 | 4499 | | 1770 | 3394 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3060 | 1845 | 1305 | 1770 | 3432 | | 1652 | 4499 | | 1770 | 3394 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 351 | 505 | 212 | 141 | 538 | 121 | 257 | 1052 | 239 | 92 | 824 | 101 |
| RTOR Reduction (vph) | 0 | 0 | 98 | 0 | 14 | 0 | 0 | 25 | 0 | 0 | 7 | 0 |
| Lane Group Flow (vph) | 351 | 505 | 114 | 141 | 645 | 0 | 257 | 1266 | 0 | 92 | 918 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | | | | | | | |
| Actuated Green, G (s) | 21.5 | 41.0 | 41.0 | 12.0 | 31.5 | | 24.3 | 57.4 | | 12.4 | 45.5 | |
| Effective Green, g (s) | 21.5 | 41.0 | 41.0 | 12.0 | 31.5 | | 24.3 | 57.4 | | 12.4 | 45.5 | |
| Actuated g/C Ratio | 0.15 | 0.29 | 0.29 | 0.09 | 0.22 | | 0.17 | 0.41 | | 0.09 | 0.32 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 470 | 540 | 382 | 152 | 772 | | 287 | 1845 | | 157 | 1103 | |
| v/s Ratio Prot | 0.11 | c0.27 | | 0.08 | c0.19 | | c0.16 | 0.28 | | 0.05 | c0.27 | |
| v/s Ratio Perm | | | 0.09 | | | | | | | | | |
| v/c Ratio | 0.75 | 0.94 | 0.30 | 0.93 | 0.84 | | 0.90 | 0.69 | | 0.59 | 0.83 | |
| Uniform Delay, d1 | 56.6 | 48.2 | 38.3 | 63.6 | 51.8 | | 56.6 | 33.9 | | 61.3 | 43.7 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.25 | 0.55 | |
| Incremental Delay, d2 | 6.8 | 23.9 | 0.6 | 51.9 | 8.1 | | 28.4 | 2.1 | | 5.7 | 6.6 | |
| Delay (s) | 63.4 | 72.1 | 38.9 | 115.5 | 59.9 | | 85.0 | 36.0 | | 82.5 | 30.5 | |
| Level of Service | E | E | D | F | E | | F | D | | F | C | |
| Approach Delay (s) | | 62.7 | | | 69.7 | | | 44.1 | | | 35.2 | |
| Approach LOS | | E | | | E | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 51.2 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.89 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 17.8 |
| Intersection Capacity Utilization | 83.0% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 64 | 792 | 22 | 711 | 88 | 73 | 312 | 144 | 48 |
| v/c Ratio | 0.61 | 0.79 | 0.23 | 0.79 | 0.31 | 0.16 | 0.90 | 0.28 | 0.59 |
| Control Delay | 75.6 | 26.5 | 55.6 | 32.8 | 36.2 | 9.3 | 69.1 | 7.1 | 76.3 |
| Queue Delay | 0.0 | 1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 75.6 | 28.2 | 55.6 | 32.8 | 36.2 | 9.3 | 69.1 | 7.1 | 76.3 |
| Queue Length 50th (ft) | 44 | 475 | 15 | 457 | 48 | 2 | 204 | 1 | 31 |
| Queue Length 95th (ft) | m#82 | #672 | 42 | 593 | 98 | 38 | #390 | 50 | #91 |
| Internal Link Dist (ft) | | 524 | | 1458 | | 986 | | 462 | |
| Turn Bay Length (ft) | 250 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 105 | 999 | 97 | 942 | 290 | 475 | 351 | 527 | 81 |
| Starvation Cap Reductn | 0 | 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.61 | 0.87 | 0.23 | 0.75 | 0.30 | 0.15 | 0.89 | 0.27 | 0.59 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 59 | 715 | 14 | 20 | 548 | 106 | 81 | 3 | 64 | 287 | 1 | 132 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 12 | 11 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.98 | | 1.00 | 0.86 | | 1.00 | 0.85 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1857 | | 1770 | 1818 | | 1711 | 1595 | | 1770 | 1585 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.61 | 1.00 | | 0.71 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1857 | | 1770 | 1818 | | 1092 | 1595 | | 1322 | 1585 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 64 | 777 | 15 | 22 | 596 | 115 | 88 | 3 | 70 | 312 | 1 | 143 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 52 | 0 | 0 | 105 | 0 |
| Lane Group Flow (vph) | 64 | 792 | 0 | 22 | 711 | 0 | 88 | 21 | 0 | 312 | 39 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 5.3 | 55.5 | | 2.4 | 52.6 | | 28.9 | 28.9 | | 28.9 | 28.9 | |
| Effective Green, g (s) | 5.3 | 55.5 | | 2.4 | 52.6 | | 28.9 | 28.9 | | 28.9 | 28.9 | |
| Actuated g/C Ratio | 0.05 | 0.50 | | 0.02 | 0.48 | | 0.26 | 0.26 | | 0.26 | 0.26 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 85 | 937 | | 39 | 869 | | 287 | 419 | | 347 | 416 | |
| v/s Ratio Prot | c0.04 | c0.43 | | 0.01 | 0.39 | | | 0.01 | | | 0.02 | |
| v/s Ratio Perm | | | | | | | 0.08 | | | c0.24 | | |
| v/c Ratio | 0.75 | 0.84 | | 0.56 | 0.82 | | 0.31 | 0.05 | | 0.90 | 0.09 | |
| Uniform Delay, d1 | 51.7 | 23.5 | | 53.3 | 24.6 | | 32.5 | 30.3 | | 39.1 | 30.6 | |
| Progression Factor | 1.11 | 0.91 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 25.1 | 7.4 | | 17.3 | 8.4 | | 0.6 | 0.1 | | 24.7 | 0.1 | |
| Delay (s) | 82.4 | 28.7 | | 70.6 | 33.0 | | 33.1 | 30.4 | | 63.8 | 30.7 | |
| Level of Service | F | C | | E | C | | C | C | | E | C | |
| Approach Delay (s) | | 32.7 | | | 34.2 | | | 31.9 | | | 53.4 | |
| Approach LOS | | C | | | C | | | C | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 38.4 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.87 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 84.9% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Movement | SWR | SWR2 |
|---|---|---|
| Lane Configurations | | |
| Volume (vph) | 40 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Lane Width | 12 | 12 |
| Total Lost time (s) | 4.5 | |
| Lane Util. Factor | 1.00 | |
| Frpb, ped/bikes | 1.00 | |
| Flpb, ped/bikes | 1.00 | |
| Frt | 0.86 | |
| Flt Protected | 1.00 | |
| Satd. Flow (prot) | 1340 | |
| Flt Permitted | 1.00 | |
| Satd. Flow (perm) | 1340 | |
| Peak-hour factor, PHF | 0.92 | 0.92 |
| Adj. Flow (vph) | 43 | 5 |
| RTOR Reduction (vph) | 4 | 0 |
| Lane Group Flow (vph) | 44 | 0 |
| Confl. Peds. (#/hr) | | |
| Heavy Vehicles (%) | 25% | 2% |
| Parking (#/hr) | | |
| Turn Type | custom | |
| Protected Phases | 9 | |
| Permitted Phases | 9 | |
| Actuated Green, G (s) | 5.2 | |
| Effective Green, g (s) | 5.2 | |
| Actuated g/C Ratio | 0.05 | |
| Clearance Time (s) | 4.5 | |
| Vehicle Extension (s) | 3.0 | |
| Lane Grp Cap (vph) | 63 | |
| v/s Ratio Prot | c0.03 | |
| v/s Ratio Perm | | |
| v/c Ratio | 0.70 | |
| Uniform Delay, d1 | 51.6 | |
| Progression Factor | 1.00 | |
| Incremental Delay, d2 | 29.7 | |
| Delay (s) | 81.3 | |
| Level of Service | F | |
| Approach Delay (s) | | |
| Approach LOS | | |

Intersection Summary

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 178 | 1100 | 7 | 595 | 59 | 110 | 13 | 41 | 374 |
| v/c Ratio | 0.70 | 0.99 | 0.07 | 0.93 | 0.45 | 0.22 | 0.03 | 0.13 | 0.71 |
| Control Delay | 45.3 | 43.0 | 33.7 | 45.2 | 31.2 | 18.9 | 8.8 | 18.1 | 26.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 45.3 | 43.0 | 33.7 | 45.2 | 31.2 | 18.9 | 8.8 | 18.1 | 26.2 |
| Queue Length 50th (ft) | 69 | 359 | 3 | 219 | 20 | 34 | 0 | 12 | 116 |
| Queue Length 95th (ft) | #181 | #915 | 15 | #499 | 53 | 68 | 11 | 33 | 198 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 260 | 1113 | 104 | 642 | 196 | 768 | 554 | 489 | 765 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.68 | 0.99 | 0.07 | 0.93 | 0.30 | 0.14 | 0.02 | 0.08 | 0.49 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 164 | 745 | 267 | 6 | 476 | 72 | 54 | 101 | 12 | 38 | 203 | 141 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1939 | | 1711 | 1680 | | 1652 | 1863 | 1325 | 1643 | 1783 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.27 | 1.00 | 1.00 | 0.69 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1939 | | 1711 | 1680 | | 476 | 1863 | 1325 | 1186 | 1783 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 178 | 810 | 290 | 7 | 517 | 78 | 59 | 110 | 13 | 41 | 221 | 153 |
| RTOR Reduction (vph) | 0 | 13 | 0 | 0 | 7 | 0 | 0 | 0 | 10 | 0 | 38 | 0 |
| Lane Group Flow (vph) | 178 | 1087 | 0 | 7 | 588 | 0 | 59 | 110 | 3 | 41 | 336 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 9.9 | 37.6 | | 0.7 | 28.4 | | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | |
| Effective Green, g (s) | 9.9 | 37.6 | | 0.7 | 28.4 | | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | |
| Actuated g/C Ratio | 0.14 | 0.54 | | 0.01 | 0.41 | | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 244 | 1049 | | 17 | 687 | | 125 | 488 | 347 | 311 | 467 | |
| v/s Ratio Prot | c0.10 | c0.56 | | 0.00 | 0.35 | | | 0.06 | | | c0.19 | |
| v/s Ratio Perm | | | | | | | 0.12 | | 0.00 | 0.03 | | |
| v/c Ratio | 0.73 | 1.04 | | 0.41 | 0.86 | | 0.47 | 0.23 | 0.01 | 0.13 | 0.72 | |
| Uniform Delay, d1 | 28.5 | 15.9 | | 34.2 | 18.7 | | 21.6 | 20.1 | 19.0 | 19.6 | 23.3 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 11.1 | 37.5 | | 20.6 | 10.6 | | 3.8 | 0.3 | 0.0 | 0.3 | 5.6 | |
| Delay (s) | 39.6 | 53.4 | | 54.8 | 29.3 | | 25.4 | 20.4 | 19.0 | 19.9 | 28.9 | |
| Level of Service | D | D | | D | C | | C | C | B | B | C | |
| Approach Delay (s) | | 51.5 | | | 29.6 | | | 21.9 | | | 28.0 | |
| Approach LOS | | D | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 40.1 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.95 | | |
| Actuated Cycle Length (s) | 69.5 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 97.7% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 370 | 467 | 11 | 62 | 305 | 721 | 296 | 96 | 676 | 315 |
| v/c Ratio | 1.15 | 0.61 | 0.12 | 0.23 | 0.91 | 0.52 | 0.43 | 0.83 | 0.69 | 0.47 |
| Control Delay | 128.3 | 10.1 | 43.4 | 19.2 | 65.9 | 18.9 | 11.5 | 89.5 | 29.1 | 5.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 128.3 | 10.1 | 43.4 | 19.2 | 65.9 | 18.9 | 11.5 | 89.5 | 29.1 | 5.8 |
| Queue Length 50th (ft) | ~193 | 45 | 5 | 14 | 133 | 113 | 43 | 43 | 134 | 0 |
| Queue Length 95th (ft) | #507 | 151 | 25 | 44 | #402 | 252 | 152 | #173 | 272 | 64 |
| Internal Link Dist (ft) | | 1442 | | 914 | | 1609 | | | 1977 | |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | | |
| Base Capacity (vph) | 323 | 1031 | 89 | 729 | 334 | 1596 | 777 | 115 | 1199 | 750 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.15 | 0.45 | 0.12 | 0.09 | 0.91 | 0.45 | 0.38 | 0.83 | 0.56 | 0.42 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 340 | 69 | 361 | 10 | 30 | 27 | 284 | 663 | 272 | 88 | 622 | 290 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.87 | | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1711 | 1543 | | 1652 | 1601 | | 1652 | 3240 | 1450 | 1711 | 3355 | 1531 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1711 | 1543 | | 1652 | 1601 | | 1652 | 3240 | 1450 | 1711 | 3355 | 1531 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 370 | 75 | 392 | 11 | 33 | 29 | 305 | 721 | 296 | 96 | 676 | 315 |
| RTOR Reduction (vph) | 0 | 210 | 0 | 0 | 24 | 0 | 0 | 0 | 77 | 0 | 0 | 226 |
| Lane Group Flow (vph) | 370 | 257 | 0 | 11 | 38 | 0 | 305 | 721 | 219 | 96 | 676 | 89 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | 4 |
| Actuated Green, G (s) | 14.3 | 27.6 | | 0.6 | 13.9 | | 15.4 | 32.4 | 32.4 | 5.1 | 22.1 | 22.1 |
| Effective Green, g (s) | 14.3 | 27.6 | | 0.6 | 13.9 | | 15.4 | 32.4 | 32.4 | 5.1 | 22.1 | 22.1 |
| Actuated g/C Ratio | 0.18 | 0.35 | | 0.01 | 0.18 | | 0.20 | 0.41 | 0.41 | 0.07 | 0.28 | 0.28 |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 313 | 545 | | 13 | 285 | | 325 | 1342 | 601 | 112 | 948 | 433 |
| v/s Ratio Prot | c0.22 | c0.17 | | 0.01 | 0.02 | | c0.18 | 0.22 | | 0.06 | c0.20 | |
| v/s Ratio Perm | | | | | | | | | 0.15 | | | 0.06 |
| v/c Ratio | 1.18 | 0.47 | | 0.85 | 0.13 | | 0.94 | 0.54 | 0.36 | 0.86 | 0.71 | 0.21 |
| Uniform Delay, d1 | 32.0 | 19.6 | | 38.8 | 27.1 | | 30.9 | 17.3 | 15.8 | 36.2 | 25.2 | 21.4 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 109.8 | 0.9 | | 170.6 | 0.3 | | 34.1 | 0.5 | 0.5 | 44.9 | 2.7 | 0.3 |
| Delay (s) | 141.8 | 20.5 | | 209.3 | 27.4 | | 65.1 | 17.8 | 16.3 | 81.1 | 27.9 | 21.7 |
| Level of Service | F | C | | F | C | | E | B | B | F | C | C |
| Approach Delay (s) | | 74.1 | | | 54.8 | | | 28.4 | | | 30.8 | |
| Approach LOS | | E | | | D | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 41.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.80 | | |
| Actuated Cycle Length (s) | 78.2 | Sum of lost time (s) | 9.5 |
| Intersection Capacity Utilization | 69.0% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 73 | 26 | 5 | 1340 | 1286 |
| v/c Ratio | 0.48 | 0.18 | 0.02 | 0.48 | 0.47 |
| Control Delay | 56.7 | 18.5 | 2.4 | 3.5 | 3.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 1.7 | 0.0 |
| Total Delay | 56.7 | 18.5 | 2.4 | 5.2 | 3.4 |
| Queue Length 50th (ft) | 50 | 0 | 0 | 110 | 102 |
| Queue Length 95th (ft) | 94 | 26 | 3 | 180 | 167 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 360 | 311 | 299 | 2763 | 2755 |
| Starvation Cap Reductn | 0 | 0 | 0 | 1181 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.20 | 0.08 | 0.02 | 0.85 | 0.47 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 67 | 24 | 5 | 1233 | 1157 | 26 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3229 | |
| Flt Permitted | 0.95 | 1.00 | 0.20 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 350 | 3240 | 3229 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 73 | 26 | 5 | 1340 | 1258 | 28 |
| RTOR Reduction (vph) | 0 | 24 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 73 | 2 | 5 | 1340 | 1285 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 9.0 | 9.0 | 92.0 | 92.0 | 92.0 | |
| Effective Green, g (s) | 9.0 | 9.0 | 92.0 | 92.0 | 92.0 | |
| Actuated g/C Ratio | 0.08 | 0.08 | 0.84 | 0.84 | 0.84 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 135 | 109 | 293 | 2710 | 2701 | |
| v/s Ratio Prot | c0.04 | | | c0.41 | 0.40 | |
| v/s Ratio Perm | | 0.00 | 0.01 | | | |
| v/c Ratio | 0.54 | 0.02 | 0.02 | 0.49 | 0.48 | |
| Uniform Delay, d1 | 48.5 | 46.4 | 1.5 | 2.5 | 2.4 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 4.4 | 0.1 | 0.1 | 0.6 | 0.6 | |
| Delay (s) | 52.9 | 46.5 | 1.6 | 3.2 | 3.0 | |
| Level of Service | D | D | A | A | A | |
| Approach Delay (s) | 51.2 | | | 3.2 | 3.0 | |
| Approach LOS | D | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.8 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.50 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 45.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1691 | 1211 | 670 | 1672 | 848 | 892 |
| v/c Ratio | 0.72 | 0.65 | 0.89 | 0.86 | 0.50 | 0.92 |
| Control Delay | 10.9 | 8.8 | 77.0 | 17.3 | 1.1 | 59.2 |
| Queue Delay | 30.0 | 3.5 | 0.0 | 0.1 | 0.0 | 0.0 |
| Total Delay | 40.9 | 12.3 | 77.0 | 17.4 | 1.1 | 59.2 |
| Queue Length 50th (ft) | 440 | 53 | 320 | 341 | 0 | 441 |
| Queue Length 95th (ft) | 471 | 61 | 389 | 483 | 0 | #584 |
| Internal Link Dist (ft) | 250 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 2364 | 1877 | 797 | 1953 | 1686 | 966 |
| Starvation Cap Reductn | 763 | 555 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 20 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.06 | 0.92 | 0.84 | 0.86 | 0.50 | 0.92 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1556 | 1114 | 616 | 1538 | 0 | 0 | 0 | 780 | 0 | 0 | 821 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 3.5 | 3.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.88 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2733 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2733 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1691 | 1211 | 670 | 1672 | 0 | 0 | 0 | 848 | 0 | 0 | 892 |
| RTOR Reduction (vph) | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1691 | 1195 | 670 | 1672 | 0 | 0 | 0 | 848 | 0 | 0 | 892 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 4 | | 1 | 6 | | | | | | | |
| Permitted Phases | | | 2 4 | | | | | | Free | | | 4 |
| Actuated Green, G (s) | | 97.6 | 97.6 | 33.4 | 81.5 | | | | 140.0 | | | 49.5 |
| Effective Green, g (s) | | 97.6 | 97.6 | 33.4 | 81.5 | | | | 140.0 | | | 49.5 |
| Actuated g/C Ratio | | 0.70 | 0.70 | 0.24 | 0.58 | | | | 1.00 | | | 0.35 |
| Clearance Time (s) | | | | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | | | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 2339 | 1842 | 750 | 1953 | | | | 1686 | | | 966 |
| v/s Ratio Prot | | 0.50 | | 0.21 | c0.50 | | | | | | | |
| v/s Ratio Perm | | | 0.45 | | | | | | 0.50 | | | c0.33 |
| v/c Ratio | | 0.72 | 0.65 | 0.89 | 0.86 | | | | 0.50 | | | 0.92 |
| Uniform Delay, d1 | | 12.9 | 11.7 | 51.6 | 24.4 | | | | 0.0 | | | 43.4 |
| Progression Factor | | 0.74 | 0.69 | 1.27 | 0.54 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 1.3 | 1.2 | 9.9 | 3.8 | | | | 1.1 | | | 15.5 |
| Delay (s) | | 10.9 | 9.2 | 75.5 | 17.0 | | | | 1.1 | | | 58.9 |
| Level of Service | | B | A | E | B | | | | A | | | E |
| Approach Delay (s) | | 10.2 | | | 33.7 | | | 1.1 | | | 58.9 | |
| Approach LOS | | B | | | C | | | A | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 23.2 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 78.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 772 | 1767 | 1202 | 647 | 1098 | 1132 |
| v/c Ratio | 0.82 | 0.53 | 0.63 | 0.72 | 0.68 | 0.74 |
| Control Delay | 23.8 | 0.5 | 12.3 | 19.6 | 2.4 | 3.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.8 | 0.5 | 12.3 | 19.6 | 2.4 | 3.3 |
| Queue Length 50th (ft) | 180 | 0 | 139 | 563 | 0 | 0 |
| Queue Length 95th (ft) | 242 | 0 | 208 | m688 | 0 | 0 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 1010 | 3355 | 1917 | 893 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.76 | 0.53 | 0.63 | 0.72 | 0.68 | 0.74 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 710 | 1626 | 0 | 0 | 1106 | 595 | 0 | 0 | 1010 | 0 | 0 | 1041 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 772 | 1767 | 0 | 0 | 1202 | 647 | 0 | 0 | 1098 | 0 | 0 | 1132 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 772 | 1767 | 0 | 0 | 1202 | 629 | 0 | 0 | 1098 | 0 | 0 | 1132 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 21.0 | 70.0 | | | 40.0 | 40.0 | | | 70.0 | | | 70.0 |
| Effective Green, g (s) | 21.0 | 70.0 | | | 40.0 | 40.0 | | | 70.0 | | | 70.0 |
| Actuated g/C Ratio | 0.30 | 1.00 | | | 0.57 | 0.57 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 943 | 3355 | | | 1917 | 875 | | | 1611 | | | 1528 |
| v/s Ratio Prot | 0.25 | 0.53 | | | 0.36 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.41 | | | 0.68 | | | c0.74 |
| v/c Ratio | 0.82 | 0.53 | | | 0.63 | 0.72 | | | 0.68 | | | 0.74 |
| Uniform Delay, d1 | 22.7 | 0.0 | | | 10.0 | 10.9 | | | 0.0 | | | 0.0 |
| Progression Factor | 0.78 | 1.00 | | | 1.09 | 1.52 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 4.3 | 0.5 | | | 0.9 | 3.0 | | | 2.4 | | | 3.3 |
| Delay (s) | 22.1 | 0.5 | | | 11.9 | 19.5 | | | 2.4 | | | 3.3 |
| Level of Service | C | A | | | B | B | | | A | | | A |
| Approach Delay (s) | | 7.0 | | | 14.6 | | | 2.4 | | | 3.3 | |
| Approach LOS | | A | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 7.7 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.74 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 64.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 523 | 796 | 950 | 298 | 55 | 300 | 876 | 18 | 100 | 1035 | 228 |
| v/c Ratio | 1.19 | 0.98 | 0.54 | 0.77 | 0.14 | 0.94 | 0.76 | 0.04 | 0.67 | 1.01 | 0.42 |
| Control Delay | 129.6 | 53.5 | 1.2 | 50.1 | 12.7 | 82.6 | 35.6 | 17.0 | 66.2 | 65.2 | 18.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 129.6 | 53.5 | 1.2 | 50.1 | 12.7 | 82.6 | 35.6 | 17.0 | 66.2 | 65.2 | 18.6 |
| Queue Length 50th (ft) | ~311 | 481 | 0 | 177 | 5 | 99 | 262 | 4 | 63 | ~351 | 65 |
| Queue Length 95th (ft) | #517 | #746 | 0 | #304 | 36 | #181 | 336 | 20 | #137 | #494 | 133 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 439 | 816 | 1770 | 386 | 398 | 320 | 1147 | 427 | 152 | 1027 | 546 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.19 | 0.98 | 0.54 | 0.77 | 0.14 | 0.94 | 0.76 | 0.04 | 0.66 | 1.01 | 0.42 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 481 | 732 | 874 | 6 | 268 | 51 | 276 | 806 | 17 | 92 | 952 | 210 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 3.6 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.96 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1737 | 1476 | 3204 | 3539 | 1337 | 1652 | 3303 | 1551 |
| Flt Permitted | 0.28 | 1.00 | 1.00 | | 0.90 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 482 | 1739 | 1770 | | 1562 | 1476 | 3204 | 3539 | 1337 | 1652 | 3303 | 1551 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 523 | 796 | 950 | 7 | 291 | 55 | 300 | 876 | 18 | 100 | 1035 | 228 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 33 | 0 | 0 | 6 | 0 | 0 | 63 |
| Lane Group Flow (vph) | 523 | 796 | 950 | 0 | 298 | 22 | 300 | 876 | 12 | 100 | 1035 | 165 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 46.4 | 46.4 | 100.0 | | 24.2 | 24.2 | 9.0 | 31.4 | 31.4 | 8.2 | 30.1 | 30.1 |
| Effective Green, g (s) | 46.9 | 46.9 | 100.0 | | 24.7 | 24.7 | 10.0 | 32.4 | 31.4 | 9.1 | 31.1 | 31.1 |
| Actuated g/C Ratio | 0.47 | 0.47 | 1.00 | | 0.25 | 0.25 | 0.10 | 0.32 | 0.31 | 0.09 | 0.31 | 0.31 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.5 | 5.0 | 5.0 |
| Vehicle Extension (s) | 3.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 439 | 816 | 1770 | | 386 | 365 | 320 | 1147 | 420 | 150 | 1027 | 482 |
| v/s Ratio Prot | c0.22 | 0.46 | | | | | c0.09 | 0.25 | | 0.06 | c0.31 | |
| v/s Ratio Perm | c0.34 | | c0.54 | | 0.19 | 0.01 | | | 0.01 | | | 0.11 |
| v/c Ratio | 1.19 | 0.98 | 0.54 | | 0.77 | 0.06 | 0.94 | 0.76 | 0.03 | 0.67 | 1.01 | 0.34 |
| Uniform Delay, d1 | 21.9 | 26.0 | 0.0 | | 35.0 | 28.8 | 44.7 | 30.4 | 23.7 | 44.0 | 34.5 | 26.6 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 106.7 | 25.4 | 1.2 | | 9.8 | 0.1 | 33.9 | 4.9 | 0.1 | 11.1 | 30.0 | 1.9 |
| Delay (s) | 128.7 | 51.4 | 1.2 | | 44.8 | 28.9 | 78.6 | 35.2 | 23.9 | 55.1 | 64.5 | 28.5 |
| Level of Service | F | D | A | | D | C | E | D | C | E | E | C |
| Approach Delay (s) | | 48.2 | | | 42.3 | | | 46.0 | | | 57.7 | |
| Approach LOS | | D | | | D | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 49.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.09 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 101.6% | ICU Level of Service | G |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBT | WBR | NBT | SBL | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 48 | 90 | 2311 | 141 | 1519 |
| v/c Ratio | 0.43 | 0.63 | 0.55 | 1.64 | 0.52 |
| Control Delay | 70.7 | 66.0 | 5.3 | 336.3 | 2.1 |
| Queue Delay | 0.0 | 0.0 | 0.3 | 0.0 | 1.0 |
| Total Delay | 70.7 | 66.0 | 5.6 | 336.3 | 3.1 |
| Queue Length 50th (ft) | 42 | 62 | 183 | ~187 | 13 |
| Queue Length 95th (ft) | 82 | 118 | 396 | m#221 | m112 |
| Internal Link Dist (ft) | 217 | | 650 | | 443 |
| Turn Bay Length (ft) | | | | 150 | |
| Base Capacity (vph) | 200 | 241 | 4199 | 86 | 2948 |
| Starvation Cap Reductn | 0 | 0 | 1015 | 0 | 1065 |
| Spillback Cap Reductn | 0 | 0 | 115 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.24 | 0.37 | 0.73 | 1.64 | 0.81 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 44 | 0 | 83 | 0 | 2092 | 34 | 130 | 1397 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.98 | | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1562 | 1393 | | 4940 | | 1620 | 3471 | |
| Flt Permitted | | | | | 0.76 | 1.00 | | 1.00 | | 0.06 | 1.00 | |
| Satd. Flow (perm) | | | | | 1245 | 1393 | | 4940 | | 101 | 3471 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 48 | 0 | 90 | 0 | 2274 | 37 | 141 | 1518 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 1 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 48 | 72 | 0 | 2310 | 0 | 141 | 1519 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 12.5 | 12.5 | | 118.9 | | 118.9 | 118.9 | |
| Effective Green, g (s) | | | | | 12.5 | 12.5 | | 118.9 | | 118.9 | 118.9 | |
| Actuated g/C Ratio | | | | | 0.09 | 0.09 | | 0.85 | | 0.85 | 0.85 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 111 | 124 | | 4195 | | 86 | 2948 | |
| v/s Ratio Prot | | | | | | | | 0.47 | | | 0.44 | |
| v/s Ratio Perm | | | | | 0.04 | c0.05 | | | | c1.39 | | |
| v/c Ratio | | | | | 0.43 | 0.58 | | 0.55 | | 1.64 | 0.52 | |
| Uniform Delay, d1 | | | | | 60.4 | 61.2 | | 3.0 | | 10.5 | 2.8 | |
| Progression Factor | | | | | 1.00 | 1.00 | | 1.50 | | 1.87 | 0.56 | |
| Incremental Delay, d2 | | | | | 2.7 | 6.4 | | 0.3 | | 312.5 | 0.3 | |
| Delay (s) | | | | | 63.1 | 67.6 | | 4.8 | | 332.3 | 1.9 | |
| Level of Service | | | | | E | E | | A | | F | A | |
| Approach Delay (s) | | 0.0 | | | 66.0 | | | 4.8 | | | 30.0 | |
| Approach LOS | | A | | | E | | | A | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.0 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 1.54 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 65.3% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 64 | 814 | 913 | 314 | 130 |
| v/c Ratio | 0.45 | 0.63 | 0.44 | 0.79 | 0.29 |
| Control Delay | 58.4 | 13.1 | 9.5 | 54.2 | 7.0 |
| Queue Delay | 0.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 58.4 | 15.0 | 9.5 | 54.2 | 7.0 |
| Queue Length 50th (ft) | 44 | 280 | 88 | 210 | 0 |
| Queue Length 95th (ft) | 88 | 501 | 163 | 286 | 44 |
| Internal Link Dist (ft) | | 522 | 524 | 200 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 158 | 1292 | 2065 | 523 | 559 |
| Starvation Cap Reductn | 0 | 316 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 16 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.41 | 0.83 | 0.44 | 0.60 | 0.23 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 59 | 749 | 734 | 106 | 289 | 120 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.98 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3472 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3472 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 64 | 814 | 798 | 115 | 314 | 130 |
| RTOR Reduction (vph) | 0 | 0 | 8 | 0 | 0 | 101 |
| Lane Group Flow (vph) | 64 | 814 | 905 | 0 | 314 | 29 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 7.5 | 76.3 | 64.3 | | 24.7 | 24.7 |
| Effective Green, g (s) | 7.5 | 76.3 | 64.3 | | 24.7 | 24.7 |
| Actuated g/C Ratio | 0.07 | 0.69 | 0.58 | | 0.22 | 0.22 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 121 | 1292 | 2030 | | 397 | 355 |
| v/s Ratio Prot | 0.04 | c0.44 | 0.26 | | c0.18 | |
| v/s Ratio Perm | | | | | | 0.02 |
| v/c Ratio | 0.53 | 0.63 | 0.45 | | 0.79 | 0.08 |
| Uniform Delay, d1 | 49.5 | 9.2 | 12.8 | | 40.2 | 33.7 |
| Progression Factor | 1.00 | 1.00 | 0.64 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 4.1 | 2.3 | 0.6 | | 10.3 | 0.1 |
| Delay (s) | 53.7 | 11.5 | 8.8 | | 50.5 | 33.8 |
| Level of Service | D | B | A | | D | C |
| Approach Delay (s) | | 14.6 | 8.8 | | 45.6 | |
| Approach LOS | | B | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 18.4 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.67 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 62.9% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBL | WBT | NBR |
|---|---|---|---|---|
| Lane Group Flow (vph) | 2368 | 489 | 2023 | 501 |
| v/c Ratio | 0.74 | 0.74 | 0.40 | 0.83 |
| Control Delay | 13.7 | 22.5 | 0.1 | 32.8 |
| Queue Delay | 0.5 | 2.7 | 0.0 | 0.0 |
| Total Delay | 14.2 | 25.2 | 0.1 | 32.8 |
| Queue Length 50th (ft) | 231 | 172 | 0 | 180 |
| Queue Length 95th (ft) | m332 | m233 | 0 | #296 |
| Internal Link Dist (ft) | 392 | | 250 | |
| Turn Bay Length (ft) | | | | |
| Base Capacity (vph) | 3193 | 746 | 5085 | 680 |
| Starvation Cap Reductn | 0 | 153 | 0 | 0 |
| Spillback Cap Reductn | 374 | 0 | 86 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.84 | 0.82 | 0.40 | 0.74 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 2148 | 30 | 450 | 1861 | 0 | 461 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Lane Util. Factor | 0.86 | | 1.00 | 0.91 | | 1.00 |
| Frt | 1.00 | | 1.00 | 1.00 | | 0.86 |
| Flt Protected | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 6394 | | 1770 | 5085 | | 1611 |
| Flt Permitted | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 6394 | | 1770 | 5085 | | 1611 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 2335 | 33 | 489 | 2023 | 0 | 501 |
| RTOR Reduction (vph) | 3 | 0 | 0 | 0 | 0 | 1 |
| Lane Group Flow (vph) | 2365 | 0 | 489 | 2023 | 0 | 500 |
| Turn Type | | | Prot | | | Over |
| Protected Phases | 2 | | 1 | 6 | | 1 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 34.9 | | 26.1 | 70.0 | | 26.1 |
| Effective Green, g (s) | 34.9 | | 26.1 | 70.0 | | 26.1 |
| Actuated g/C Ratio | 0.50 | | 0.37 | 1.00 | | 0.37 |
| Clearance Time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 3188 | | 660 | 5085 | | 601 |
| v/s Ratio Prot | c0.37 | | 0.28 | 0.40 | | c0.31 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.74 | | 0.74 | 0.40 | | 0.83 |
| Uniform Delay, d1 | 14.0 | | 19.0 | 0.0 | | 20.0 |
| Progression Factor | 0.88 | | 1.02 | 1.00 | | 1.00 |
| Incremental Delay, d2 | 0.8 | | 2.1 | 0.1 | | 9.6 |
| Delay (s) | 13.1 | | 21.5 | 0.1 | | 29.6 |
| Level of Service | B | | C | A | | C |
| Approach Delay (s) | 13.1 | | | 4.3 | 29.6 | |
| Approach LOS | B | | | A | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 10.5 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.78 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 67.7% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 96 | 221 | 262 | 205 | 1051 | 36 | 904 | 208 | 732 | 649 | 54 |
| v/c Ratio | 1.03 | 0.57 | 0.49 | 0.32 | 0.65 | 0.49 | 0.79 | 0.23 | 1.14 | 0.48 | 0.08 |
| Control Delay | 163.8 | 56.3 | 42.6 | 31.2 | 18.5 | 87.6 | 54.0 | 1.7 | 129.3 | 31.6 | 7.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 163.8 | 56.3 | 42.6 | 31.2 | 18.5 | 87.6 | 54.0 | 1.7 | 129.3 | 31.6 | 7.0 |
| Queue Length 50th (ft) | ~98 | 92 | 187 | 128 | 318 | 33 | 285 | 1 | ~417 | 234 | 0 |
| Queue Length 95th (ft) | #218 | 126 | 308 | 195 | 396 | 72 | 340 | 19 | #543 | 297 | 29 |
| Internal Link Dist (ft) | | 705 | | 1637 | | | 209 | | | 1240 | |
| Turn Bay Length (ft) | 200 | | 300 | | 100 | 100 | | 175 | 500 | | |
| Base Capacity (vph) | 93 | 1053 | 533 | 698 | 1620 | 89 | 1209 | 921 | 641 | 1355 | 664 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.03 | 0.21 | 0.49 | 0.29 | 0.65 | 0.40 | 0.75 | 0.23 | 1.14 | 0.48 | 0.08 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 88 | 162 | 41 | 241 | 189 | 967 | 33 | 832 | 191 | 673 | 597 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 10 | 10 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | 4.5 | 3.5 | 3.8 | 3.8 | 3.5 | 3.8 | 3.8 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 1.00 | 0.88 | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.97 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 3093 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1513 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 3093 | | 1678 | 1689 | 2642 | 1620 | 4655 | 1449 | 3143 | 3240 | 1513 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 96 | 176 | 45 | 262 | 205 | 1051 | 36 | 904 | 208 | 732 | 649 | 54 |
| RTOR Reduction (vph) | 0 | 21 | 0 | 0 | 0 | 16 | 0 | 0 | 89 | 0 | 0 | 32 |
| Lane Group Flow (vph) | 96 | 200 | 0 | 262 | 205 | 1035 | 36 | 904 | 119 | 732 | 649 | 22 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | Prot | | pt+ov | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 6 7 | 3 | 8 | 8 1 | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | 7.5 | 16.0 | | 43.1 | 51.6 | 83.8 | 5.2 | 34.2 | 77.3 | 27.7 | 56.7 | 56.7 |
| Effective Green, g (s) | 7.5 | 16.0 | | 43.1 | 51.6 | 83.8 | 5.2 | 34.2 | 77.3 | 27.7 | 56.7 | 56.7 |
| Actuated g/C Ratio | 0.06 | 0.12 | | 0.32 | 0.38 | 0.61 | 0.04 | 0.25 | 0.57 | 0.20 | 0.42 | 0.42 |
| Clearance Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 3.8 | | 3.5 | 3.8 | 3.8 |
| Vehicle Extension (s) | 2.0 | 4.5 | | 2.0 | 4.0 | | 2.0 | 3.0 | | 2.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 92 | 363 | | 531 | 639 | 1624 | 62 | 1168 | 822 | 639 | 1348 | 629 |
| v/s Ratio Prot | c0.06 | 0.06 | | 0.16 | 0.12 | c0.39 | 0.02 | c0.19 | 0.08 | c0.23 | 0.20 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.01 |
| v/c Ratio | 1.04 | 0.55 | | 0.49 | 0.32 | 0.64 | 0.58 | 0.77 | 0.15 | 1.15 | 0.48 | 0.04 |
| Uniform Delay, d1 | 64.4 | 56.8 | | 37.8 | 30.0 | 16.6 | 64.5 | 47.5 | 13.9 | 54.3 | 29.1 | 23.6 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 106.1 | 2.6 | | 0.3 | 0.4 | 0.9 | 8.6 | 3.3 | 0.1 | 83.0 | 0.3 | 0.0 |
| Delay (s) | 170.5 | 59.4 | | 38.0 | 30.4 | 17.6 | 73.1 | 50.7 | 14.0 | 137.3 | 29.3 | 23.6 |
| Level of Service | F | E | | D | C | B | E | D | B | F | C | C |
| Approach Delay (s) | | 93.1 | | | 22.8 | | | 44.8 | | | 84.2 | |
| Approach LOS | | F | | | C | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 53.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.83 | | |
| Actuated Cycle Length (s) | 136.3 | Sum of lost time (s) | 15.3 |
| Intersection Capacity Utilization | 71.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 154 | 1120 | 108 | 1559 | 786 | 53 | 235 | 564 | 281 |
| v/c Ratio | 0.94 | 0.66 | 0.66 | 0.92 | 0.73 | 0.46 | 0.89 | 0.93 | 0.65 |
| Control Delay | 110.8 | 23.3 | 81.2 | 20.6 | 5.5 | 66.4 | 48.6 | 71.2 | 22.7 |
| Queue Delay | 0.0 | 89.0 | 0.0 | 3.8 | 2.3 | 0.0 | 17.1 | 0.0 | 0.0 |
| Total Delay | 110.8 | 112.3 | 81.2 | 24.4 | 7.8 | 66.4 | 65.8 | 71.2 | 22.7 |
| Queue Length 50th (ft) | 121 | 318 | 87 | 578 | 2 | 40 | 42 | 226 | 60 |
| Queue Length 95th (ft) | #255 | 423 | m104 | m#705 | m3 | 83 | #177 | #342 | 161 |
| Internal Link Dist (ft) | | 1637 | | 323 | | | 161 | | 701 |
| Turn Bay Length (ft) | 120 | | 140 | | | 60 | | | |
| Base Capacity (vph) | 163 | 1685 | 203 | 1703 | 1073 | 140 | 284 | 606 | 430 |
| Starvation Cap Reductn | 0 | 0 | 0 | 94 | 166 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 745 | 0 | 0 | 0 | 0 | 42 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.94 | 1.19 | 0.53 | 0.97 | 0.87 | 0.38 | 0.97 | 0.93 | 0.65 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 142 | 1016 | 15 | 99 | 1434 | 723 | 49 | 8 | 208 | 519 | 41 | 217 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 14 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 1.00 | 0.99 | | 1.00 | 0.96 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.86 | | 1.00 | 0.87 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 3171 | | 1620 | 3209 | 1434 | 1678 | 1438 | | 3143 | 1424 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 3171 | | 1620 | 3209 | 1434 | 1678 | 1438 | | 3143 | 1424 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 154 | 1104 | 16 | 108 | 1559 | 786 | 53 | 9 | 226 | 564 | 45 | 236 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 0 | 312 | 0 | 167 | 0 | 0 | 156 | 0 |
| Lane Group Flow (vph) | 154 | 1119 | 0 | 108 | 1559 | 474 | 53 | 68 | 0 | 564 | 125 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | Perm | Split | | | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | 6 | | | | | | |
| Actuated Green, G (s) | 12.1 | 63.8 | | 12.0 | 63.7 | 63.7 | 8.1 | 8.1 | | 23.1 | 23.1 | |
| Effective Green, g (s) | 12.1 | 63.8 | | 12.0 | 63.7 | 63.7 | 8.1 | 8.1 | | 23.1 | 23.1 | |
| Actuated g/C Ratio | 0.10 | 0.53 | | 0.10 | 0.53 | 0.53 | 0.07 | 0.07 | | 0.19 | 0.19 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 163 | 1686 | | 162 | 1703 | 761 | 113 | 97 | | 605 | 274 | |
| v/s Ratio Prot | c0.10 | 0.35 | | 0.07 | c0.49 | | 0.03 | c0.05 | | c0.18 | 0.09 | |
| v/s Ratio Perm | | | | | | 0.33 | | | | | | |
| v/c Ratio | 0.94 | 0.66 | | 0.67 | 0.92 | 0.62 | 0.47 | 0.70 | | 0.93 | 0.46 | |
| Uniform Delay, d1 | 53.6 | 20.3 | | 52.1 | 25.7 | 19.7 | 53.9 | 54.8 | | 47.7 | 42.9 | |
| Progression Factor | 1.00 | 1.00 | | 1.33 | 0.53 | 0.82 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 53.5 | 2.1 | | 4.8 | 6.0 | 2.3 | 1.1 | 17.1 | | 21.4 | 1.2 | |
| Delay (s) | 107.1 | 22.4 | | 73.9 | 19.6 | 18.5 | 55.0 | 71.8 | | 69.0 | 44.1 | |
| Level of Service | F | C | | E | B | B | D | E | | E | D | |
| Approach Delay (s) | | 32.7 | | | 21.7 | | | 68.7 | | | 60.8 | |
| Approach LOS | | C | | | C | | | E | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 34.1 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.91 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 88.9% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 57 | 2020 | 670 | 2213 | 316 | 559 | 70 | 58 |
| v/c Ratio | 0.48 | 1.01 | 0.97 | 0.77 | 1.00 | 0.50 | 0.90 | 0.56 |
| Control Delay | 61.9 | 51.1 | 67.7 | 16.7 | 100.5 | 20.3 | 133.4 | 50.2 |
| Queue Delay | 0.0 | 53.8 | 0.0 | 1.4 | 0.0 | 0.0 | 0.0 | 0.4 |
| Total Delay | 61.9 | 104.9 | 67.7 | 18.0 | 100.5 | 20.3 | 133.4 | 50.6 |
| Queue Length 50th (ft) | 44 | ~589 | 261 | 403 | 247 | 139 | 55 | 19 |
| Queue Length 95th (ft) | m63 | m#699 | m#344 | 498 | #435 | 186 | #148 | #75 |
| Internal Link Dist (ft) | | 323 | | 509 | 1135 | | | 223 |
| Turn Bay Length (ft) | 80 | | 280 | | | 500 | 80 | |
| Base Capacity (vph) | 135 | 2008 | 689 | 2865 | 316 | 1119 | 78 | 103 |
| Starvation Cap Reductn | 0 | 239 | 0 | 418 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 339 | 0 | 0 | 0 | 2 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.42 | 1.14 | 0.97 | 0.90 | 1.00 | 0.50 | 0.90 | 0.57 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 52 | 1689 | 169 | 616 | 1913 | 123 | 259 | 31 | 514 | 64 | 23 | 30 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 11 | 11 | 13 | 13 | 13 | 9 | 9 | 9 |
| Total Lost time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 0.97 | 0.91 | | | 1.00 | 0.88 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.99 | 1.00 | 0.95 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4505 | | 3143 | 4726 | | | 1807 | 2808 | 1562 | 1428 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4505 | | 3143 | 4726 | | | 1807 | 2808 | 1562 | 1428 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 57 | 1836 | 184 | 670 | 2079 | 134 | 282 | 34 | 559 | 70 | 25 | 33 |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 6 | 0 | 0 | 0 | 23 | 0 | 31 | 0 |
| Lane Group Flow (vph) | 57 | 2010 | 0 | 670 | 2207 | 0 | 0 | 316 | 536 | 70 | 27 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Heavy Vehicles (%) | 4% | 6% | 4% | 4% | 5% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Turn Type | Prot | | | Prot | | | Split | | pm+ov | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | 1 | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 8.0 | 53.2 | | 26.3 | 72.0 | | | 21.0 | 47.3 | 6.0 | 6.0 | |
| Effective Green, g (s) | 8.0 | 53.2 | | 26.3 | 72.0 | | | 21.0 | 47.3 | 6.0 | 6.0 | |
| Actuated g/C Ratio | 0.07 | 0.44 | | 0.22 | 0.60 | | | 0.18 | 0.39 | 0.05 | 0.05 | |
| Clearance Time (s) | 3.0 | 4.0 | | 3.5 | 4.0 | | | 3.0 | 3.5 | 3.0 | 3.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 108 | 1997 | | 689 | 2836 | | | 316 | 1107 | 78 | 71 | |
| v/s Ratio Prot | 0.04 | c0.45 | | c0.21 | 0.47 | | | c0.17 | 0.11 | c0.04 | 0.02 | |
| v/s Ratio Perm | | | | | | | | | 0.08 | | | |
| v/c Ratio | 0.53 | 1.01 | | 0.97 | 0.78 | | | 1.00 | 0.48 | 0.90 | 0.38 | |
| Uniform Delay, d1 | 54.2 | 33.4 | | 46.5 | 18.0 | | | 49.5 | 27.2 | 56.7 | 55.2 | |
| Progression Factor | 0.99 | 0.99 | | 1.03 | 0.84 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.5 | 18.5 | | 18.7 | 1.2 | | | 50.6 | 0.1 | 66.4 | 1.2 | |
| Delay (s) | 55.0 | 51.4 | | 66.5 | 16.4 | | | 100.1 | 27.3 | 123.1 | 56.4 | |
| Level of Service | D | D | | E | B | | | F | C | F | E | |
| Approach Delay (s) | | 51.5 | | | 28.0 | | | 53.6 | | | 92.9 | |
| Approach LOS | | D | | | C | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 41.4 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.99 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 86.7% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1236 | 1516 | 2066 | 797 | 611 | 605 |
| v/c Ratio | 0.36 | 0.60 | 0.89 | 0.62 | 0.82 | 0.89 |
| Control Delay | 7.1 | 1.4 | 19.0 | 2.7 | 54.3 | 58.4 |
| Queue Delay | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | 0.1 |
| Total Delay | 7.1 | 1.4 | 19.7 | 2.7 | 54.3 | 58.5 |
| Queue Length 50th (ft) | 123 | 0 | 573 | 0 | 233 | 244 |
| Queue Length 95th (ft) | m129 | m0 | 720 | 32 | #304 | #355 |
| Internal Link Dist (ft) | 509 | | 867 | | | |
| Turn Bay Length (ft) | | 400 | | | | 150 |
| Base Capacity (vph) | 3429 | 2533 | 2327 | 1285 | 747 | 681 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 72 | 0 | 0 | 1 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.36 | 0.60 | 0.92 | 0.62 | 0.82 | 0.89 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1137 | 1395 | 0 | 1901 | 733 | 0 | 0 | 0 | 562 | 0 | 557 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 10 | 10 | 12 | 12 | 12 | 11 | 16 | 14 |
| Total Lost time (s) | | 3.0 | 3.0 | | 3.0 | 4.0 | | | | 3.0 | | 3.0 |
| Lane Util. Factor | | 0.91 | 0.88 | | 0.95 | 1.00 | | | | 0.97 | | 0.88 |
| Frpb, ped/bikes | | 1.00 | 0.98 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Flt Permitted | | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 4730 | 2533 | | 3209 | 1478 | | | | 3319 | | 2888 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1236 | 1516 | 0 | 2066 | 797 | 0 | 0 | 0 | 611 | 0 | 605 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 226 | 0 | 0 | 0 | 0 | 0 | 31 |
| Lane Group Flow (vph) | 0 | 1236 | 1516 | 0 | 2066 | 571 | 0 | 0 | 0 | 611 | 0 | 574 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 6% | 6% | 2% | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 5% |
| Turn Type | | | custom | | | Perm | | | | custom | | custom |
| Protected Phases | | 2 | | | 6 | | | | | 4 | | |
| Permitted Phases | | | 2 4 | | | 6 | | | | 4 | | 4 |
| Actuated Green, G (s) | | 86.0 | 120.0 | | 86.0 | 86.0 | | | | 26.0 | | 26.0 |
| Effective Green, g (s) | | 87.0 | 120.0 | | 87.0 | 86.0 | | | | 27.0 | | 27.0 |
| Actuated g/C Ratio | | 0.72 | 1.00 | | 0.72 | 0.72 | | | | 0.22 | | 0.22 |
| Clearance Time (s) | | 4.0 | | | 4.0 | 4.0 | | | | 4.0 | | 4.0 |
| Vehicle Extension (s) | | 3.0 | | | 4.5 | 4.5 | | | | 4.0 | | 4.0 |
| Lane Grp Cap (vph) | | 3429 | 2533 | | 2327 | 1059 | | | | 747 | | 650 |
| v/s Ratio Prot | | 0.26 | | | c0.64 | | | | | 0.18 | | |
| v/s Ratio Perm | | | 0.60 | | | 0.39 | | | | | | c0.20 |
| v/c Ratio | | 0.36 | 0.60 | | 0.89 | 0.54 | | | | 0.82 | | 0.88 |
| Uniform Delay, d1 | | 6.1 | 0.0 | | 12.7 | 7.9 | | | | 44.2 | | 45.0 |
| Progression Factor | | 1.12 | 1.00 | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | | 0.2 | 0.3 | | 5.5 | 2.0 | | | | 7.3 | | 13.8 |
| Delay (s) | | 7.0 | 0.3 | | 18.3 | 9.8 | | | | 51.5 | | 58.8 |
| Level of Service | | A | A | | B | A | | | | D | | E |
| Approach Delay (s) | | 3.3 | | | 15.9 | | | 0.0 | | | 55.1 | |
| Approach LOS | | A | | | B | | | A | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.8 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.89 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 6.0 |
| Intersection Capacity Utilization | 78.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

## 5: Westgate Shopping Center Drwy & Westgate Pkwy

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 604 | 59 | 63 | 260 | 248 | 428 |
| v/c Ratio | 0.79 | 0.08 | 0.41 | 0.40 | 0.53 | 0.58 |
| Control Delay | 22.1 | 3.5 | 37.5 | 13.8 | 21.7 | 5.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 22.1 | 3.5 | 37.5 | 13.8 | 21.7 | 5.9 |
| Queue Length 50th (ft) | 159 | 0 | 21 | 59 | 73 | 0 |
| Queue Length 95th (ft) | #348 | 16 | #73 | 110 | 136 | 57 |
| Internal Link Dist (ft) | 164 | | | 1970 | 1135 | |
| Turn Bay Length (ft) | | | 125 | | | |
| Base Capacity (vph) | 1072 | 980 | 154 | 1085 | 689 | 884 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.56 | 0.06 | 0.41 | 0.24 | 0.36 | 0.48 |

### Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 556 | 54 | 58 | 239 | 228 | 394 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 10 | 12 | 10 | 13 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1678 | 1501 | 1620 | 1827 | 1705 | 1559 |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1678 | 1501 | 1620 | 1827 | 1705 | 1559 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 604 | 59 | 63 | 260 | 248 | 428 |
| RTOR Reduction (vph) | 0 | 33 | 0 | 0 | 0 | 314 |
| Lane Group Flow (vph) | 604 | 26 | 63 | 260 | 248 | 114 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | Perm | Prot | | | Perm |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | 6 |
| Actuated Green, G (s) | 21.5 | 21.5 | 1.9 | 18.7 | 12.8 | 12.8 |
| Effective Green, g (s) | 21.5 | 21.5 | 1.9 | 18.7 | 12.8 | 12.8 |
| Actuated g/C Ratio | 0.45 | 0.45 | 0.04 | 0.39 | 0.27 | 0.27 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 748 | 670 | 64 | 709 | 453 | 414 |
| v/s Ratio Prot | c0.36 | | c0.04 | 0.14 | c0.15 | |
| v/s Ratio Perm | | 0.02 | | | | 0.07 |
| v/c Ratio | 0.81 | 0.04 | 0.98 | 0.37 | 0.55 | 0.27 |
| Uniform Delay, d1 | 11.6 | 7.5 | 23.1 | 10.5 | 15.2 | 14.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 6.4 | 0.0 | 106.4 | 0.3 | 1.4 | 0.4 |
| Delay (s) | 18.0 | 7.6 | 129.5 | 10.8 | 16.6 | 14.4 |
| Level of Service | B | A | F | B | B | B |
| Approach Delay (s) | 17.0 | | | 34.0 | 15.2 | |
| Approach LOS | B | | | C | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 19.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 48.2 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 56.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 85 | 125 | 138 | 26 | 1140 | 71 | 698 |
| v/c Ratio | 0.24 | 0.36 | 0.37 | 0.06 | 0.58 | 0.33 | 0.36 |
| Control Delay | 15.1 | 18.7 | 12.9 | 7.4 | 9.6 | 13.8 | 7.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 15.1 | 18.7 | 12.9 | 7.4 | 9.6 | 13.8 | 7.2 |
| Queue Length 50th (ft) | 17 | 30 | 19 | 3 | 90 | 9 | 44 |
| Queue Length 95th (ft) | 45 | 68 | 55 | 17 | 254 | 56 | 129 |
| Internal Link Dist (ft) | 726 | 2500 | | | 1318 | | 2867 |
| Turn Bay Length (ft) | | | 100 | 85 | | 100 | |
| Base Capacity (vph) | 738 | 728 | 727 | 447 | 2098 | 234 | 2105 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.12 | 0.17 | 0.19 | 0.06 | 0.54 | 0.30 | 0.33 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 24 | 44 | 10 | 63 | 52 | 127 | 24 | 972 | 76 | 65 | 613 | 29 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 12 | 11 | 11 | 10 | 10 | 13 | 9 | 10 | 15 |
| Total Lost time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 0.97 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | | 0.98 | | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1531 | | | 1685 | 1306 | 1616 | 3039 | | 1561 | 3053 | |
| Flt Permitted | | 0.88 | | | 0.78 | 1.00 | 0.38 | 1.00 | | 0.21 | 1.00 | |
| Satd. Flow (perm) | | 1365 | | | 1357 | 1306 | 650 | 3039 | | 339 | 3053 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 26 | 48 | 11 | 68 | 57 | 138 | 26 | 1057 | 83 | 71 | 666 | 32 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 0 | 45 | 0 | 7 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 0 | 76 | 0 | 0 | 125 | 93 | 26 | 1133 | 0 | 71 | 694 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | 5 | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| Parking (#/hr) | 0 | 0 | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | | 9.9 | | | 9.9 | 9.9 | 28.9 | 28.9 | | 28.9 | 28.9 | |
| Effective Green, g (s) | | 9.9 | | | 9.9 | 9.9 | 28.9 | 28.9 | | 28.9 | 28.9 | |
| Actuated g/C Ratio | | 0.21 | | | 0.21 | 0.21 | 0.60 | 0.60 | | 0.60 | 0.60 | |
| Clearance Time (s) | | 4.6 | | | 4.6 | 4.6 | 4.6 | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | | 282 | | | 280 | 269 | 391 | 1830 | | 204 | 1838 | |
| v/s Ratio Prot | | | | | | | | c0.37 | | | 0.23 | |
| v/s Ratio Perm | | 0.06 | | | c0.09 | 0.07 | 0.04 | | | 0.21 | | |
| v/c Ratio | | 0.27 | | | 0.45 | 0.34 | 0.07 | 0.62 | | 0.35 | 0.38 | |
| Uniform Delay, d1 | | 16.0 | | | 16.7 | 16.3 | 4.0 | 6.1 | | 4.8 | 4.9 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.7 | | | 1.5 | 1.1 | 0.1 | 0.7 | | 1.4 | 0.2 | |
| Delay (s) | | 16.7 | | | 18.2 | 17.3 | 4.1 | 6.8 | | 6.2 | 5.1 | |
| Level of Service | | B | | | B | B | A | A | | A | A | |
| Approach Delay (s) | | 16.7 | | | 17.7 | | | 6.7 | | | 5.2 | |
| Approach LOS | | B | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 7.9 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.58 | | |
| Actuated Cycle Length (s) | 48.0 | Sum of lost time (s) | 9.2 |
| Intersection Capacity Utilization | 60.1% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 20 | 210 | 368 | 180 | 168 | 34 |
| v/c Ratio | 0.07 | 0.24 | 0.50 | 0.15 | 0.38 | 0.08 |
| Control Delay | 19.8 | 6.9 | 12.2 | 0.6 | 15.8 | 6.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 19.8 | 6.9 | 12.2 | 0.6 | 15.8 | 6.9 |
| Queue Length 50th (ft) | 3 | 20 | 39 | 0 | 20 | 0 |
| Queue Length 95th (ft) | 25 | 62 | 179 | 10 | 102 | 18 |
| Internal Link Dist (ft) | | 2500 | 328 | | 1970 | |
| Turn Bay Length (ft) | 100 | | | 100 | | 100 |
| Base Capacity (vph) | 464 | 1827 | 1642 | 1524 | 1245 | 1083 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.04 | 0.11 | 0.22 | 0.12 | 0.13 | 0.03 |

Intersection Summary

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 18 | 193 | 339 | 166 | 155 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 12 | 10 | 14 | 9 | 9 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.98 | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1620 | 1827 | 1705 | 1618 | 1562 | 1362 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1620 | 1827 | 1705 | 1618 | 1562 | 1362 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 20 | 210 | 368 | 180 | 168 | 34 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 59 | 0 | 25 |
| Lane Group Flow (vph) | 20 | 210 | 368 | 121 | 168 | 9 |
| Confl. Peds. (#/hr) | | | | 14 | | 5 |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | Prot | | | pm+ov | | Perm |
| Protected Phases | 5 | 2 | 6 | 4 | 4 | |
| Permitted Phases | | | | 6 | | 4 |
| Actuated Green, G (s) | 0.9 | 21.5 | 16.6 | 27.5 | 10.9 | 10.9 |
| Effective Green, g (s) | 0.9 | 21.5 | 16.6 | 27.5 | 10.9 | 10.9 |
| Actuated g/C Ratio | 0.02 | 0.52 | 0.40 | 0.67 | 0.27 | 0.27 |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 36 | 958 | 690 | 1085 | 415 | 362 |
| v/s Ratio Prot | 0.01 | c0.11 | c0.22 | 0.03 | c0.11 | |
| v/s Ratio Perm | | | | 0.05 | | 0.01 |
| v/c Ratio | 0.56 | 0.22 | 0.53 | 0.11 | 0.40 | 0.02 |
| Uniform Delay, d1 | 19.9 | 5.2 | 9.3 | 2.4 | 12.4 | 11.1 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 17.3 | 0.1 | 0.8 | 0.0 | 0.6 | 0.0 |
| Delay (s) | 37.1 | 5.4 | 10.1 | 2.4 | 13.0 | 11.2 |
| Level of Service | D | A | B | A | B | B |
| Approach Delay (s) | | 8.1 | 7.6 | | 12.7 | |
| Approach LOS | | A | A | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 8.8 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.50 | | |
| Actuated Cycle Length (s) | 41.0 | Sum of lost time (s) | 13.2 |
| Intersection Capacity Utilization | 34.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBT | NBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 217 | 163 | 341 | 299 | 310 | 241 |
| v/c Ratio | 0.61 | 0.38 | 0.72 | 0.32 | 0.54 | 0.41 |
| Control Delay | 43.0 | 8.7 | 39.0 | 12.1 | 30.2 | 13.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 43.0 | 8.7 | 39.0 | 12.1 | 30.2 | 13.8 |
| Queue Length 50th (ft) | 111 | 0 | 168 | 84 | 139 | 41 |
| Queue Length 95th (ft) | 232 | 55 | 341 | 165 | 287 | 124 |
| Internal Link Dist (ft) | 328 | | | 4916 | 905 | |
| Turn Bay Length (ft) | | 350 | 75 | | | 100 |
| Base Capacity (vph) | 756 | 722 | 720 | 1468 | 712 | 716 |
| Starvation Cap Reductn | 5 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.29 | 0.23 | 0.47 | 0.20 | 0.44 | 0.34 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1 | 199 | 150 | 314 | 274 | 1 | 283 | 2 | 222 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 9 | 10 | 10 | 11 | 11 | 16 | 12 | 12 | 12 |
| Total Lost time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | 4.0 | 4.5 | | | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | 1.00 | 0.98 | | | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | | 1758 | 1460 | 1562 | 1704 | | | 1682 | 1724 | | | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | | 1756 | 1460 | 1562 | 1704 | | | 1682 | 1724 | | | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1 | 216 | 163 | 341 | 298 | 1 | 308 | 2 | 241 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 129 | 0 | 0 | 0 | 0 | 0 | 97 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 217 | 34 | 341 | 299 | 0 | 0 | 310 | 144 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | 2 | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Turn Type | Perm | | Perm | Prot | | | Split | | custom | Split | | |
| Protected Phases | | 2 | | 1 | 6 | | 4 7 | 4 7 | 7 | 8 | 8 | |
| Permitted Phases | 2 | | 2 | | | | | | 4 | | | |
| Actuated Green, G (s) | | 18.3 | 18.3 | 27.6 | 49.9 | | | 30.0 | 26.0 | | | |
| Effective Green, g (s) | | 18.3 | 18.3 | 27.6 | 49.9 | | | 30.0 | 26.0 | | | |
| Actuated g/C Ratio | | 0.21 | 0.21 | 0.31 | 0.56 | | | 0.34 | 0.29 | | | |
| Clearance Time (s) | | 4.6 | 4.6 | 4.0 | 4.6 | | | | 4.5 | | | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | | | | 3.0 | | | |
| Lane Grp Cap (vph) | | 361 | 300 | 484 | 955 | | | 567 | 504 | | | |
| v/s Ratio Prot | | | | c0.22 | 0.18 | | | c0.18 | 0.03 | | | |
| v/s Ratio Perm | | c0.12 | 0.02 | | | | | | 0.06 | | | |
| v/c Ratio | | 0.60 | 0.11 | 0.70 | 0.31 | | | 0.55 | 0.29 | | | |
| Uniform Delay, d1 | | 32.0 | 28.7 | 27.1 | 10.4 | | | 24.0 | 24.3 | | | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 2.8 | 0.2 | 4.6 | 0.2 | | | 1.1 | 0.3 | | | |
| Delay (s) | | 34.9 | 28.9 | 31.7 | 10.6 | | | 25.1 | 24.6 | | | |
| Level of Service | | C | C | C | B | | | C | C | | | |
| Approach Delay (s) | | 32.3 | | | 21.9 | | | 24.9 | | | 0.0 | |
| Approach LOS | | C | | | C | | | C | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 25.4 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.61 | | |
| Actuated Cycle Length (s) | 89.0 | Sum of lost time (s) | 12.6 |
| Intersection Capacity Utilization | 61.4% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 166 | 408 | 64 | 245 | 386 | 716 | 24 | 555 | 143 | 271 | 688 |
| v/c Ratio | 0.76 | 0.78 | 0.14 | 0.84 | 0.63 | 0.96 | 0.30 | 0.81 | 0.43 | 0.92 | 0.60 |
| Control Delay | 77.6 | 53.6 | 24.0 | 76.0 | 41.3 | 43.7 | 72.6 | 59.2 | 28.5 | 90.3 | 35.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 77.6 | 53.6 | 24.0 | 76.0 | 41.3 | 43.7 | 72.6 | 59.2 | 28.5 | 90.3 | 35.9 |
| Queue Length 50th (ft) | 143 | 331 | 25 | 209 | 283 | 341 | 21 | 244 | 56 | 243 | 264 |
| Queue Length 95th (ft) | #247 | 464 | 62 | #342 | 401 | #635 | 53 | 314 | 124 | #431 | 335 |
| Internal Link Dist (ft) | | 684 | | | 1889 | | | 1965 | | | 1318 |
| Turn Bay Length (ft) | 125 | | 80 | 100 | | | 50 | | 75 | 130 | |
| Base Capacity (vph) | 247 | 562 | 487 | 331 | 656 | 772 | 84 | 789 | 375 | 293 | 1155 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.67 | 0.73 | 0.13 | 0.74 | 0.59 | 0.93 | 0.29 | 0.70 | 0.38 | 0.92 | 0.60 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 153 | 375 | 59 | 225 | 355 | 659 | 22 | 511 | 132 | 249 | 526 | 107 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 14 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.99 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1452 | 1620 | 1739 | 1391 | 1652 | 3240 | 1331 | 1620 | 2994 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1452 | 1620 | 1739 | 1391 | 1652 | 3240 | 1331 | 1620 | 2994 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 166 | 408 | 64 | 245 | 386 | 716 | 24 | 555 | 143 | 271 | 572 | 116 |
| RTOR Reduction (vph) | 0 | 0 | 18 | 0 | 0 | 260 | 0 | 0 | 52 | 0 | 12 | 0 |
| Lane Group Flow (vph) | 166 | 408 | 46 | 245 | 386 | 456 | 24 | 555 | 91 | 271 | 676 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 17.1 | 38.9 | 38.9 | 23.4 | 45.2 | 45.2 | 4.2 | 29.0 | 29.0 | 24.3 | 49.1 | |
| Effective Green, g (s) | 17.0 | 38.8 | 38.8 | 23.3 | 45.1 | 45.1 | 3.2 | 28.5 | 28.5 | 23.3 | 48.6 | |
| Actuated g/C Ratio | 0.13 | 0.30 | 0.30 | 0.18 | 0.35 | 0.35 | 0.02 | 0.22 | 0.22 | 0.18 | 0.37 | |
| Clearance Time (s) | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 216 | 519 | 434 | 291 | 604 | 483 | 41 | 711 | 292 | 291 | 1120 | |
| v/s Ratio Prot | 0.10 | 0.23 | | c0.15 | 0.22 | | 0.01 | c0.17 | | c0.17 | 0.23 | |
| v/s Ratio Perm | | | 0.03 | | | c0.33 | | | 0.07 | | | |
| v/c Ratio | 0.77 | 0.79 | 0.11 | 0.84 | 0.64 | 0.94 | 0.59 | 0.78 | 0.31 | 0.93 | 0.60 | |
| Uniform Delay, d1 | 54.5 | 41.7 | 33.0 | 51.5 | 35.6 | 41.2 | 62.7 | 47.8 | 42.5 | 52.5 | 32.9 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 15.9 | 8.1 | 0.1 | 20.0 | 2.5 | 27.6 | 22.8 | 5.9 | 0.8 | 35.3 | 1.1 | |
| Delay (s) | 70.5 | 49.9 | 33.1 | 71.5 | 38.1 | 68.8 | 85.5 | 53.6 | 43.3 | 87.8 | 33.9 | |
| Level of Service | E | D | C | E | D | E | F | D | D | F | C | |
| Approach Delay (s) | | 53.6 | | | 60.5 | | | 52.6 | | | 49.2 | |
| Approach LOS | | D | | | E | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 54.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.87 | | |
| Actuated Cycle Length (s) | 129.9 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 75.4% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 47 | 612 | 102 | 1346 | 1206 | 208 | 332 | 621 | 193 | 239 | 15 |
| v/c Ratio | 0.38 | 0.66 | 0.27 | 1.06 | 0.72 | 1.20 | 0.53 | 0.39 | 0.58 | 0.40 | 0.05 |
| Control Delay | 67.7 | 51.0 | 10.0 | 79.5 | 26.8 | 177.6 | 49.6 | 8.5 | 63.2 | 47.0 | 18.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 94.1 | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 67.7 | 51.0 | 10.0 | 173.6 | 30.7 | 177.6 | 49.6 | 8.5 | 63.2 | 47.0 | 18.1 |
| Queue Length 50th (ft) | 37 | 171 | 0 | ~643 | 401 | ~212 | 132 | 86 | 79 | 91 | 0 |
| Queue Length 95th (ft) | 85 | 230 | 49 | #890 | 548 | #410 | 187 | 126 | 129 | 135 | 19 |
| Internal Link Dist (ft) | | 238 | | | 388 | | 443 | | | 309 | |
| Turn Bay Length (ft) | 75 | | 200 | 360 | | 150 | | 275 | 110 | | 100 |
| Base Capacity (vph) | 136 | 1117 | 432 | 1274 | 1726 | 174 | 854 | 1767 | 370 | 855 | 400 |
| Starvation Cap Reductn | 0 | 0 | 0 | 218 | 426 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.35 | 0.55 | 0.24 | 1.27 | 0.93 | 1.20 | 0.39 | 0.35 | 0.52 | 0.28 | 0.04 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 43 | 563 | 94 | 1238 | 848 | 261 | 191 | 305 | 571 | 178 | 220 | 14 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 11 | 11 | 10 | 11 | 11 | 11 | 12 | 11 | 10 | 11 |
| Total Lost time (s) | 3.1 | 4.0 | 4.0 | 3.1 | 4.0 | | 4.0 | 4.0 | 3.1 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.91 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.95 | 0.88 | 0.97 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1562 | 4655 | 1477 | 3255 | 3113 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1471 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1562 | 4655 | 1477 | 3255 | 3113 | | 1678 | 3355 | 2706 | 3255 | 3240 | 1471 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 47 | 612 | 102 | 1346 | 922 | 284 | 208 | 332 | 621 | 193 | 239 | 15 |
| RTOR Reduction (vph) | 0 | 0 | 81 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| Lane Group Flow (vph) | 47 | 612 | 21 | 1346 | 1187 | 0 | 208 | 332 | 621 | 193 | 239 | 3 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | pt+ov | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 7 | 4 | 1 4 | 3 | 8 | |
| Permitted Phases | | | 2 | | | | | | | | | 8 |
| Actuated Green, G (s) | 7.5 | 24.3 | 24.3 | 48.4 | 65.2 | | 13.1 | 22.2 | 70.6 | 12.8 | 21.9 | 21.9 |
| Effective Green, g (s) | 8.4 | 25.8 | 25.8 | 49.3 | 66.7 | | 13.1 | 23.7 | 72.4 | 12.8 | 23.4 | 23.4 |
| Actuated g/C Ratio | 0.07 | 0.20 | 0.20 | 0.39 | 0.53 | | 0.10 | 0.19 | 0.57 | 0.10 | 0.18 | 0.18 |
| Clearance Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | | 4.0 | 5.5 | | 4.0 | 5.5 | 5.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 104 | 948 | 301 | 1267 | 1639 | | 173 | 628 | 1546 | 329 | 598 | 272 |
| v/s Ratio Prot | 0.03 | 0.13 | | c0.41 | c0.38 | | c0.12 | c0.10 | 0.23 | c0.06 | 0.07 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | 0.00 |
| v/c Ratio | 0.45 | 0.65 | 0.07 | 1.06 | 0.72 | | 1.20 | 0.53 | 0.40 | 0.59 | 0.40 | 0.01 |
| Uniform Delay, d1 | 56.9 | 46.3 | 40.7 | 38.7 | 23.0 | | 56.8 | 46.5 | 15.1 | 54.4 | 45.5 | 42.2 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 4.2 | 1.7 | 0.1 | 43.6 | 1.7 | | 133.3 | 1.0 | 0.2 | 3.1 | 0.6 | 0.0 |
| Delay (s) | 61.1 | 48.0 | 40.9 | 82.3 | 24.7 | | 190.1 | 47.5 | 15.3 | 57.6 | 46.1 | 42.2 |
| Level of Service | E | D | D | F | C | | F | D | B | E | D | D |
| Approach Delay (s) | | 47.8 | | | 55.1 | | | 55.8 | | | 50.9 | |
| Approach LOS | | D | | | E | | | E | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 53.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.87 | | |
| Actuated Cycle Length (s) | 126.7 | Sum of lost time (s) | 11.1 |
| Intersection Capacity Utilization | 77.0% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 301 | 2380 | 203 | 1375 | 224 | 226 | 122 | 143 |
| v/c Ratio | 0.85 | 0.83 | 0.87 | 0.71 | 0.72 | 0.72 | 0.30 | 0.77 |
| Control Delay | 71.2 | 31.5 | 88.7 | 35.2 | 62.0 | 61.4 | 8.8 | 59.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 71.2 | 31.5 | 88.7 | 35.2 | 62.0 | 61.4 | 8.8 | 59.0 |
| Queue Length 50th (ft) | 238 | 477 | 169 | 358 | 186 | 188 | 0 | 32 |
| Queue Length 95th (ft) | #419 | 615 | #344 | 472 | 281 | 282 | 50 | #95 |
| Internal Link Dist (ft) | | 660 | | 577 | | 351 | | 533 |
| Turn Bay Length (ft) | 125 | | 180 | | 200 | | | |
| Base Capacity (vph) | 388 | 2860 | 234 | 1939 | 435 | 442 | 516 | 185 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.78 | 0.83 | 0.87 | 0.71 | 0.51 | 0.51 | 0.24 | 0.77 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 277 | 1810 | 380 | 187 | 1228 | 37 | 355 | 59 | 112 | 22 | 44 | 65 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 12 | 10 | 11 | 11 |
| Total Lost time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Util. Factor | 1.00 | 0.86 | | 1.00 | 0.91 | | 0.95 | 0.95 | 1.00 | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 0.98 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 0.97 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 0.99 | |
| Satd. Flow (prot) | 1620 | 5698 | | 1678 | 4631 | | 1539 | 1564 | 1514 | | 3026 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | | 0.99 | |
| Satd. Flow (perm) | 1620 | 5698 | | 1678 | 4631 | | 1539 | 1564 | 1514 | | 3026 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 301 | 1967 | 413 | 203 | 1335 | 40 | 386 | 64 | 122 | 24 | 48 | 71 |
| RTOR Reduction (vph) | 0 | 25 | 0 | 0 | 2 | 0 | 0 | 0 | 97 | 0 | 68 | 0 |
| Lane Group Flow (vph) | 301 | 2355 | 0 | 203 | 1373 | 0 | 224 | 226 | 25 | 0 | 75 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 3 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Turn Type | Prot | | | Prot | | | Split | | Perm | Split | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | 7 | 7 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 27.4 | 63.7 | | 17.0 | 53.3 | | 25.5 | 25.5 | 25.5 | | 4.4 | |
| Effective Green, g (s) | 28.4 | 64.7 | | 18.0 | 54.3 | | 26.1 | 26.1 | 26.1 | | 5.0 | |
| Actuated g/C Ratio | 0.22 | 0.50 | | 0.14 | 0.42 | | 0.20 | 0.20 | 0.20 | | 0.04 | |
| Clearance Time (s) | 5.0 | 5.0 | | 5.0 | 5.0 | | 4.6 | 4.6 | 4.6 | | 4.6 | |
| Vehicle Extension (s) | 4.0 | 6.0 | | 4.0 | 6.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | |
| Lane Grp Cap (vph) | 354 | 2840 | | 233 | 1937 | | 309 | 314 | 304 | | 117 | |
| v/s Ratio Prot | c0.19 | c0.41 | | 0.12 | 0.30 | | c0.15 | 0.14 | | | c0.02 | |
| v/s Ratio Perm | | | | | | | | | 0.02 | | | |
| v/c Ratio | 0.85 | 0.83 | | 0.87 | 0.71 | | 0.72 | 0.72 | 0.08 | | 0.64 | |
| Uniform Delay, d1 | 48.7 | 27.8 | | 54.8 | 31.2 | | 48.5 | 48.4 | 42.1 | | 61.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 18.0 | 2.5 | | 28.6 | 1.8 | | 8.7 | 8.2 | 0.2 | | 12.2 | |
| Delay (s) | 66.7 | 30.3 | | 83.4 | 33.0 | | 57.2 | 56.6 | 42.3 | | 73.7 | |
| Level of Service | E | C | | F | C | | E | E | D | | E | |
| Approach Delay (s) | | 34.4 | | | 39.5 | | | 53.8 | | | 73.7 | |
| Approach LOS | | C | | | D | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 39.4 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.79 | | |
| Actuated Cycle Length (s) | 129.8 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 71.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 185 | 1668 | 233 | 997 | 267 | 184 | 300 | 27 | 290 |
| v/c Ratio | 0.73 | 0.85 | 0.95 | 0.51 | 0.82 | 0.21 | 0.45 | 0.24 | 0.51 |
| Control Delay | 54.3 | 28.3 | 86.4 | 21.9 | 61.0 | 25.2 | 5.4 | 49.7 | 23.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.3 | 28.3 | 86.4 | 21.9 | 61.0 | 25.2 | 5.4 | 49.7 | 23.0 |
| Queue Length 50th (ft) | 92 | 263 | 123 | 141 | 72 | 38 | 0 | 7 | 46 |
| Queue Length 95th (ft) | #235 | #510 | #334 | 251 | #176 | 70 | 56 | 24 | 82 |
| Internal Link Dist (ft) | | 793 | | 1183 | | 1977 | | | 633 |
| Turn Bay Length (ft) | 140 | | 125 | | 130 | | 130 | 130 | |
| Base Capacity (vph) | 278 | 1955 | 245 | 1941 | 326 | 1365 | 873 | 111 | 1141 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.67 | 0.85 | 0.95 | 0.51 | 0.82 | 0.13 | 0.34 | 0.24 | 0.25 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 170 | 1129 | 406 | 214 | 901 | 17 | 246 | 169 | 276 | 25 | 165 | 102 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 11 | 10 | 10 | 13 | 10 | 10 | 14 | 10 | 10 | 10 |
| Total Lost time (s) | 3.1 | 4.0 | | 3.1 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 0.91 | | 1.00 | 0.91 | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1620 | 4535 | | 1652 | 4719 | | 3143 | 3240 | 1660 | 3204 | 3032 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1620 | 4535 | | 1652 | 4719 | | 3143 | 3240 | 1660 | 3204 | 3032 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 185 | 1227 | 441 | 233 | 979 | 18 | 267 | 184 | 300 | 27 | 179 | 111 |
| RTOR Reduction (vph) | 0 | 57 | 0 | 0 | 2 | 0 | 0 | 0 | 219 | 0 | 92 | 0 |
| Lane Group Flow (vph) | 185 | 1611 | 0 | 233 | 995 | 0 | 267 | 184 | 81 | 27 | 198 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Actuated Green, G (s) | 13.8 | 35.7 | | 13.1 | 35.0 | | 10.1 | 24.5 | 24.5 | 1.5 | 15.9 | |
| Effective Green, g (s) | 13.7 | 36.7 | | 13.0 | 36.0 | | 9.1 | 24.1 | 24.1 | 0.5 | 15.5 | |
| Actuated g/C Ratio | 0.15 | 0.41 | | 0.15 | 0.40 | | 0.10 | 0.27 | 0.27 | 0.01 | 0.17 | |
| Clearance Time (s) | 3.0 | 5.0 | | 3.0 | 5.0 | | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | |
| Vehicle Extension (s) | 3.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 248 | 1862 | | 240 | 1900 | | 320 | 873 | 447 | 18 | 526 | |
| v/s Ratio Prot | 0.11 | c0.36 | | c0.14 | 0.21 | | c0.08 | 0.06 | | 0.01 | c0.07 | |
| v/s Ratio Perm | | | | | | | | | 0.05 | | | |
| v/c Ratio | 0.75 | 0.87 | | 0.97 | 0.52 | | 0.83 | 0.21 | 0.18 | 1.50 | 0.38 | |
| Uniform Delay, d1 | 36.2 | 24.1 | | 38.0 | 20.2 | | 39.4 | 25.3 | 25.1 | 44.5 | 32.7 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 11.5 | 4.6 | | 49.8 | 0.3 | | 17.5 | 0.2 | 0.3 | 395.6 | 0.6 | |
| Delay (s) | 47.7 | 28.7 | | 87.9 | 20.6 | | 56.9 | 25.5 | 25.3 | 440.1 | 33.3 | |
| Level of Service | D | C | | F | C | | E | C | C | F | C | |
| Approach Delay (s) | | 30.6 | | | 33.3 | | | 36.6 | | | 67.9 | |
| Approach LOS | | C | | | C | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 35.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.74 | | |
| Actuated Cycle Length (s) | 89.4 | Sum of lost time (s) | 11.1 |
| Intersection Capacity Utilization | 72.2% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 21 | 215 | 343 | 5 | 824 | 276 | 667 | 785 |
| v/c Ratio | 0.07 | 0.78 | 0.40 | 0.05 | 0.57 | 0.33 | 0.82 | 0.33 |
| Control Delay | 26.7 | 59.2 | 4.9 | 48.0 | 20.7 | 3.0 | 48.5 | 8.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.7 | 59.2 | 4.9 | 48.0 | 20.7 | 3.0 | 48.5 | 8.5 |
| Queue Length 50th (ft) | 9 | 143 | 0 | 3 | 143 | 6 | 229 | 98 |
| Queue Length 95th (ft) | 29 | 217 | 37 | m9 | 184 | 20 | 286 | 201 |
| Internal Link Dist (ft) | 387 | 301 | | | 727 | | | 650 |
| Turn Bay Length (ft) | | | 250 | 155 | | | 350 | |
| Base Capacity (vph) | 370 | 354 | 994 | 93 | 1448 | 840 | 927 | 2372 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.06 | 0.61 | 0.35 | 0.05 | 0.57 | 0.33 | 0.72 | 0.33 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 15 | 0 | 5 | 196 | 2 | 316 | 5 | 758 | 254 | 614 | 675 | 47 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 16 | 12 | 16 | 12 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 16 |
| Total Lost time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 0.88 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.97 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | | 0.96 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1697 | | | 1775 | 2787 | 1678 | 3355 | 1583 | 3433 | 3432 | |
| Flt Permitted | | 0.78 | | | 0.71 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1374 | | | 1328 | 2787 | 1678 | 3355 | 1583 | 3433 | 3432 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 16 | 0 | 5 | 213 | 2 | 343 | 5 | 824 | 276 | 667 | 734 | 51 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 0 | 271 | 0 | 0 | 157 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 17 | 0 | 0 | 215 | 72 | 5 | 824 | 119 | 667 | 782 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Heavy Vehicles (%) | 4% | 2% | 4% | 2% | 2% | 2% | 4% | 4% | 2% | 2% | 4% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Parking (#/hr) | 0 | | 0 | | | | | | | | | |
| Turn Type | Perm | | | Perm | | Perm | Prot | | Perm | Prot | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | |
| Actuated Green, G (s) | | 23.0 | | | 23.0 | 23.0 | 1.2 | 47.4 | 47.4 | 26.1 | 72.3 | |
| Effective Green, g (s) | | 23.0 | | | 23.0 | 23.0 | 1.2 | 47.4 | 47.4 | 26.1 | 72.3 | |
| Actuated g/C Ratio | | 0.21 | | | 0.21 | 0.21 | 0.01 | 0.43 | 0.43 | 0.24 | 0.66 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 287 | | | 278 | 583 | 18 | 1446 | 682 | 815 | 2256 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.25 | | c0.19 | 0.23 | |
| v/s Ratio Perm | | 0.01 | | | c0.16 | 0.03 | | | 0.08 | | | |
| v/c Ratio | | 0.06 | | | 0.77 | 0.12 | 0.28 | 0.57 | 0.17 | 0.82 | 0.35 | |
| Uniform Delay, d1 | | 34.8 | | | 41.0 | 35.3 | 54.0 | 23.6 | 19.3 | 39.7 | 8.4 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 0.95 | 0.74 | 0.62 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.1 | | | 12.6 | 0.1 | 7.7 | 1.5 | 0.5 | 6.4 | 0.4 | |
| Delay (s) | | 34.9 | | | 53.6 | 35.4 | 58.9 | 19.1 | 12.4 | 46.1 | 8.8 | |
| Level of Service | | C | | | D | D | E | B | B | D | A | |
| Approach Delay (s) | | 34.9 | | | 42.4 | | | 17.6 | | | 25.9 | |
| Approach LOS | | C | | | D | | | B | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 26.0 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.69 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 63.1% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 210 | 67 | 116 | 126 | 300 | 60 | 492 | 229 | 413 |
| v/c Ratio | 0.52 | 0.17 | 0.45 | 0.27 | 0.52 | 0.27 | 0.59 | 0.58 | 0.29 |
| Control Delay | 25.6 | 7.0 | 26.7 | 20.8 | 6.6 | 33.5 | 22.4 | 29.0 | 12.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 25.6 | 7.0 | 26.7 | 20.8 | 6.6 | 33.5 | 22.4 | 29.0 | 12.1 |
| Queue Length 50th (ft) | 60 | 0 | 32 | 33 | 0 | 19 | 69 | 68 | 47 |
| Queue Length 95th (ft) | 160 | 29 | 101 | 96 | 57 | 71 | 167 | 184 | 105 |
| Internal Link Dist (ft) | 315 | | | 2946 | | | 238 | | 1965 |
| Turn Bay Length (ft) | | 100 | 75 | | 75 | 100 | | 100 | |
| Base Capacity (vph) | 797 | 715 | 514 | 944 | 848 | 278 | 1489 | 791 | 2365 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.26 | 0.09 | 0.23 | 0.13 | 0.35 | 0.22 | 0.33 | 0.29 | 0.17 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 70 | 123 | 62 | 107 | 116 | 276 | 55 | 348 | 105 | 211 | 333 | 47 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.98 | |
| Flt Protected | | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1703 | 1260 | 1620 | 1739 | 1316 | 1711 | 2955 | | 1620 | 3018 | |
| Flt Permitted | | 0.85 | 1.00 | 0.56 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1472 | 1260 | 947 | 1739 | 1316 | 1711 | 2955 | | 1620 | 3018 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 76 | 134 | 67 | 116 | 126 | 300 | 60 | 378 | 114 | 229 | 362 | 51 |
| RTOR Reduction (vph) | 0 | 0 | 49 | 0 | 0 | 219 | 0 | 29 | 0 | 0 | 12 | 0 |
| Lane Group Flow (vph) | 0 | 210 | 18 | 116 | 126 | 81 | 60 | 463 | 0 | 229 | 401 | 0 |
| Confl. Peds. (#/hr) | 14 | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Parking (#/hr) | | | 0 | | | 0 | | 0 | 0 | | 0 | 0 |
| Turn Type | Perm | | Perm | Perm | | Perm | Prot | | | Prot | | |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | 4 | | | | | | |
| Actuated Green, G (s) | | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 4.4 | 18.2 | | 14.8 | 28.6 | |
| Effective Green, g (s) | | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 4.4 | 18.2 | | 14.8 | 28.6 | |
| Actuated g/C Ratio | | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.07 | 0.30 | | 0.24 | 0.47 | |
| Clearance Time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.5 | | 3.0 | 4.5 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | | 398 | 341 | 256 | 470 | 356 | 123 | 882 | | 393 | 1415 | |
| v/s Ratio Prot | | | | | 0.07 | | 0.04 | c0.16 | | c0.14 | 0.13 | |
| v/s Ratio Perm | | c0.14 | 0.01 | 0.12 | | 0.06 | | | | | | |
| v/c Ratio | | 0.53 | 0.05 | 0.45 | 0.27 | 0.23 | 0.49 | 0.53 | | 0.58 | 0.28 | |
| Uniform Delay, d1 | | 18.9 | 16.5 | 18.5 | 17.5 | 17.3 | 27.2 | 17.8 | | 20.4 | 9.9 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.3 | 0.1 | 1.3 | 0.3 | 0.3 | 3.0 | 0.7 | | 2.2 | 0.2 | |
| Delay (s) | | 20.2 | 16.5 | 19.8 | 17.8 | 17.6 | 30.2 | 18.5 | | 22.6 | 10.1 | |
| Level of Service | | C | B | B | B | B | C | B | | C | B | |
| Approach Delay (s) | | 19.3 | | | 18.1 | | | 19.8 | | | 14.5 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.54 | | |
| Actuated Cycle Length (s) | 61.0 | Sum of lost time (s) | 11.5 |
| Intersection Capacity Utilization | 61.0% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 161 | 200 | 117 | 146 | 462 | 152 | 844 | 82 | 873 |
| v/c Ratio | 0.48 | 0.66 | 0.38 | 0.65 | 0.63 | 0.67 | 0.39 | 0.48 | 0.62 |
| Control Delay | 50.5 | 53.4 | 10.4 | 56.7 | 38.8 | 59.5 | 20.2 | 56.7 | 27.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.5 | 53.4 | 10.4 | 56.7 | 38.8 | 59.5 | 20.2 | 56.7 | 27.6 |
| Queue Length 50th (ft) | 56 | 134 | 0 | 102 | 117 | 102 | 139 | 45 | 281 |
| Queue Length 95th (ft) | 87 | 200 | 47 | 167 | 193 | 171 | 196 | m100 | 377 |
| Internal Link Dist (ft) | | 2946 | | | 522 | | 956 | | 727 |
| Turn Bay Length (ft) | 240 | | 200 | 205 | | 200 | | 370 | |
| Base Capacity (vph) | 473 | 409 | 381 | 257 | 833 | 250 | 2179 | 186 | 1416 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.34 | 0.49 | 0.31 | 0.57 | 0.55 | 0.61 | 0.39 | 0.44 | 0.62 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 148 | 184 | 108 | 134 | 240 | 185 | 140 | 651 | 125 | 75 | 711 | 92 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 8 | 12 | 12 | 12 | 10 | 10 | 10 | 12 | 12 | 12 |
| Total Lost time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | | 1.00 | 0.98 | | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3060 | 1845 | 1306 | 1770 | 3287 | | 1652 | 4524 | | 1770 | 3392 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3060 | 1845 | 1306 | 1770 | 3287 | | 1652 | 4524 | | 1770 | 3392 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 161 | 200 | 117 | 146 | 261 | 201 | 152 | 708 | 136 | 82 | 773 | 100 |
| RTOR Reduction (vph) | 0 | 0 | 98 | 0 | 132 | 0 | 0 | 22 | 0 | 0 | 8 | 0 |
| Lane Group Flow (vph) | 161 | 200 | 19 | 146 | 330 | 0 | 152 | 822 | 0 | 82 | 865 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | | Prot | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | | | | | | | |
| Actuated Green, G (s) | 12.0 | 18.0 | 18.0 | 14.0 | 20.0 | | 15.1 | 51.7 | | 9.1 | 45.7 | |
| Effective Green, g (s) | 12.0 | 18.0 | 18.0 | 14.0 | 20.0 | | 15.1 | 51.7 | | 9.1 | 45.7 | |
| Actuated g/C Ratio | 0.11 | 0.16 | 0.16 | 0.13 | 0.18 | | 0.14 | 0.47 | | 0.08 | 0.42 | |
| Clearance Time (s) | 4.0 | 4.6 | 4.6 | 4.0 | 4.6 | | 4.0 | 4.6 | | 4.0 | 4.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 6.0 | | 4.0 | 6.0 | |
| Lane Grp Cap (vph) | 334 | 302 | 214 | 225 | 598 | | 227 | 2126 | | 146 | 1409 | |
| v/s Ratio Prot | 0.05 | c0.11 | | c0.08 | 0.10 | | c0.09 | 0.18 | | 0.05 | c0.25 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | |
| v/c Ratio | 0.48 | 0.66 | 0.09 | 0.65 | 0.55 | | 0.67 | 0.39 | | 0.56 | 0.61 | |
| Uniform Delay, d1 | 46.1 | 43.1 | 39.0 | 45.7 | 40.9 | | 45.1 | 18.9 | | 48.5 | 25.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.96 | 1.33 | | 1.00 | 1.00 | | 1.02 | 0.95 | |
| Incremental Delay, d2 | 1.5 | 5.9 | 0.2 | 6.9 | 1.3 | | 8.0 | 0.5 | | 5.5 | 1.9 | |
| Delay (s) | 47.6 | 49.0 | 39.3 | 50.6 | 55.8 | | 53.1 | 19.4 | | 55.1 | 25.8 | |
| Level of Service | D | D | D | D | E | | D | B | | E | C | |
| Approach Delay (s) | | 46.2 | | | 54.5 | | | 24.6 | | | 28.3 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 35.1 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.63 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 17.2 |
| Intersection Capacity Utilization | 62.3% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL2 | EBT | WBL | WBT | NBL | NBT | SBL | SBT | SWR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 16 | 322 | 34 | 605 | 11 | 11 | 61 | 79 | 11 |
| v/c Ratio | 0.15 | 0.23 | 0.27 | 0.42 | 0.09 | 0.02 | 0.47 | 0.37 | 0.16 |
| Control Delay | 59.5 | 5.0 | 53.4 | 8.6 | 45.4 | 0.0 | 58.3 | 15.9 | 53.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 59.5 | 5.0 | 53.4 | 8.6 | 45.4 | 0.0 | 58.3 | 15.9 | 53.2 |
| Queue Length 50th (ft) | 12 | 37 | 23 | 83 | 7 | 0 | 42 | 2 | 8 |
| Queue Length 95th (ft) | 36 | 199 | 55 | 387 | 24 | 0 | 82 | 46 | 26 |
| Internal Link Dist (ft) | | 524 | | 1458 | | 986 | | 462 | |
| Turn Bay Length (ft) | 250 | | 60 | | 100 | | | | |
| Base Capacity (vph) | 112 | 1402 | 133 | 1431 | 210 | 784 | 235 | 331 | 72 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.23 | 0.26 | 0.42 | 0.05 | 0.01 | 0.26 | 0.24 | 0.15 |

Intersection Summary

| Movement | EBL2 | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 15 | 283 | 13 | 31 | 478 | 78 | 10 | 0 | 10 | 56 | 3 | 70 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 12 | 11 | 12 | 12 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.98 | | 1.00 | 0.85 | | 1.00 | 0.86 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1849 | | 1770 | 1823 | | 1711 | 1583 | | 1770 | 1594 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.69 | 1.00 | | 0.75 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1849 | | 1770 | 1823 | | 1251 | 1583 | | 1398 | 1594 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 16 | 308 | 14 | 34 | 520 | 85 | 11 | 0 | 11 | 61 | 3 | 76 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 70 | 0 |
| Lane Group Flow (vph) | 16 | 321 | 0 | 34 | 605 | 0 | 11 | 1 | 0 | 61 | 9 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Parking (#/hr) | | | | | | | | | 0 | | | |
| Turn Type | Prot | | | Prot | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 3.1 | 76.0 | | 5.2 | 78.1 | | 9.0 | 9.0 | | 9.0 | 9.0 | |
| Effective Green, g (s) | 3.1 | 76.0 | | 5.2 | 78.1 | | 9.0 | 9.0 | | 9.0 | 9.0 | |
| Actuated g/C Ratio | 0.03 | 0.69 | | 0.05 | 0.71 | | 0.08 | 0.08 | | 0.08 | 0.08 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 50 | 1277 | | 84 | 1294 | | 102 | 130 | | 114 | 130 | |
| v/s Ratio Prot | 0.01 | 0.17 | | c0.02 | c0.33 | | | 0.00 | | | 0.01 | |
| v/s Ratio Perm | | | | | | | 0.01 | | | c0.04 | | |
| v/c Ratio | 0.32 | 0.25 | | 0.40 | 0.47 | | 0.11 | 0.01 | | 0.54 | 0.07 | |
| Uniform Delay, d1 | 52.4 | 6.4 | | 50.9 | 6.9 | | 46.8 | 46.4 | | 48.5 | 46.6 | |
| Progression Factor | 1.17 | 0.63 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 3.6 | 0.5 | | 3.2 | 1.2 | | 0.5 | 0.0 | | 4.8 | 0.2 | |
| Delay (s) | 64.7 | 4.5 | | 54.1 | 8.1 | | 47.2 | 46.4 | | 53.3 | 46.9 | |
| Level of Service | E | A | | D | A | | D | D | | D | D | |
| Approach Delay (s) | | 7.3 | | | 10.6 | | | 46.8 | | | 49.7 | |
| Approach LOS | | A | | | B | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 16.0 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.46 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 55.9% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Movement | SWR |
|---|---|
| Lane Configurations | |
| Volume (vph) | 10 |
| Ideal Flow (vphpl) | 1900 |
| Lane Width | 12 |
| Total Lost time (s) | 4.5 |
| Lane Util. Factor | 1.00 |
| Frpb, ped/bikes | 1.00 |
| Flpb, ped/bikes | 1.00 |
| Frt | 0.86 |
| Flt Protected | 1.00 |
| Satd. Flow (prot) | 1096 |
| Flt Permitted | 1.00 |
| Satd. Flow (perm) | 1096 |
| Peak-hour factor, PHF | 0.92 |
| Adj. Flow (vph) | 11 |
| RTOR Reduction (vph) | 0 |
| Lane Group Flow (vph) | 11 |
| Confl. Peds. (#/hr) | |
| Heavy Vehicles (%) | 50% |
| Parking (#/hr) | |
| Turn Type | custom |
| Protected Phases | 9 |
| Permitted Phases | 9 |
| Actuated Green, G (s) | 1.8 |
| Effective Green, g (s) | 1.8 |
| Actuated g/C Ratio | 0.02 |
| Clearance Time (s) | 4.5 |
| Vehicle Extension (s) | 3.0 |
| Lane Grp Cap (vph) | 18 |
| v/s Ratio Prot | c0.01 |
| v/s Ratio Perm | |
| v/c Ratio | 0.61 |
| Uniform Delay, d1 | 53.8 |
| Progression Factor | 1.00 |
| Incremental Delay, d2 | 48.7 |
| Delay (s) | 102.4 |
| Level of Service | F |
| Approach Delay (s) | |
| Approach LOS | |

| Intersection Summary |
|---|

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 57 | 417 | 5 | 525 | 41 | 59 | 7 | 37 | 308 |
| v/c Ratio | 0.23 | 0.41 | 0.03 | 0.71 | 0.20 | 0.11 | 0.02 | 0.11 | 0.57 |
| Control Delay | 29.3 | 10.0 | 30.6 | 21.6 | 20.4 | 17.4 | 10.3 | 17.9 | 19.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.3 | 10.0 | 30.6 | 21.6 | 20.4 | 17.4 | 10.3 | 17.9 | 19.1 |
| Queue Length 50th (ft) | 19 | 60 | 2 | 149 | 12 | 16 | 0 | 10 | 76 |
| Queue Length 95th (ft) | 56 | 189 | 12 | #350 | 35 | 42 | 8 | 31 | 152 |
| Internal Link Dist (ft) | | 1458 | | 1442 | | 1316 | | | 1561 |
| Turn Bay Length (ft) | 125 | | 150 | | 150 | | 95 | 60 | |
| Base Capacity (vph) | 250 | 1330 | 143 | 977 | 420 | 1069 | 763 | 713 | 1042 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 0.31 | 0.03 | 0.54 | 0.10 | 0.06 | 0.01 | 0.05 | 0.30 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 52 | 291 | 93 | 5 | 444 | 39 | 38 | 54 | 6 | 34 | 152 | 132 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 15 | 15 | 11 | 10 | 12 | 10 | 12 | 8 | 10 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1947 | | 1711 | 1698 | | 1652 | 1863 | 1327 | 1644 | 1768 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.42 | 1.00 | 1.00 | 0.72 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1947 | | 1711 | 1698 | | 731 | 1863 | 1327 | 1243 | 1768 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 57 | 316 | 101 | 5 | 483 | 42 | 41 | 59 | 7 | 37 | 165 | 143 |
| RTOR Reduction (vph) | 0 | 13 | 0 | 0 | 4 | 0 | 0 | 0 | 5 | 0 | 49 | 0 |
| Lane Group Flow (vph) | 57 | 404 | 0 | 5 | 521 | 0 | 41 | 59 | 2 | 37 | 259 | 0 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 5 | 5 | | |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Bus Blockages (#/hr) | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | 0 | 0 |
| Turn Type | Prot | | | Prot | | | Perm | | Perm | Perm | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 3.4 | 27.0 | | 0.6 | 24.2 | | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | |
| Effective Green, g (s) | 3.4 | 27.0 | | 0.6 | 24.2 | | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | |
| Actuated g/C Ratio | 0.06 | 0.49 | | 0.01 | 0.44 | | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | |
| Clearance Time (s) | 4.0 | 4.5 | | 4.0 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Grp Cap (vph) | 105 | 952 | | 19 | 744 | | 193 | 493 | 351 | 329 | 468 | |
| v/s Ratio Prot | c0.03 | c0.21 | | 0.00 | c0.31 | | | 0.03 | | | c0.15 | |
| v/s Ratio Perm | | | | | | | 0.06 | | 0.00 | 0.03 | | |
| v/c Ratio | 0.54 | 0.42 | | 0.26 | 0.70 | | 0.21 | 0.12 | 0.01 | 0.11 | 0.55 | |
| Uniform Delay, d1 | 25.1 | 9.1 | | 27.1 | 12.6 | | 15.8 | 15.4 | 15.0 | 15.4 | 17.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 7.0 | 0.4 | | 9.9 | 3.2 | | 0.8 | 0.1 | 0.0 | 0.2 | 1.8 | |
| Delay (s) | 32.2 | 9.5 | | 36.9 | 15.8 | | 16.6 | 15.6 | 15.0 | 15.6 | 19.3 | |
| Level of Service | C | A | | D | B | | B | B | B | B | B | |
| Approach Delay (s) | | 12.2 | | | 16.0 | | | 15.9 | | | 18.9 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 15.4 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.70 | | |
| Actuated Cycle Length (s) | 55.2 | Sum of lost time (s) | 17.5 |
| Intersection Capacity Utilization | 64.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 134 | 173 | 3 | 96 | 409 | 761 | 40 | 23 | 596 | 265 |
| v/c Ratio | 0.96 | 0.33 | 0.03 | 0.32 | 0.80 | 0.40 | 0.05 | 0.20 | 0.67 | 0.44 |
| Control Delay | 109.3 | 9.9 | 41.3 | 29.3 | 40.2 | 11.7 | 7.7 | 42.8 | 29.7 | 6.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 109.3 | 9.9 | 41.3 | 29.3 | 40.2 | 11.7 | 7.7 | 42.8 | 29.7 | 6.1 |
| Queue Length 50th (ft) | 61 | 17 | 1 | 38 | 163 | 72 | 3 | 10 | 121 | 0 |
| Queue Length 95th (ft) | #224 | 70 | 11 | 81 | #465 | 232 | 26 | 40 | 236 | 60 |
| Internal Link Dist (ft) | | 1442 | | 1025 | | 1609 | | | 1977 | |
| Turn Bay Length (ft) | 225 | | 90 | | 120 | | 50 | 120 | | |
| Base Capacity (vph) | 139 | 834 | 90 | 792 | 514 | 1932 | 868 | 116 | 1159 | 702 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.96 | 0.21 | 0.03 | 0.12 | 0.80 | 0.39 | 0.05 | 0.20 | 0.51 | 0.38 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 123 | 48 | 111 | 3 | 84 | 5 | 380 | 700 | 37 | 21 | 548 | 244 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 10 | 13 | 13 | 10 | 10 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.90 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1711 | 1584 | | 1652 | 1718 | | 1652 | 3240 | 1450 | 1711 | 3355 | 1531 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1711 | 1584 | | 1652 | 1718 | | 1652 | 3240 | 1450 | 1711 | 3355 | 1531 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 134 | 52 | 121 | 3 | 91 | 5 | 409 | 761 | 40 | 23 | 596 | 265 |
| RTOR Reduction (vph) | 0 | 89 | 0 | 0 | 2 | 0 | 0 | 0 | 9 | 0 | 0 | 191 |
| Lane Group Flow (vph) | 134 | 84 | 0 | 3 | 94 | 0 | 409 | 761 | 31 | 23 | 596 | 74 |
| Confl. Peds. (#/hr) | | | 2 | | | 2 | | | 9 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 2% | 2% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | 0 | 0 | | | | | | |
| Turn Type | Prot | | | Prot | | | Prot | | Perm | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | 8 | | | 4 |
| Actuated Green, G (s) | 6.1 | 21.1 | | 0.6 | 15.6 | | 23.5 | 43.9 | 43.9 | 1.8 | 22.2 | 22.2 |
| Effective Green, g (s) | 6.1 | 21.1 | | 0.6 | 15.6 | | 23.5 | 43.9 | 43.9 | 1.8 | 22.2 | 22.2 |
| Actuated g/C Ratio | 0.08 | 0.26 | | 0.01 | 0.20 | | 0.29 | 0.55 | 0.55 | 0.02 | 0.28 | 0.28 |
| Clearance Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 |
| Vehicle Extension (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | 131 | 418 | | 12 | 335 | | 486 | 1780 | 797 | 39 | 932 | 425 |
| v/s Ratio Prot | c0.08 | 0.05 | | 0.00 | c0.05 | | c0.25 | 0.23 | | 0.01 | c0.18 | |
| v/s Ratio Perm | | | | | | | | | 0.02 | | | 0.05 |
| v/c Ratio | 1.02 | 0.20 | | 0.25 | 0.28 | | 0.84 | 0.43 | 0.04 | 0.59 | 0.64 | 0.17 |
| Uniform Delay, d1 | 36.9 | 22.8 | | 39.4 | 27.4 | | 26.5 | 10.6 | 8.3 | 38.7 | 25.3 | 21.9 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 84.8 | 0.3 | | 14.4 | 0.6 | | 12.9 | 0.2 | 0.0 | 24.2 | 1.6 | 0.3 |
| Delay (s) | 121.7 | 23.2 | | 53.8 | 28.0 | | 39.4 | 10.8 | 8.3 | 62.9 | 27.0 | 22.2 |
| Level of Service | F | C | | D | C | | D | B | A | E | C | C |
| Approach Delay (s) | | 66.2 | | | 28.8 | | | 20.4 | | | 26.5 | |
| Approach LOS | | E | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 28.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.66 | | |
| Actuated Cycle Length (s) | 79.9 | Sum of lost time (s) | 12.5 |
| Intersection Capacity Utilization | 60.3% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 63 | 17 | 16 | 974 | 968 |
| v/c Ratio | 0.20 | 0.06 | 0.04 | 0.39 | 0.39 |
| Control Delay | 18.6 | 8.5 | 5.4 | 5.1 | 5.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 |
| Total Delay | 18.6 | 8.5 | 5.4 | 5.3 | 5.0 |
| Queue Length 50th (ft) | 20 | 0 | 1 | 54 | 53 |
| Queue Length 95th (ft) | 38 | 11 | 10 | 155 | 153 |
| Internal Link Dist (ft) | 826 | | | 205 | 956 |
| Turn Bay Length (ft) | 75 | | 50 | | |
| Base Capacity (vph) | 701 | 574 | 379 | 2449 | 2436 |
| Starvation Cap Reductn | 0 | 0 | 0 | 730 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.03 | 0.04 | 0.57 | 0.40 |

Intersection Summary

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 58 | 16 | 15 | 896 | 855 | 36 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1330 | 1652 | 3240 | 3219 | |
| Flt Permitted | 0.95 | 1.00 | 0.29 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1330 | 502 | 3240 | 3219 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 63 | 17 | 16 | 974 | 929 | 39 |
| RTOR Reduction (vph) | 0 | 15 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 63 | 2 | 16 | 974 | 965 | 0 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 2% |
| Parking (#/hr) | | 0 | | | | |
| Turn Type | | Perm | Perm | | | |
| Protected Phases | 5 | | | 2 | 6 | |
| Permitted Phases | | 5 | 2 | | | |
| Actuated Green, G (s) | 5.8 | 5.8 | 33.8 | 33.8 | 33.8 | |
| Effective Green, g (s) | 5.8 | 5.8 | 33.8 | 33.8 | 33.8 | |
| Actuated g/C Ratio | 0.12 | 0.12 | 0.70 | 0.70 | 0.70 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 6.0 | 6.0 | 6.0 | |
| Lane Grp Cap (vph) | 197 | 159 | 349 | 2253 | 2239 | |
| v/s Ratio Prot | c0.04 | | | c0.30 | 0.30 | |
| v/s Ratio Perm | | 0.00 | 0.03 | | | |
| v/c Ratio | 0.32 | 0.01 | 0.05 | 0.43 | 0.43 | |
| Uniform Delay, d1 | 19.6 | 18.9 | 2.3 | 3.2 | 3.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.9 | 0.0 | 0.2 | 0.4 | 0.4 | |
| Delay (s) | 20.5 | 18.9 | 2.5 | 3.6 | 3.6 | |
| Level of Service | C | B | A | A | A | |
| Approach Delay (s) | 20.2 | | | 3.6 | 3.6 | |
| Approach LOS | C | | | A | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.2 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.42 | | |
| Actuated Cycle Length (s) | 48.6 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 35.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBL | WBT | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1184 | 958 | 836 | 2087 | 848 | 1178 |
| v/c Ratio | 0.59 | 0.60 | 0.81 | 1.11 | 0.50 | 1.20 |
| Control Delay | 15.2 | 14.6 | 32.4 | 75.4 | 1.1 | 133.1 |
| Queue Delay | 17.5 | 4.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 32.7 | 19.2 | 32.4 | 75.4 | 1.1 | 133.1 |
| Queue Length 50th (ft) | 255 | 209 | 251 | ~893 | 0 | ~575 |
| Queue Length 95th (ft) | 317 | 275 | m231 | m#805 | 0 | #719 |
| Internal Link Dist (ft) | 252 | | | 920 | | |
| Turn Bay Length (ft) | | | 420 | | | |
| Base Capacity (vph) | 2010 | 1608 | 1031 | 1876 | 1686 | 981 |
| Starvation Cap Reductn | 842 | 564 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.01 | 0.92 | 0.81 | 1.11 | 0.50 | 1.20 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 1089 | 881 | 769 | 1920 | 0 | 0 | 0 | 780 | 0 | 0 | 1084 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 11 | 11 | 10 | 11 | 12 | 12 | 12 | 14 | 12 | 12 | 12 |
| Total Lost time (s) | | 3.5 | 3.5 | 4.5 | 4.5 | | | | 4.0 | | | 4.5 |
| Lane Util. Factor | | 0.95 | 0.88 | 0.97 | 0.95 | | | | 1.00 | | | 0.88 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | 0.86 | | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2733 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | | 3355 | 2642 | 3143 | 3355 | | | | 1686 | | | 2733 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 1184 | 958 | 836 | 2087 | 0 | 0 | 0 | 848 | 0 | 0 | 1178 |
| RTOR Reduction (vph) | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1184 | 933 | 836 | 2087 | 0 | 0 | 0 | 848 | 0 | 0 | 1178 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Turn Type | | | Perm | Prot | | | | | Free | | | custom |
| Protected Phases | | 2 4 | | 1 | 6 | | | | | | | |
| Permitted Phases | | | 2 4 | | | | | | Free | | | 4 |
| Actuated Green, G (s) | | 64.9 | 64.9 | 36.1 | 61.5 | | | | 110.0 | | | 39.5 |
| Effective Green, g (s) | | 64.9 | 64.9 | 36.1 | 61.5 | | | | 110.0 | | | 39.5 |
| Actuated g/C Ratio | | 0.59 | 0.59 | 0.33 | 0.56 | | | | 1.00 | | | 0.36 |
| Clearance Time (s) | | | | 4.5 | 4.5 | | | | | | | 4.5 |
| Vehicle Extension (s) | | | | 3.0 | 3.0 | | | | | | | 3.0 |
| Lane Grp Cap (vph) | | 1979 | 1559 | 1031 | 1876 | | | | 1686 | | | 981 |
| v/s Ratio Prot | | 0.35 | | 0.27 | c0.62 | | | | | | | |
| v/s Ratio Perm | | | 0.35 | | | | | | 0.50 | | | c0.43 |
| v/c Ratio | | 0.60 | 0.60 | 0.81 | 1.11 | | | | 0.50 | | | 1.20 |
| Uniform Delay, d1 | | 14.3 | 14.3 | 33.8 | 24.2 | | | | 0.0 | | | 35.2 |
| Progression Factor | | 1.00 | 1.00 | 0.86 | 0.81 | | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | | 0.5 | 0.6 | 2.6 | 53.9 | | | | 1.1 | | | 100.3 |
| Delay (s) | | 14.8 | 14.9 | 31.9 | 73.5 | | | | 1.1 | | | 135.5 |
| Level of Service | | B | B | C | E | | | | A | | | F |
| Approach Delay (s) | | 14.8 | | | 61.6 | | | 1.1 | | | 135.5 | |
| Approach LOS | | B | | | E | | | A | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 52.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.15 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 98.5% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBT | WBR | NBR | SBR |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 722 | 1310 | 1255 | 780 | 963 | 1797 |
| v/c Ratio | 0.86 | 0.39 | 0.57 | 0.77 | 0.60 | 1.18 |
| Control Delay | 40.3 | 0.3 | 12.3 | 20.0 | 1.6 | 94.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 |
| Total Delay | 40.3 | 0.3 | 12.3 | 20.6 | 1.6 | 94.3 |
| Queue Length 50th (ft) | 208 | 0 | 250 | 356 | 0 | ~396 |
| Queue Length 95th (ft) | 271 | 0 | 314 | 556 | 0 | #660 |
| Internal Link Dist (ft) | | 920 | 660 | | | |
| Turn Bay Length (ft) | 390 | | | | | |
| Base Capacity (vph) | 900 | 3355 | 2188 | 1011 | 1611 | 1528 |
| Starvation Cap Reductn | 0 | 0 | 0 | 54 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.80 | 0.39 | 0.57 | 0.82 | 0.60 | 1.18 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 664 | 1205 | 0 | 0 | 1155 | 718 | 0 | 0 | 886 | 0 | 0 | 1653 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 11 | 12 | 12 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | 4.0 | | | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | | 1.00 | | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | 0.86 | | | 0.86 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (prot) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Satd. Flow (perm) | 3143 | 3355 | | | 3355 | 1531 | | | 1611 | | | 1528 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 722 | 1310 | 0 | 0 | 1255 | 780 | 0 | 0 | 963 | 0 | 0 | 1797 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 722 | 1310 | 0 | 0 | 1255 | 767 | 0 | 0 | 963 | 0 | 0 | 1797 |
| Heavy Vehicles (%) | 4% | 4% | 2% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 4% |
| Turn Type | Prot | | | | | Perm | | | Free | | | Free |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | | | | | | 6 | | | Free | | | Free |
| Actuated Green, G (s) | 29.3 | 110.0 | | | 71.7 | 71.7 | | | 110.0 | | | 110.0 |
| Effective Green, g (s) | 29.3 | 110.0 | | | 71.7 | 71.7 | | | 110.0 | | | 110.0 |
| Actuated g/C Ratio | 0.27 | 1.00 | | | 0.65 | 0.65 | | | 1.00 | | | 1.00 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | | |
| Lane Grp Cap (vph) | 837 | 3355 | | | 2187 | 998 | | | 1611 | | | 1528 |
| v/s Ratio Prot | 0.23 | 0.39 | | | 0.37 | | | | | | | |
| v/s Ratio Perm | | | | | | 0.50 | | | 0.60 | | | c1.18 |
| v/c Ratio | 0.86 | 0.39 | | | 0.57 | 0.77 | | | 0.60 | | | 1.18 |
| Uniform Delay, d1 | 38.4 | 0.0 | | | 10.7 | 13.4 | | | 0.0 | | | 55.0 |
| Progression Factor | 0.79 | 1.00 | | | 1.00 | 1.00 | | | 1.00 | | | 1.00 |
| Incremental Delay, d2 | 7.8 | 0.3 | | | 1.1 | 5.7 | | | 1.6 | | | 86.4 |
| Delay (s) | 38.1 | 0.3 | | | 11.8 | 19.1 | | | 1.6 | | | 141.4 |
| Level of Service | D | A | | | B | B | | | A | | | F |
| Approach Delay (s) | | 13.7 | | | 14.6 | | | 1.6 | | | 141.4 | |
| Approach LOS | | B | | | B | | | A | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 45.9 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.18 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 70.9% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 332 | 462 | 517 | 429 | 21 | 536 | 770 | 15 | 58 | 693 | 285 |
| v/c Ratio | 1.04 | 0.63 | 0.29 | 1.08 | 0.06 | 0.75 | 0.54 | 0.03 | 0.41 | 0.87 | 0.60 |
| Control Delay | 91.2 | 30.1 | 0.4 | 107.7 | 24.2 | 45.5 | 26.8 | 14.7 | 56.7 | 52.3 | 25.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 91.2 | 30.1 | 0.4 | 107.7 | 24.2 | 45.5 | 26.8 | 14.7 | 56.7 | 52.3 | 25.7 |
| Queue Length 50th (ft) | ~198 | 243 | 0 | ~328 | 6 | 177 | 220 | 3 | 38 | 240 | 92 |
| Queue Length 95th (ft) | #419 | 399 | 0 | #572 | 28 | 235 | 278 | 17 | 85 | #380 | 199 |
| Internal Link Dist (ft) | | 1183 | | 843 | | | 2151 | | | 1424 | |
| Turn Bay Length (ft) | 130 | | | | 100 | 225 | | 80 | 150 | | 80 |
| Base Capacity (vph) | 319 | 733 | 1770 | 398 | 346 | 988 | 1617 | 603 | 155 | 800 | 474 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.04 | 0.63 | 0.29 | 1.08 | 0.06 | 0.54 | 0.48 | 0.02 | 0.37 | 0.87 | 0.60 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 305 | 425 | 476 | 3 | 392 | 19 | 493 | 708 | 14 | 53 | 638 | 262 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 16 | 10 | 10 | 11 | 10 | 12 | 8 | 10 | 10 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | 3.5 | | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 0.96 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1652 | 1739 | 1770 | | 1738 | 1473 | 3204 | 3539 | 1337 | 1652 | 3303 | 1550 |
| Flt Permitted | 0.14 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 242 | 1739 | 1770 | | 1733 | 1473 | 3204 | 3539 | 1337 | 1652 | 3303 | 1550 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 332 | 462 | 517 | 3 | 426 | 21 | 536 | 770 | 15 | 58 | 693 | 285 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 5 | 0 | 0 | 98 |
| Lane Group Flow (vph) | 332 | 462 | 517 | 0 | 429 | 13 | 536 | 770 | 10 | 58 | 693 | 187 |
| Confl. Peds. (#/hr) | | | | | | 14 | | | 2 | | | 5 |
| Confl. Bikes (#/hr) | | | 7 | | | 5 | | | | | | |
| Turn Type | pm+pt | | Free | Perm | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | Free | 4 | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 44.7 | 44.7 | 108.3 | | 24.2 | 24.2 | 23.0 | 42.2 | 42.2 | 7.0 | 26.1 | 26.1 |
| Effective Green, g (s) | 45.2 | 45.2 | 108.3 | | 24.7 | 24.7 | 24.0 | 43.2 | 42.2 | 7.9 | 27.1 | 27.1 |
| Actuated g/C Ratio | 0.42 | 0.42 | 1.00 | | 0.23 | 0.23 | 0.22 | 0.40 | 0.39 | 0.07 | 0.25 | 0.25 |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 4.9 | 5.0 | 5.0 |
| Vehicle Extension (s) | 4.0 | 4.0 | | | 4.0 | 4.0 | 3.0 | 6.0 | 6.0 | 3.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 316 | 726 | 1770 | | 395 | 336 | 710 | 1412 | 521 | 121 | 827 | 388 |
| v/s Ratio Prot | c0.16 | 0.27 | | | | | c0.17 | 0.22 | | 0.04 | c0.21 | |
| v/s Ratio Perm | c0.28 | | 0.29 | | 0.25 | 0.01 | | | 0.01 | | | 0.12 |
| v/c Ratio | 1.05 | 0.64 | 0.29 | | 1.09 | 0.04 | 0.75 | 0.55 | 0.02 | 0.48 | 0.84 | 0.48 |
| Uniform Delay, d1 | 31.0 | 25.0 | 0.0 | | 41.8 | 32.6 | 39.4 | 25.0 | 20.3 | 48.2 | 38.5 | 34.6 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 64.5 | 2.1 | 0.4 | | 70.4 | 0.1 | 4.6 | 1.0 | 0.0 | 3.5 | 8.6 | 2.6 |
| Delay (s) | 95.5 | 27.1 | 0.4 | | 112.2 | 32.6 | 44.0 | 26.0 | 20.4 | 51.7 | 47.1 | 37.2 |
| Level of Service | F | C | A | | F | C | D | C | C | D | D | D |
| Approach Delay (s) | | 33.9 | | | 108.5 | | | 33.2 | | | 44.7 | |
| Approach LOS | | C | | | F | | | C | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 44.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.90 | | |
| Actuated Cycle Length (s) | 108.3 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 88.2% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBT | WBR | NBT | SBL | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 29 | 90 | 1078 | 160 | 1423 |
| v/c Ratio | 0.12 | 0.27 | 0.28 | 0.47 | 0.52 |
| Control Delay | 17.9 | 8.3 | 3.8 | 15.5 | 5.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.9 | 8.3 | 3.8 | 15.5 | 5.9 |
| Queue Length 50th (ft) | 9 | 4 | 31 | 16 | 81 |
| Queue Length 95th (ft) | 22 | 29 | 96 | #131 | 258 |
| Internal Link Dist (ft) | 217 | | 650 | | 443 |
| Turn Bay Length (ft) | | | | 150 | |
| Base Capacity (vph) | 527 | 649 | 3836 | 336 | 2704 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.06 | 0.14 | 0.28 | 0.48 | 0.53 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 26 | 1 | 83 | 0 | 950 | 41 | 147 | 1307 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 9 | 9 | 10 | 10 | 12 | 16 | 10 | 12 | 16 |
| Total Lost time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Lane Util. Factor | | | | | 1.00 | 1.00 | | 0.91 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | | | | 1.00 | 0.99 | | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Frt | | | | | 1.00 | 0.85 | | 0.99 | | 1.00 | 1.00 | |
| Flt Protected | | | | | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | | 1570 | 1400 | | 4918 | | 1619 | 3470 | |
| Flt Permitted | | | | | 0.74 | 1.00 | | 1.00 | | 0.25 | 1.00 | |
| Satd. Flow (perm) | | | | | 1220 | 1400 | | 4918 | | 431 | 3470 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 0 | 0 | 28 | 1 | 90 | 0 | 1033 | 45 | 160 | 1421 | 2 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 69 | 0 | 5 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 29 | 21 | 0 | 1073 | 0 | 160 | 1423 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | 2 | | 2 | 2 | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 3 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 2% | 4% | 2% | 4% | 4% | 4% | 4% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | |
| Protected Phases | | 8 | | | 4 | | | 6 | | | 2 | |
| Permitted Phases | 8 | | | 4 | | 4 | 6 | | | 2 | | |
| Actuated Green, G (s) | | | | | 5.3 | 5.3 | | 33.1 | | 33.1 | 33.1 | |
| Effective Green, g (s) | | | | | 5.3 | 5.3 | | 33.1 | | 33.1 | 33.1 | |
| Actuated g/C Ratio | | | | | 0.11 | 0.11 | | 0.70 | | 0.70 | 0.70 | |
| Clearance Time (s) | | | | | 4.0 | 4.0 | | 4.6 | | 4.6 | 4.6 | |
| Vehicle Extension (s) | | | | | 3.0 | 3.0 | | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | | | | 138 | 158 | | 3464 | | 304 | 2444 | |
| v/s Ratio Prot | | | | | | | | 0.22 | | | c0.41 | |
| v/s Ratio Perm | | | | | c0.02 | 0.01 | | | | 0.37 | | |
| v/c Ratio | | | | | 0.21 | 0.13 | | 0.31 | | 0.53 | 0.58 | |
| Uniform Delay, d1 | | | | | 18.9 | 18.8 | | 2.6 | | 3.3 | 3.5 | |
| Progression Factor | | | | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | | | | 0.8 | 0.4 | | 0.0 | | 0.8 | 0.2 | |
| Delay (s) | | | | | 19.7 | 19.2 | | 2.6 | | 4.0 | 3.7 | |
| Level of Service | | | | | B | B | | A | | A | A | |
| Approach Delay (s) | | 0.0 | | | 19.3 | | | 2.6 | | | 3.7 | |
| Approach LOS | | A | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 4.0 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.53 | | |
| Actuated Cycle Length (s) | 47.0 | Sum of lost time (s) | 8.6 |
| Intersection Capacity Utilization | 56.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | SBL | SBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 16 | 346 | 693 | 64 | 41 |
| v/c Ratio | 0.15 | 0.22 | 0.24 | 0.42 | 0.24 |
| Control Delay | 53.7 | 1.6 | 3.3 | 55.4 | 17.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 53.7 | 1.6 | 3.3 | 55.4 | 17.1 |
| Queue Length 50th (ft) | 7 | 0 | 35 | 44 | 0 |
| Queue Length 95th (ft) | m19 | 1 | 42 | 85 | 33 |
| Internal Link Dist (ft) | | 522 | 524 | 200 | |
| Turn Bay Length (ft) | 240 | | | 65 | |
| Base Capacity (vph) | 169 | 1602 | 2840 | 459 | 441 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.22 | 0.24 | 0.14 | 0.09 |

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 15 | 318 | 559 | 78 | 59 | 38 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.98 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 3474 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 3474 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 16 | 346 | 608 | 85 | 64 | 41 |
| RTOR Reduction (vph) | 0 | 0 | 5 | 0 | 0 | 38 |
| Lane Group Flow (vph) | 16 | 346 | 688 | 0 | 64 | 3 |
| Turn Type | Prot | | | | | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | 3.1 | 92.8 | 85.2 | | 8.2 | 8.2 |
| Effective Green, g (s) | 3.1 | 92.8 | 85.2 | | 8.2 | 8.2 |
| Actuated g/C Ratio | 0.03 | 0.84 | 0.77 | | 0.07 | 0.07 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 50 | 1572 | 2691 | | 132 | 118 |
| v/s Ratio Prot | 0.01 | c0.19 | c0.20 | | c0.04 | |
| v/s Ratio Perm | | | | | | 0.00 |
| v/c Ratio | 0.32 | 0.22 | 0.26 | | 0.48 | 0.03 |
| Uniform Delay, d1 | 52.4 | 1.7 | 3.5 | | 48.9 | 47.2 |
| Progression Factor | 1.05 | 0.68 | 0.84 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.4 | 0.3 | 0.2 | | 2.8 | 0.1 |
| Delay (s) | 58.4 | 1.4 | 3.1 | | 51.7 | 47.3 |
| Level of Service | E | A | A | | D | D |
| Approach Delay (s) | | 3.9 | 3.1 | | 50.0 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 7.6 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.28 | | |
| Actuated Cycle Length (s) | 110.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 30.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBL | WBT | NBR |
|---|---|---|---|---|
| Lane Group Flow (vph) | 1459 | 543 | 2551 | 554 |
| v/c Ratio | 0.60 | 0.68 | 0.50 | 0.76 |
| Control Delay | 16.6 | 16.9 | 0.4 | 20.3 |
| Queue Delay | 0.0 | 0.2 | 0.0 | 0.0 |
| Total Delay | 16.6 | 17.1 | 0.4 | 20.3 |
| Queue Length 50th (ft) | 109 | 144 | 0 | 155 |
| Queue Length 95th (ft) | 191 | 232 | 0 | 257 |
| Internal Link Dist (ft) | 388 | | 252 | |
| Turn Bay Length (ft) | | | | |
| Base Capacity (vph) | 2822 | 1229 | 5085 | 1120 |
| Starvation Cap Reductn | 0 | 159 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.52 | 0.51 | 0.50 | 0.49 |

Intersection Summary

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 1312 | 30 | 500 | 2347 | 0 | 510 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Lane Util. Factor | 0.86 | | 1.00 | 0.91 | | 1.00 |
| Frt | 1.00 | | 1.00 | 1.00 | | 0.86 |
| Flt Protected | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 6386 | | 1770 | 5085 | | 1611 |
| Flt Permitted | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 6386 | | 1770 | 5085 | | 1611 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1426 | 33 | 543 | 2551 | 0 | 554 |
| RTOR Reduction (vph) | 4 | 0 | 0 | 0 | 0 | 2 |
| Lane Group Flow (vph) | 1455 | 0 | 543 | 2551 | 0 | 552 |
| Turn Type | | | Prot | | | Over |
| Protected Phases | 2 | | 1 | 6 | | 1 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 22.0 | | 25.8 | 56.8 | | 25.8 |
| Effective Green, g (s) | 22.0 | | 25.8 | 56.8 | | 25.8 |
| Actuated g/C Ratio | 0.39 | | 0.45 | 1.00 | | 0.45 |
| Clearance Time (s) | 4.5 | | 4.5 | 4.5 | | 4.5 |
| Vehicle Extension (s) | 3.0 | | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 2473 | | 804 | 5085 | | 732 |
| v/s Ratio Prot | 0.23 | | 0.31 | c0.50 | | c0.34 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.59 | | 0.68 | 0.50 | | 0.75 |
| Uniform Delay, d1 | 13.8 | | 12.2 | 0.0 | | 12.9 |
| Progression Factor | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Incremental Delay, d2 | 0.4 | | 2.3 | 0.1 | | 4.4 |
| Delay (s) | 14.2 | | 14.5 | 0.1 | | 17.3 |
| Level of Service | B | | B | A | | B |
| Approach Delay (s) | 14.2 | | | 2.6 | 17.3 | |
| Approach LOS | B | | | A | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 7.5 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.63 | | |
| Actuated Cycle Length (s) | 56.8 | Sum of lost time (s) | 4.5 |
| Intersection Capacity Utilization | 58.6% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |