# Appendix E

## Capacity Analysis

# Intersection A

Route 199 WB Off/On-Ramp and Longhill Road

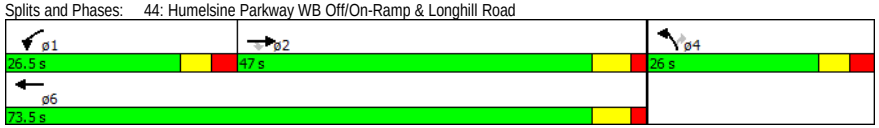
Intersection LOS Analysis

AM/PM Peak Hour

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 603 | 170 | 66 | 262 | 200 | 81 |
| Lane Util. Factor | 0.95 | 1.00 | 0.97 | 0.95 | 0.97 | 1.00 |
| Frt | | 0.850 | | | | 0.850 |
| Flt Protected | | | 0.950 | | 0.950 | |
| Satd. Flow (prot) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Flt Permitted | | | 0.950 | | 0.950 | |
| Satd. Flow (perm) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Satd. Flow (RTOR) | | 224 | | | | 104 |
| Adj. Flow (vph) | 744 | 224 | 92 | 332 | 253 | 104 |
| Lane Group Flow (vph) | 744 | 224 | 92 | 332 | 253 | 104 |
| Turn Type | NA | Perm | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 4 | |
| Permitted Phases | | 2 | | | | 4 |
| Total Split (s) | 47.0 | 47.0 | 26.5 | 73.5 | 26.0 | 26.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Act Effct Green (s) | 26.1 | 26.1 | 7.6 | 36.5 | 10.6 | 10.6 |
| Actuated g/C Ratio | 0.43 | 0.43 | 0.12 | 0.60 | 0.17 | 0.17 |
| v/c Ratio | 0.49 | 0.28 | 0.21 | 0.16 | 0.43 | 0.29 |
| Control Delay | 14.7 | 3.0 | 30.4 | 5.2 | 28.2 | 9.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 14.7 | 3.0 | 30.4 | 5.2 | 28.2 | 9.1 |
| LOS | B | A | C | A | C | A |
| Approach Delay | 12.0 | | | 10.6 | 22.6 | |
| Approach LOS | B | | | B | C | |

| Intersection Summary | |
|---|---|
| Cycle Length: 99.5 | |
| Actuated Cycle Length: 61.3 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.49 | |
| Intersection Signal Delay: 13.8 | Intersection LOS: B |
| Intersection Capacity Utilization 42.9% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 44: Humelsine Parkway WB Off/On-Ramp & Longhill Road







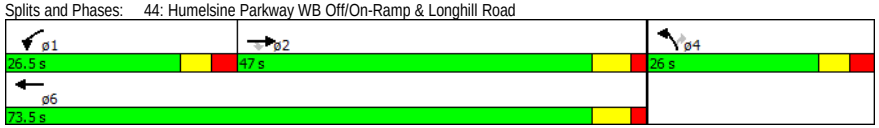

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 603 | 170 | 66 | 262 | 200 | 81 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 0.95 | 1.00 | 0.97 | 0.95 | 0.97 | 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) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Flt Permitted | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Peak-hour factor, PHF | 0.81 | 0.76 | 0.72 | 0.79 | 0.79 | 0.78 |
| Adj. Flow (vph) | 744 | 224 | 92 | 332 | 253 | 104 |
| RTOR Reduction (vph) | 0 | 129 | 0 | 0 | 0 | 86 |
| Lane Group Flow (vph) | 744 | 95 | 92 | 332 | 253 | 18 |
| Turn Type | NA | Perm | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 4 | |
| Permitted Phases | | 2 | | | | 4 |
| Actuated Green, G (s) | 26.1 | 26.1 | 5.6 | 38.2 | 10.6 | 10.6 |
| Effective Green, g (s) | 26.1 | 26.1 | 5.6 | 38.2 | 10.6 | 10.6 |
| Actuated g/C Ratio | 0.42 | 0.42 | 0.09 | 0.62 | 0.17 | 0.17 |
| Clearance Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Vehicle Extension (s) | 5.0 | 5.0 | 3.0 | 5.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 1494 | 668 | 311 | 2187 | 588 | 271 |
| v/s Ratio Prot | c0.21 | | c0.03 | 0.09 | c0.07 | |
| v/s Ratio Perm | | 0.06 | | | | 0.01 |
| v/c Ratio | 0.50 | 0.14 | 0.30 | 0.15 | 0.43 | 0.07 |
| Uniform Delay, d1 | 13.1 | 11.0 | 26.3 | 5.0 | 22.9 | 21.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.5 | 0.2 | 0.5 | 0.1 | 0.5 | 0.1 |
| Delay (s) | 13.6 | 11.2 | 26.8 | 5.0 | 23.4 | 21.6 |
| Level of Service | B | B | C | A | C | C |
| Approach Delay (s) | 13.0 | | | 9.8 | 22.9 | |
| Approach LOS | B | | | A | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 14.3 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.45 | | |
| Actuated Cycle Length (s) | 61.8 | Sum of lost time (s) | 19.5 |
| Intersection Capacity Utilization | 42.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 547 | 104 | 180 | 591 | 623 | 89 |
| Lane Util. Factor | 0.95 | 1.00 | 0.97 | 0.95 | 0.97 | 1.00 |
| Frt | | 0.850 | | | | 0.850 |
| Flt Protected | | | 0.950 | | 0.950 | |
| Satd. Flow (prot) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Flt Permitted | | | 0.950 | | 0.950 | |
| Satd. Flow (perm) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Satd. Flow (RTOR) | | 107 | | | | 92 |
| Adj. Flow (vph) | 564 | 107 | 186 | 609 | 642 | 92 |
| Lane Group Flow (vph) | 564 | 107 | 186 | 609 | 642 | 92 |
| Turn Type | NA | Perm | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 4 | |
| Permitted Phases | | 2 | | | | 4 |
| Total Split (s) | 47.0 | 47.0 | 26.5 | 73.5 | 26.0 | 26.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Act Effct Green (s) | 20.3 | 20.3 | 9.2 | 36.1 | 18.5 | 18.5 |
| Actuated g/C Ratio | 0.30 | 0.30 | 0.14 | 0.53 | 0.27 | 0.27 |
| v/c Ratio | 0.53 | 0.19 | 0.40 | 0.32 | 0.68 | 0.18 |
| Control Delay | 21.9 | 5.1 | 30.9 | 9.4 | 27.6 | 6.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 21.9 | 5.1 | 30.9 | 9.4 | 27.6 | 6.8 |
| LOS | C | A | C | A | C | A |
| Approach Delay | 19.2 | | | 14.4 | 25.0 | |
| Approach LOS | B | | | B | C | |

| Intersection Summary | |
|---|---|
| Cycle Length: 99.5 | |
| Actuated Cycle Length: 67.8 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.68 | |
| Intersection Signal Delay: 19.4 | Intersection LOS: B |
| Intersection Capacity Utilization 54.3% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 44: Humelsine Parkway WB Off/On-Ramp & Longhill Road







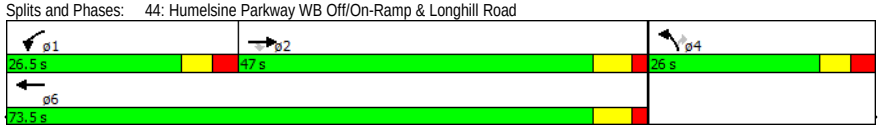

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 547 | 104 | 180 | 591 | 623 | 89 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 0.95 | 1.00 | 0.97 | 0.95 | 0.97 | 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) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Flt Permitted | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Peak-hour factor, PHF | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Adj. Flow (vph) | 564 | 107 | 186 | 609 | 642 | 92 |
| RTOR Reduction (vph) | 0 | 75 | 0 | 0 | 0 | 67 |
| Lane Group Flow (vph) | 564 | 32 | 186 | 609 | 642 | 25 |
| Turn Type | NA | Perm | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 4 | |
| Permitted Phases | | 2 | | | | 4 |
| Actuated Green, G (s) | 20.4 | 20.4 | 9.2 | 36.1 | 18.5 | 18.5 |
| Effective Green, g (s) | 20.4 | 20.4 | 9.2 | 36.1 | 18.5 | 18.5 |
| Actuated g/C Ratio | 0.30 | 0.30 | 0.14 | 0.53 | 0.27 | 0.27 |
| Clearance Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Vehicle Extension (s) | 5.0 | 5.0 | 3.0 | 5.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 1067 | 477 | 467 | 1889 | 939 | 433 |
| v/s Ratio Prot | c0.16 | | 0.05 | c0.17 | c0.19 | |
| v/s Ratio Perm | | 0.02 | | | | 0.02 |
| v/c Ratio | 0.53 | 0.07 | 0.40 | 0.32 | 0.68 | 0.06 |
| Uniform Delay, d1 | 19.6 | 16.8 | 26.7 | 8.9 | 21.9 | 18.1 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.9 | 0.1 | 0.6 | 0.2 | 2.1 | 0.1 |
| Delay (s) | 20.5 | 16.9 | 27.2 | 9.1 | 24.0 | 18.2 |
| Level of Service | C | B | C | A | C | B |
| Approach Delay (s) | 19.9 | | | 13.3 | 23.3 | |
| Approach LOS | B | | | B | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 18.7 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.58 | | |
| Actuated Cycle Length (s) | 67.6 | Sum of lost time (s) | 19.5 |
| Intersection Capacity Utilization | 54.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 810 | 230 | 90 | 360 | 275 | 115 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | 0 | 225 | | 175 | 175 |
| Storage Lanes | | 1 | 2 | | 1 | 1 |
| Taper Length (ft) | | | 75 | | 200 | |
| Lane Util. Factor | 0.95 | 1.00 | 0.97 | 0.95 | 0.97 | 1.00 |
| Frt | | 0.850 | | | | 0.850 |
| Flt Protected | | | 0.950 | | 0.950 | |
| Satd. Flow (prot) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Flt Permitted | | | 0.950 | | 0.950 | |
| Satd. Flow (perm) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | 256 | | | | 128 |
| Link Speed (mph) | 45 | | | 45 | 30 | |
| Link Distance (ft) | 579 | | | 716 | 472 | |
| Travel Time (s) | 8.8 | | | 10.8 | 10.7 | |
| Adj. Flow (vph) | 900 | 256 | 100 | 400 | 306 | 128 |
| Lane Group Flow (vph) | 900 | 256 | 100 | 400 | 306 | 128 |
| Turn Type | NA | Perm | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 4 | |
| Permitted Phases | | 2 | | | | 4 |
| Total Split (s) | 47.0 | 47.0 | 26.5 | 73.5 | 26.0 | 26.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Act Effct Green (s) | 31.6 | 31.6 | 8.0 | 42.3 | 12.1 | 12.1 |
| Actuated g/C Ratio | 0.46 | 0.46 | 0.12 | 0.62 | 0.18 | 0.18 |
| v/c Ratio | 0.55 | 0.30 | 0.25 | 0.18 | 0.50 | 0.33 |
| Control Delay | 15.6 | 2.8 | 34.3 | 5.4 | 31.7 | 8.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 15.6 | 2.8 | 34.3 | 5.4 | 31.7 | 8.9 |
| LOS | B | A | C | A | C | A |
| Approach Delay | 12.8 | | | 11.2 | 25.0 | |
| Approach LOS | B | | | B | C | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 99.5 | | | |
| Actuated Cycle Length: 68.6 | | | |
| Control Type: Actuated-Uncoordinated | | | |
| Maximum v/c Ratio: 0.55 | | | |
| Intersection Signal Delay: 14.9 | | Intersection LOS: B | |
| Intersection Capacity Utilization 50.7% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 44: Humelsine Parkway WB Off/On-Ramp & Longhill Road







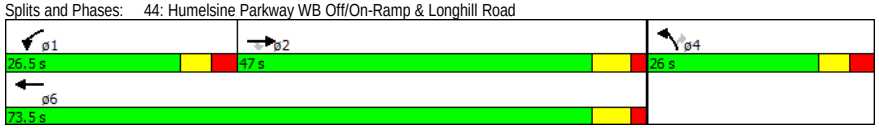

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 810 | 230 | 90 | 360 | 275 | 115 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 0.95 | 1.00 | 0.97 | 0.95 | 0.97 | 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) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Flt Permitted | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 900 | 256 | 100 | 400 | 306 | 128 |
| RTOR Reduction (vph) | 0 | 139 | 0 | 0 | 0 | 106 |
| Lane Group Flow (vph) | 900 | 117 | 100 | 400 | 306 | 22 |
| Turn Type | NA | Perm | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 4 | |
| Permitted Phases | | 2 | | | | 4 |
| Actuated Green, G (s) | 31.6 | 31.6 | 5.9 | 44.0 | 12.1 | 12.1 |
| Effective Green, g (s) | 31.6 | 31.6 | 5.9 | 44.0 | 12.1 | 12.1 |
| Actuated g/C Ratio | 0.46 | 0.46 | 0.09 | 0.64 | 0.18 | 0.18 |
| Clearance Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Vehicle Extension (s) | 5.0 | 5.0 | 3.0 | 5.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 1618 | 723 | 293 | 2253 | 601 | 277 |
| v/s Ratio Prot | c0.25 | | c0.03 | 0.11 | c0.09 | |
| v/s Ratio Perm | | 0.07 | | | | 0.01 |
| v/c Ratio | 0.56 | 0.16 | 0.34 | 0.18 | 0.51 | 0.08 |
| Uniform Delay, d1 | 13.6 | 11.0 | 29.8 | 5.1 | 25.8 | 23.8 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.7 | 0.2 | 0.7 | 0.1 | 0.7 | 0.1 |
| Delay (s) | 14.4 | 11.2 | 30.5 | 5.2 | 26.5 | 24.0 |
| Level of Service | B | B | C | A | C | C |
| Approach Delay (s) | 13.7 | | | 10.3 | 25.7 | |
| Approach LOS | B | | | B | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 15.4 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.52 | | |
| Actuated Cycle Length (s) | 69.1 | Sum of lost time (s) | 19.5 |
| Intersection Capacity Utilization | 50.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 730 | 145 | 250 | 810 | 855 | 125 |
| Lane Util. Factor | 0.95 | 1.00 | 0.97 | 0.95 | 0.97 | 1.00 |
| Frt | | 0.850 | | | | 0.850 |
| Flt Protected | | | 0.950 | | 0.950 | |
| Satd. Flow (prot) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Flt Permitted | | | 0.950 | | 0.950 | |
| Satd. Flow (perm) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Satd. Flow (RTOR) | | 161 | | | | 102 |
| Adj. Flow (vph) | 811 | 161 | 278 | 900 | 950 | 139 |
| Lane Group Flow (vph) | 811 | 161 | 278 | 900 | 950 | 139 |
| Turn Type | NA | Perm | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 4 | |
| Permitted Phases | | 2 | | | | 4 |
| Total Split (s) | 47.0 | 47.0 | 26.5 | 73.5 | 26.0 | 26.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Act Effct Green (s) | 30.4 | 30.4 | 12.1 | 49.1 | 19.8 | 19.8 |
| Actuated g/C Ratio | 0.37 | 0.37 | 0.15 | 0.60 | 0.24 | 0.24 |
| v/c Ratio | 0.62 | 0.23 | 0.55 | 0.43 | 1.15 | 0.30 |
| Control Delay | 23.2 | 3.9 | 38.0 | 9.2 | 112.2 | 12.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.2 | 3.9 | 38.0 | 9.2 | 112.2 | 12.7 |
| LOS | C | A | D | A | F | B |
| Approach Delay | 20.0 | | | 16.0 | 99.5 | |
| Approach LOS | C | | | B | F | |

| Intersection Summary | |
|---|---|
| Cycle Length: 99.5 | |
| Actuated Cycle Length: 82.1 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 1.15 | |
| Intersection Signal Delay: 45.3 | Intersection LOS: D |
| Intersection Capacity Utilization 68.0% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 44: Humelsine Parkway WB Off/On-Ramp & Longhill Road







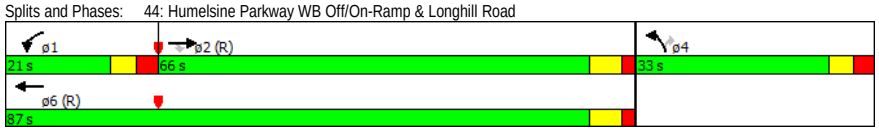

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 730 | 145 | 250 | 810 | 855 | 125 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 0.95 | 1.00 | 0.97 | 0.95 | 0.97 | 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) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Flt Permitted | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 811 | 161 | 278 | 900 | 950 | 139 |
| RTOR Reduction (vph) | 0 | 101 | 0 | 0 | 0 | 77 |
| Lane Group Flow (vph) | 811 | 60 | 278 | 900 | 950 | 62 |
| Turn Type | NA | Perm | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 4 | |
| Permitted Phases | | 2 | | | | 4 |
| Actuated Green, G (s) | 30.5 | 30.5 | 12.1 | 49.1 | 19.8 | 19.8 |
| Effective Green, g (s) | 30.5 | 30.5 | 12.1 | 49.1 | 19.8 | 19.8 |
| Actuated g/C Ratio | 0.37 | 0.37 | 0.15 | 0.60 | 0.24 | 0.24 |
| Clearance Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Vehicle Extension (s) | 5.0 | 5.0 | 3.0 | 5.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 1317 | 589 | 507 | 2121 | 829 | 382 |
| v/s Ratio Prot | c0.23 | | 0.08 | c0.25 | c0.28 | |
| v/s Ratio Perm | | 0.04 | | | | 0.04 |
| v/c Ratio | 0.62 | 0.10 | 0.55 | 0.42 | 1.15 | 0.16 |
| Uniform Delay, d1 | 20.9 | 16.8 | 32.4 | 8.8 | 31.1 | 24.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.2 | 0.2 | 1.2 | 0.3 | 79.7 | 0.2 |
| Delay (s) | 22.2 | 16.9 | 33.6 | 9.1 | 110.8 | 24.7 |
| Level of Service | C | B | C | A | F | C |
| Approach Delay (s) | 21.3 | | | 14.9 | 99.8 | |
| Approach LOS | C | | | B | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 45.4 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.77 | | |
| Actuated Cycle Length (s) | 81.9 | Sum of lost time (s) | 19.5 |
| Intersection Capacity Utilization | 68.0% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 810 | 230 | 90 | 360 | 275 | 115 |
| Lane Util. Factor | 0.95 | 1.00 | 0.97 | 0.95 | 0.97 | 1.00 |
| Frt | | 0.850 | | | | 0.850 |
| Flt Protected | | | 0.950 | | 0.950 | |
| Satd. Flow (prot) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Flt Permitted | | | 0.950 | | 0.950 | |
| Satd. Flow (perm) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Satd. Flow (RTOR) | | 250 | | | | 125 |
| Adj. Flow (vph) | 880 | 250 | 98 | 391 | 299 | 125 |
| Lane Group Flow (vph) | 880 | 250 | 98 | 391 | 299 | 125 |
| Turn Type | NA | Perm | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 4 | |
| Permitted Phases | | 2 | | | | 4 |
| Total Split (s) | 66.0 | 66.0 | 21.0 | 87.0 | 33.0 | 33.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Act Effct Green (s) | 76.0 | 76.0 | 8.8 | 91.3 | 15.7 | 15.7 |
| Actuated g/C Ratio | 0.63 | 0.63 | 0.07 | 0.76 | 0.13 | 0.13 |
| v/c Ratio | 0.39 | 0.23 | 0.39 | 0.15 | 0.66 | 0.40 |
| Control Delay | 10.1 | 3.1 | 57.1 | 4.3 | 56.8 | 11.6 |
| Queue Delay | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 10.2 | 3.1 | 57.1 | 4.3 | 56.8 | 11.6 |
| LOS | B | A | E | A | E | B |
| Approach Delay | 8.7 | | | 14.8 | 43.4 | |
| Approach LOS | A | | | B | D | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.66 | |
| Intersection Signal Delay: 17.4 | Intersection LOS: B |
| Intersection Capacity Utilization 50.7% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 44: Humelsine Parkway WB Off/On-Ramp & Longhill Road







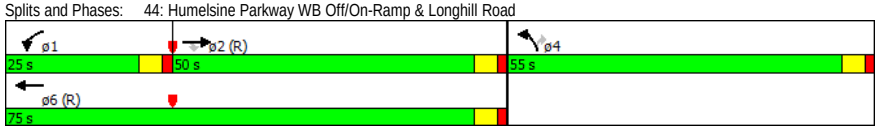

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 810 | 230 | 90 | 360 | 275 | 115 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 0.95 | 1.00 | 0.97 | 0.95 | 0.97 | 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) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Flt Permitted | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 880 | 250 | 98 | 391 | 299 | 125 |
| RTOR Reduction (vph) | 0 | 92 | 0 | 0 | 0 | 109 |
| Lane Group Flow (vph) | 880 | 158 | 98 | 391 | 299 | 16 |
| Turn Type | NA | Perm | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 4 | |
| Permitted Phases | | 2 | | | | 4 |
| Actuated Green, G (s) | 76.0 | 76.0 | 8.8 | 91.3 | 15.7 | 15.7 |
| Effective Green, g (s) | 76.0 | 76.0 | 8.8 | 91.3 | 15.7 | 15.7 |
| Actuated g/C Ratio | 0.63 | 0.63 | 0.07 | 0.76 | 0.13 | 0.13 |
| Clearance Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Vehicle Extension (s) | 5.0 | 5.0 | 3.0 | 5.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 2241 | 1002 | 251 | 2692 | 449 | 207 |
| v/s Ratio Prot | c0.25 | | c0.03 | 0.11 | c0.09 | |
| v/s Ratio Perm | | 0.10 | | | | 0.01 |
| v/c Ratio | 0.39 | 0.16 | 0.39 | 0.15 | 0.67 | 0.08 |
| Uniform Delay, d1 | 10.7 | 9.0 | 53.0 | 3.9 | 49.7 | 45.8 |
| Progression Factor | 0.84 | 1.94 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.5 | 0.3 | 1.0 | 0.1 | 3.7 | 0.2 |
| Delay (s) | 9.5 | 17.7 | 54.0 | 4.0 | 53.4 | 46.0 |
| Level of Service | A | B | D | A | D | D |
| Approach Delay (s) | 11.3 | | | 14.0 | 51.2 | |
| Approach LOS | B | | | B | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 20.2 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.43 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 19.5 |
| Intersection Capacity Utilization | 50.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 730 | 145 | 250 | 810 | 855 | 125 |
| Lane Util. Factor | 0.95 | 1.00 | 0.97 | 0.95 | 0.97 | 1.00 |
| Frt | | 0.850 | | | | 0.850 |
| Flt Protected | | | 0.950 | | 0.950 | |
| Satd. Flow (prot) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Flt Permitted | | | 0.950 | | 0.950 | |
| Satd. Flow (perm) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Satd. Flow (RTOR) | | 158 | | | | 102 |
| Adj. Flow (vph) | 793 | 158 | 272 | 880 | 929 | 136 |
| Lane Group Flow (vph) | 793 | 158 | 272 | 880 | 929 | 136 |
| Turn Type | NA | Perm | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 4 | |
| Permitted Phases | | 2 | | | | 4 |
| Total Split (s) | 50.0 | 50.0 | 25.0 | 75.0 | 55.0 | 55.0 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Act Effct Green (s) | 57.4 | 57.4 | 15.5 | 77.9 | 42.1 | 42.1 |
| Actuated g/C Ratio | 0.44 | 0.44 | 0.12 | 0.60 | 0.32 | 0.32 |
| v/c Ratio | 0.51 | 0.20 | 0.66 | 0.41 | 0.84 | 0.23 |
| Control Delay | 17.6 | 3.8 | 62.5 | 15.4 | 47.9 | 9.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Total Delay | 17.6 | 3.8 | 62.5 | 15.5 | 47.9 | 9.8 |
| LOS | B | A | E | B | D | A |
| Approach Delay | 15.3 | | | 26.6 | 43.0 | |
| Approach LOS | B | | | C | D | |

| Intersection Summary | |
|---|---|
| Cycle Length: 130 | |
| Actuated Cycle Length: 130 | |
| Offset: 39 (30%), Referenced to phase 2:EBT and 6:WBT, Start of Green | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.84 | |
| Intersection Signal Delay: 28.7 | Intersection LOS: C |
| Intersection Capacity Utilization 64.2% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 44: Humelsine Parkway WB Off/On-Ramp & Longhill Road








| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 730 | 145 | 250 | 810 | 855 | 125 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Lane Util. Factor | 0.95 | 1.00 | 0.97 | 0.95 | 0.97 | 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) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Flt Permitted | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 3539 | 1583 | 3433 | 3539 | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 793 | 158 | 272 | 880 | 929 | 136 |
| RTOR Reduction (vph) | 0 | 88 | 0 | 0 | 0 | 69 |
| Lane Group Flow (vph) | 793 | 70 | 272 | 880 | 929 | 67 |
| Turn Type | NA | Perm | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 4 | |
| Permitted Phases | | 2 | | | | 4 |
| Actuated Green, G (s) | 57.4 | 57.4 | 15.5 | 77.9 | 42.1 | 42.1 |
| Effective Green, g (s) | 57.4 | 57.4 | 15.5 | 77.9 | 42.1 | 42.1 |
| Actuated g/C Ratio | 0.44 | 0.44 | 0.12 | 0.60 | 0.32 | 0.32 |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Vehicle Extension (s) | 5.0 | 5.0 | 3.0 | 5.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 1562 | 698 | 409 | 2120 | 1111 | 512 |
| v/s Ratio Prot | c0.22 | | c0.08 | 0.25 | c0.27 | |
| v/s Ratio Perm | | 0.04 | | | | 0.04 |
| v/c Ratio | 0.51 | 0.10 | 0.67 | 0.42 | 0.84 | 0.13 |
| Uniform Delay, d1 | 26.1 | 21.2 | 54.8 | 13.9 | 40.8 | 31.0 |
| Progression Factor | 0.59 | 0.79 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.1 | 0.3 | 4.1 | 0.6 | 5.6 | 0.1 |
| Delay (s) | 16.5 | 17.0 | 58.8 | 14.5 | 46.3 | 31.1 |
| Level of Service | B | B | E | B | D | C |
| Approach Delay (s) | 16.6 | | | 25.0 | 44.4 | |
| Approach LOS | B | | | C | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 29.0 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.65 | | |
| Actuated Cycle Length (s) | 130.0 | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | 64.2% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

# Intersection B

Route 199 EB Off/On-Ramp and Longhill Road

Intersection LOS Analysis

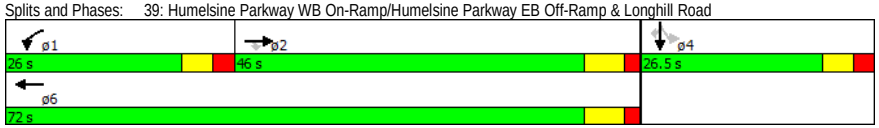
AM/PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 537 | 322 | 59 | 401 | 0 | 0 | 0 | 0 | 194 | 3 | 65 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 |
| Frt | | | 0.850 | | | | | | | | | 0.850 |
| Flt Protected | | | | 0.950 | | | | | | 0.950 | 0.957 | |
| Satd. Flow (prot) | 0 | 3539 | 1583 | 3433 | 3539 | 0 | 0 | 0 | 0 | 1681 | 1694 | 1583 |
| Flt Permitted | | | | 0.950 | | | | | | 0.950 | 0.957 | |
| Satd. Flow (perm) | 0 | 3539 | 1583 | 3433 | 3539 | 0 | 0 | 0 | 0 | 1681 | 1694 | 1583 |
| Satd. Flow (RTOR) | | | 418 | | | | | | | | | 105 |
| Adj. Flow (vph) | 0 | 571 | 418 | 76 | 405 | 0 | 0 | 0 | 0 | 240 | 12 | 84 |
| Lane Group Flow (vph) | 0 | 571 | 418 | 76 | 405 | 0 | 0 | 0 | 0 | 125 | 127 | 84 |
| Turn Type | | NA | Perm | Prot | NA | | | | | Perm | NA | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | | | | 4 | |
| Permitted Phases | | | 2 | | | | | | | 4 | | 4 |
| Total Split (s) | | 46.0 | 46.0 | 26.0 | 72.0 | | | | | 26.5 | 26.5 | 26.5 |
| Total Lost Time (s) | | 6.5 | 6.5 | 6.0 | 6.5 | | | | | 6.0 | 6.0 | 6.0 |
| Act Effct Green (s) | | 23.5 | 23.5 | 7.4 | 30.2 | | | | | 10.8 | 10.8 | 10.8 |
| Actuated g/C Ratio | | 0.43 | 0.43 | 0.13 | 0.55 | | | | | 0.20 | 0.20 | 0.20 |
| v/c Ratio | | 0.38 | 0.46 | 0.17 | 0.21 | | | | | 0.38 | 0.38 | 0.21 |
| Control Delay | | 12.7 | 3.4 | 28.1 | 5.9 | | | | | 27.4 | 27.4 | 5.8 |
| Queue Delay | | 0.0 | 0.0 | 0.0 | 0.0 | | | | | 0.0 | 0.0 | 0.0 |
| Total Delay | | 12.7 | 3.4 | 28.1 | 5.9 | | | | | 27.4 | 27.4 | 5.8 |
| LOS | | B | A | C | A | | | | | C | C | A |
| Approach Delay | | 8.8 | | | 9.4 | | | | | | 22.0 | |
| Approach LOS | | A | | | A | | | | | | C | |

**Intersection Summary**

Cycle Length: 98.5
Actuated Cycle Length: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.46
Intersection Signal Delay: 11.4 — Intersection LOS: B
Intersection Capacity Utilization 45.4% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 39: Humelsine Parkway WB On-Ramp/Humelsine Parkway EB Off-Ramp & Longhill Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 537 | 322 | 59 | 401 | 0 | 0 | 0 | 0 | 194 | 3 | 65 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.5 | 6.5 | 6.0 | 6.5 | | | | | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | | 0.95 | 1.00 | 0.97 | 0.95 | | | | | 0.95 | 0.95 | 1.00 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | 0.95 | 0.96 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1583 | 3433 | 3539 | | | | | 1681 | 1693 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | 0.95 | 0.96 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1583 | 3433 | 3539 | | | | | 1681 | 1693 | 1583 |
| Peak-hour factor, PHF | 0.25 | 0.94 | 0.77 | 0.78 | 0.99 | 0.25 | 0.25 | 0.25 | 0.25 | 0.81 | 0.25 | 0.77 |
| Adj. Flow (vph) | 0 | 571 | 418 | 76 | 405 | 0 | 0 | 0 | 0 | 240 | 12 | 84 |
| RTOR Reduction (vph) | 0 | 0 | 244 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 68 |
| Lane Group Flow (vph) | 0 | 571 | 174 | 76 | 405 | 0 | 0 | 0 | 0 | 125 | 127 | 16 |
| Turn Type | | NA | Perm | Prot | NA | | | | | Perm | NA | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | | | | 4 | |
| Permitted Phases | | | 2 | | | | | | | 4 | | 4 |
| Actuated Green, G (s) | | 23.5 | 23.5 | 3.8 | 33.3 | | | | | 10.8 | 10.8 | 10.8 |
| Effective Green, g (s) | | 23.5 | 23.5 | 3.8 | 33.3 | | | | | 10.8 | 10.8 | 10.8 |
| Actuated g/C Ratio | | 0.42 | 0.42 | 0.07 | 0.59 | | | | | 0.19 | 0.19 | 0.19 |
| Clearance Time (s) | | 6.5 | 6.5 | 6.0 | 6.5 | | | | | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | | 5.0 | 5.0 | 3.0 | 5.0 | | | | | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1469 | 657 | 230 | 2082 | | | | | 320 | 323 | 302 |
| v/s Ratio Prot | | c0.16 | | 0.02 | c0.11 | | | | | | | |
| v/s Ratio Perm | | | 0.11 | | | | | | | 0.07 | 0.08 | 0.01 |
| v/c Ratio | | 0.39 | 0.26 | 0.33 | 0.19 | | | | | 0.39 | 0.39 | 0.05 |
| Uniform Delay, d1 | | 11.5 | 10.9 | 25.2 | 5.4 | | | | | 20.0 | 20.0 | 18.7 |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.4 | 0.5 | 0.8 | 0.1 | | | | | 0.8 | 0.8 | 0.1 |
| Delay (s) | | 11.9 | 11.3 | 26.0 | 5.5 | | | | | 20.8 | 20.8 | 18.8 |
| Level of Service | | B | B | C | A | | | | | C | C | B |
| Approach Delay (s) | | 11.7 | | | 8.8 | | | 0.0 | | | 20.3 | |
| Approach LOS | | B | | | A | | | A | | | C | |

**Intersection Summary**

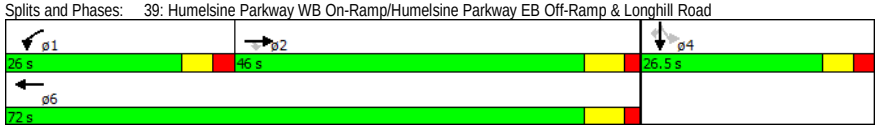
| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 12.5 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.39 | | |
| Actuated Cycle Length (s) | 56.6 | Sum of lost time (s) | 18.5 |
| Intersection Capacity Utilization | 45.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 531 | 295 | 101 | 1108 | 0 | 0 | 0 | 0 | 120 | 2 | 160 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 |
| Frt | | | 0.850 | | | | | | | | | 0.850 |
| Flt Protected | | | | 0.950 | | | | | | 0.950 | 0.954 | |
| Satd. Flow (prot) | 0 | 3539 | 1583 | 3433 | 3539 | 0 | 0 | 0 | 0 | 1681 | 1688 | 1583 |
| Flt Permitted | | | | 0.950 | | | | | | 0.950 | 0.954 | |
| Satd. Flow (perm) | 0 | 3539 | 1583 | 3433 | 3539 | 0 | 0 | 0 | 0 | 1681 | 1688 | 1583 |
| Satd. Flow (RTOR) | | | 304 | | | | | | | | | 112 |
| Adj. Flow (vph) | 0 | 547 | 304 | 104 | 1142 | 0 | 0 | 0 | 0 | 124 | 2 | 165 |
| Lane Group Flow (vph) | 0 | 547 | 304 | 104 | 1142 | 0 | 0 | 0 | 0 | 63 | 63 | 165 |
| Turn Type | | NA | Perm | Prot | NA | | | | | Perm | NA | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | | | | 4 | |
| Permitted Phases | | | 2 | | | | | | | 4 | | 4 |
| Total Split (s) | | 46.0 | 46.0 | 26.0 | 72.0 | | | | | 26.5 | 26.5 | 26.5 |
| Total Lost Time (s) | | 6.5 | 6.5 | 6.0 | 6.5 | | | | | 6.0 | 6.0 | 6.0 |
| Act Effct Green (s) | | 22.3 | 22.3 | 7.4 | 32.7 | | | | | 8.9 | 8.9 | 8.9 |
| Actuated g/C Ratio | | 0.41 | 0.41 | 0.14 | 0.60 | | | | | 0.16 | 0.16 | 0.16 |
| v/c Ratio | | 0.38 | 0.37 | 0.22 | 0.54 | | | | | 0.23 | 0.23 | 0.47 |
| Control Delay | | 13.4 | 3.3 | 25.4 | 7.4 | | | | | 24.8 | 24.8 | 14.7 |
| Queue Delay | | 0.0 | 0.0 | 0.0 | 0.0 | | | | | 0.0 | 0.0 | 0.0 |
| Total Delay | | 13.4 | 3.3 | 25.4 | 7.4 | | | | | 24.8 | 24.8 | 14.7 |
| LOS | | B | A | C | A | | | | | C | C | B |
| Approach Delay | | 9.8 | | | 8.9 | | | | | | 19.1 | |
| Approach LOS | | A | | | A | | | | | | B | |

| Intersection Summary | |
|---|---|
| Cycle Length: 98.5 | |
| Actuated Cycle Length: 54.6 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.54 | |
| Intersection Signal Delay: 10.5 | Intersection LOS: B |
| Intersection Capacity Utilization 51.0% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 39: Humelsine Parkway WB On-Ramp/Humelsine Parkway EB Off-Ramp & Longhill Road







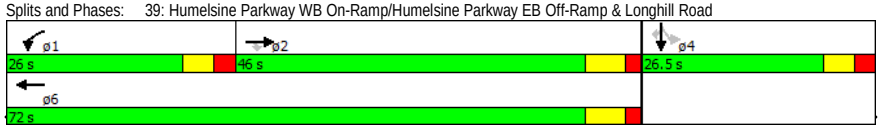

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 531 | 295 | 101 | 1108 | 0 | 0 | 0 | 0 | 120 | 2 | 160 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.5 | 6.5 | 6.0 | 6.5 | | | | | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | | 0.95 | 1.00 | 0.97 | 0.95 | | | | | 0.95 | 0.95 | 1.00 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | 0.95 | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1583 | 3433 | 3539 | | | | | 1681 | 1688 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | 0.95 | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1583 | 3433 | 3539 | | | | | 1681 | 1688 | 1583 |
| Peak-hour factor, PHF | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Adj. Flow (vph) | 0 | 547 | 304 | 104 | 1142 | 0 | 0 | 0 | 0 | 124 | 2 | 165 |
| RTOR Reduction (vph) | 0 | 0 | 182 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 94 |
| Lane Group Flow (vph) | 0 | 547 | 122 | 104 | 1142 | 0 | 0 | 0 | 0 | 63 | 63 | 71 |
| Turn Type | | NA | Perm | Prot | NA | | | | | Perm | NA | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | | | | 4 | |
| Permitted Phases | | | 2 | | | | | | | 4 | | 4 |
| Actuated Green, G (s) | | 22.3 | 22.3 | 5.8 | 34.1 | | | | | 8.9 | 8.9 | 8.9 |
| Effective Green, g (s) | | 22.3 | 22.3 | 5.8 | 34.1 | | | | | 8.9 | 8.9 | 8.9 |
| Actuated g/C Ratio | | 0.40 | 0.40 | 0.10 | 0.61 | | | | | 0.16 | 0.16 | 0.16 |
| Clearance Time (s) | | 6.5 | 6.5 | 6.0 | 6.5 | | | | | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | | 5.0 | 5.0 | 3.0 | 5.0 | | | | | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1421 | 636 | 358 | 2174 | | | | | 269 | 270 | 253 |
| v/s Ratio Prot | | 0.15 | | 0.03 | c0.32 | | | | | | | |
| v/s Ratio Perm | | | 0.08 | | | | | | | 0.04 | 0.04 | c0.04 |
| v/c Ratio | | 0.38 | 0.19 | 0.29 | 0.53 | | | | | 0.23 | 0.23 | 0.28 |
| Uniform Delay, d1 | | 11.7 | 10.8 | 22.9 | 6.1 | | | | | 20.3 | 20.3 | 20.5 |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.4 | 0.3 | 0.5 | 0.4 | | | | | 0.4 | 0.4 | 0.6 |
| Delay (s) | | 12.1 | 11.1 | 23.4 | 6.5 | | | | | 20.8 | 20.8 | 21.1 |
| Level of Service | | B | B | C | A | | | | | C | C | C |
| Approach Delay (s) | | 11.7 | | | 7.9 | | | 0.0 | | | 21.0 | |
| Approach LOS | | B | | | A | | | A | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 10.9 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.55 | | |
| Actuated Cycle Length (s) | 55.5 | Sum of lost time (s) | 18.5 |
| Intersection Capacity Utilization | 51.0% | 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 | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 775 | 450 | 85 | 550 | 0 | 0 | 0 | 0 | 265 | 5 | 90 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 175 | | 0 | 0 | | 0 | 415 | | 325 |
| Storage Lanes | 0 | | 1 | 2 | | 0 | 0 | | 0 | 1 | | 1 |
| Taper Length (ft) | 25 | | | 120 | | | 25 | | | 100 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 |
| Frt | | | 0.850 | | | | | | | | | 0.850 |
| Flt Protected | | | | 0.950 | | | | | | 0.950 | 0.954 | |
| Satd. Flow (prot) | 0 | 3539 | 1583 | 3433 | 3539 | 0 | 0 | 0 | 0 | 1681 | 1688 | 1583 |
| Flt Permitted | | | | 0.950 | | | | | | 0.950 | 0.954 | |
| Satd. Flow (perm) | 0 | 3539 | 1583 | 3433 | 3539 | 0 | 0 | 0 | 0 | 1681 | 1688 | 1583 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 500 | | | | | | | | | 105 |
| Link Speed (mph) | | 45 | | | 45 | | | 30 | | | 30 | |
| Link Distance (ft) | | 560 | | | 579 | | | 299 | | | 720 | |
| Travel Time (s) | | 8.5 | | | 8.8 | | | 6.8 | | | 16.4 | |
| Adj. Flow (vph) | 0 | 861 | 500 | 94 | 611 | 0 | 0 | 0 | 0 | 294 | 6 | 100 |
| Lane Group Flow (vph) | 0 | 861 | 500 | 94 | 611 | 0 | 0 | 0 | 0 | 150 | 150 | 100 |
| Turn Type | | NA | Perm | Prot | NA | | | | | Perm | NA | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | | | | 4 | |
| Permitted Phases | | | 2 | | | | | | | 4 | | 4 |
| Total Split (s) | | 46.0 | 46.0 | 26.0 | 72.0 | | | | | 26.5 | 26.5 | 26.5 |
| Total Lost Time (s) | | 6.5 | 6.5 | 6.0 | 6.5 | | | | | 6.0 | 6.0 | 6.0 |
| Act Effct Green (s) | | 33.5 | 33.5 | 7.8 | 43.7 | | | | | 12.6 | 12.6 | 12.6 |
| Actuated g/C Ratio | | 0.48 | 0.48 | 0.11 | 0.63 | | | | | 0.18 | 0.18 | 0.18 |
| v/c Ratio | | 0.51 | 0.49 | 0.24 | 0.28 | | | | | 0.50 | 0.50 | 0.27 |
| Control Delay | | 14.9 | 3.3 | 35.0 | 6.1 | | | | | 35.3 | 35.2 | 8.0 |
| Queue Delay | | 0.0 | 0.0 | 0.0 | 0.0 | | | | | 0.0 | 0.0 | 0.0 |
| Total Delay | | 14.9 | 3.3 | 35.0 | 6.1 | | | | | 35.3 | 35.2 | 8.0 |
| LOS | | B | A | D | A | | | | | D | D | A |
| Approach Delay | | 10.6 | | | 10.0 | | | | | | 28.4 | |
| Approach LOS | | B | | | A | | | | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 98.5 | | | |
| Actuated Cycle Length: 69.8 | | | |
| Control Type: Actuated-Uncoordinated | | | |
| Maximum v/c Ratio: 0.51 | | | |
| Intersection Signal Delay: 13.3 | | Intersection LOS: B | |
| Intersection Capacity Utilization 54.9% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 39: Humelsine Parkway WB On-Ramp/Humelsine Parkway EB Off-Ramp & Longhill Road







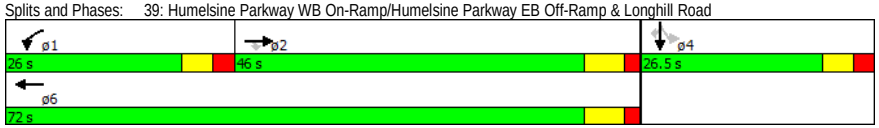

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 775 | 450 | 85 | 550 | 0 | 0 | 0 | 0 | 265 | 5 | 90 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.5 | 6.5 | 6.0 | 6.5 | | | | | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | | 0.95 | 1.00 | 0.97 | 0.95 | | | | | 0.95 | 0.95 | 1.00 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | 0.95 | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1583 | 3433 | 3539 | | | | | 1681 | 1689 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | 0.95 | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1583 | 3433 | 3539 | | | | | 1681 | 1689 | 1583 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 861 | 500 | 94 | 611 | 0 | 0 | 0 | 0 | 294 | 6 | 100 |
| RTOR Reduction (vph) | 0 | 0 | 262 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 82 |
| Lane Group Flow (vph) | 0 | 861 | 238 | 94 | 611 | 0 | 0 | 0 | 0 | 150 | 150 | 18 |
| Turn Type | | NA | Perm | Prot | NA | | | | | Perm | NA | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | | | | 4 | |
| Permitted Phases | | | 2 | | | | | | | 4 | | 4 |
| Actuated Green, G (s) | | 33.5 | 33.5 | 5.8 | 45.3 | | | | | 12.6 | 12.6 | 12.6 |
| Effective Green, g (s) | | 33.5 | 33.5 | 5.8 | 45.3 | | | | | 12.6 | 12.6 | 12.6 |
| Actuated g/C Ratio | | 0.48 | 0.48 | 0.08 | 0.64 | | | | | 0.18 | 0.18 | 0.18 |
| Clearance Time (s) | | 6.5 | 6.5 | 6.0 | 6.5 | | | | | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | | 5.0 | 5.0 | 3.0 | 5.0 | | | | | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1684 | 753 | 282 | 2277 | | | | | 300 | 302 | 283 |
| v/s Ratio Prot | | c0.24 | | 0.03 | c0.17 | | | | | | | |
| v/s Ratio Perm | | | 0.15 | | | | | | | c0.09 | 0.09 | 0.01 |
| v/c Ratio | | 0.51 | 0.32 | 0.33 | 0.27 | | | | | 0.50 | 0.50 | 0.06 |
| Uniform Delay, d1 | | 12.8 | 11.4 | 30.5 | 5.4 | | | | | 26.1 | 26.0 | 24.0 |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.5 | 0.5 | 0.7 | 0.1 | | | | | 1.3 | 1.3 | 0.1 |
| Delay (s) | | 13.3 | 11.9 | 31.2 | 5.5 | | | | | 27.4 | 27.3 | 24.1 |
| Level of Service | | B | B | C | A | | | | | C | C | C |
| Approach Delay (s) | | 12.8 | | | 9.0 | | | 0.0 | | | 26.5 | |
| Approach LOS | | B | | | A | | | A | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 13.9 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.50 | | |
| Actuated Cycle Length (s) | 70.4 | Sum of lost time (s) | 18.5 |
| Intersection Capacity Utilization | 54.9% | 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 | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 710 | 405 | 150 | 1515 | 0 | 0 | 0 | 0 | 165 | 5 | 220 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 |
| Frt | | | 0.850 | | | | | | | | | 0.850 |
| Flt Protected | | | | 0.950 | | | | | | 0.950 | 0.955 | |
| Satd. Flow (prot) | 0 | 3539 | 1583 | 3433 | 3539 | 0 | 0 | 0 | 0 | 1681 | 1690 | 1583 |
| Flt Permitted | | | | 0.950 | | | | | | 0.950 | 0.955 | |
| Satd. Flow (perm) | 0 | 3539 | 1583 | 3433 | 3539 | 0 | 0 | 0 | 0 | 1681 | 1690 | 1583 |
| Satd. Flow (RTOR) | | | 450 | | | | | | | | | 105 |
| Adj. Flow (vph) | 0 | 789 | 450 | 167 | 1683 | 0 | 0 | 0 | 0 | 183 | 6 | 244 |
| Lane Group Flow (vph) | 0 | 789 | 450 | 167 | 1683 | 0 | 0 | 0 | 0 | 95 | 94 | 244 |
| Turn Type | | NA | Perm | Prot | NA | | | | | Perm | NA | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | | | | 4 | |
| Permitted Phases | | | 2 | | | | | | | 4 | | 4 |
| Total Split (s) | | 46.0 | 46.0 | 26.0 | 72.0 | | | | | 26.5 | 26.5 | 26.5 |
| Total Lost Time (s) | | 6.5 | 6.5 | 6.0 | 6.5 | | | | | 6.0 | 6.0 | 6.0 |
| Act Effct Green (s) | | 41.0 | 41.0 | 9.7 | 57.0 | | | | | 13.5 | 13.5 | 13.5 |
| Actuated g/C Ratio | | 0.49 | 0.49 | 0.12 | 0.68 | | | | | 0.16 | 0.16 | 0.16 |
| v/c Ratio | | 0.45 | 0.45 | 0.42 | 0.70 | | | | | 0.35 | 0.34 | 0.71 |
| Control Delay | | 15.4 | 3.0 | 40.7 | 10.3 | | | | | 37.1 | 37.0 | 32.2 |
| Queue Delay | | 0.0 | 0.0 | 0.0 | 0.3 | | | | | 0.0 | 0.0 | 0.0 |
| Total Delay | | 15.4 | 3.0 | 40.7 | 10.7 | | | | | 37.1 | 37.0 | 32.2 |
| LOS | | B | A | D | B | | | | | D | D | C |
| Approach Delay | | 10.9 | | | 13.4 | | | | | | 34.3 | |
| Approach LOS | | B | | | B | | | | | | C | |

| Intersection Summary | |
|---|---|
| Cycle Length: 98.5 | |
| Actuated Cycle Length: 83.5 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.71 | |
| Intersection Signal Delay: 15.1 | Intersection LOS: B |
| Intersection Capacity Utilization 65.9% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 39: Humelsine Parkway WB On-Ramp/Humelsine Parkway EB Off-Ramp & Longhill Road







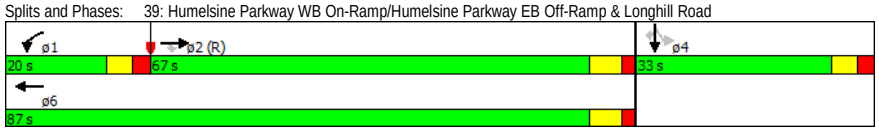

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 710 | 405 | 150 | 1515 | 0 | 0 | 0 | 0 | 165 | 5 | 220 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.5 | 6.5 | 6.0 | 6.5 | | | | | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | | 0.95 | 1.00 | 0.97 | 0.95 | | | | | 0.95 | 0.95 | 1.00 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | 0.95 | 0.96 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1583 | 3433 | 3539 | | | | | 1681 | 1690 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | 0.95 | 0.96 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1583 | 3433 | 3539 | | | | | 1681 | 1690 | 1583 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 789 | 450 | 167 | 1683 | 0 | 0 | 0 | 0 | 183 | 6 | 244 |
| RTOR Reduction (vph) | 0 | 0 | 226 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 88 |
| Lane Group Flow (vph) | 0 | 789 | 224 | 167 | 1683 | 0 | 0 | 0 | 0 | 95 | 94 | 156 |
| Turn Type | | NA | Perm | Prot | NA | | | | | Perm | NA | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | | | | 4 | |
| Permitted Phases | | | 2 | | | | | | | 4 | | 4 |
| Actuated Green, G (s) | | 41.3 | 41.3 | 9.7 | 57.0 | | | | | 13.5 | 13.5 | 13.5 |
| Effective Green, g (s) | | 41.3 | 41.3 | 9.7 | 57.0 | | | | | 13.5 | 13.5 | 13.5 |
| Actuated g/C Ratio | | 0.50 | 0.50 | 0.12 | 0.69 | | | | | 0.16 | 0.16 | 0.16 |
| Clearance Time (s) | | 6.5 | 6.5 | 6.0 | 6.5 | | | | | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | | 5.0 | 5.0 | 3.0 | 5.0 | | | | | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1760 | 787 | 401 | 2430 | | | | | 273 | 274 | 257 |
| v/s Ratio Prot | | 0.22 | | 0.05 | c0.48 | | | | | | | |
| v/s Ratio Perm | | | 0.14 | | | | | | | 0.06 | 0.06 | c0.10 |
| v/c Ratio | | 0.45 | 0.28 | 0.42 | 0.69 | | | | | 0.35 | 0.34 | 0.61 |
| Uniform Delay, d1 | | 13.5 | 12.2 | 34.0 | 7.8 | | | | | 30.8 | 30.8 | 32.3 |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.4 | 0.4 | 0.7 | 1.1 | | | | | 0.8 | 0.8 | 4.0 |
| Delay (s) | | 13.9 | 12.6 | 34.7 | 8.9 | | | | | 31.6 | 31.6 | 36.3 |
| Level of Service | | B | B | C | A | | | | | C | C | D |
| Approach Delay (s) | | 13.4 | | | 11.2 | | | 0.0 | | | 34.3 | |
| Approach LOS | | B | | | B | | | A | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 14.8 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.74 | | |
| Actuated Cycle Length (s) | 83.0 | Sum of lost time (s) | 18.5 |
| Intersection Capacity Utilization | 65.9% | 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 | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 775 | 450 | 85 | 550 | 0 | 0 | 0 | 0 | 265 | 5 | 90 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 |
| Frt | | | 0.850 | | | | | | | | | 0.850 |
| Flt Protected | | | | 0.950 | | | | | | 0.950 | 0.954 | |
| Satd. Flow (prot) | 0 | 3539 | 1583 | 3433 | 3539 | 0 | 0 | 0 | 0 | 1681 | 1688 | 1583 |
| Flt Permitted | | | | 0.950 | | | | | | 0.950 | 0.954 | |
| Satd. Flow (perm) | 0 | 3539 | 1583 | 3433 | 3539 | 0 | 0 | 0 | 0 | 1681 | 1688 | 1583 |
| Satd. Flow (RTOR) | | | 489 | | | | | | | | | 98 |
| Adj. Flow (vph) | 0 | 842 | 489 | 92 | 598 | 0 | 0 | 0 | 0 | 288 | 5 | 98 |
| Lane Group Flow (vph) | 0 | 842 | 489 | 92 | 598 | 0 | 0 | 0 | 0 | 147 | 146 | 98 |
| Turn Type | | NA | Perm | Prot | NA | | | | | Perm | NA | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | | | | 4 | |
| Permitted Phases | | | 2 | | | | | | | 4 | | 4 |
| Total Split (s) | | 67.0 | 67.0 | 20.0 | 87.0 | | | | | 33.0 | 33.0 | 33.0 |
| Total Lost Time (s) | | 6.5 | 6.5 | 6.0 | 6.5 | | | | | 6.0 | 6.0 | 6.0 |
| Act Effct Green (s) | | 76.8 | 76.8 | 8.6 | 91.4 | | | | | 16.1 | 16.1 | 16.1 |
| Actuated g/C Ratio | | 0.64 | 0.64 | 0.07 | 0.76 | | | | | 0.13 | 0.13 | 0.13 |
| v/c Ratio | | 0.37 | 0.41 | 0.38 | 0.22 | | | | | 0.65 | 0.65 | 0.33 |
| Control Delay | | 7.3 | 1.1 | 45.2 | 8.1 | | | | | 62.1 | 61.6 | 11.3 |
| Queue Delay | | 0.0 | 0.0 | 0.0 | 0.0 | | | | | 0.0 | 0.0 | 0.0 |
| Total Delay | | 7.3 | 1.1 | 45.2 | 8.1 | | | | | 62.1 | 61.6 | 11.3 |
| LOS | | A | A | D | A | | | | | E | E | B |
| Approach Delay | | 5.0 | | | 13.1 | | | | | | 49.2 | |
| Approach LOS | | A | | | B | | | | | | D | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.65 | |
| Intersection Signal Delay: 14.5 | Intersection LOS: B |
| Intersection Capacity Utilization 54.9% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 39: Humelsine Parkway WB On-Ramp/Humelsine Parkway EB Off-Ramp & Longhill Road







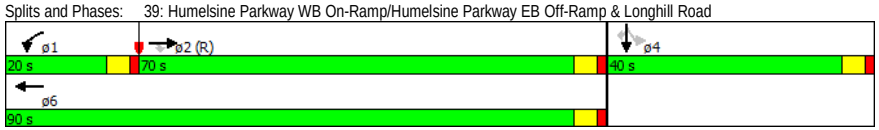

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 775 | 450 | 85 | 550 | 0 | 0 | 0 | 0 | 265 | 5 | 90 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.5 | 6.5 | 6.0 | 6.5 | | | | | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | | 0.95 | 1.00 | 0.97 | 0.95 | | | | | 0.95 | 0.95 | 1.00 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | 0.95 | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1583 | 3433 | 3539 | | | | | 1681 | 1688 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | 0.95 | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1583 | 3433 | 3539 | | | | | 1681 | 1688 | 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) | 0 | 842 | 489 | 92 | 598 | 0 | 0 | 0 | 0 | 288 | 5 | 98 |
| RTOR Reduction (vph) | 0 | 0 | 176 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 85 |
| Lane Group Flow (vph) | 0 | 842 | 313 | 92 | 598 | 0 | 0 | 0 | 0 | 147 | 146 | 13 |
| Turn Type | | NA | Perm | Prot | NA | | | | | Perm | NA | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | | | | 4 | |
| Permitted Phases | | | 2 | | | | | | | 4 | | 4 |
| Actuated Green, G (s) | | 76.8 | 76.8 | 8.6 | 91.4 | | | | | 16.1 | 16.1 | 16.1 |
| Effective Green, g (s) | | 76.8 | 76.8 | 8.6 | 91.4 | | | | | 16.1 | 16.1 | 16.1 |
| Actuated g/C Ratio | | 0.64 | 0.64 | 0.07 | 0.76 | | | | | 0.13 | 0.13 | 0.13 |
| Clearance Time (s) | | 6.5 | 6.5 | 6.0 | 6.5 | | | | | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | | 5.0 | 5.0 | 3.0 | 5.0 | | | | | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 2264 | 1013 | 246 | 2695 | | | | | 225 | 226 | 212 |
| v/s Ratio Prot | | c0.24 | | c0.03 | 0.17 | | | | | | | |
| v/s Ratio Perm | | | 0.20 | | | | | | | c0.09 | 0.09 | 0.01 |
| v/c Ratio | | 0.37 | 0.31 | 0.37 | 0.22 | | | | | 0.65 | 0.65 | 0.06 |
| Uniform Delay, d1 | | 10.2 | 9.7 | 53.1 | 4.1 | | | | | 49.3 | 49.2 | 45.4 |
| Progression Factor | | 0.61 | 0.16 | 0.78 | 1.74 | | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.4 | 0.7 | 0.9 | 0.1 | | | | | 6.7 | 6.2 | 0.1 |
| Delay (s) | | 6.7 | 2.3 | 42.2 | 7.2 | | | | | 56.0 | 55.5 | 45.5 |
| Level of Service | | A | A | D | A | | | | | E | E | D |
| Approach Delay (s) | | 5.1 | | | 11.9 | | | 0.0 | | | 53.1 | |
| Approach LOS | | A | | | B | | | A | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 14.8 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.42 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 18.5 |
| Intersection Capacity Utilization | 54.9% | 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 | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 710 | 405 | 150 | 1515 | 0 | 0 | 0 | 0 | 165 | 5 | 220 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 |
| Frt | | | 0.850 | | | | | | | | | 0.850 |
| Flt Protected | | | | 0.950 | | | | | | 0.950 | 0.955 | |
| Satd. Flow (prot) | 0 | 3539 | 1583 | 3433 | 3539 | 0 | 0 | 0 | 0 | 1681 | 1690 | 1583 |
| Flt Permitted | | | | 0.950 | | | | | | 0.950 | 0.955 | |
| Satd. Flow (perm) | 0 | 3539 | 1583 | 3433 | 3539 | 0 | 0 | 0 | 0 | 1681 | 1690 | 1583 |
| Satd. Flow (RTOR) | | | 440 | | | | | | | | | 59 |
| Adj. Flow (vph) | 0 | 772 | 440 | 163 | 1647 | 0 | 0 | 0 | 0 | 179 | 5 | 239 |
| Lane Group Flow (vph) | 0 | 772 | 440 | 163 | 1647 | 0 | 0 | 0 | 0 | 91 | 93 | 239 |
| Turn Type | | NA | Perm | Prot | NA | | | | | Perm | NA | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | | | | 4 | |
| Permitted Phases | | | 2 | | | | | | | 4 | | 4 |
| Total Split (s) | | 70.0 | 70.0 | 20.0 | 90.0 | | | | | 40.0 | 40.0 | 40.0 |
| Total Lost Time (s) | | 5.0 | 5.0 | 5.0 | 5.0 | | | | | 5.0 | 5.0 | 5.0 |
| Act Effct Green (s) | | 82.4 | 82.4 | 11.5 | 98.9 | | | | | 21.1 | 21.1 | 21.1 |
| Actuated g/C Ratio | | 0.63 | 0.63 | 0.09 | 0.76 | | | | | 0.16 | 0.16 | 0.16 |
| v/c Ratio | | 0.34 | 0.38 | 0.54 | 0.61 | | | | | 0.33 | 0.34 | 0.78 |
| Control Delay | | 3.3 | 1.2 | 56.8 | 16.6 | | | | | 49.3 | 49.4 | 55.5 |
| Queue Delay | | 0.0 | 0.0 | 0.0 | 0.3 | | | | | 0.0 | 0.0 | 0.0 |
| Total Delay | | 3.3 | 1.2 | 56.8 | 16.9 | | | | | 49.3 | 49.4 | 55.5 |
| LOS | | A | A | E | B | | | | | D | D | E |
| Approach Delay | | 2.5 | | | 20.5 | | | | | | 52.9 | |
| Approach LOS | | A | | | C | | | | | | D | |

| Intersection Summary | |
|---|---|
| Cycle Length: 130 | |
| Actuated Cycle Length: 130 | |
| Offset: 44 (34%), Referenced to phase 2:EBT, Start of Green | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.78 | |
| Intersection Signal Delay: 18.1 | Intersection LOS: B |
| Intersection Capacity Utilization 63.8% | ICU Level of Service B |
| Analysis Period (min) 15 | |

Splits and Phases: 39: Humelsine Parkway WB On-Ramp/Humelsine Parkway EB Off-Ramp & Longhill Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 710 | 405 | 150 | 1515 | 0 | 0 | 0 | 0 | 165 | 5 | 220 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.0 | 5.0 | 5.0 | 5.0 | | | | | 5.0 | 5.0 | 5.0 |
| Lane Util. Factor | | 0.95 | 1.00 | 0.97 | 0.95 | | | | | 0.95 | 0.95 | 1.00 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | 0.95 | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1583 | 3433 | 3539 | | | | | 1681 | 1690 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | 0.95 | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1583 | 3433 | 3539 | | | | | 1681 | 1690 | 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) | 0 | 772 | 440 | 163 | 1647 | 0 | 0 | 0 | 0 | 179 | 5 | 239 |
| RTOR Reduction (vph) | 0 | 0 | 161 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 49 |
| Lane Group Flow (vph) | 0 | 772 | 279 | 163 | 1647 | 0 | 0 | 0 | 0 | 91 | 93 | 190 |
| Turn Type | | NA | Perm | Prot | NA | | | | | Perm | NA | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | | | | 4 | |
| Permitted Phases | | | 2 | | | | | | | 4 | | 4 |
| Actuated Green, G (s) | | 82.4 | 82.4 | 11.5 | 98.9 | | | | | 21.1 | 21.1 | 21.1 |
| Effective Green, g (s) | | 82.4 | 82.4 | 11.5 | 98.9 | | | | | 21.1 | 21.1 | 21.1 |
| Actuated g/C Ratio | | 0.63 | 0.63 | 0.09 | 0.76 | | | | | 0.16 | 0.16 | 0.16 |
| Clearance Time (s) | | 5.0 | 5.0 | 5.0 | 5.0 | | | | | 5.0 | 5.0 | 5.0 |
| Vehicle Extension (s) | | 5.0 | 5.0 | 3.0 | 5.0 | | | | | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 2243 | 1003 | 303 | 2692 | | | | | 272 | 274 | 256 |
| v/s Ratio Prot | | 0.22 | | 0.05 | c0.47 | | | | | | | |
| v/s Ratio Perm | | | 0.18 | | | | | | | 0.05 | 0.06 | c0.12 |
| v/c Ratio | | 0.34 | 0.28 | 0.54 | 0.61 | | | | | 0.33 | 0.34 | 0.74 |
| Uniform Delay, d1 | | 11.1 | 10.6 | 56.7 | 7.0 | | | | | 48.2 | 48.3 | 51.8 |
| Progression Factor | | 0.23 | 0.31 | 0.91 | 1.94 | | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.4 | 0.6 | 1.5 | 0.5 | | | | | 0.7 | 0.7 | 10.9 |
| Delay (s) | | 2.9 | 3.9 | 53.2 | 14.0 | | | | | 49.0 | 49.0 | 62.8 |
| Level of Service | | A | A | D | B | | | | | D | D | E |
| Approach Delay (s) | | 3.3 | | | 17.5 | | | 0.0 | | | 56.8 | |
| Approach LOS | | A | | | B | | | A | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 17.3 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.66 | | |
| Actuated Cycle Length (s) | 130.0 | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | 63.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

# Intersection C

## Williamsburg West Drive/Lane Place and Longhill Road

## Intersection LOS Analysis

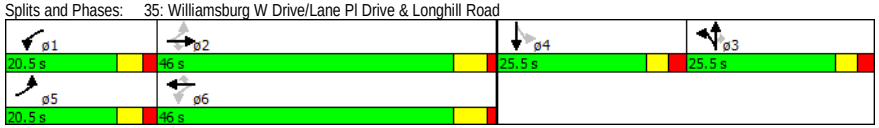
## AM/PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 4 | 759 | 14 | 46 | 422 | 12 | 34 | 2 | 237 | 41 | 2 | 17 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.957 | |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.956 | | | 0.971 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 0 | 1781 | 1583 | 0 | 1731 | 0 |
| Flt Permitted | 0.405 | | | 0.084 | | | | 0.956 | | | 0.160 | |
| Satd. Flow (perm) | 754 | 1863 | 1583 | 156 | 1863 | 1583 | 0 | 1781 | 1583 | 0 | 285 | 0 |
| Satd. Flow (RTOR) | | | 125 | | | 125 | | | 293 | | 17 | |
| Adj. Flow (vph) | 8 | 926 | 16 | 72 | 464 | 24 | 48 | 4 | 293 | 68 | 8 | 36 |
| Lane Group Flow (vph) | 8 | 926 | 16 | 72 | 464 | 24 | 0 | 52 | 293 | 0 | 112 | 0 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Split | NA | Perm | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 3 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | | | 3 | 4 | | |
| Total Split (s) | 20.5 | 46.0 | 46.0 | 20.5 | 46.0 | 46.0 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | |
| Total Lost Time (s) | 5.5 | 6.0 | 6.0 | 5.5 | 6.0 | 6.0 | | 5.5 | 5.5 | | 5.5 | |
| Act Effct Green (s) | 44.7 | 40.2 | 40.2 | 50.0 | 47.9 | 47.9 | | 9.4 | 9.4 | | 20.1 | |
| Actuated g/C Ratio | 0.46 | 0.42 | 0.42 | 0.52 | 0.50 | 0.50 | | 0.10 | 0.10 | | 0.21 | |
| v/c Ratio | 0.02 | 1.19 | 0.02 | 0.38 | 0.50 | 0.03 | | 0.30 | 0.70 | | 1.56 | |
| Control Delay | 12.5 | 128.0 | 0.1 | 17.8 | 20.0 | 0.1 | | 46.0 | 14.7 | | 330.6 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | |
| Total Delay | 12.5 | 128.0 | 0.1 | 17.8 | 20.0 | 0.1 | | 46.0 | 14.7 | | 330.6 | |
| LOS | B | F | A | B | B | A | | D | B | | F | |
| Approach Delay | | 124.9 | | | 18.8 | | | 19.5 | | | 330.6 | |
| Approach LOS | | F | | | B | | | B | | | F | |

**Intersection Summary**

Cycle Length: 117.5
Actuated Cycle Length: 96.5
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.56
Intersection Signal Delay: 87.9 — Intersection LOS: F
Intersection Capacity Utilization 74.6% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 35: Williamsburg W Drive/Lane Pl Drive & Longhill Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 4 | 759 | 14 | 46 | 422 | 12 | 34 | 2 | 237 | 41 | 2 | 17 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.5 | 6.0 | 6.0 | 5.5 | 6.0 | 6.0 | | 5.5 | 5.5 | | 5.5 | |
| Lane Util. Factor | 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 | 0.85 | | 0.96 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.96 | 1.00 | | 0.97 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | | 1781 | 1583 | | 1729 | |
| Flt Permitted | 0.41 | 1.00 | 1.00 | 0.08 | 1.00 | 1.00 | | 0.96 | 1.00 | | 0.16 | |
| Satd. Flow (perm) | 754 | 1863 | 1583 | 156 | 1863 | 1583 | | 1781 | 1583 | | 285 | |
| Peak-hour factor, PHF | 0.50 | 0.82 | 0.88 | 0.64 | 0.91 | 0.50 | 0.71 | 0.50 | 0.81 | 0.60 | 0.25 | 0.47 |
| Adj. Flow (vph) | 8 | 926 | 16 | 72 | 464 | 24 | 48 | 4 | 293 | 68 | 8 | 36 |
| RTOR Reduction (vph) | 0 | 0 | 9 | 0 | 0 | 13 | 0 | 0 | 266 | 0 | 14 | 0 |
| Lane Group Flow (vph) | 8 | 926 | 7 | 72 | 464 | 11 | 0 | 52 | 27 | 0 | 98 | 0 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Split | NA | Perm | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 3 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | | | 3 | 4 | | |
| Actuated Green, G (s) | 44.5 | 43.5 | 43.5 | 53.3 | 47.9 | 47.9 | | 9.4 | 9.4 | | 20.1 | |
| Effective Green, g (s) | 44.5 | 43.5 | 43.5 | 53.3 | 47.9 | 47.9 | | 9.4 | 9.4 | | 20.1 | |
| Actuated g/C Ratio | 0.44 | 0.43 | 0.43 | 0.53 | 0.47 | 0.47 | | 0.09 | 0.09 | | 0.20 | |
| Clearance Time (s) | 5.5 | 6.0 | 6.0 | 5.5 | 6.0 | 6.0 | | 5.5 | 5.5 | | 5.5 | |
| Vehicle Extension (s) | 2.0 | 5.0 | 5.0 | 2.0 | 5.0 | 5.0 | | 3.0 | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | 342 | 803 | 682 | 168 | 884 | 751 | | 165 | 147 | | 56 | |
| v/s Ratio Prot | 0.00 | c0.50 | | c0.02 | c0.25 | | | c0.03 | | | | |
| v/s Ratio Perm | 0.01 | | 0.00 | 0.20 | | 0.01 | | | 0.02 | | c0.35 | |
| v/c Ratio | 0.02 | 1.15 | 0.01 | 0.43 | 0.52 | 0.02 | | 0.32 | 0.19 | | 1.76 | |
| Uniform Delay, d1 | 16.2 | 28.7 | 16.4 | 21.6 | 18.5 | 14.0 | | 42.7 | 42.2 | | 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 | 0.0 | 83.0 | 0.0 | 0.6 | 1.1 | 0.0 | | 1.1 | 0.6 | | 403.6 | |
| Delay (s) | 16.2 | 111.7 | 16.4 | 22.3 | 19.6 | 14.0 | | 43.8 | 42.8 | | 444.0 | |
| Level of Service | B | F | B | C | B | B | | D | D | | F | |
| Approach Delay (s) | | 109.2 | | | 19.7 | | | 43.0 | | | 444.0 | |
| Approach LOS | | F | | | B | | | D | | | F | |

**Intersection Summary**

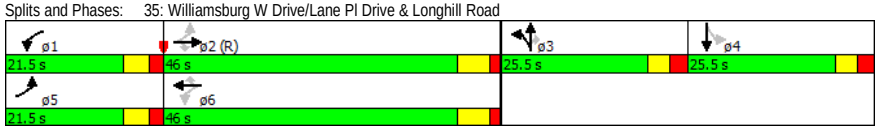
| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 91.2 | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | 1.16 | | |
| Actuated Cycle Length (s) | 100.9 | Sum of lost time (s) | 22.5 |
| Intersection Capacity Utilization | 74.6% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 17 | 690 | 37 | 201 | 1015 | 50 | 184 | 25 | 71 | 26 | 0 | 12 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.958 | |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.958 | | | 0.967 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 0 | 1785 | 1583 | 0 | 1726 | 0 |
| Flt Permitted | 0.100 | | | 0.100 | | | | 0.958 | | | 0.724 | |
| Satd. Flow (perm) | 186 | 1863 | 1583 | 186 | 1863 | 1583 | 0 | 1785 | 1583 | 0 | 1292 | 0 |
| Satd. Flow (RTOR) | | | 124 | | | 124 | | | 129 | | 129 | |
| Adj. Flow (vph) | 18 | 711 | 38 | 207 | 1046 | 52 | 190 | 26 | 73 | 27 | 0 | 12 |
| Lane Group Flow (vph) | 18 | 711 | 38 | 207 | 1046 | 52 | 0 | 216 | 73 | 0 | 39 | 0 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Split | NA | Perm | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 3 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | | | 3 | 4 | | |
| Total Split (s) | 21.5 | 46.0 | 46.0 | 21.5 | 46.0 | 46.0 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | |
| Total Lost Time (s) | 5.5 | 6.0 | 6.0 | 5.5 | 6.0 | 6.0 | | 5.5 | 5.5 | | 5.5 | |
| Act Effct Green (s) | 56.5 | 40.0 | 40.0 | 56.5 | 40.0 | 40.0 | | 20.0 | 20.0 | | 20.0 | |
| Actuated g/C Ratio | 0.48 | 0.34 | 0.34 | 0.48 | 0.34 | 0.34 | | 0.17 | 0.17 | | 0.17 | |
| v/c Ratio | 0.06 | 1.13 | 0.06 | 0.69 | 1.67 | 0.08 | | 0.72 | 0.20 | | 0.12 | |
| Control Delay | 14.2 | 115.1 | 0.2 | 37.6 | 335.1 | 0.3 | | 61.1 | 1.6 | | 0.8 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | |
| Total Delay | 14.2 | 115.1 | 0.2 | 37.6 | 335.1 | 0.3 | | 61.1 | 1.6 | | 0.8 | |
| LOS | B | F | A | D | F | A | | E | A | | A | |
| Approach Delay | | 107.0 | | | 274.5 | | | 46.0 | | | 0.8 | |
| Approach LOS | | F | | | F | | | D | | | A | |

| Intersection Summary | |
|---|---|
| Cycle Length: 118.5 | |
| Actuated Cycle Length: 118.5 | |
| Offset: 21.5 (18%), Referenced to phase 2:EBTL, Start of Green | |
| Control Type: Pretimed | |
| Maximum v/c Ratio: 1.67 | |
| Intersection Signal Delay: 189.0 | Intersection LOS: F |
| Intersection Capacity Utilization 86.3% | ICU Level of Service E |
| Analysis Period (min) 15 | |

Splits and Phases: 35: Williamsburg W Drive/Lane Pl Drive & Longhill Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 17 | 690 | 37 | 201 | 1015 | 50 | 184 | 25 | 71 | 26 | 0 | 12 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.5 | 6.0 | 6.0 | 5.5 | 6.0 | 6.0 | | 5.5 | 5.5 | | 5.5 | |
| Lane Util. Factor | 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 | 0.85 | | 0.96 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.96 | 1.00 | | 0.97 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | | 1784 | 1583 | | 1726 | |
| Flt Permitted | 0.10 | 1.00 | 1.00 | 0.10 | 1.00 | 1.00 | | 0.96 | 1.00 | | 0.72 | |
| Satd. Flow (perm) | 186 | 1863 | 1583 | 186 | 1863 | 1583 | | 1784 | 1583 | | 1292 | |
| Peak-hour factor, PHF | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Adj. Flow (vph) | 18 | 711 | 38 | 207 | 1046 | 52 | 190 | 26 | 73 | 27 | 0 | 12 |
| RTOR Reduction (vph) | 0 | 0 | 25 | 0 | 0 | 34 | 0 | 0 | 61 | 0 | 32 | 0 |
| Lane Group Flow (vph) | 18 | 711 | 13 | 207 | 1046 | 18 | 0 | 216 | 12 | 0 | 7 | 0 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Split | NA | Perm | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 3 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | | | 3 | 4 | | |
| Actuated Green, G (s) | 56.0 | 40.0 | 40.0 | 56.0 | 40.0 | 40.0 | | 20.0 | 20.0 | | 20.0 | |
| Effective Green, g (s) | 56.0 | 40.0 | 40.0 | 56.0 | 40.0 | 40.0 | | 20.0 | 20.0 | | 20.0 | |
| Actuated g/C Ratio | 0.47 | 0.34 | 0.34 | 0.47 | 0.34 | 0.34 | | 0.17 | 0.17 | | 0.17 | |
| Clearance Time (s) | 5.5 | 6.0 | 6.0 | 5.5 | 6.0 | 6.0 | | 5.5 | 5.5 | | 5.5 | |
| Lane Grp Cap (vph) | 301 | 628 | 534 | 301 | 628 | 534 | | 301 | 267 | | 218 | |
| v/s Ratio Prot | 0.01 | 0.38 | | c0.09 | c0.56 | | | c0.12 | | | | |
| v/s Ratio Perm | 0.02 | | 0.01 | 0.23 | | 0.01 | | | 0.01 | | c0.01 | |
| v/c Ratio | 0.06 | 1.13 | 0.02 | 0.69 | 1.67 | 0.03 | | 0.72 | 0.05 | | 0.03 | |
| Uniform Delay, d1 | 22.2 | 39.2 | 26.2 | 27.2 | 39.2 | 26.3 | | 46.6 | 41.3 | | 41.1 | |
| 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 | 78.2 | 0.1 | 12.1 | 306.5 | 0.1 | | 13.7 | 0.3 | | 0.3 | |
| Delay (s) | 22.6 | 117.4 | 26.3 | 39.3 | 345.8 | 26.4 | | 60.3 | 41.6 | | 41.4 | |
| Level of Service | C | F | C | D | F | C | | E | D | | D | |
| Approach Delay (s) | | 110.7 | | | 284.4 | | | 55.6 | | | 41.4 | |
| Approach LOS | | F | | | F | | | E | | | D | |

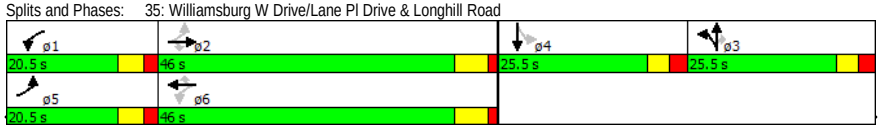
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 197.4 | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | 0.96 | | |
| Actuated Cycle Length (s) | 118.5 | Sum of lost time (s) | 22.5 |
| Intersection Capacity Utilization | 86.3% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 940 | 15 | 65 | 560 | 15 | 35 | 5 | 240 | 45 | 5 | 20 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 200 | | 175 | 220 | | 0 | 0 | | 185 | 0 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 100 | | | 60 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.962 | |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.958 | | | 0.969 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 0 | 1785 | 1583 | 0 | 1736 | 0 |
| Flt Permitted | 0.258 | | | 0.084 | | | | 0.958 | | | 0.163 | |
| Satd. Flow (perm) | 481 | 1863 | 1583 | 156 | 1863 | 1583 | 0 | 1785 | 1583 | 0 | 292 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 125 | | | 125 | | | 267 | | 15 | |
| Link Speed (mph) | | 45 | | | 45 | | | 25 | | | 25 | |
| Link Distance (ft) | | 1028 | | | 748 | | | 450 | | | 530 | |
| Travel Time (s) | | 15.6 | | | 11.3 | | | 12.3 | | | 14.5 | |
| Adj. Flow (vph) | 6 | 1044 | 17 | 72 | 622 | 17 | 39 | 6 | 267 | 50 | 6 | 22 |
| Lane Group Flow (vph) | 6 | 1044 | 17 | 72 | 622 | 17 | 0 | 45 | 267 | 0 | 78 | 0 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Split | NA | Perm | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 3 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | | | 3 | 4 | | |
| Total Split (s) | 20.5 | 46.0 | 46.0 | 20.5 | 46.0 | 46.0 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | |
| Total Lost Time (s) | 5.5 | 6.0 | 6.0 | 5.5 | 6.0 | 6.0 | | 5.5 | 5.5 | | 5.5 | |
| Act Effct Green (s) | 44.7 | 40.2 | 40.2 | 50.0 | 48.0 | 48.0 | | 9.1 | 9.1 | | 20.1 | |
| Actuated g/C Ratio | 0.46 | 0.42 | 0.42 | 0.52 | 0.50 | 0.50 | | 0.09 | 0.09 | | 0.21 | |
| v/c Ratio | 0.02 | 1.34 | 0.02 | 0.38 | 0.67 | 0.02 | | 0.27 | 0.68 | | 1.08 | |
| Control Delay | 12.2 | 188.8 | 0.1 | 17.6 | 24.1 | 0.1 | | 45.5 | 14.9 | | 164.8 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | |
| Total Delay | 12.2 | 188.8 | 0.1 | 17.6 | 24.1 | 0.1 | | 45.5 | 14.9 | | 164.8 | |
| LOS | B | F | A | B | C | A | | D | B | | F | |
| Approach Delay | | 184.8 | | | 22.8 | | | 19.4 | | | 164.8 | |
| Approach LOS | | F | | | C | | | B | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 117.5 | | | |
| Actuated Cycle Length: 96.2 | | | |
| Control Type: Actuated-Uncoordinated | | | |
| Maximum v/c Ratio: 1.34 | | | |
| Intersection Signal Delay: 107.1 | | Intersection LOS: F | |
| Intersection Capacity Utilization 84.3% | | ICU Level of Service E | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 35: Williamsburg W Drive/Lane Pl Drive & Longhill Road







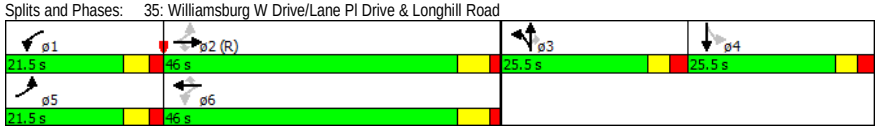

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 940 | 15 | 65 | 560 | 15 | 35 | 5 | 240 | 45 | 5 | 20 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.5 | 6.0 | 6.0 | 5.5 | 6.0 | 6.0 | | 5.5 | 5.5 | | 5.5 | |
| Lane Util. Factor | 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 | 0.85 | | 0.96 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.96 | 1.00 | | 0.97 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | | 1785 | 1583 | | 1736 | |
| Flt Permitted | 0.26 | 1.00 | 1.00 | 0.08 | 1.00 | 1.00 | | 0.96 | 1.00 | | 0.16 | |
| Satd. Flow (perm) | 480 | 1863 | 1583 | 156 | 1863 | 1583 | | 1785 | 1583 | | 293 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 6 | 1044 | 17 | 72 | 622 | 17 | 39 | 6 | 267 | 50 | 6 | 22 |
| RTOR Reduction (vph) | 0 | 0 | 10 | 0 | 0 | 9 | 0 | 0 | 243 | 0 | 12 | 0 |
| Lane Group Flow (vph) | 6 | 1044 | 7 | 72 | 622 | 8 | 0 | 45 | 24 | 0 | 66 | 0 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Split | NA | Perm | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 3 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | | | 3 | 4 | | |
| Actuated Green, G (s) | 44.4 | 43.5 | 43.5 | 53.2 | 47.9 | 47.9 | | 9.1 | 9.1 | | 20.1 | |
| Effective Green, g (s) | 44.4 | 43.5 | 43.5 | 53.2 | 47.9 | 47.9 | | 9.1 | 9.1 | | 20.1 | |
| Actuated g/C Ratio | 0.44 | 0.43 | 0.43 | 0.53 | 0.48 | 0.48 | | 0.09 | 0.09 | | 0.20 | |
| Clearance Time (s) | 5.5 | 6.0 | 6.0 | 5.5 | 6.0 | 6.0 | | 5.5 | 5.5 | | 5.5 | |
| Vehicle Extension (s) | 2.0 | 5.0 | 5.0 | 2.0 | 5.0 | 5.0 | | 3.0 | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | 223 | 806 | 685 | 167 | 887 | 754 | | 161 | 143 | | 58 | |
| v/s Ratio Prot | 0.00 | c0.56 | | c0.02 | c0.33 | | | c0.03 | | | | |
| v/s Ratio Perm | 0.01 | | 0.00 | 0.21 | | 0.01 | | | 0.02 | | c0.23 | |
| v/c Ratio | 0.03 | 1.30 | 0.01 | 0.43 | 0.70 | 0.01 | | 0.28 | 0.17 | | 1.14 | |
| Uniform Delay, d1 | 17.2 | 28.5 | 16.2 | 21.6 | 20.7 | 13.8 | | 42.6 | 42.2 | | 40.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 0.0 | 142.0 | 0.0 | 0.7 | 3.2 | 0.0 | | 1.0 | 0.6 | | 160.9 | |
| Delay (s) | 17.2 | 170.5 | 16.3 | 22.2 | 23.8 | 13.8 | | 43.6 | 42.8 | | 201.1 | |
| Level of Service | B | F | B | C | C | B | | D | D | | F | |
| Approach Delay (s) | | 167.2 | | | 23.4 | | | 42.9 | | | 201.1 | |
| Approach LOS | | F | | | C | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 103.4 | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | 1.08 | | |
| Actuated Cycle Length (s) | 100.5 | Sum of lost time (s) | 22.5 |
| Intersection Capacity Utilization | 84.3% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 20 | 960 | 40 | 230 | 1455 | 50 | 185 | 25 | 125 | 30 | 0 | 15 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.954 | |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.958 | | | 0.968 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 0 | 1785 | 1583 | 0 | 1720 | 0 |
| Flt Permitted | 0.100 | | | 0.100 | | | | 0.958 | | | 0.709 | |
| Satd. Flow (perm) | 186 | 1863 | 1583 | 186 | 1863 | 1583 | 0 | 1785 | 1583 | 0 | 1260 | 0 |
| Satd. Flow (RTOR) | | | 124 | | | 124 | | | 139 | | 129 | |
| Adj. Flow (vph) | 22 | 1067 | 44 | 256 | 1617 | 56 | 206 | 28 | 139 | 33 | 0 | 17 |
| Lane Group Flow (vph) | 22 | 1067 | 44 | 256 | 1617 | 56 | 0 | 234 | 139 | 0 | 50 | 0 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Split | NA | Perm | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 3 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | | | 3 | 4 | | |
| Total Split (s) | 21.5 | 46.0 | 46.0 | 21.5 | 46.0 | 46.0 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | |
| Total Lost Time (s) | 5.5 | 6.0 | 6.0 | 5.5 | 6.0 | 6.0 | | 5.5 | 5.5 | | 5.5 | |
| Act Effct Green (s) | 56.5 | 40.0 | 40.0 | 56.5 | 40.0 | 40.0 | | 20.0 | 20.0 | | 20.0 | |
| Actuated g/C Ratio | 0.48 | 0.34 | 0.34 | 0.48 | 0.34 | 0.34 | | 0.17 | 0.17 | | 0.17 | |
| v/c Ratio | 0.07 | 1.70 | 0.07 | 0.85 | 2.57 | 0.09 | | 0.78 | 0.36 | | 0.16 | |
| Control Delay | 14.4 | 349.5 | 0.2 | 54.7 | 733.5 | 0.3 | | 65.6 | 9.9 | | 1.0 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | |
| Total Delay | 14.4 | 349.5 | 0.2 | 54.7 | 733.5 | 0.3 | | 65.6 | 9.9 | | 1.0 | |
| LOS | B | F | A | D | F | A | | E | A | | A | |
| Approach Delay | | 329.4 | | | 622.1 | | | 44.9 | | | 1.0 | |
| Approach LOS | | F | | | F | | | D | | | A | |

| Intersection Summary | |
|---|---|
| Cycle Length: 118.5 | |
| Actuated Cycle Length: 118.5 | |
| Offset: 21.5 (18%), Referenced to phase 2:EBTL, Start of Green | |
| Control Type: Pretimed | |
| Maximum v/c Ratio: 2.57 | |
| Intersection Signal Delay: 456.3 | Intersection LOS: F |
| Intersection Capacity Utilization 109.9% | ICU Level of Service H |
| Analysis Period (min) 15 | |

Splits and Phases: 35: Williamsburg W Drive/Lane Pl Drive & Longhill Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 20 | 960 | 40 | 230 | 1455 | 50 | 185 | 25 | 125 | 30 | 0 | 15 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.5 | 6.0 | 6.0 | 5.5 | 6.0 | 6.0 | | 5.5 | 5.5 | | 5.5 | |
| Lane Util. Factor | 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 | 0.85 | | 0.95 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.96 | 1.00 | | 0.97 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | | 1784 | 1583 | | 1720 | |
| Flt Permitted | 0.10 | 1.00 | 1.00 | 0.10 | 1.00 | 1.00 | | 0.96 | 1.00 | | 0.71 | |
| Satd. Flow (perm) | 186 | 1863 | 1583 | 186 | 1863 | 1583 | | 1784 | 1583 | | 1261 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 22 | 1067 | 44 | 256 | 1617 | 56 | 206 | 28 | 139 | 33 | 0 | 17 |
| RTOR Reduction (vph) | 0 | 0 | 29 | 0 | 0 | 37 | 0 | 0 | 116 | 0 | 42 | 0 |
| Lane Group Flow (vph) | 22 | 1067 | 15 | 256 | 1617 | 19 | 0 | 234 | 23 | 0 | 8 | 0 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Split | NA | Perm | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 3 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | | | 3 | 4 | | |
| Actuated Green, G (s) | 56.0 | 40.0 | 40.0 | 56.0 | 40.0 | 40.0 | | 20.0 | 20.0 | | 20.0 | |
| Effective Green, g (s) | 56.0 | 40.0 | 40.0 | 56.0 | 40.0 | 40.0 | | 20.0 | 20.0 | | 20.0 | |
| Actuated g/C Ratio | 0.47 | 0.34 | 0.34 | 0.47 | 0.34 | 0.34 | | 0.17 | 0.17 | | 0.17 | |
| Clearance Time (s) | 5.5 | 6.0 | 6.0 | 5.5 | 6.0 | 6.0 | | 5.5 | 5.5 | | 5.5 | |
| Lane Grp Cap (vph) | 301 | 628 | 534 | 301 | 628 | 534 | | 301 | 267 | | 212 | |
| v/s Ratio Prot | 0.01 | 0.57 | | c0.11 | c0.87 | | | c0.13 | | | | |
| v/s Ratio Perm | 0.02 | | 0.01 | 0.29 | | 0.01 | | | 0.01 | | c0.01 | |
| v/c Ratio | 0.07 | 1.70 | 0.03 | 0.85 | 2.57 | 0.04 | | 0.78 | 0.09 | | 0.04 | |
| Uniform Delay, d1 | 22.2 | 39.2 | 26.2 | 32.3 | 39.2 | 26.3 | | 47.1 | 41.6 | | 41.2 | |
| 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 | 321.4 | 0.1 | 24.8 | 713.3 | 0.1 | | 17.7 | 0.6 | | 0.4 | |
| Delay (s) | 22.7 | 360.6 | 26.3 | 57.2 | 752.6 | 26.4 | | 64.9 | 42.2 | | 41.6 | |
| Level of Service | C | F | C | E | F | C | | E | D | | D | |
| Approach Delay (s) | | 341.1 | | | 639.2 | | | 56.4 | | | 41.6 | |
| Approach LOS | | F | | | F | | | E | | | D | |

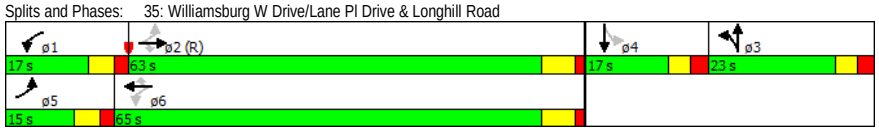
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 471.3 | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | 1.38 | | |
| Actuated Cycle Length (s) | 118.5 | Sum of lost time (s) | 22.5 |
| Intersection Capacity Utilization | 109.9% | ICU Level of Service | H |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 940 | 15 | 65 | 560 | 15 | 35 | 5 | 240 | 45 | 5 | 20 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Frt | | | 0.850 | | | 0.850 | | 0.871 | | | 0.957 | |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.994 | | | 0.969 | |
| Satd. Flow (prot) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 0 | 3064 | 0 | 0 | 3282 | 0 |
| Flt Permitted | 0.421 | | | 0.224 | | | | 0.994 | | | 0.842 | |
| Satd. Flow (perm) | 784 | 3539 | 1583 | 417 | 3539 | 1583 | 0 | 3064 | 0 | 0 | 2852 | 0 |
| Satd. Flow (RTOR) | | | 123 | | | 123 | | 261 | | | 22 | |
| Adj. Flow (vph) | 5 | 1022 | 16 | 71 | 609 | 16 | 38 | 5 | 261 | 49 | 5 | 22 |
| Lane Group Flow (vph) | 5 | 1022 | 16 | 71 | 609 | 16 | 0 | 304 | 0 | 0 | 76 | 0 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Split | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 3 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | | | | 4 | | |
| Total Split (s) | 15.0 | 63.0 | 63.0 | 17.0 | 65.0 | 65.0 | 23.0 | 23.0 | | 17.0 | 17.0 | |
| Total Lost Time (s) | 5.5 | 6.0 | 6.0 | 5.5 | 6.0 | 6.0 | | 5.5 | | | 5.5 | |
| Act Effct Green (s) | 83.6 | 79.1 | 79.1 | 88.5 | 86.4 | 86.4 | | 8.6 | | | 8.4 | |
| Actuated g/C Ratio | 0.70 | 0.66 | 0.66 | 0.74 | 0.72 | 0.72 | | 0.07 | | | 0.07 | |
| v/c Ratio | 0.01 | 0.44 | 0.01 | 0.19 | 0.24 | 0.01 | | 0.66 | | | 0.35 | |
| Control Delay | 6.2 | 12.3 | 0.0 | 4.7 | 3.6 | 0.0 | | 17.5 | | | 42.6 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | | 0.0 | |
| Total Delay | 6.2 | 12.3 | 0.0 | 4.7 | 3.6 | 0.0 | | 17.5 | | | 42.6 | |
| LOS | A | B | A | A | A | A | | B | | | D | |
| Approach Delay | | 12.1 | | | 3.7 | | | 17.5 | | | 42.6 | |
| Approach LOS | | B | | | A | | | B | | | D | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.66 | |
| Intersection Signal Delay: 11.2 | Intersection LOS: B |
| Intersection Capacity Utilization 63.7% | ICU Level of Service B |
| Analysis Period (min) 15 | |

Splits and Phases: 35: Williamsburg W Drive/Lane Pl Drive & Longhill Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 940 | 15 | 65 | 560 | 15 | 35 | 5 | 240 | 45 | 5 | 20 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.5 | 6.0 | 6.0 | 5.5 | 6.0 | 6.0 | | 5.5 | | | 5.5 | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | | | 0.95 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 0.87 | | | 0.96 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.99 | | | 0.97 | |
| Satd. Flow (prot) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | | 3064 | | | 3280 | |
| Flt Permitted | 0.42 | 1.00 | 1.00 | 0.22 | 1.00 | 1.00 | | 0.99 | | | 0.84 | |
| Satd. Flow (perm) | 785 | 3539 | 1583 | 417 | 3539 | 1583 | | 3064 | | | 2851 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 5 | 1022 | 16 | 71 | 609 | 16 | 38 | 5 | 261 | 49 | 5 | 22 |
| RTOR Reduction (vph) | 0 | 0 | 6 | 0 | 0 | 5 | 0 | 242 | 0 | 0 | 21 | 0 |
| Lane Group Flow (vph) | 5 | 1022 | 10 | 71 | 609 | 11 | 0 | 62 | 0 | 0 | 55 | 0 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Split | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 3 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | | | | 4 | | |
| Actuated Green, G (s) | 77.9 | 76.9 | 76.9 | 85.9 | 80.9 | 80.9 | | 8.6 | | | 7.0 | |
| Effective Green, g (s) | 77.9 | 76.9 | 76.9 | 85.9 | 80.9 | 80.9 | | 8.6 | | | 7.0 | |
| Actuated g/C Ratio | 0.65 | 0.64 | 0.64 | 0.72 | 0.67 | 0.67 | | 0.07 | | | 0.06 | |
| Clearance Time (s) | 5.5 | 6.0 | 6.0 | 5.5 | 6.0 | 6.0 | | 5.5 | | | 5.5 | |
| Vehicle Extension (s) | 2.0 | 5.0 | 5.0 | 2.0 | 5.0 | 5.0 | | 3.0 | | | 3.0 | |
| Lane Grp Cap (vph) | 517 | 2267 | 1014 | 354 | 2385 | 1067 | | 219 | | | 166 | |
| v/s Ratio Prot | 0.00 | c0.29 | | c0.01 | c0.17 | | | c0.02 | | | | |
| v/s Ratio Perm | 0.01 | | 0.01 | 0.14 | | 0.01 | | | | | c0.02 | |
| v/c Ratio | 0.01 | 0.45 | 0.01 | 0.20 | 0.26 | 0.01 | | 0.28 | | | 0.33 | |
| Uniform Delay, d1 | 7.4 | 10.9 | 7.8 | 6.3 | 7.7 | 6.4 | | 52.8 | | | 54.3 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.66 | 0.48 | 1.00 | | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 0.0 | 0.7 | 0.0 | 0.1 | 0.1 | 0.0 | | 0.7 | | | 1.2 | |
| Delay (s) | 7.4 | 11.5 | 7.8 | 4.3 | 3.8 | 6.4 | | 53.5 | | | 55.4 | |
| Level of Service | A | B | A | A | A | A | | D | | | E | |
| Approach Delay (s) | | 11.5 | | | 3.9 | | | 53.5 | | | 55.4 | |
| Approach LOS | | B | | | A | | | D | | | E | |

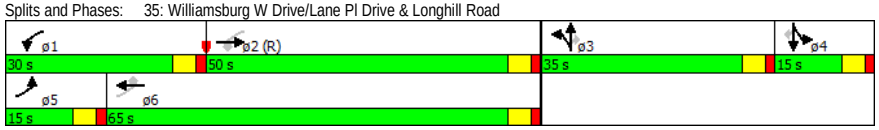
| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM 2000 Control Delay | 16.6 | HCM 2000 Level of Service | B | |
| HCM 2000 Volume to Capacity ratio | 0.42 | | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 22.5 | |
| Intersection Capacity Utilization | 63.7% | ICU Level of Service | B | |
| Analysis Period (min) | 15 | | | |
| c Critical Lane Group | | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 20 | 960 | 40 | 230 | 1455 | 50 | 185 | 25 | 125 | 30 | 0 | 15 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.958 | | | 0.950 | |
| Satd. Flow (prot) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 0 | 1785 | 1583 | 0 | 1770 | 1583 |
| Flt Permitted | 0.078 | | | 0.168 | | | | 0.958 | | | 0.950 | |
| Satd. Flow (perm) | 145 | 3539 | 1583 | 313 | 3539 | 1583 | 0 | 1785 | 1583 | 0 | 1770 | 1583 |
| Satd. Flow (RTOR) | | | 143 | | | 101 | | | 143 | | | 143 |
| Adj. Flow (vph) | 22 | 1043 | 43 | 250 | 1582 | 54 | 201 | 27 | 136 | 33 | 0 | 16 |
| Lane Group Flow (vph) | 22 | 1043 | 43 | 250 | 1582 | 54 | 0 | 228 | 136 | 0 | 33 | 16 |
| Turn Type | D.P+P | NA | Perm | D.P+P | NA | Perm | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 3 | | 4 | 4 | |
| Permitted Phases | 6 | | 2 | 2 | | 6 | | | 3 | | | 4 |
| Total Split (s) | 15.0 | 50.0 | 50.0 | 30.0 | 65.0 | 65.0 | 35.0 | 35.0 | 35.0 | 15.0 | 15.0 | 15.0 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 |
| Act Effct Green (s) | 84.1 | 63.8 | 63.8 | 82.1 | 80.7 | 80.7 | | 22.1 | 22.1 | | 8.2 | 8.2 |
| Actuated g/C Ratio | 0.65 | 0.49 | 0.49 | 0.63 | 0.62 | 0.62 | | 0.17 | 0.17 | | 0.06 | 0.06 |
| v/c Ratio | 0.14 | 0.60 | 0.05 | 0.62 | 0.72 | 0.05 | | 0.75 | 0.35 | | 0.30 | 0.07 |
| Control Delay | 12.1 | 29.0 | 0.1 | 27.2 | 17.5 | 2.2 | | 66.1 | 8.4 | | 64.6 | 0.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | 12.1 | 29.0 | 0.1 | 27.2 | 17.5 | 2.2 | | 66.1 | 8.4 | | 64.6 | 0.6 |
| LOS | B | C | A | C | B | A | | E | A | | E | A |
| Approach Delay | | 27.6 | | | 18.4 | | | 44.5 | | | 43.7 | |
| Approach LOS | | C | | | B | | | D | | | D | |

**Intersection Summary**

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 23 (18%), Referenced to phase 2:EBWB, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 24.5 — Intersection LOS: C
Intersection Capacity Utilization 75.1% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 35: Williamsburg W Drive/Lane Pl Drive & Longhill Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 20 | 960 | 40 | 230 | 1455 | 50 | 185 | 25 | 125 | 30 | 0 | 15 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 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 | 0.85 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.96 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | | 1784 | 1583 | | 1770 | 1583 |
| Flt Permitted | 0.08 | 1.00 | 1.00 | 0.17 | 1.00 | 1.00 | | 0.96 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 145 | 3539 | 1583 | 313 | 3539 | 1583 | | 1784 | 1583 | | 1770 | 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) | 22 | 1043 | 43 | 250 | 1582 | 54 | 201 | 27 | 136 | 33 | 0 | 16 |
| RTOR Reduction (vph) | 0 | 0 | 22 | 0 | 0 | 22 | 0 | 0 | 113 | 0 | 0 | 15 |
| Lane Group Flow (vph) | 22 | 1043 | 21 | 250 | 1582 | 32 | 0 | 228 | 23 | 0 | 33 | 1 |
| Turn Type | D.P+P | NA | Perm | D.P+P | NA | Perm | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 3 | | 4 | 4 | |
| Permitted Phases | 6 | | 2 | 2 | | 6 | | | 3 | | | 4 |
| Actuated Green, G (s) | 81.1 | 62.9 | 62.9 | 81.1 | 77.8 | 77.8 | | 22.1 | 22.1 | | 6.8 | 6.8 |
| Effective Green, g (s) | 81.1 | 62.9 | 62.9 | 81.1 | 77.8 | 77.8 | | 22.1 | 22.1 | | 6.8 | 6.8 |
| Actuated g/C Ratio | 0.62 | 0.48 | 0.48 | 0.62 | 0.60 | 0.60 | | 0.17 | 0.17 | | 0.05 | 0.05 |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 |
| Vehicle Extension (s) | 2.0 | 5.0 | 5.0 | 2.0 | 5.0 | 5.0 | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 131 | 1712 | 765 | 399 | 2117 | 947 | | 303 | 269 | | 92 | 82 |
| v/s Ratio Prot | 0.00 | 0.29 | | c0.09 | c0.45 | | | c0.13 | | | c0.02 | |
| v/s Ratio Perm | 0.10 | | 0.01 | 0.30 | | 0.02 | | | 0.01 | | | 0.00 |
| v/c Ratio | 0.17 | 0.61 | 0.03 | 0.63 | 0.75 | 0.03 | | 0.75 | 0.09 | | 0.36 | 0.01 |
| Uniform Delay, d1 | 15.9 | 24.6 | 17.5 | 15.2 | 19.0 | 10.7 | | 51.3 | 45.4 | | 59.5 | 58.4 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.63 | 0.76 | 11.32 | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.2 | 1.6 | 0.1 | 1.8 | 1.4 | 0.0 | | 10.1 | 0.1 | | 2.4 | 0.0 |
| Delay (s) | 16.2 | 26.2 | 17.6 | 26.5 | 15.8 | 121.1 | | 61.4 | 45.6 | | 61.9 | 58.5 |
| Level of Service | B | C | B | C | B | F | | E | D | | E | E |
| Approach Delay (s) | | 25.6 | | | 20.3 | | | 55.5 | | | 60.8 | |
| Approach LOS | | C | | | C | | | E | | | E | |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 26.4 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 130.0 | Sum of lost time (s) | 20.0 |
| Intersection Capacity Utilization | 75.1% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

# Intersection D

## Williamsburg Plantation and Longhill Road

## Intersection LOS Analysis

## AM/PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 820 | 0 | 0 | 480 | 15 | 0 | 0 | 0 | 5 | 0 | 6 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 | | | | | 0.932 | |
| Flt Protected | 0.950 | | | | | | | | | | 0.976 | |
| Satd. Flow (prot) | 1770 | 1863 | 0 | 1863 | 1863 | 1583 | 0 | 1863 | 0 | 0 | 1694 | 0 |
| Flt Permitted | 0.950 | | | | | | | | | | 0.976 | |
| Satd. Flow (perm) | 1770 | 1863 | 0 | 1863 | 1863 | 1583 | 0 | 1863 | 0 | 0 | 1694 | 0 |
| Adj. Flow (vph) | 8 | 965 | 0 | 0 | 571 | 32 | 0 | 0 | 0 | 12 | 0 | 12 |
| Lane Group Flow (vph) | 8 | 965 | 0 | 0 | 571 | 32 | 0 | 0 | 0 | 0 | 24 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 53.2% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 5 | 820 | 0 | 0 | 480 | 15 | 0 | 0 | 0 | 5 | 0 | 6 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.62 | 0.85 | 0.25 | 0.25 | 0.84 | 0.47 | 0.25 | 0.25 | 0.25 | 0.42 | 0.25 | 0.50 |
| Hourly flow rate (vph) | 8 | 965 | 0 | 0 | 571 | 32 | 0 | 0 | 0 | 12 | 0 | 12 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | 1116 | | | 1028 | | | | | | | |
| pX, platoon unblocked | 0.83 | | | 0.73 | | | 0.82 | 0.82 | 0.73 | 0.82 | 0.82 | 0.83 |
| vC, conflicting volume | 603 | | | 965 | | | 1564 | 1584 | 965 | 1552 | 1552 | 571 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 415 | | | 770 | | | 1102 | 1127 | 770 | 1088 | 1088 | 377 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 99 | | | 100 | | | 100 | 100 | 100 | 92 | 100 | 98 |
| cM capacity (veh/h) | 945 | | | 619 | | | 151 | 166 | 294 | 157 | 175 | 554 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | WB 3 | NB 1 | SB 1 |
|---|---|---|---|---|---|---|---|
| Volume Total | 8 | 965 | 0 | 571 | 32 | 0 | 24 |
| Volume Left | 8 | 0 | 0 | 0 | 0 | 0 | 12 |
| Volume Right | 0 | 0 | 0 | 0 | 32 | 0 | 12 |
| cSH | 945 | 1700 | 1700 | 1700 | 1700 | 1700 | 246 |
| Volume to Capacity | 0.01 | 0.57 | 0.00 | 0.34 | 0.02 | 0.00 | 0.10 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 0 | 0 | 8 |
| Control Delay (s) | 8.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 21.2 |
| Lane LOS | A | | | | | A | C |
| Approach Delay (s) | 0.1 | | 0.0 | | | 0.0 | 21.2 |
| Approach LOS | | | | | | A | C |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.4 | | |
| Intersection Capacity Utilization | 53.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 753 | 1 | 0 | 1042 | 9 | 0 | 0 | 0 | 15 | 0 | 18 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 | | | | | 0.925 | |
| Flt Protected | 0.950 | | | | | | | | | | 0.978 | |
| Satd. Flow (prot) | 1770 | 1863 | 0 | 1863 | 1863 | 1583 | 0 | 1863 | 0 | 0 | 1685 | 0 |
| Flt Permitted | 0.950 | | | | | | | | | | 0.978 | |
| Satd. Flow (perm) | 1770 | 1863 | 0 | 1863 | 1863 | 1583 | 0 | 1863 | 0 | 0 | 1685 | 0 |
| Adj. Flow (vph) | 5 | 776 | 1 | 0 | 1074 | 9 | 0 | 0 | 0 | 15 | 0 | 19 |
| Lane Group Flow (vph) | 5 | 777 | 0 | 0 | 1074 | 9 | 0 | 0 | 0 | 0 | 34 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 64.8% | ICU Level of Service C | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 5 | 753 | 1 | 0 | 1042 | 9 | 0 | 0 | 0 | 15 | 0 | 18 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Hourly flow rate (vph) | 5 | 776 | 1 | 0 | 1074 | 9 | 0 | 0 | 0 | 15 | 0 | 19 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | 1116 | | | 1028 | | | | | | | |
| pX, platoon unblocked | 0.67 | | | 0.75 | | | 0.79 | 0.79 | 0.75 | 0.79 | 0.79 | 0.67 |
| vC, conflicting volume | 1084 | | | 777 | | | 1880 | 1871 | 777 | 1861 | 1862 | 1074 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 877 | | | 537 | | | 1272 | 1260 | 537 | 1247 | 1249 | 863 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 99 | | | 100 | | | 100 | 100 | 100 | 87 | 100 | 92 |
| cM capacity (veh/h) | 515 | | | 774 | | | 105 | 134 | 409 | 118 | 136 | 237 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | WB 3 | NB 1 | SB 1 |
|---|---|---|---|---|---|---|---|
| Volume Total | 5 | 777 | 0 | 1074 | 9 | 0 | 34 |
| Volume Left | 5 | 0 | 0 | 0 | 0 | 0 | 15 |
| Volume Right | 0 | 1 | 0 | 0 | 9 | 0 | 19 |
| cSH | 515 | 1700 | 1700 | 1700 | 1700 | 1700 | 163 |
| Volume to Capacity | 0.01 | 0.46 | 0.00 | 0.63 | 0.01 | 0.00 | 0.21 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 0 | 0 | 19 |
| Control Delay (s) | 12.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 32.9 |
| Lane LOS | B | | | | | A | D |
| Approach Delay (s) | 0.1 | | 0.0 | | | 0.0 | 32.9 |
| Approach LOS | | | | | | A | D |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.6 | | |
| Intersection Capacity Utilization | 64.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 950 | 0 | 5 | 595 | 15 | 5 | 0 | 5 | 5 | 0 | 10 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 115 | | 0 | 80 | | 260 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 1 | 0 | | 0 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 100 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 | | 0.932 | | | 0.913 | |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.976 | | | 0.983 | |
| Satd. Flow (prot) | 1770 | 1863 | 0 | 1770 | 1863 | 1583 | 0 | 1694 | 0 | 0 | 1672 | 0 |
| Flt Permitted | 0.950 | | | 0.950 | | | | 0.976 | | | 0.983 | |
| Satd. Flow (perm) | 1770 | 1863 | 0 | 1770 | 1863 | 1583 | 0 | 1694 | 0 | 0 | 1672 | 0 |
| Link Speed (mph) | | 45 | | | 45 | | | 25 | | | 25 | |
| Link Distance (ft) | | 1116 | | | 1028 | | | 526 | | | 791 | |
| Travel Time (s) | | 16.9 | | | 15.6 | | | 14.3 | | | 21.6 | |
| Adj. Flow (vph) | 6 | 1056 | 0 | 6 | 661 | 17 | 6 | 0 | 6 | 6 | 0 | 11 |
| Lane Group Flow (vph) | 6 | 1056 | 0 | 6 | 661 | 17 | 0 | 12 | 0 | 0 | 17 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 60.0% | | ICU Level of Service B | |
| Analysis Period (min) 15 | | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 5 | 950 | 0 | 5 | 595 | 15 | 5 | 0 | 5 | 5 | 0 | 10 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 6 | 1056 | 0 | 6 | 661 | 17 | 6 | 0 | 6 | 6 | 0 | 11 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | 1116 | | | 1028 | | | | | | | |
| pX, platoon unblocked | 0.72 | | | 0.72 | | | 0.86 | 0.86 | 0.72 | 0.86 | 0.86 | 0.72 |
| vC, conflicting volume | 678 | | | 1056 | | | 1750 | 1756 | 1056 | 1744 | 1739 | 661 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 364 | | | 886 | | | 1069 | 1075 | 886 | 1063 | 1056 | 341 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 99 | | | 99 | | | 97 | 100 | 98 | 97 | 100 | 98 |
| cM capacity (veh/h) | 865 | | | 553 | | | 166 | 186 | 249 | 167 | 191 | 508 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | WB 3 | NB 1 | SB 1 |
|---|---|---|---|---|---|---|---|
| Volume Total | 6 | 1056 | 6 | 661 | 17 | 11 | 17 |
| Volume Left | 6 | 0 | 6 | 0 | 0 | 6 | 6 |
| Volume Right | 0 | 0 | 0 | 0 | 17 | 6 | 11 |
| cSH | 865 | 1700 | 553 | 1700 | 1700 | 199 | 303 |
| Volume to Capacity | 0.01 | 0.62 | 0.01 | 0.39 | 0.01 | 0.06 | 0.06 |
| Queue Length 95th (ft) | 0 | 0 | 1 | 0 | 0 | 4 | 4 |
| Control Delay (s) | 9.2 | 0.0 | 11.6 | 0.0 | 0.0 | 24.2 | 17.6 |
| Lane LOS | A | | B | | | C | C |
| Approach Delay (s) | 0.0 | | 0.1 | | | 24.2 | 17.6 |
| Approach LOS | | | | | | C | C |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.4 | | |
| Intersection Capacity Utilization | 60.0% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 975 | 5 | 15 | 1590 | 50 | 0 | 0 | 20 | 25 | 0 | 20 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.999 | | | | 0.850 | | 0.865 | | | 0.941 | |
| Flt Protected | 0.950 | | | 0.950 | | | | | | | 0.973 | |
| Satd. Flow (prot) | 1770 | 1861 | 0 | 1770 | 1863 | 1583 | 0 | 1611 | 0 | 0 | 1706 | 0 |
| Flt Permitted | 0.950 | | | 0.950 | | | | | | | 0.973 | |
| Satd. Flow (perm) | 1770 | 1861 | 0 | 1770 | 1863 | 1583 | 0 | 1611 | 0 | 0 | 1706 | 0 |
| Adj. Flow (vph) | 6 | 1083 | 6 | 17 | 1767 | 56 | 0 | 0 | 22 | 28 | 0 | 22 |
| Lane Group Flow (vph) | 6 | 1089 | 0 | 17 | 1767 | 56 | 0 | 22 | 0 | 0 | 50 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 99.6% | ICU Level of Service F | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 5 | 975 | 5 | 15 | 1590 | 50 | 0 | 0 | 20 | 25 | 0 | 20 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 6 | 1083 | 6 | 17 | 1767 | 56 | 0 | 0 | 22 | 28 | 0 | 22 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | 1116 | | | 1028 | | | | | | | |
| pX, platoon unblocked | 0.67 | | | 0.70 | | | 0.82 | 0.82 | 0.70 | 0.82 | 0.82 | 0.67 |
| vC, conflicting volume | 1822 | | | 1089 | | | 2919 | 2953 | 1086 | 2917 | 2900 | 1767 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 1982 | | | 914 | | | 2413 | 2454 | 910 | 2410 | 2390 | 1899 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 97 | | | 97 | | | 100 | 100 | 90 | 0 | 100 | 62 |
| cM capacity (veh/h) | 195 | | | 523 | | | 11 | 24 | 233 | 16 | 26 | 58 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | WB 3 | NB 1 | SB 1 |
|---|---|---|---|---|---|---|---|
| Volume Total | 6 | 1089 | 17 | 1767 | 56 | 22 | 50 |
| Volume Left | 6 | 0 | 17 | 0 | 0 | 0 | 28 |
| Volume Right | 0 | 6 | 0 | 0 | 56 | 22 | 22 |
| cSH | 195 | 1700 | 523 | 1700 | 1700 | 233 | 24 |
| Volume to Capacity | 0.03 | 0.64 | 0.03 | 1.04 | 0.03 | 0.10 | 2.12 |
| Queue Length 95th (ft) | 2 | 0 | 2 | 0 | 0 | 8 | 157 |
| Control Delay (s) | 24.1 | 0.0 | 12.1 | 0.0 | 0.0 | 22.0 | 867.0 |
| Lane LOS | C | | B | | | C | F |
| Approach Delay (s) | 0.1 | | 0.1 | | | 22.0 | 867.0 |
| Approach LOS | | | | | | C | F |

| Intersection Summary | | |
|---|---|---|
| Average Delay | 14.7 | |
| Intersection Capacity Utilization | 99.6% | ICU Level of Service F |
| Analysis Period (min) | 15 | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 950 | 0 | 5 | 595 | 15 | 5 | 0 | 5 | 5 | 0 | 10 |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | | 0.996 | | | | 0.850 | | | 0.850 |
| Flt Protected | | | | | | | | 0.950 | | | 0.950 | |
| Satd. Flow (prot) | 0 | 3539 | 0 | 0 | 3525 | 0 | 0 | 1770 | 1583 | 0 | 1770 | 1583 |
| Flt Permitted | | | | | | | | 0.950 | | | 0.950 | |
| Satd. Flow (perm) | 0 | 3539 | 0 | 0 | 3525 | 0 | 0 | 1770 | 1583 | 0 | 1770 | 1583 |
| Adj. Flow (vph) | 5 | 1033 | 0 | 5 | 647 | 16 | 5 | 0 | 5 | 5 | 0 | 11 |
| Lane Group Flow (vph) | 0 | 1038 | 0 | 0 | 668 | 0 | 0 | 5 | 5 | 0 | 5 | 11 |
| Sign Control | | Yield | | | Yield | | | Yield | | | Yield | |

| Intersection Summary | | | |
|---|---|---|---|
| Control Type: Roundabout | | | |
| Intersection Capacity Utilization 43.1% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Right Turn Channelized | | | | | | | | | | | | |
| Volume (veh/h) | 5 | 950 | 0 | 5 | 595 | 15 | 5 | 0 | 5 | 5 | 0 | 10 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 5 | 1033 | 0 | 5 | 647 | 16 | 5 | 0 | 5 | 5 | 0 | 11 |
| Approach Volume (veh/h) | | 1038 | | | 668 | | | 11 | | | 16 | |
| Crossing Volume (veh/h) | | 11 | | | 11 | | | 1043 | | | 658 | |
| High Capacity (veh/h) | | 1373 | | | 1373 | | | 601 | | | 822 | |
| High v/c (veh/h) | | 0.76 | | | 0.49 | | | 0.02 | | | 0.02 | |
| Low Capacity (veh/h) | | 1151 | | | 1151 | | | 464 | | | 656 | |
| Low v/c (veh/h) | | 0.90 | | | 0.58 | | | 0.02 | | | 0.02 | |

| Intersection Summary | | | |
|---|---|---|---|
| Maximum v/c High | 0.76 | | |
| Maximum v/c Low | 0.90 | | |
| Intersection Capacity Utilization | 43.1% | ICU Level of Service | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 975 | 5 | 15 | 1590 | 50 | 0 | 0 | 20 | 25 | 0 | 20 |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.999 | | | 0.995 | | | 0.865 | | | 0.939 | |
| Flt Protected | | | | | | | | | | | 0.973 | |
| Satd. Flow (prot) | 0 | 3536 | 0 | 0 | 3522 | 0 | 0 | 1611 | 0 | 0 | 1702 | 0 |
| Flt Permitted | | | | | | | | | | | 0.973 | |
| Satd. Flow (perm) | 0 | 3536 | 0 | 0 | 3522 | 0 | 0 | 1611 | 0 | 0 | 1702 | 0 |
| Adj. Flow (vph) | 5 | 1060 | 5 | 16 | 1728 | 54 | 0 | 0 | 22 | 27 | 0 | 22 |
| Lane Group Flow (vph) | 0 | 1070 | 0 | 0 | 1798 | 0 | 0 | 22 | 0 | 0 | 49 | 0 |
| Sign Control | | Yield | | | Yield | | | Yield | | | Yield | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Roundabout | | |
| Intersection Capacity Utilization 72.1% | ICU Level of Service C | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Right Turn Channelized | | | | | | | | | | | | |
| Volume (veh/h) | 5 | 975 | 5 | 15 | 1590 | 50 | 0 | 0 | 20 | 25 | 0 | 20 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 5 | 1060 | 5 | 16 | 1728 | 54 | 0 | 0 | 22 | 27 | 0 | 22 |
| Approach Volume (veh/h) | | 1071 | | | 1799 | | | 22 | | | 49 | |
| Crossing Volume (veh/h) | | 43 | | | 5 | | | 1092 | | | 1745# | |
| High Capacity (veh/h) | | 1339 | | | 1379 | | | 577 | | | 334 | |
| High v/c (veh/h) | | 0.80 | | | 1.30 | | | 0.04 | | | 0.15 | |
| Low Capacity (veh/h) | | 1119 | | | 1156 | | | 444 | | | 242 | |
| Low v/c (veh/h) | | 0.96 | | | 1.56 | | | 0.05 | | | 0.20 | |

| Intersection Summary | | | |
|---|---|---|---|
| Maximum v/c High | 1.30 | | |
| Maximum v/c Low | 1.56 | | |
| Intersection Capacity Utilization | 72.1% | ICU Level of Service | C |
| # Crossing flow exceeds 1200, method is not applicable | | | |

# Intersection E

Olde Towne Road and Longhill Road

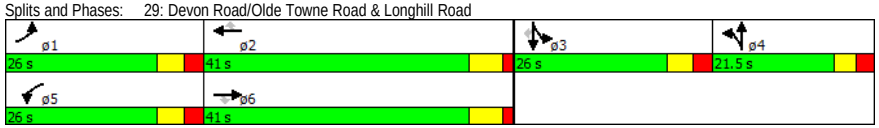
Intersection LOS Analysis

AM/PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 134 | 533 | 4 | 15 | 355 | 107 | 45 | 13 | 18 | 116 | 3 | 116 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | 0.975 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.972 | | | 0.953 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 0 | 1765 | 0 | 0 | 1775 | 1583 |
| Flt Permitted | 0.950 | | | 0.950 | | | | 0.972 | | | 0.953 | |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 0 | 1765 | 0 | 0 | 1775 | 1583 |
| Satd. Flow (RTOR) | | | 138 | | | 202 | | 8 | | | | 168 |
| Adj. Flow (vph) | 176 | 613 | 8 | 24 | 670 | 202 | 70 | 28 | 22 | 163 | 4 | 168 |
| Lane Group Flow (vph) | 176 | 613 | 8 | 24 | 670 | 202 | 0 | 120 | 0 | 0 | 167 | 168 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Split | NA | | Split | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | 4 | 4 | | 3 | 3 | |
| Permitted Phases | | | 6 | | | 2 | | | | | | 3 |
| Total Split (s) | 26.0 | 41.0 | 41.0 | 26.0 | 41.0 | 41.0 | 21.5 | 21.5 | | 26.0 | 26.0 | 26.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | 5.5 | | | 6.0 | 6.0 |
| Act Effct Green (s) | 14.0 | 50.7 | 50.7 | 6.1 | 35.5 | 35.5 | | 11.5 | | | 14.3 | 14.3 |
| Actuated g/C Ratio | 0.14 | 0.51 | 0.51 | 0.06 | 0.36 | 0.36 | | 0.12 | | | 0.14 | 0.14 |
| v/c Ratio | 0.71 | 0.64 | 0.01 | 0.22 | 1.01 | 0.29 | | 0.57 | | | 0.65 | 0.45 |
| Control Delay | 57.5 | 25.0 | 0.0 | 53.0 | 70.8 | 5.2 | | 51.3 | | | 53.7 | 10.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | 57.5 | 25.0 | 0.0 | 53.0 | 70.8 | 5.2 | | 51.3 | | | 53.7 | 10.5 |
| LOS | E | C | A | D | E | A | | D | | | D | B |
| Approach Delay | | 31.9 | | | 55.6 | | | 51.3 | | | 32.0 | |
| Approach LOS | | C | | | E | | | D | | | C | |

| Intersection Summary | |
|---|---|
| Cycle Length: 114.5 | |
| Actuated Cycle Length: 99.1 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 1.01 | |
| Intersection Signal Delay: 42.9 | Intersection LOS: D |
| Intersection Capacity Utilization 57.7% | ICU Level of Service B |
| Analysis Period (min) 15 | |

Splits and Phases: 29: Devon Road/Olde Towne Road & Longhill Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 134 | 533 | 4 | 15 | 355 | 107 | 45 | 13 | 18 | 116 | 3 | 116 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | 5.5 | | | 6.0 | 6.0 |
| Lane Util. Factor | 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 | | 0.98 | | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.97 | | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | | 1765 | | | 1776 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.97 | | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | | 1765 | | | 1776 | 1583 |
| Peak-hour factor, PHF | 0.76 | 0.87 | 0.50 | 0.62 | 0.53 | 0.53 | 0.64 | 0.46 | 0.80 | 0.71 | 0.75 | 0.69 |
| Adj. Flow (vph) | 176 | 613 | 8 | 24 | 670 | 202 | 70 | 28 | 22 | 163 | 4 | 168 |
| RTOR Reduction (vph) | 0 | 0 | 4 | 0 | 0 | 125 | 0 | 7 | 0 | 0 | 0 | 145 |
| Lane Group Flow (vph) | 176 | 613 | 4 | 24 | 670 | 77 | 0 | 113 | 0 | 0 | 167 | 23 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Split | NA | | Split | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | 4 | 4 | | 3 | 3 | |
| Permitted Phases | | | 6 | | | 2 | | | | | | 3 |
| Actuated Green, G (s) | 14.0 | 50.7 | 50.7 | 2.7 | 39.4 | 39.4 | | 11.5 | | | 14.3 | 14.3 |
| Effective Green, g (s) | 14.0 | 50.7 | 50.7 | 2.7 | 39.4 | 39.4 | | 11.5 | | | 14.3 | 14.3 |
| Actuated g/C Ratio | 0.14 | 0.49 | 0.49 | 0.03 | 0.38 | 0.38 | | 0.11 | | | 0.14 | 0.14 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | 5.5 | | | 6.0 | 6.0 |
| Vehicle Extension (s) | 2.0 | 5.0 | 5.0 | 2.0 | 5.0 | 5.0 | | 3.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 241 | 919 | 781 | 46 | 714 | 607 | | 197 | | | 247 | 220 |
| v/s Ratio Prot | c0.10 | c0.33 | | 0.01 | c0.36 | | | c0.06 | | | c0.09 | |
| v/s Ratio Perm | | | 0.00 | | | 0.05 | | | | | | 0.01 |
| v/c Ratio | 0.73 | 0.67 | 0.01 | 0.52 | 0.94 | 0.13 | | 0.57 | | | 0.68 | 0.11 |
| Uniform Delay, d1 | 42.5 | 19.6 | 13.2 | 49.4 | 30.5 | 20.5 | | 43.3 | | | 42.0 | 38.6 |
| 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 | 2.4 | 0.0 | 4.8 | 20.5 | 0.2 | | 4.0 | | | 7.1 | 0.2 |
| Delay (s) | 51.9 | 22.1 | 13.2 | 54.2 | 51.0 | 20.7 | | 47.3 | | | 49.1 | 38.8 |
| Level of Service | D | C | B | D | D | C | | D | | | D | D |
| Approach Delay (s) | | 28.6 | | | 44.3 | | | 47.3 | | | 44.0 | |
| Approach LOS | | C | | | D | | | D | | | D | |

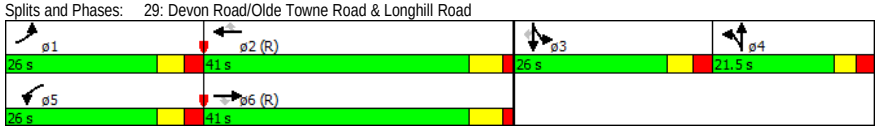
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 38.6 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.80 | | |
| Actuated Cycle Length (s) | 102.7 | Sum of lost time (s) | 23.5 |
| Intersection Capacity Utilization | 57.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 199 | 466 | 4 | 39 | 748 | 272 | 5 | 13 | 28 | 261 | 10 | 349 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | 0.917 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.995 | | | 0.954 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 0 | 1700 | 0 | 0 | 1777 | 1583 |
| Flt Permitted | 0.950 | | | 0.950 | | | | 0.995 | | | 0.954 | |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 0 | 1700 | 0 | 0 | 1777 | 1583 |
| Satd. Flow (RTOR) | | | 138 | | | 280 | | 29 | | | | 324 |
| Adj. Flow (vph) | 205 | 480 | 4 | 40 | 771 | 280 | 5 | 13 | 29 | 269 | 10 | 360 |
| Lane Group Flow (vph) | 205 | 480 | 4 | 40 | 771 | 280 | 0 | 47 | 0 | 0 | 279 | 360 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Split | NA | | Split | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | 4 | 4 | | 3 | 3 | |
| Permitted Phases | | | 6 | | | 2 | | | | | | 3 |
| Total Split (s) | 26.0 | 41.0 | 41.0 | 26.0 | 41.0 | 41.0 | 21.5 | 21.5 | | 26.0 | 26.0 | 26.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | 5.5 | | | 6.0 | 6.0 |
| Act Effct Green (s) | 20.0 | 35.0 | 35.0 | 20.0 | 35.0 | 35.0 | | 16.0 | | | 20.0 | 20.0 |
| Actuated g/C Ratio | 0.17 | 0.31 | 0.31 | 0.17 | 0.31 | 0.31 | | 0.14 | | | 0.17 | 0.17 |
| v/c Ratio | 0.66 | 0.84 | 0.01 | 0.13 | 1.36 | 0.41 | | 0.18 | | | 0.90 | 0.66 |
| Control Delay | 55.6 | 52.2 | 0.0 | 41.3 | 204.3 | 5.5 | | 24.2 | | | 78.1 | 13.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | 55.6 | 52.2 | 0.0 | 41.3 | 204.3 | 5.5 | | 24.2 | | | 78.1 | 13.5 |
| LOS | E | D | A | D | F | A | | C | | | E | B |
| Approach Delay | | 52.9 | | | 147.3 | | | 24.2 | | | 41.7 | |
| Approach LOS | | D | | | F | | | C | | | D | |

**Intersection Summary**

Cycle Length: 114.5
Actuated Cycle Length: 114.5
Offset: 26 (23%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Control Type: Pretimed
Maximum v/c Ratio: 1.36
Intersection Signal Delay: 91.2 — Intersection LOS: F
Intersection Capacity Utilization 87.0% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 29: Devon Road/Olde Towne Road & Longhill Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 199 | 466 | 4 | 39 | 748 | 272 | 5 | 13 | 28 | 261 | 10 | 349 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | 5.5 | | | 6.0 | 6.0 |
| Lane Util. Factor | 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 | | 0.92 | | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.99 | | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | | 1699 | | | 1777 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.99 | | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | | 1699 | | | 1777 | 1583 |
| Peak-hour factor, PHF | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Adj. Flow (vph) | 205 | 480 | 4 | 40 | 771 | 280 | 5 | 13 | 29 | 269 | 10 | 360 |
| RTOR Reduction (vph) | 0 | 0 | 3 | 0 | 0 | 194 | 0 | 25 | 0 | 0 | 0 | 267 |
| Lane Group Flow (vph) | 205 | 480 | 1 | 40 | 771 | 86 | 0 | 22 | 0 | 0 | 279 | 93 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Split | NA | | Split | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | 4 | 4 | | 3 | 3 | |
| Permitted Phases | | | 6 | | | 2 | | | | | | 3 |
| Actuated Green, G (s) | 20.0 | 35.0 | 35.0 | 20.0 | 35.0 | 35.0 | | 16.0 | | | 20.0 | 20.0 |
| Effective Green, g (s) | 20.0 | 35.0 | 35.0 | 20.0 | 35.0 | 35.0 | | 16.0 | | | 20.0 | 20.0 |
| Actuated g/C Ratio | 0.17 | 0.31 | 0.31 | 0.17 | 0.31 | 0.31 | | 0.14 | | | 0.17 | 0.17 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | 5.5 | | | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 309 | 569 | 483 | 309 | 569 | 483 | | 237 | | | 310 | 276 |
| v/s Ratio Prot | c0.12 | 0.26 | | 0.02 | c0.41 | | | c0.01 | | | c0.16 | |
| v/s Ratio Perm | | | 0.00 | | | 0.05 | | | | | | 0.06 |
| v/c Ratio | 0.66 | 0.84 | 0.00 | 0.13 | 1.36 | 0.18 | | 0.09 | | | 0.90 | 0.34 |
| Uniform Delay, d1 | 44.1 | 37.2 | 27.6 | 39.9 | 39.8 | 29.2 | | 42.9 | | | 46.3 | 41.4 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | | | 1.00 | 1.00 |
| Incremental Delay, d2 | 10.7 | 14.2 | 0.0 | 0.9 | 171.0 | 0.8 | | 0.8 | | | 31.0 | 3.3 |
| Delay (s) | 54.8 | 51.4 | 27.6 | 40.8 | 210.8 | 30.0 | | 43.7 | | | 77.2 | 44.7 |
| Level of Service | D | D | C | D | F | C | | D | | | E | D |
| Approach Delay (s) | | 52.3 | | | 158.1 | | | 43.7 | | | 58.9 | |
| Approach LOS | | D | | | F | | | D | | | E | |

**Intersection Summary**

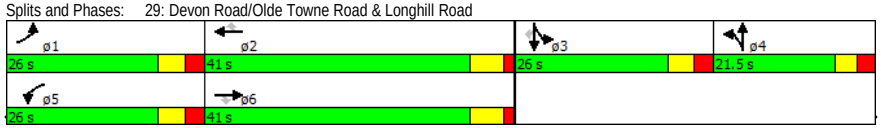
| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 100.7 | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 114.5 | Sum of lost time (s) | 23.5 |
| Intersection Capacity Utilization | 87.0% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 165 | 560 | 5 | 15 | 460 | 135 | 50 | 15 | 25 | 195 | 5 | 145 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 185 | | 180 | 70 | | 585 | 0 | | 0 | 0 | | 140 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 0 | | 0 | 0 | | 1 |
| Taper Length (ft) | 165 | | | 220 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | 0.963 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.973 | | | 0.954 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 0 | 1745 | 0 | 0 | 1777 | 1583 |
| Flt Permitted | 0.950 | | | 0.950 | | | | 0.973 | | | 0.954 | |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 0 | 1745 | 0 | 0 | 1777 | 1583 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 138 | | | 150 | | 14 | | | | 161 |
| Link Speed (mph) | | 45 | | | 45 | | | 25 | | | 35 | |
| Link Distance (ft) | | 1044 | | | 1116 | | | 645 | | | 818 | |
| Travel Time (s) | | 15.8 | | | 16.9 | | | 17.6 | | | 15.9 | |
| Adj. Flow (vph) | 183 | 622 | 6 | 17 | 511 | 150 | 56 | 17 | 28 | 217 | 6 | 161 |
| Lane Group Flow (vph) | 183 | 622 | 6 | 17 | 511 | 150 | 0 | 101 | 0 | 0 | 223 | 161 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Split | NA | | Split | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | 4 | 4 | | 3 | 3 | |
| Permitted Phases | | | 6 | | | 2 | | | | | | 3 |
| Total Split (s) | 26.0 | 41.0 | 41.0 | 26.0 | 41.0 | 41.0 | 21.5 | 21.5 | | 26.0 | 26.0 | 26.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | 5.5 | | | 6.0 | 6.0 |
| Act Effct Green (s) | 14.4 | 49.3 | 49.3 | 5.9 | 32.9 | 32.9 | | 10.8 | | | 16.9 | 16.9 |
| Actuated g/C Ratio | 0.15 | 0.51 | 0.51 | 0.06 | 0.34 | 0.34 | | 0.11 | | | 0.18 | 0.18 |
| v/c Ratio | 0.69 | 0.65 | 0.01 | 0.16 | 0.80 | 0.23 | | 0.49 | | | 0.71 | 0.39 |
| Control Delay | 55.4 | 25.2 | 0.0 | 52.5 | 42.4 | 5.8 | | 47.1 | | | 54.0 | 9.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | 55.4 | 25.2 | 0.0 | 52.5 | 42.4 | 5.8 | | 47.1 | | | 54.0 | 9.6 |
| LOS | E | C | A | D | D | A | | D | | | D | A |
| Approach Delay | | 31.8 | | | 34.5 | | | 47.1 | | | 35.4 | |
| Approach LOS | | C | | | C | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 114.5 | | | |
| Actuated Cycle Length: 95.8 | | | |
| Control Type: Actuated-Uncoordinated | | | |
| Maximum v/c Ratio: 0.80 | | | |
| Intersection Signal Delay: 34.2 | | Intersection LOS: C | |
| Intersection Capacity Utilization 66.2% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 29: Devon Road/Olde Towne Road & Longhill Road







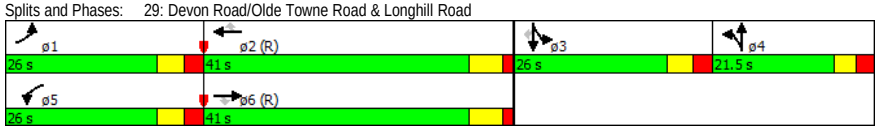

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 165 | 560 | 5 | 15 | 460 | 135 | 50 | 15 | 25 | 195 | 5 | 145 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | 5.5 | | | 6.0 | 6.0 |
| Lane Util. Factor | 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 | | 0.96 | | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.97 | | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | | 1745 | | | 1776 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.97 | | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | | 1745 | | | 1776 | 1583 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 183 | 622 | 6 | 17 | 511 | 150 | 56 | 17 | 28 | 217 | 6 | 161 |
| RTOR Reduction (vph) | 0 | 0 | 3 | 0 | 0 | 95 | 0 | 13 | 0 | 0 | 0 | 134 |
| Lane Group Flow (vph) | 183 | 622 | 3 | 17 | 511 | 55 | 0 | 88 | 0 | 0 | 223 | 27 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Split | NA | | Split | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | 4 | 4 | | 3 | 3 | |
| Permitted Phases | | | 6 | | | 2 | | | | | | 3 |
| Actuated Green, G (s) | 14.4 | 49.2 | 49.2 | 2.3 | 37.1 | 37.1 | | 8.6 | | | 16.9 | 16.9 |
| Effective Green, g (s) | 14.4 | 49.2 | 49.2 | 2.3 | 37.1 | 37.1 | | 8.6 | | | 16.9 | 16.9 |
| Actuated g/C Ratio | 0.14 | 0.49 | 0.49 | 0.02 | 0.37 | 0.37 | | 0.09 | | | 0.17 | 0.17 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | 5.5 | | | 6.0 | 6.0 |
| Vehicle Extension (s) | 2.0 | 5.0 | 5.0 | 2.0 | 5.0 | 5.0 | | 3.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 253 | 912 | 774 | 40 | 687 | 584 | | 149 | | | 298 | 266 |
| v/s Ratio Prot | c0.10 | c0.33 | | 0.01 | c0.27 | | | c0.05 | | | c0.13 | |
| v/s Ratio Perm | | | 0.00 | | | 0.03 | | | | | | 0.02 |
| v/c Ratio | 0.72 | 0.68 | 0.00 | 0.42 | 0.74 | 0.09 | | 0.59 | | | 0.75 | 0.10 |
| Uniform Delay, d1 | 41.1 | 19.7 | 13.1 | 48.4 | 27.6 | 20.7 | | 44.3 | | | 39.8 | 35.4 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | | | 1.00 | 1.00 |
| Incremental Delay, d2 | 8.4 | 2.7 | 0.0 | 2.6 | 5.2 | 0.1 | | 6.2 | | | 9.8 | 0.2 |
| Delay (s) | 49.5 | 22.4 | 13.1 | 51.1 | 32.8 | 20.9 | | 50.4 | | | 49.6 | 35.5 |
| Level of Service | D | C | B | D | C | C | | D | | | D | D |
| Approach Delay (s) | | 28.4 | | | 30.6 | | | 50.4 | | | 43.7 | |
| Approach LOS | | C | | | C | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 33.3 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 100.5 | Sum of lost time (s) | 23.5 |
| Intersection Capacity Utilization | 66.2% | 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 | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 245 | 625 | 10 | 195 | 1080 | 335 | 5 | 15 | 35 | 325 | 5 | 430 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | 0.915 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.995 | | | 0.953 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 0 | 1696 | 0 | 0 | 1775 | 1583 |
| Flt Permitted | 0.950 | | | 0.950 | | | | 0.995 | | | 0.953 | |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 0 | 1696 | 0 | 0 | 1775 | 1583 |
| Satd. Flow (RTOR) | | | 138 | | | 343 | | 39 | | | | 327 |
| Adj. Flow (vph) | 272 | 694 | 11 | 217 | 1200 | 372 | 6 | 17 | 39 | 361 | 6 | 478 |
| Lane Group Flow (vph) | 272 | 694 | 11 | 217 | 1200 | 372 | 0 | 62 | 0 | 0 | 367 | 478 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Split | NA | | Split | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | 4 | 4 | | 3 | 3 | |
| Permitted Phases | | | 6 | | | 2 | | | | | | 3 |
| Total Split (s) | 26.0 | 41.0 | 41.0 | 26.0 | 41.0 | 41.0 | 21.5 | 21.5 | | 26.0 | 26.0 | 26.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | 5.5 | | | 6.0 | 6.0 |
| Act Effct Green (s) | 20.0 | 35.0 | 35.0 | 20.0 | 35.0 | 35.0 | | 16.0 | | | 20.0 | 20.0 |
| Actuated g/C Ratio | 0.17 | 0.31 | 0.31 | 0.17 | 0.31 | 0.31 | | 0.14 | | | 0.17 | 0.17 |
| v/c Ratio | 0.88 | 1.22 | 0.02 | 0.70 | 2.11 | 0.52 | | 0.23 | | | 1.18 | 0.88 |
| Control Delay | 74.5 | 149.7 | 0.1 | 57.8 | 528.9 | 7.3 | | 23.1 | | | 152.5 | 32.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | 74.5 | 149.7 | 0.1 | 57.8 | 528.9 | 7.3 | | 23.1 | | | 152.5 | 32.7 |
| LOS | E | F | A | E | F | A | | C | | | F | C |
| Approach Delay | | 127.1 | | | 363.3 | | | 23.1 | | | 84.7 | |
| Approach LOS | | F | | | F | | | C | | | F | |

| Intersection Summary | |
|---|---|
| Cycle Length: 114.5 | |
| Actuated Cycle Length: 114.5 | |
| Offset: 26 (23%), Referenced to phase 2:WBT and 6:EBT, Start of Green | |
| Control Type: Pretimed | |
| Maximum v/c Ratio: 2.11 | |
| Intersection Signal Delay: 230.6 | Intersection LOS: F |
| Intersection Capacity Utilization 110.4% | ICU Level of Service H |
| Analysis Period (min) 15 | |

Splits and Phases: 29: Devon Road/Olde Towne Road & Longhill Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 245 | 625 | 10 | 195 | 1080 | 335 | 5 | 15 | 35 | 325 | 5 | 430 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | 5.5 | | | 6.0 | 6.0 |
| Lane Util. Factor | 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 | | 0.92 | | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 1.00 | | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | | 1696 | | | 1775 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 1.00 | | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | | 1696 | | | 1775 | 1583 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 272 | 694 | 11 | 217 | 1200 | 372 | 6 | 17 | 39 | 361 | 6 | 478 |
| RTOR Reduction (vph) | 0 | 0 | 8 | 0 | 0 | 238 | 0 | 34 | 0 | 0 | 0 | 270 |
| Lane Group Flow (vph) | 272 | 694 | 3 | 217 | 1200 | 134 | 0 | 28 | 0 | 0 | 367 | 208 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Split | NA | | Split | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | 4 | 4 | | 3 | 3 | |
| Permitted Phases | | | 6 | | | 2 | | | | | | 3 |
| Actuated Green, G (s) | 20.0 | 35.0 | 35.0 | 20.0 | 35.0 | 35.0 | | 16.0 | | | 20.0 | 20.0 |
| Effective Green, g (s) | 20.0 | 35.0 | 35.0 | 20.0 | 35.0 | 35.0 | | 16.0 | | | 20.0 | 20.0 |
| Actuated g/C Ratio | 0.17 | 0.31 | 0.31 | 0.17 | 0.31 | 0.31 | | 0.14 | | | 0.17 | 0.17 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | 5.5 | | | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 309 | 569 | 483 | 309 | 569 | 483 | | 236 | | | 310 | 276 |
| v/s Ratio Prot | c0.15 | 0.37 | | 0.12 | c0.64 | | | c0.02 | | | c0.21 | |
| v/s Ratio Perm | | | 0.00 | | | 0.08 | | | | | | 0.13 |
| v/c Ratio | 0.88 | 1.22 | 0.01 | 0.70 | 2.11 | 0.28 | | 0.12 | | | 1.18 | 0.75 |
| Uniform Delay, d1 | 46.1 | 39.8 | 27.7 | 44.4 | 39.8 | 30.2 | | 43.1 | | | 47.2 | 44.9 |
| Progression Factor | 0.99 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | | | 1.00 | 1.00 |
| Incremental Delay, d2 | 28.1 | 114.1 | 0.0 | 12.6 | 505.0 | 1.4 | | 1.0 | | | 110.7 | 17.3 |
| Delay (s) | 73.6 | 153.8 | 27.7 | 57.0 | 544.7 | 31.6 | | 44.1 | | | 157.9 | 62.2 |
| Level of Service | E | F | C | E | F | C | | D | | | F | E |
| Approach Delay (s) | | 130.1 | | | 378.9 | | | 44.1 | | | 103.8 | |
| Approach LOS | | F | | | F | | | D | | | F | |

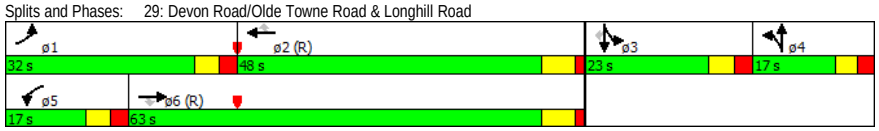
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 243.8 | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | 1.29 | | |
| Actuated Cycle Length (s) | 114.5 | Sum of lost time (s) | 23.5 |
| Intersection Capacity Utilization | 110.4% | ICU Level of Service | H |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 165 | 560 | 5 | 15 | 460 | 135 | 50 | 15 | 25 | 195 | 5 | 145 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | 0.906 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | 0.954 | |
| Satd. Flow (prot) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 1770 | 1688 | 0 | 1681 | 1688 | 1583 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | 0.954 | |
| Satd. Flow (perm) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 1770 | 1688 | 0 | 1681 | 1688 | 1583 |
| Satd. Flow (RTOR) | | | 132 | | | 186 | | 27 | | | | 186 |
| Adj. Flow (vph) | 179 | 609 | 5 | 16 | 500 | 147 | 54 | 16 | 27 | 212 | 5 | 158 |
| Lane Group Flow (vph) | 179 | 609 | 5 | 16 | 500 | 147 | 54 | 43 | 0 | 108 | 109 | 158 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Split | NA | | Split | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | 4 | 4 | | 3 | 3 | |
| Permitted Phases | | | 6 | | | 2 | | | | | | 3 |
| Total Split (s) | 32.0 | 63.0 | 63.0 | 17.0 | 48.0 | 48.0 | 17.0 | 17.0 | | 23.0 | 23.0 | 23.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 5.5 | 5.5 | | 6.0 | 6.0 | 6.0 |
| Act Effct Green (s) | 16.5 | 78.0 | 78.0 | 5.8 | 60.6 | 60.6 | 9.1 | 9.1 | | 12.8 | 12.8 | 12.8 |
| Actuated g/C Ratio | 0.14 | 0.65 | 0.65 | 0.05 | 0.50 | 0.50 | 0.08 | 0.08 | | 0.11 | 0.11 | 0.11 |
| v/c Ratio | 0.74 | 0.26 | 0.00 | 0.19 | 0.28 | 0.16 | 0.40 | 0.28 | | 0.60 | 0.61 | 0.47 |
| Control Delay | 66.9 | 11.6 | 0.0 | 59.3 | 20.2 | 1.9 | 61.3 | 31.1 | | 64.7 | 64.8 | 8.7 |
| 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 | 66.9 | 11.6 | 0.0 | 59.3 | 20.2 | 1.9 | 61.3 | 31.1 | | 64.7 | 64.8 | 8.7 |
| LOS | E | B | A | E | C | A | E | C | | E | E | A |
| Approach Delay | | 24.0 | | | 17.1 | | | 47.9 | | | 41.1 | |
| Approach LOS | | C | | | B | | | D | | | D | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.74 | |
| Intersection Signal Delay: 26.2 | Intersection LOS: C |
| Intersection Capacity Utilization 49.1% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 29: Devon Road/Olde Towne Road & Longhill Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 165 | 560 | 5 | 15 | 460 | 135 | 50 | 15 | 25 | 195 | 5 | 145 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 5.5 | 5.5 | | 6.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | | 0.95 | 0.95 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.91 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 1770 | 1687 | | 1681 | 1689 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 1770 | 1687 | | 1681 | 1689 | 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) | 179 | 609 | 5 | 16 | 500 | 147 | 54 | 16 | 27 | 212 | 5 | 158 |
| RTOR Reduction (vph) | 0 | 0 | 2 | 0 | 0 | 74 | 0 | 25 | 0 | 0 | 0 | 141 |
| Lane Group Flow (vph) | 179 | 609 | 3 | 16 | 500 | 73 | 54 | 18 | 0 | 108 | 109 | 17 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Split | NA | | Split | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | 4 | 4 | | 3 | 3 | |
| Permitted Phases | | | 6 | | | 2 | | | | | | 3 |
| Actuated Green, G (s) | 16.5 | 73.3 | 73.3 | 2.7 | 59.5 | 59.5 | 7.7 | 7.7 | | 12.8 | 12.8 | 12.8 |
| Effective Green, g (s) | 16.5 | 73.3 | 73.3 | 2.7 | 59.5 | 59.5 | 7.7 | 7.7 | | 12.8 | 12.8 | 12.8 |
| Actuated g/C Ratio | 0.14 | 0.61 | 0.61 | 0.02 | 0.50 | 0.50 | 0.06 | 0.06 | | 0.11 | 0.11 | 0.11 |
| Clearance Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 5.5 | 5.5 | | 6.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 2.0 | 5.0 | 5.0 | 2.0 | 5.0 | 5.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 243 | 2161 | 966 | 39 | 1754 | 784 | 113 | 108 | | 179 | 180 | 168 |
| v/s Ratio Prot | c0.10 | c0.17 | | 0.01 | 0.14 | | c0.03 | 0.01 | | 0.06 | c0.06 | |
| v/s Ratio Perm | | | 0.00 | | | 0.05 | | | | | | 0.01 |
| v/c Ratio | 0.74 | 0.28 | 0.00 | 0.41 | 0.29 | 0.09 | 0.48 | 0.16 | | 0.60 | 0.61 | 0.10 |
| Uniform Delay, d1 | 49.7 | 11.0 | 9.1 | 57.9 | 17.8 | 16.0 | 54.2 | 53.1 | | 51.2 | 51.2 | 48.4 |
| 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 | 9.6 | 0.3 | 0.0 | 2.5 | 0.4 | 0.2 | 3.2 | 0.7 | | 5.6 | 5.7 | 0.3 |
| Delay (s) | 59.2 | 11.3 | 9.1 | 60.4 | 18.2 | 16.2 | 57.4 | 53.8 | | 56.8 | 56.8 | 48.7 |
| Level of Service | E | B | A | E | B | B | E | D | | E | E | D |
| Approach Delay (s) | | 22.1 | | | 18.8 | | | 55.8 | | | 53.4 | |
| Approach LOS | | C | | | B | | | E | | | D | |

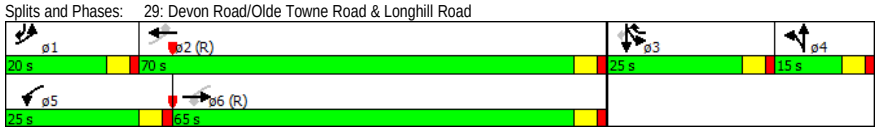
| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM 2000 Control Delay | 28.7 | HCM 2000 Level of Service | C | |
| HCM 2000 Volume to Capacity ratio | 0.42 | | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 23.5 | |
| Intersection Capacity Utilization | 49.1% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |
| c Critical Lane Group | | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 245 | 625 | 10 | 195 | 1080 | 335 | 5 | 15 | 35 | 325 | 5 | 430 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | 0.894 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | 0.954 | |
| Satd. Flow (prot) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 1770 | 1665 | 0 | 1681 | 1688 | 1583 |
| Flt Permitted | 0.156 | | | 0.349 | | | 0.950 | | | 0.950 | 0.954 | |
| Satd. Flow (perm) | 291 | 3539 | 1583 | 650 | 3539 | 1583 | 1770 | 1665 | 0 | 1681 | 1688 | 1583 |
| Satd. Flow (RTOR) | | | 101 | | | 364 | | 38 | | | | 183 |
| Adj. Flow (vph) | 266 | 679 | 11 | 212 | 1174 | 364 | 5 | 16 | 38 | 353 | 5 | 467 |
| Lane Group Flow (vph) | 266 | 679 | 11 | 212 | 1174 | 364 | 5 | 54 | 0 | 180 | 178 | 467 |
| Turn Type | D.P+P | NA | Perm | D.P+P | NA | pm+ov | Split | NA | | Split | NA | pm+ov |
| Protected Phases | 1 | 6 | | 5 | 2 | 3 | 4 | 4 | | 3 | 3 | 1 |
| Permitted Phases | 2 | | 6 | 6 | | 2 | | | | | | 3 |
| Total Split (s) | 20.0 | 65.0 | 65.0 | 25.0 | 70.0 | 25.0 | 15.0 | 15.0 | | 25.0 | 25.0 | 20.0 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 |
| Act Effct Green (s) | 86.6 | 76.5 | 76.5 | 86.6 | 73.2 | 96.2 | 7.9 | 7.9 | | 18.0 | 18.0 | 32.4 |
| Actuated g/C Ratio | 0.67 | 0.59 | 0.59 | 0.67 | 0.56 | 0.74 | 0.06 | 0.06 | | 0.14 | 0.14 | 0.25 |
| v/c Ratio | 0.77 | 0.33 | 0.01 | 0.41 | 0.59 | 0.29 | 0.05 | 0.40 | | 0.78 | 0.76 | 0.88 |
| Control Delay | 29.2 | 16.0 | 0.0 | 10.1 | 22.0 | 1.2 | 57.6 | 33.8 | | 76.0 | 74.8 | 40.1 |
| 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 | 29.2 | 16.0 | 0.0 | 10.1 | 22.0 | 1.2 | 57.6 | 33.8 | | 76.0 | 74.8 | 40.1 |
| LOS | C | B | A | B | C | A | E | C | | E | E | D |
| Approach Delay | | 19.5 | | | 16.2 | | | 35.9 | | | 55.5 | |
| Approach LOS | | B | | | B | | | D | | | E | |

**Intersection Summary**

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 80 (62%), Referenced to phase 2:EBWB and 6:EBWB, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 26.4 — Intersection LOS: C
Intersection Capacity Utilization 74.8% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 29: Devon Road/Olde Towne Road & Longhill Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 245 | 625 | 10 | 195 | 1080 | 335 | 5 | 15 | 35 | 325 | 5 | 430 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | | 0.95 | 0.95 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.89 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 1770 | 1666 | | 1681 | 1688 | 1583 |
| Flt Permitted | 0.16 | 1.00 | 1.00 | 0.35 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.95 | 1.00 |
| Satd. Flow (perm) | 291 | 3539 | 1583 | 650 | 3539 | 1583 | 1770 | 1666 | | 1681 | 1688 | 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) | 266 | 679 | 11 | 212 | 1174 | 364 | 5 | 16 | 38 | 353 | 5 | 467 |
| RTOR Reduction (vph) | 0 | 0 | 5 | 0 | 0 | 112 | 0 | 36 | 0 | 0 | 0 | 139 |
| Lane Group Flow (vph) | 266 | 679 | 6 | 212 | 1174 | 252 | 5 | 18 | 0 | 180 | 178 | 328 |
| Turn Type | D.P+P | NA | Perm | D.P+P | NA | pm+ov | Split | NA | | Split | NA | pm+ov |
| Protected Phases | 1 | 6 | | 5 | 2 | 3 | 4 | 4 | | 3 | 3 | 1 |
| Permitted Phases | 2 | | 6 | 6 | | 2 | | | | | | 3 |
| Actuated Green, G (s) | 85.5 | 75.4 | 75.4 | 85.5 | 72.1 | 90.1 | 6.5 | 6.5 | | 18.0 | 18.0 | 31.4 |
| Effective Green, g (s) | 85.5 | 75.4 | 75.4 | 85.5 | 72.1 | 90.1 | 6.5 | 6.5 | | 18.0 | 18.0 | 31.4 |
| Actuated g/C Ratio | 0.66 | 0.58 | 0.58 | 0.66 | 0.55 | 0.69 | 0.05 | 0.05 | | 0.14 | 0.14 | 0.24 |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 |
| Vehicle Extension (s) | 2.0 | 5.0 | 5.0 | 2.0 | 5.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 2.0 |
| Lane Grp Cap (vph) | 343 | 2052 | 918 | 514 | 1962 | 1158 | 88 | 83 | | 232 | 233 | 382 |
| v/s Ratio Prot | 0.08 | 0.19 | | 0.03 | 0.33 | 0.03 | 0.00 | c0.01 | | 0.11 | 0.11 | c0.09 |
| v/s Ratio Perm | c0.43 | | 0.00 | c0.24 | | 0.13 | | | | | | 0.12 |
| v/c Ratio | 0.78 | 0.33 | 0.01 | 0.41 | 0.60 | 0.22 | 0.06 | 0.22 | | 0.78 | 0.76 | 0.86 |
| Uniform Delay, d1 | 15.0 | 14.2 | 11.5 | 9.0 | 19.3 | 7.2 | 58.8 | 59.3 | | 54.1 | 54.0 | 47.2 |
| Progression Factor | 0.99 | 1.02 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 9.6 | 0.4 | 0.0 | 0.2 | 1.4 | 0.1 | 0.3 | 1.3 | | 14.9 | 13.8 | 16.6 |
| Delay (s) | 24.4 | 14.9 | 11.5 | 9.2 | 20.7 | 7.3 | 59.1 | 60.6 | | 69.0 | 67.8 | 63.8 |
| Level of Service | C | B | B | A | C | A | E | E | | E | E | E |
| Approach Delay (s) | | 17.5 | | | 16.5 | | | 60.5 | | | 65.8 | |
| Approach LOS | | B | | | B | | | E | | | E | |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 28.8 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.76 | | |
| Actuated Cycle Length (s) | 130.0 | Sum of lost time (s) | 20.0 |
| Intersection Capacity Utilization | 74.8% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

# Intersection F

Buford Road and Longhill Road

Intersection LOS Analysis

AM/PM Peak Hour

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 622 | 1 | 7 | 507 | 11 | 16 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.999 | | | | 0.926 | |
| Flt Protected | | | 0.950 | | 0.978 | |
| Satd. Flow (prot) | 1861 | 0 | 1770 | 1863 | 1687 | 0 |
| Flt Permitted | | | 0.950 | | 0.978 | |
| Satd. Flow (perm) | 1861 | 0 | 1770 | 1863 | 1687 | 0 |
| Adj. Flow (vph) | 707 | 4 | 12 | 874 | 20 | 24 |
| Lane Group Flow (vph) | 711 | 0 | 12 | 874 | 44 | 0 |
| Sign Control | Free | | | Free | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 42.8% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 622 | 1 | 7 | 507 | 11 | 16 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.88 | 0.25 | 0.58 | 0.58 | 0.55 | 0.67 |
| Hourly flow rate (vph) | 707 | 4 | 12 | 874 | 20 | 24 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 711 | | 1607 | 709 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 711 | | 1607 | 709 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 99 | | 82 | 95 |
| cM capacity (veh/h) | | | 889 | | 114 | 434 |

| Direction, Lane # | EB 1 | WB 1 | WB 2 | NB 1 |
|---|---|---|---|---|
| Volume Total | 711 | 12 | 874 | 44 |
| Volume Left | 0 | 12 | 0 | 20 |
| Volume Right | 4 | 0 | 0 | 24 |
| cSH | 1700 | 889 | 1700 | 190 |
| Volume to Capacity | 0.42 | 0.01 | 0.51 | 0.23 |
| Queue Length 95th (ft) | 0 | 1 | 0 | 21 |
| Control Delay (s) | 0.0 | 9.1 | 0.0 | 29.5 |
| Lane LOS | | A | | D |
| Approach Delay (s) | 0.0 | 0.1 | | 29.5 |
| Approach LOS | | | | D |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.9 | | |
| Intersection Capacity Utilization | 42.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 663 | 15 | 44 | 984 | 9 | 15 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.997 | | | | 0.902 | |
| Flt Protected | | | 0.950 | | 0.987 | |
| Satd. Flow (prot) | 1857 | 0 | 1770 | 1863 | 1658 | 0 |
| Flt Permitted | | | 0.950 | | 0.987 | |
| Satd. Flow (perm) | 1857 | 0 | 1770 | 1863 | 1658 | 0 |
| Adj. Flow (vph) | 861 | 20 | 52 | 1106 | 12 | 32 |
| Lane Group Flow (vph) | 881 | 0 | 52 | 1106 | 44 | 0 |
| Sign Control | Free | | | Free | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 61.8% | | ICU Level of Service B |
| Analysis Period (min) 15 | | |





| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 663 | 15 | 44 | 984 | 9 | 15 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.77 | 0.75 | 0.85 | 0.89 | 0.75 | 0.47 |
| Hourly flow rate (vph) | 861 | 20 | 52 | 1106 | 12 | 32 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 881 | | 2080 | 871 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 881 | | 2080 | 871 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 93 | | 78 | 91 |
| cM capacity (veh/h) | | | 767 | | 55 | 350 |

| Direction, Lane # | EB 1 | WB 1 | WB 2 | NB 1 |
|---|---|---|---|---|
| Volume Total | 881 | 52 | 1106 | 44 |
| Volume Left | 0 | 52 | 0 | 12 |
| Volume Right | 20 | 0 | 0 | 32 |
| cSH | 1700 | 767 | 1700 | 141 |
| Volume to Capacity | 0.52 | 0.07 | 0.65 | 0.31 |
| Queue Length 95th (ft) | 0 | 5 | 0 | 31 |
| Control Delay (s) | 0.0 | 10.0 | 0.0 | 41.5 |
| Lane LOS | | B | | E |
| Approach Delay (s) | 0.0 | 0.4 | | 41.5 |
| Approach LOS | | | | E |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.1 | | |
| Intersection Capacity Utilization | 61.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | EBR | WBU | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Volume (vph) | 710 | 5 | 5 | 15 | 640 | 0 | 35 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | 0 | | 90 | | 0 | 0 |
| Storage Lanes | | 0 | | 1 | | 1 | 0 |
| Taper Length (ft) | | | | 80 | | 25 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.999 | | | | | 0.865 | |
| Flt Protected | | | | 0.950 | | | |
| Satd. Flow (prot) | 1861 | 0 | 0 | 1770 | 1863 | 1611 | 0 |
| Flt Permitted | | | | 0.950 | | | |
| Satd. Flow (perm) | 1861 | 0 | 0 | 1770 | 1863 | 1611 | 0 |
| Link Speed (mph) | 45 | | | | 45 | 25 | |
| Link Distance (ft) | 511 | | | | 965 | 696 | |
| Travel Time (s) | 7.7 | | | | 14.6 | 19.0 | |
| Adj. Flow (vph) | 789 | 6 | 6 | 17 | 711 | 0 | 39 |
| Lane Group Flow (vph) | 795 | 0 | 0 | 23 | 711 | 39 | 0 |
| Sign Control | Free | | | | Free | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization | 47.7% | ICU Level of Service | A |
| Analysis Period (min) 15 | | | |





| Movement | EBT | EBR | WBU | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Volume (veh/h) | 710 | 5 | 5 | 15 | 640 | 0 | 35 |
| Sign Control | Free | | | | Free | Stop | |
| Grade | 0% | | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 789 | 6 | 0 | 17 | 711 | 0 | 39 |
| Pedestrians | | | | | | | |
| Lane Width (ft) | | | | | | | |
| Walking Speed (ft/s) | | | | | | | |
| Percent Blockage | | | | | | | |
| Right turn flare (veh) | | | | | | | |
| Median type | None | | | | None | | |
| Median storage veh) | | | | | | | |
| Upstream signal (ft) | | | | | | | |
| pX, platoon unblocked | | | 0.00 | | | | |
| vC, conflicting volume | | | 0 | 794 | | 1536 | 792 |
| vC1, stage 1 conf vol | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | |
| vCu, unblocked vol | | | 0 | 794 | | 1536 | 792 |
| tC, single (s) | | | 0.0 | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | | |
| tF (s) | | | 0.0 | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 0 | 98 | | 100 | 90 |
| cM capacity (veh/h) | | | 0 | 827 | | 125 | 389 |

| Direction, Lane # | EB 1 | WB 1 | WB 2 | NB 1 |
|---|---|---|---|---|
| Volume Total | 794 | 17 | 711 | 39 |
| Volume Left | 0 | 17 | 0 | 0 |
| Volume Right | 6 | 0 | 0 | 39 |
| cSH | 1700 | 827 | 1700 | 389 |
| Volume to Capacity | 0.47 | 0.02 | 0.42 | 0.10 |
| Queue Length 95th (ft) | 0 | 2 | 0 | 8 |
| Control Delay (s) | 0.0 | 9.4 | 0.0 | 15.3 |
| Lane LOS | | A | | C |
| Approach Delay (s) | 0.0 | 0.2 | | 15.3 |
| Approach LOS | | | | C |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.5 | | |
| Intersection Capacity Utilization | 47.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 835 | 15 | 175 | 1280 | 10 | 25 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.998 | | | | 0.903 | |
| Flt Protected | | | 0.950 | | 0.986 | |
| Satd. Flow (prot) | 1859 | 0 | 1770 | 1863 | 1659 | 0 |
| Flt Permitted | | | 0.950 | | 0.986 | |
| Satd. Flow (perm) | 1859 | 0 | 1770 | 1863 | 1659 | 0 |
| Adj. Flow (vph) | 928 | 17 | 194 | 1422 | 11 | 28 |
| Lane Group Flow (vph) | 945 | 0 | 194 | 1422 | 39 | 0 |
| Sign Control | Free | | | Free | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 77.4% | ICU Level of Service D | |
| Analysis Period (min) 15 | | |





| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 835 | 15 | 175 | 1280 | 10 | 25 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 928 | 17 | 194 | 1422 | 11 | 28 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 944 | | 2747 | 936 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 944 | | 2747 | 936 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 73 | | 31 | 91 |
| cM capacity (veh/h) | | | 726 | | 16 | 321 |

| Direction, Lane # | EB 1 | WB 1 | WB 2 | NB 1 |
|---|---|---|---|---|
| Volume Total | 944 | 194 | 1422 | 39 |
| Volume Left | 0 | 194 | 0 | 11 |
| Volume Right | 17 | 0 | 0 | 28 |
| cSH | 1700 | 726 | 1700 | 50 |
| Volume to Capacity | 0.56 | 0.27 | 0.84 | 0.78 |
| Queue Length 95th (ft) | 0 | 27 | 0 | 80 |
| Control Delay (s) | 0.0 | 11.8 | 0.0 | 193.1 |
| Lane LOS | | B | | F |
| Approach Delay (s) | 0.0 | 1.4 | | 193.1 |
| Approach LOS | | | | F |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 3.8 | | |
| Intersection Capacity Utilization | 77.4% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | EBR | WBU | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Volume (vph) | 710 | 5 | 5 | 15 | 640 | 0 | 35 |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | 0.999 | | | | | | 0.865 |
| Flt Protected | | | | 0.950 | | | |
| Satd. Flow (prot) | 3536 | 0 | 0 | 1770 | 3539 | 0 | 1611 |
| Flt Permitted | | | | 0.950 | | | |
| Satd. Flow (perm) | 3536 | 0 | 0 | 1770 | 3539 | 0 | 1611 |
| Adj. Flow (vph) | 772 | 5 | 5 | 16 | 696 | 0 | 38 |
| Lane Group Flow (vph) | 777 | 0 | 0 | 21 | 696 | 0 | 38 |
| Sign Control | Free | | | | Free | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 29.8% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBT | EBR | WBU | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Volume (veh/h) | 710 | 5 | 5 | 15 | 640 | 0 | 35 |
| Sign Control | Free | | | | Free | Stop | |
| Grade | 0% | | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 772 | 5 | 0 | 16 | 696 | 0 | 38 |
| Pedestrians | | | | | | | |
| Lane Width (ft) | | | | | | | |
| Walking Speed (ft/s) | | | | | | | |
| Percent Blockage | | | | | | | |
| Right turn flare (veh) | | | | | | | |
| Median type | None | | | | None | | |
| Median storage veh) | | | | | | | |
| Upstream signal (ft) | | | | | | | |
| pX, platoon unblocked | | | 0.00 | | | | |
| vC, conflicting volume | | | 0 | 777 | | 1155 | 389 |
| vC1, stage 1 conf vol | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | |
| vCu, unblocked vol | | | 0 | 777 | | 1155 | 389 |
| tC, single (s) | | | 0.0 | 4.1 | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | | | |
| tF (s) | | | 0.0 | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 0 | 98 | | 100 | 94 |
| cM capacity (veh/h) | | | 0 | 835 | | 186 | 610 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | WB 3 | NB 1 |
|---|---|---|---|---|---|---|
| Volume Total | 514 | 263 | 16 | 348 | 348 | 38 |
| Volume Left | 0 | 0 | 16 | 0 | 0 | 0 |
| Volume Right | 0 | 5 | 0 | 0 | 0 | 38 |
| cSH | 1700 | 1700 | 835 | 1700 | 1700 | 610 |
| Volume to Capacity | 0.30 | 0.15 | 0.02 | 0.20 | 0.20 | 0.06 |
| Queue Length 95th (ft) | 0 | 0 | 1 | 0 | 0 | 5 |
| Control Delay (s) | 0.0 | 0.0 | 9.4 | 0.0 | 0.0 | 11.3 |
| Lane LOS | | | A | | | B |
| Approach Delay (s) | 0.0 | | 0.2 | | | 11.3 |
| Approach LOS | | | | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.4 | | |
| Intersection Capacity Utilization | 29.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 835 | 15 | 175 | 1280 | 0 | 35 |
| Lane Util. Factor | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | | 0.850 | | | | 0.865 |
| Flt Protected | | | 0.950 | | | |
| Satd. Flow (prot) | 3539 | 1583 | 1770 | 3539 | 0 | 1611 |
| Flt Permitted | | | 0.950 | | | |
| Satd. Flow (perm) | 3539 | 1583 | 1770 | 3539 | 0 | 1611 |
| Adj. Flow (vph) | 908 | 16 | 190 | 1391 | 0 | 38 |
| Lane Group Flow (vph) | 908 | 16 | 190 | 1391 | 0 | 38 |
| Sign Control | Free | | | Free | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 46.1% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 835 | 15 | 175 | 1280 | 0 | 35 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 908 | 16 | 190 | 1391 | 0 | 38 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 924 | | 1984 | 454 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 924 | | 1984 | 454 |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 74 | | 100 | 93 |
| cM capacity (veh/h) | | | 735 | | 40 | 553 |

| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 |
|---|---|---|---|---|---|---|---|
| Volume Total | 454 | 454 | 16 | 190 | 696 | 696 | 38 |
| Volume Left | 0 | 0 | 0 | 190 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 16 | 0 | 0 | 0 | 38 |
| cSH | 1700 | 1700 | 1700 | 735 | 1700 | 1700 | 553 |
| Volume to Capacity | 0.27 | 0.27 | 0.01 | 0.26 | 0.41 | 0.41 | 0.07 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 26 | 0 | 0 | 6 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 11.6 | 0.0 | 0.0 | 12.0 |
| Lane LOS | | | | B | | | B |
| Approach Delay (s) | 0.0 | | | 1.4 | | | 12.0 |
| Approach LOS | | | | | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.0 | | |
| Intersection Capacity Utilization | 46.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

# Intersection G

Lafayette Boulevard and Longhill Road

Intersection LOS Analysis

AM/PM Peak Hour

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 11 | 575 | 509 | 18 | 55 | 11 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | 0.850 | 0.968 | |
| Flt Protected | 0.950 | | | | 0.963 | |
| Satd. Flow (prot) | 1770 | 1863 | 1863 | 1583 | 1736 | 0 |
| Flt Permitted | 0.950 | | | | 0.963 | |
| Satd. Flow (perm) | 1770 | 1863 | 1863 | 1583 | 1736 | 0 |
| Adj. Flow (vph) | 16 | 676 | 909 | 24 | 64 | 20 |
| Lane Group Flow (vph) | 16 | 676 | 909 | 24 | 84 | 0 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 40.6% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 11 | 575 | 509 | 18 | 55 | 11 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.69 | 0.85 | 0.56 | 0.75 | 0.86 | 0.55 |
| Hourly flow rate (vph) | 16 | 676 | 909 | 24 | 64 | 20 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 933 | | | | 1617 | 909 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 933 | | | | 1617 | 909 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 98 | | | | 43 | 94 |
| cM capacity (veh/h) | 734 | | | | 111 | 333 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | SB 1 |
|---|---|---|---|---|---|
| Volume Total | 16 | 676 | 909 | 24 | 84 |
| Volume Left | 16 | 0 | 0 | 0 | 64 |
| Volume Right | 0 | 0 | 0 | 24 | 20 |
| cSH | 734 | 1700 | 1700 | 1700 | 132 |
| Volume to Capacity | 0.02 | 0.40 | 0.53 | 0.01 | 0.63 |
| Queue Length 95th (ft) | 2 | 0 | 0 | 0 | 84 |
| Control Delay (s) | 10.0 | 0.0 | 0.0 | 0.0 | 70.5 |
| Lane LOS | B | | | | F |
| Approach Delay (s) | 0.2 | | 0.0 | | 70.5 |
| Approach LOS | | | | | F |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 3.6 | | |
| Intersection Capacity Utilization | 40.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 9 | 614 | 923 | 71 | 55 | 13 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | 0.850 | 0.977 | |
| Flt Protected | 0.950 | | | | 0.960 | |
| Satd. Flow (prot) | 1770 | 1863 | 1863 | 1583 | 1747 | 0 |
| Flt Permitted | 0.950 | | | | 0.960 | |
| Satd. Flow (perm) | 1770 | 1863 | 1863 | 1583 | 1747 | 0 |
| Adj. Flow (vph) | 12 | 690 | 972 | 108 | 96 | 20 |
| Lane Group Flow (vph) | 12 | 690 | 972 | 108 | 116 | 0 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 59.1% | | ICU Level of Service B |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 9 | 614 | 923 | 71 | 55 | 13 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.75 | 0.89 | 0.95 | 0.66 | 0.57 | 0.65 |
| Hourly flow rate (vph) | 12 | 690 | 972 | 108 | 96 | 20 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1079 | | | | 1685 | 972 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1079 | | | | 1685 | 972 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 98 | | | | 5 | 93 |
| cM capacity (veh/h) | 646 | | | | 101 | 306 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | SB 1 |
|---|---|---|---|---|---|
| Volume Total | 12 | 690 | 972 | 108 | 116 |
| Volume Left | 12 | 0 | 0 | 0 | 96 |
| Volume Right | 0 | 0 | 0 | 108 | 20 |
| cSH | 646 | 1700 | 1700 | 1700 | 115 |
| Volume to Capacity | 0.02 | 0.41 | 0.57 | 0.06 | 1.02 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 168 |
| Control Delay (s) | 10.7 | 0.0 | 0.0 | 0.0 | 160.1 |
| Lane LOS | B | | | | F |
| Approach Delay (s) | 0.2 | | 0.0 | | 160.1 |
| Approach LOS | | | | | F |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 9.9 | | |
| Intersection Capacity Utilization | 59.1% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 15 | 660 | 620 | 20 | 55 | 15 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 50 | | | 150 | 0 | 0 |
| Storage Lanes | 1 | | | 1 | 1 | 0 |
| Taper Length (ft) | 50 | | | | 25 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | 0.850 | 0.971 | |
| Flt Protected | 0.950 | | | | 0.962 | |
| Satd. Flow (prot) | 1770 | 1863 | 1863 | 1583 | 1740 | 0 |
| Flt Permitted | 0.950 | | | | 0.962 | |
| Satd. Flow (perm) | 1770 | 1863 | 1863 | 1583 | 1740 | 0 |
| Link Speed (mph) | | 45 | 45 | | 25 | |
| Link Distance (ft) | | 221 | 511 | | 672 | |
| Travel Time (s) | | 3.3 | 7.7 | | 18.3 | |
| Adj. Flow (vph) | 17 | 733 | 689 | 22 | 61 | 17 |
| Lane Group Flow (vph) | 17 | 733 | 689 | 22 | 78 | 0 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization | 45.4% | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 15 | 660 | 620 | 20 | 55 | 15 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 17 | 733 | 689 | 22 | 61 | 17 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 711 | | | | 1456 | 689 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 711 | | | | 1456 | 689 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 98 | | | | 56 | 96 |
| cM capacity (veh/h) | 888 | | | | 140 | 446 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | SB 1 |
|---|---|---|---|---|---|
| Volume Total | 17 | 733 | 689 | 22 | 78 |
| Volume Left | 17 | 0 | 0 | 0 | 61 |
| Volume Right | 0 | 0 | 0 | 22 | 17 |
| cSH | 888 | 1700 | 1700 | 1700 | 165 |
| Volume to Capacity | 0.02 | 0.43 | 0.41 | 0.01 | 0.47 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 56 |
| Control Delay (s) | 9.1 | 0.0 | 0.0 | 0.0 | 45.1 |
| Lane LOS | A | | | | E |
| Approach Delay (s) | 0.2 | | 0.0 | | 45.1 |
| Approach LOS | | | | | E |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.4 | | |
| Intersection Capacity Utilization | 45.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBU | EBL | EBT | WBU | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | |
| Volume (vph) | 10 | 10 | 770 | 25 | 1170 | 95 | 55 | 15 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 | 0.971 | |
| Flt Protected | | 0.950 | | | 0.999 | | 0.962 | |
| Satd. Flow (prot) | 0 | 1770 | 1863 | 0 | 1861 | 1583 | 1740 | 0 |
| Flt Permitted | | 0.950 | | | 0.999 | | 0.962 | |
| Satd. Flow (perm) | 0 | 1770 | 1863 | 0 | 1861 | 1583 | 1740 | 0 |
| Adj. Flow (vph) | 11 | 11 | 856 | 28 | 1300 | 106 | 61 | 17 |
| Lane Group Flow (vph) | 0 | 22 | 856 | 0 | 1328 | 106 | 78 | 0 |
| Sign Control | | | Free | | Free | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 92.3% | | ICU Level of Service F |
| Analysis Period (min) 15 | | |





| Movement | EBU | EBL | EBT | WBU | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | |
| Volume (veh/h) | 10 | 10 | 770 | 25 | 1170 | 95 | 55 | 15 |
| Sign Control | | | Free | | Free | | Stop | |
| Grade | | | 0% | | 0% | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 0 | 11 | 856 | 0 | 1300 | 106 | 61 | 17 |
| Pedestrians | | | | | | | | |
| Lane Width (ft) | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | |
| Percent Blockage | | | | | | | | |
| Right turn flare (veh) | | | | | | | | |
| Median type | | | None | | None | | | |
| Median storage veh) | | | | | | | | |
| Upstream signal (ft) | | | | | | | | |
| pX, platoon unblocked | 0.00 | | | 0.00 | | | | |
| vC, conflicting volume | 0 | 1406 | | 0 | | | 2178 | 1300 |
| vC1, stage 1 conf vol | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | |
| vCu, unblocked vol | 0 | 1406 | | 0 | | | 2178 | 1300 |
| tC, single (s) | 0.0 | 4.1 | | 0.0 | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | | | |
| tF (s) | 0.0 | 2.2 | | 0.0 | | | 3.5 | 3.3 |
| p0 queue free % | 0 | 98 | | 0 | | | 0 | 92 |
| cM capacity (veh/h) | 0 | 486 | | 0 | | | 50 | 197 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | SB 1 |
|---|---|---|---|---|---|
| Volume Total | 11 | 856 | 1300 | 106 | 78 |
| Volume Left | 11 | 0 | 0 | 0 | 61 |
| Volume Right | 0 | 0 | 0 | 106 | 17 |
| cSH | 486 | 1700 | 1700 | 1700 | 59 |
| Volume to Capacity | 0.02 | 0.50 | 0.76 | 0.06 | 1.31 |
| Queue Length 95th (ft) | 2 | 0 | 0 | 0 | 167 |
| Control Delay (s) | 12.6 | 0.0 | 0.0 | 0.0 | 339.0 |
| Lane LOS | B | | | | F |
| Approach Delay (s) | 0.2 | | 0.0 | | 339.0 |
| Approach LOS | | | | | F |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 11.3 | | |
| Intersection Capacity Utilization | 92.3% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

| Lane Group | EBU | EBL | EBT | WBU | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | |
| Volume (vph) | 15 | 15 | 660 | 0 | 620 | 20 | 55 | 15 |
| Lane Util. Factor | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 | | 0.850 |
| Flt Protected | | 0.950 | | | | | 0.950 | |
| Satd. Flow (prot) | 0 | 1770 | 3539 | 1863 | 3539 | 1583 | 1770 | 1583 |
| Flt Permitted | | 0.950 | | | | | 0.950 | |
| Satd. Flow (perm) | 0 | 1770 | 3539 | 1863 | 3539 | 1583 | 1770 | 1583 |
| Adj. Flow (vph) | 16 | 16 | 717 | 0 | 674 | 22 | 60 | 16 |
| Lane Group Flow (vph) | 0 | 32 | 717 | 0 | 674 | 22 | 60 | 16 |
| Sign Control | | | Free | | Free | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 34.9% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |





| Movement | EBU | EBL | EBT | WBU | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | |
| Volume (veh/h) | 15 | 15 | 660 | 0 | 620 | 20 | 55 | 15 |
| Sign Control | | | Free | | Free | | Stop | |
| Grade | | | 0% | | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 16 | 717 | 0 | 674 | 22 | 60 | 16 |
| Pedestrians | | | | | | | | |
| Lane Width (ft) | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | |
| Percent Blockage | | | | | | | | |
| Right turn flare (veh) | | | | | | | | |
| Median type | | | None | | None | | | |
| Median storage veh) | | | | | | | | |
| Upstream signal (ft) | | | | | | | | |
| pX, platoon unblocked | 0.00 | | | 0.00 | | | | |
| vC, conflicting volume | 0 | 696 | | 0 | | | 1065 | 337 |
| vC1, stage 1 conf vol | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | |
| vCu, unblocked vol | 0 | 696 | | 0 | | | 1065 | 337 |
| tC, single (s) | 0.0 | 4.1 | | 0.0 | | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | | | | |
| tF (s) | 0.0 | 2.2 | | 0.0 | | | 3.5 | 3.3 |
| p0 queue free % | 0 | 98 | | 0 | | | 72 | 98 |
| cM capacity (veh/h) | 0 | 896 | | 0 | | | 214 | 659 |

| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | WB 4 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 16 | 359 | 359 | 337 | 337 | 22 | 0 | 60 | 16 |
| Volume Left | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 0 |
| Volume Right | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 16 |
| cSH | 896 | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 214 | 659 |
| Volume to Capacity | 0.02 | 0.21 | 0.21 | 0.20 | 0.20 | 0.01 | 0.00 | 0.28 | 0.02 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 2 |
| Control Delay (s) | 9.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 28.3 | 10.6 |
| Lane LOS | A | | | | | | | D | B |
| Approach Delay (s) | 0.2 | | | 0.0 | | | | 24.5 | |
| Approach LOS | | | | | | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.3 | | |
| Intersection Capacity Utilization | 34.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBU | EBL | EBT | WBU | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | |
| Volume (vph) | 10 | 10 | 770 | 25 | 1160 | 95 | 55 | 15 |
| Lane Util. Factor | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Frt | | | | | | 0.850 | | 0.850 |
| Flt Protected | | 0.950 | | 0.950 | | | 0.950 | |
| Satd. Flow (prot) | 0 | 1770 | 3539 | 1770 | 3539 | 1583 | 1770 | 1583 |
| Flt Permitted | | 0.950 | | 0.950 | | | 0.950 | |
| Satd. Flow (perm) | 0 | 1770 | 3539 | 1770 | 3539 | 1583 | 1770 | 1583 |
| Adj. Flow (vph) | 11 | 11 | 837 | 27 | 1261 | 103 | 60 | 16 |
| Lane Group Flow (vph) | 0 | 22 | 837 | 27 | 1261 | 103 | 60 | 16 |
| Sign Control | | | Free | | Free | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 42.1% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |





| Movement | EBU | EBL | EBT | WBU | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | |
| Volume (veh/h) | 10 | 10 | 770 | 25 | 1160 | 95 | 55 | 15 |
| Sign Control | | | Free | | Free | | Stop | |
| Grade | | | 0% | | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 11 | 837 | 0 | 1261 | 103 | 60 | 16 |
| Pedestrians | | | | | | | | |
| Lane Width (ft) | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | |
| Percent Blockage | | | | | | | | |
| Right turn flare (veh) | | | | | | | | |
| Median type | | | None | | None | | | |
| Median storage veh) | | | | | | | | |
| Upstream signal (ft) | | | | | | | | |
| pX, platoon unblocked | 0.00 | | | 0.00 | | | | |
| vC, conflicting volume | 0 | 1364 | | 0 | | | 1701 | 630 |
| vC1, stage 1 conf vol | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | |
| vCu, unblocked vol | 0 | 1364 | | 0 | | | 1701 | 630 |
| tC, single (s) | 0.0 | 4.1 | | 0.0 | | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | | | | |
| tF (s) | 0.0 | 2.2 | | 0.0 | | | 3.5 | 3.3 |
| p0 queue free % | 0 | 98 | | 0 | | | 26 | 96 |
| cM capacity (veh/h) | 0 | 500 | | 0 | | | 81 | 424 |

| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | WB 4 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 11 | 418 | 418 | 630 | 630 | 103 | 0 | 60 | 16 |
| Volume Left | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 0 |
| Volume Right | 0 | 0 | 0 | 0 | 0 | 103 | 0 | 0 | 16 |
| cSH | 500 | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 81 | 424 |
| Volume to Capacity | 0.02 | 0.25 | 0.25 | 0.37 | 0.37 | 0.06 | 0.00 | 0.74 | 0.04 |
| Queue Length 95th (ft) | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 90 | 3 |
| Control Delay (s) | 12.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 125.4 | 13.8 |
| Lane LOS | B | | | | | | | F | B |
| Approach Delay (s) | 0.2 | | | 0.0 | | | | 101.5 | |
| Approach LOS | | | | | | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 3.4 | | |
| Intersection Capacity Utilization | 42.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

# Intersection H

Sheffield Road and Longhill Road

Intersection LOS Analysis

AM/PM Peak Hour

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 575 | 5 | 7 | 517 | 13 | 26 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.998 | | | | 0.939 | |
| Flt Protected | | | 0.950 | | 0.973 | |
| Satd. Flow (prot) | 1859 | 0 | 1770 | 1863 | 1702 | 0 |
| Flt Permitted | | | 0.950 | | 0.973 | |
| Satd. Flow (perm) | 1859 | 0 | 1770 | 1863 | 1702 | 0 |
| Adj. Flow (vph) | 661 | 8 | 12 | 940 | 39 | 32 |
| Lane Group Flow (vph) | 669 | 0 | 12 | 940 | 71 | 0 |
| Sign Control | Free | | | Free | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 40.6% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 575 | 5 | 7 | 517 | 13 | 26 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.87 | 0.62 | 0.58 | 0.55 | 0.33 | 0.81 |
| Hourly flow rate (vph) | 661 | 8 | 12 | 940 | 39 | 32 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 669 | | 1629 | 665 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 669 | | 1629 | 665 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 99 | | 64 | 93 |
| cM capacity (veh/h) | | | 921 | | 110 | 460 |

| Direction, Lane # | EB 1 | WB 1 | WB 2 | NB 1 |
|---|---|---|---|---|
| Volume Total | 669 | 12 | 940 | 71 |
| Volume Left | 0 | 12 | 0 | 39 |
| Volume Right | 8 | 0 | 0 | 32 |
| cSH | 1700 | 921 | 1700 | 168 |
| Volume to Capacity | 0.39 | 0.01 | 0.55 | 0.43 |
| Queue Length 95th (ft) | 0 | 1 | 0 | 48 |
| Control Delay (s) | 0.0 | 9.0 | 0.0 | 41.5 |
| Lane LOS | | A | | E |
| Approach Delay (s) | 0.0 | 0.1 | | 41.5 |
| Approach LOS | | | | E |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.8 | | |
| Intersection Capacity Utilization | 40.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 573 | 16 | 50 | 901 | 16 | 33 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.995 | | | | 0.913 | |
| Flt Protected | | | 0.950 | | 0.982 | |
| Satd. Flow (prot) | 1853 | 0 | 1770 | 1863 | 1670 | 0 |
| Flt Permitted | | | 0.950 | | 0.982 | |
| Satd. Flow (perm) | 1853 | 0 | 1770 | 1863 | 1670 | 0 |
| Adj. Flow (vph) | 699 | 28 | 52 | 1036 | 20 | 36 |
| Lane Group Flow (vph) | 727 | 0 | 52 | 1036 | 56 | 0 |
| Sign Control | Free | | | Free | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 57.4% | ICU Level of Service B | |
| Analysis Period (min) 15 | | |





| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 573 | 16 | 50 | 901 | 16 | 33 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.82 | 0.57 | 0.96 | 0.87 | 0.80 | 0.92 |
| Hourly flow rate (vph) | 699 | 28 | 52 | 1036 | 20 | 36 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 727 | | 1853 | 713 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 727 | | 1853 | 713 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 94 | | 74 | 92 |
| cM capacity (veh/h) | | | 876 | | 77 | 432 |

| Direction, Lane # | EB 1 | WB 1 | WB 2 | NB 1 |
|---|---|---|---|---|
| Volume Total | 727 | 52 | 1036 | 56 |
| Volume Left | 0 | 52 | 0 | 20 |
| Volume Right | 28 | 0 | 0 | 36 |
| cSH | 1700 | 876 | 1700 | 162 |
| Volume to Capacity | 0.43 | 0.06 | 0.61 | 0.34 |
| Queue Length 95th (ft) | 0 | 5 | 0 | 36 |
| Control Delay (s) | 0.0 | 9.4 | 0.0 | 38.4 |
| Lane LOS | | A | | E |
| Approach Delay (s) | 0.0 | 0.4 | | 38.4 |
| Approach LOS | | | | E |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.4 | | |
| Intersection Capacity Utilization | 57.4% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 645 | 5 | 0 | 635 | 15 | 30 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | 0 | 50 | | 0 | 0 |
| Storage Lanes | | 0 | 1 | | 1 | 0 |
| Taper Length (ft) | | | 50 | | 25 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.999 | | | | 0.911 | |
| Flt Protected | | | | | 0.983 | |
| Satd. Flow (prot) | 1861 | 0 | 1863 | 1863 | 1668 | 0 |
| Flt Permitted | | | | | 0.983 | |
| Satd. Flow (perm) | 1861 | 0 | 1863 | 1863 | 1668 | 0 |
| Link Speed (mph) | 45 | | | 45 | 25 | |
| Link Distance (ft) | 523 | | | 221 | 637 | |
| Travel Time (s) | 7.9 | | | 3.3 | 17.4 | |
| Adj. Flow (vph) | 717 | 6 | 0 | 706 | 17 | 33 |
| Lane Group Flow (vph) | 723 | 0 | 0 | 706 | 50 | 0 |
| Sign Control | Free | | | Free | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization | 44.3% | ICU Level of Service | A |
| Analysis Period (min) 15 | | | |





| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 645 | 5 | 0 | 635 | 15 | 30 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 717 | 6 | 0 | 706 | 17 | 33 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 722 | | 1425 | 719 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 722 | | 1425 | 719 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | 89 | 92 |
| cM capacity (veh/h) | | | 880 | | 149 | 428 |

| Direction, Lane # | EB 1 | WB 1 | WB 2 | NB 1 |
|---|---|---|---|---|
| Volume Total | 722 | 0 | 706 | 50 |
| Volume Left | 0 | 0 | 0 | 17 |
| Volume Right | 6 | 0 | 0 | 33 |
| cSH | 1700 | 1700 | 1700 | 264 |
| Volume to Capacity | 0.42 | 0.00 | 0.42 | 0.19 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 17 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 21.8 |
| Lane LOS | | | | C |
| Approach Delay (s) | 0.0 | 0.0 | | 21.8 |
| Approach LOS | | | | C |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.7 | | |
| Intersection Capacity Utilization | 44.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 745 | 20 | 0 | 1195 | 0 | 45 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.997 | | | | 0.865 | |
| Flt Protected | | | | | | |
| Satd. Flow (prot) | 1857 | 0 | 1863 | 1863 | 1611 | 0 |
| Flt Permitted | | | | | | |
| Satd. Flow (perm) | 1857 | 0 | 1863 | 1863 | 1611 | 0 |
| Adj. Flow (vph) | 828 | 22 | 0 | 1328 | 0 | 50 |
| Lane Group Flow (vph) | 850 | 0 | 0 | 1328 | 50 | 0 |
| Sign Control | Free | | | Free | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 72.9% | | ICU Level of Service C |
| Analysis Period (min) 15 | | |





| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 745 | 20 | 0 | 1195 | 0 | 45 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 828 | 22 | 0 | 1328 | 0 | 50 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 850 | | 2167 | 839 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 850 | | 2167 | 839 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | 100 | 86 |
| cM capacity (veh/h) | | | 788 | | 52 | 366 |

| Direction, Lane # | EB 1 | WB 1 | WB 2 | NB 1 |
|---|---|---|---|---|
| Volume Total | 850 | 0 | 1328 | 50 |
| Volume Left | 0 | 0 | 0 | 0 |
| Volume Right | 22 | 0 | 0 | 50 |
| cSH | 1700 | 1700 | 1700 | 366 |
| Volume to Capacity | 0.50 | 0.00 | 0.78 | 0.14 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 12 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 16.4 |
| Lane LOS | | | | C |
| Approach Delay (s) | 0.0 | 0.0 | | 16.4 |
| Approach LOS | | | | C |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.4 | | |
| Intersection Capacity Utilization | 72.9% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 645 | 5 | 0 | 650 | 0 | 45 |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | 0.999 | | | | | 0.865 |
| Flt Protected | | | | | | |
| Satd. Flow (prot) | 3536 | 0 | 0 | 3539 | 0 | 1611 |
| Flt Permitted | | | | | | |
| Satd. Flow (perm) | 3536 | 0 | 0 | 3539 | 0 | 1611 |
| Adj. Flow (vph) | 701 | 5 | 0 | 707 | 0 | 49 |
| Lane Group Flow (vph) | 706 | 0 | 0 | 707 | 0 | 49 |
| Sign Control | Free | | | Free | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 28.0% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 645 | 5 | 0 | 650 | 0 | 45 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 701 | 5 | 0 | 707 | 0 | 49 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 707 | | 1057 | 353 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 707 | | 1057 | 353 |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | 100 | 92 |
| cM capacity (veh/h) | | | 888 | | 220 | 643 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | NB 1 |
|---|---|---|---|---|---|
| Volume Total | 467 | 239 | 353 | 353 | 49 |
| Volume Left | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 5 | 0 | 0 | 49 |
| cSH | 1700 | 1700 | 1700 | 1700 | 643 |
| Volume to Capacity | 0.27 | 0.14 | 0.21 | 0.21 | 0.08 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 6 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 11.1 |
| Lane LOS | | | | | B |
| Approach Delay (s) | 0.0 | | 0.0 | | 11.1 |
| Approach LOS | | | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.4 | | |
| Intersection Capacity Utilization | 28.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 745 | 20 | 0 | 1185 | 0 | 45 |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | 0.996 | | | | | 0.865 |
| Flt Protected | | | | | | |
| Satd. Flow (prot) | 3525 | 0 | 0 | 3539 | 0 | 1611 |
| Flt Permitted | | | | | | |
| Satd. Flow (perm) | 3525 | 0 | 0 | 3539 | 0 | 1611 |
| Adj. Flow (vph) | 810 | 22 | 0 | 1288 | 0 | 49 |
| Lane Group Flow (vph) | 832 | 0 | 0 | 1288 | 0 | 49 |
| Sign Control | Free | | | Free | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 36.1% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 745 | 20 | 0 | 1185 | 0 | 45 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 810 | 22 | 0 | 1288 | 0 | 49 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 832 | | 1465 | 416 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 832 | | 1465 | 416 |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | 100 | 92 |
| cM capacity (veh/h) | | | 797 | | 119 | 586 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | NB 1 |
|---|---|---|---|---|---|
| Volume Total | 540 | 292 | 644 | 644 | 49 |
| Volume Left | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 22 | 0 | 0 | 49 |
| cSH | 1700 | 1700 | 1700 | 1700 | 586 |
| Volume to Capacity | 0.32 | 0.17 | 0.38 | 0.38 | 0.08 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 7 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 11.7 |
| Lane LOS | | | | | B |
| Approach Delay (s) | 0.0 | | 0.0 | | 11.7 |
| Approach LOS | | | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.3 | | |
| Intersection Capacity Utilization | 36.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

# Intersection I

Seasons Trace and Longhill Road

Intersection LOS Analysis

AM/PM Peak Hour

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 15 | 456 | 494 | 19 | 115 | 57 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | 0.850 | 0.952 | |
| Flt Protected | 0.950 | | | | 0.969 | |
| Satd. Flow (prot) | 1770 | 1863 | 1676 | 1583 | 1718 | 0 |
| Flt Permitted | 0.950 | | | | 0.969 | |
| Satd. Flow (perm) | 1770 | 1863 | 1676 | 1583 | 1718 | 0 |
| Adj. Flow (vph) | 20 | 549 | 915 | 24 | 144 | 80 |
| Lane Group Flow (vph) | 20 | 549 | 915 | 24 | 224 | 0 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 42.5% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 15 | 456 | 494 | 19 | 115 | 57 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.75 | 0.83 | 0.54 | 0.79 | 0.80 | 0.71 |
| Hourly flow rate (vph) | 20 | 549 | 915 | 24 | 144 | 80 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 939 | | | | 1504 | 915 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 939 | | | | 1504 | 915 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 97 | | | | 0 | 76 |
| cM capacity (veh/h) | 730 | | | | 130 | 331 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | SB 1 |
|---|---|---|---|---|---|
| Volume Total | 20 | 549 | 915 | 24 | 224 |
| Volume Left | 20 | 0 | 0 | 0 | 144 |
| Volume Right | 0 | 0 | 0 | 24 | 80 |
| cSH | 730 | 1700 | 1700 | 1700 | 166 |
| Volume to Capacity | 0.03 | 0.32 | 0.54 | 0.01 | 1.35 |
| Queue Length 95th (ft) | 2 | 0 | 0 | 0 | 337 |
| Control Delay (s) | 10.1 | 0.0 | 0.0 | 0.0 | 244.3 |
| Lane LOS | B | | | | F |
| Approach Delay (s) | 0.4 | | 0.0 | | 244.3 |
| Approach LOS | | | | | F |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 31.7 | | |
| Intersection Capacity Utilization | 42.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 38 | 507 | 778 | 138 | 70 | 31 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | 0.850 | 0.956 | |
| Flt Protected | 0.950 | | | | 0.967 | |
| Satd. Flow (prot) | 1770 | 1863 | 1863 | 1583 | 1722 | 0 |
| Flt Permitted | 0.950 | | | | 0.967 | |
| Satd. Flow (perm) | 1770 | 1863 | 1863 | 1583 | 1722 | 0 |
| Adj. Flow (vph) | 44 | 583 | 915 | 164 | 84 | 40 |
| Lane Group Flow (vph) | 44 | 583 | 915 | 164 | 124 | 0 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 53.4% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 38 | 507 | 778 | 138 | 70 | 31 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.86 | 0.87 | 0.85 | 0.84 | 0.83 | 0.78 |
| Hourly flow rate (vph) | 44 | 583 | 915 | 164 | 84 | 40 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1080 | | | | 1586 | 915 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1080 | | | | 1586 | 915 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 93 | | | | 24 | 88 |
| cM capacity (veh/h) | 646 | | | | 111 | 330 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | SB 1 |
|---|---|---|---|---|---|
| Volume Total | 44 | 583 | 915 | 164 | 124 |
| Volume Left | 44 | 0 | 0 | 0 | 84 |
| Volume Right | 0 | 0 | 0 | 164 | 40 |
| cSH | 646 | 1700 | 1700 | 1700 | 141 |
| Volume to Capacity | 0.07 | 0.34 | 0.54 | 0.10 | 0.88 |
| Queue Length 95th (ft) | 5 | 0 | 0 | 0 | 146 |
| Control Delay (s) | 11.0 | 0.0 | 0.0 | 0.0 | 108.1 |
| Lane LOS | B | | | | F |
| Approach Delay (s) | 0.8 | | 0.0 | | 108.1 |
| Approach LOS | | | | | F |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 7.6 | | |
| Intersection Capacity Utilization | 53.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 15 | 440 | 625 | 25 | 210 | 60 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 120 | | | 100 | 0 | 0 |
| Storage Lanes | 1 | | | 1 | 1 | 0 |
| Taper Length (ft) | 85 | | | | 25 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | 0.850 | 0.970 | |
| Flt Protected | 0.950 | | | | 0.963 | |
| Satd. Flow (prot) | 1770 | 1863 | 1676 | 1583 | 1740 | 0 |
| Flt Permitted | 0.950 | | | | 0.963 | |
| Satd. Flow (perm) | 1770 | 1863 | 1676 | 1583 | 1740 | 0 |
| Link Speed (mph) | | 45 | 45 | | 25 | |
| Link Distance (ft) | | 396 | 841 | | 566 | |
| Travel Time (s) | | 6.0 | 12.7 | | 15.4 | |
| Adj. Flow (vph) | 17 | 489 | 694 | 28 | 233 | 67 |
| Lane Group Flow (vph) | 17 | 489 | 694 | 28 | 300 | 0 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 54.9% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 15 | 440 | 625 | 25 | 210 | 60 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 17 | 489 | 694 | 28 | 233 | 67 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 722 | | | | 1217 | 694 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 722 | | | | 1217 | 694 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 98 | | | | 0 | 85 |
| cM capacity (veh/h) | 880 | | | | 196 | 443 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | SB 1 |
|---|---|---|---|---|---|
| Volume Total | 17 | 489 | 694 | 28 | 300 |
| Volume Left | 17 | 0 | 0 | 0 | 233 |
| Volume Right | 0 | 0 | 0 | 28 | 67 |
| cSH | 880 | 1700 | 1700 | 1700 | 224 |
| Volume to Capacity | 0.02 | 0.29 | 0.41 | 0.02 | 1.34 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 410 |
| Control Delay (s) | 9.2 | 0.0 | 0.0 | 0.0 | 222.7 |
| Lane LOS | A | | | | F |
| Approach Delay (s) | 0.3 | | 0.0 | | 222.7 |
| Approach LOS | | | | | F |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 43.8 | | |
| Intersection Capacity Utilization | 54.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 40 | 625 | 1010 | 185 | 140 | 35 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | 0.850 | 0.973 | |
| Flt Protected | 0.950 | | | | 0.962 | |
| Satd. Flow (prot) | 1770 | 1863 | 1863 | 1583 | 1744 | 0 |
| Flt Permitted | 0.950 | | | | 0.962 | |
| Satd. Flow (perm) | 1770 | 1863 | 1863 | 1583 | 1744 | 0 |
| Adj. Flow (vph) | 44 | 694 | 1122 | 206 | 156 | 39 |
| Lane Group Flow (vph) | 44 | 694 | 1122 | 206 | 195 | 0 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 69.7% | | ICU Level of Service C |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 40 | 625 | 1010 | 185 | 140 | 35 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 44 | 694 | 1122 | 206 | 156 | 39 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1328 | | | | 1906 | 1122 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1328 | | | | 1906 | 1122 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 91 | | | | 0 | 84 |
| cM capacity (veh/h) | 520 | | | | 69 | 250 |

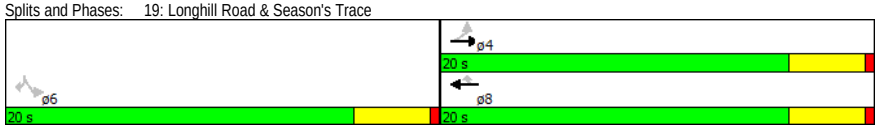
| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | SB 1 |
|---|---|---|---|---|---|
| Volume Total | 44 | 694 | 1122 | 206 | 194 |
| Volume Left | 44 | 0 | 0 | 0 | 156 |
| Volume Right | 0 | 0 | 0 | 206 | 39 |
| cSH | 520 | 1700 | 1700 | 1700 | 81 |
| Volume to Capacity | 0.09 | 0.41 | 0.66 | 0.12 | 2.41 |
| Queue Length 95th (ft) | 7 | 0 | 0 | 0 | 456 |
| Control Delay (s) | 12.6 | 0.0 | 0.0 | 0.0 | 753.1 |
| Lane LOS | B | | | | F |
| Approach Delay (s) | 0.8 | | 0.0 | | 753.1 |
| Approach LOS | | | | | F |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 65.0 | | |
| Intersection Capacity Utilization | 69.7% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 15 | 440 | 625 | 25 | 210 | 60 |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Frt | | | | 0.850 | | 0.850 |
| Flt Protected | 0.950 | | | | 0.950 | |
| Satd. Flow (prot) | 1770 | 3539 | 3362 | 1583 | 1770 | 1583 |
| Flt Permitted | 0.332 | | | | 0.950 | |
| Satd. Flow (perm) | 618 | 3539 | 3362 | 1583 | 1770 | 1583 |
| Satd. Flow (RTOR) | | | | 27 | | 65 |
| Adj. Flow (vph) | 16 | 478 | 679 | 27 | 228 | 65 |
| Lane Group Flow (vph) | 16 | 478 | 679 | 27 | 228 | 65 |
| Turn Type | Perm | NA | NA | Perm | Perm | Perm |
| Protected Phases | | 4 | 8 | | | |
| Permitted Phases | 4 | | | 8 | 6 | 6 |
| Total Split (s) | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Act Effct Green (s) | 12.7 | 12.7 | 12.7 | 12.7 | 16.1 | 16.1 |
| Actuated g/C Ratio | 0.35 | 0.35 | 0.35 | 0.35 | 0.44 | 0.44 |
| v/c Ratio | 0.08 | 0.39 | 0.59 | 0.05 | 0.29 | 0.09 |
| Control Delay | 8.6 | 10.0 | 12.0 | 4.0 | 8.9 | 3.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 8.6 | 10.0 | 12.0 | 4.0 | 8.9 | 3.2 |
| LOS | A | A | B | A | A | A |
| Approach Delay | | 9.9 | 11.7 | | 7.6 | |
| Approach LOS | | A | B | | A | |

| Intersection Summary | |
|---|---|
| Cycle Length: 40 | |
| Actuated Cycle Length: 36.8 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.59 | |
| Intersection Signal Delay: 10.3 | Intersection LOS: B |
| Intersection Capacity Utilization 35.6% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 19: Longhill Road & Season's Trace








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 15 | 440 | 625 | 25 | 210 | 60 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 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) | 1770 | 3539 | 3362 | 1583 | 1770 | 1583 |
| Flt Permitted | 0.33 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 619 | 3539 | 3362 | 1583 | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 16 | 478 | 679 | 27 | 228 | 65 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 18 | 0 | 37 |
| Lane Group Flow (vph) | 16 | 478 | 679 | 9 | 228 | 28 |
| Parking (#/hr) | | | 0 | | | |
| Turn Type | Perm | NA | NA | Perm | Perm | Perm |
| Protected Phases | | 4 | 8 | | | |
| Permitted Phases | 4 | | | 8 | 6 | 6 |
| Actuated Green, G (s) | 12.7 | 12.7 | 12.7 | 12.7 | 16.1 | 16.1 |
| Effective Green, g (s) | 12.7 | 12.7 | 12.7 | 12.7 | 16.1 | 16.1 |
| Actuated g/C Ratio | 0.35 | 0.35 | 0.35 | 0.35 | 0.44 | 0.44 |
| 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) | 213 | 1221 | 1160 | 546 | 774 | 692 |
| v/s Ratio Prot | | 0.14 | c0.20 | | | |
| v/s Ratio Perm | 0.03 | | | 0.01 | c0.13 | 0.02 |
| v/c Ratio | 0.08 | 0.39 | 0.59 | 0.02 | 0.29 | 0.04 |
| Uniform Delay, d1 | 8.1 | 9.1 | 9.9 | 7.9 | 6.7 | 5.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.2 | 0.2 | 0.8 | 0.0 | 1.0 | 0.1 |
| Delay (s) | 8.3 | 9.3 | 10.6 | 7.9 | 7.7 | 6.0 |
| Level of Service | A | A | B | A | A | A |
| Approach Delay (s) | | 9.3 | 10.5 | | 7.3 | |
| Approach LOS | | A | B | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 9.5 | HCM 2000 Level of Service | A |
| HCM 2000 Volume to Capacity ratio | 0.42 | | |
| Actuated Cycle Length (s) | 36.8 | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 35.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 40 | 625 | 1010 | 175 | 140 | 35 |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Frt | | | | 0.850 | | 0.850 |
| Flt Protected | 0.950 | | | | 0.950 | |
| Satd. Flow (prot) | 1770 | 3539 | 3362 | 1583 | 1770 | 1583 |
| Flt Permitted | 0.223 | | | | 0.950 | |
| Satd. Flow (perm) | 415 | 3539 | 3362 | 1583 | 1770 | 1583 |
| Satd. Flow (RTOR) | | | | 190 | | 38 |
| Adj. Flow (vph) | 43 | 679 | 1098 | 190 | 152 | 38 |
| Lane Group Flow (vph) | 43 | 679 | 1098 | 190 | 152 | 38 |
| Turn Type | D.P+P | NA | NA | Perm | Prot | Prot |
| Protected Phases | 1 | 6 | 2 | | 3 | 3 |
| Permitted Phases | 2 | | | 2 | 3 | 3 |
| Total Split (s) | 16.0 | 76.0 | 60.0 | 60.0 | 24.0 | 24.0 |
| Total Lost Time (s) | 4.0 | 5.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Act Effct Green (s) | 75.8 | 77.2 | 71.9 | 71.9 | 13.8 | 13.8 |
| Actuated g/C Ratio | 0.76 | 0.77 | 0.72 | 0.72 | 0.14 | 0.14 |
| v/c Ratio | 0.11 | 0.25 | 0.45 | 0.16 | 0.62 | 0.15 |
| Control Delay | 4.0 | 4.0 | 7.9 | 1.4 | 51.2 | 12.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 4.0 | 4.0 | 7.9 | 1.4 | 51.2 | 12.7 |
| LOS | A | A | A | A | D | B |
| Approach Delay | | 4.0 | 6.9 | | 43.5 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | |
|---|---|
| Cycle Length: 100 | |
| Actuated Cycle Length: 100 | |
| Offset: 97 (97%), Referenced to phase 2:EBWB and 6:EBT, Start of Green | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.62 | |
| Intersection Signal Delay: 9.1 | Intersection LOS: A |
| Intersection Capacity Utilization 48.5% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 19: Longhill Road & Season's Trace

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 40 | 625 | 1010 | 175 | 140 | 35 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 5.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 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) | 1770 | 3539 | 3362 | 1583 | 1770 | 1583 |
| Flt Permitted | 0.22 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 415 | 3539 | 3362 | 1583 | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 43 | 679 | 1098 | 190 | 152 | 38 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 56 | 0 | 33 |
| Lane Group Flow (vph) | 43 | 679 | 1098 | 134 | 152 | 5 |
| Parking (#/hr) | | | 0 | | | |
| Turn Type | D.P+P | NA | NA | Perm | Prot | Prot |
| Protected Phases | 1 | 6 | 2 | | 3 | 3 |
| Permitted Phases | 2 | | | 2 | 3 | 3 |
| Actuated Green, G (s) | 74.2 | 77.2 | 70.3 | 70.3 | 13.8 | 13.8 |
| Effective Green, g (s) | 74.2 | 77.2 | 70.3 | 70.3 | 13.8 | 13.8 |
| Actuated g/C Ratio | 0.74 | 0.77 | 0.70 | 0.70 | 0.14 | 0.14 |
| Clearance Time (s) | 4.0 | 5.0 | 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) | 360 | 2732 | 2363 | 1112 | 244 | 218 |
| v/s Ratio Prot | 0.00 | c0.19 | c0.33 | | c0.09 | 0.00 |
| v/s Ratio Perm | 0.08 | | | 0.08 | | |
| v/c Ratio | 0.12 | 0.25 | 0.46 | 0.12 | 0.62 | 0.02 |
| Uniform Delay, d1 | 4.0 | 3.2 | 6.6 | 4.8 | 40.6 | 37.3 |
| Progression Factor | 1.08 | 1.07 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.1 | 0.2 | 0.7 | 0.2 | 4.9 | 0.0 |
| Delay (s) | 4.4 | 3.6 | 7.2 | 5.0 | 45.5 | 37.3 |
| Level of Service | A | A | A | A | D | D |
| Approach Delay (s) | | 3.7 | 6.9 | | 43.9 | |
| Approach LOS | | A | A | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 9.0 | HCM 2000 Level of Service | A |
| HCM 2000 Volume to Capacity ratio | 0.48 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 48.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

# Intersection J

Lafayette High School Entrance and Longhill Road

Intersection LOS Analysis

AM/PM Peak Hour

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 97 | 360 | 314 | 238 | 95 | 58 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.922 | | 0.954 | |
| Flt Protected | 0.950 | | | | 0.968 | |
| Satd. Flow (prot) | 1770 | 1863 | 1717 | 0 | 1720 | 0 |
| Flt Permitted | 0.950 | | | | 0.968 | |
| Satd. Flow (perm) | 1770 | 1863 | 1717 | 0 | 1720 | 0 |
| Adj. Flow (vph) | 269 | 514 | 498 | 680 | 202 | 104 |
| Lane Group Flow (vph) | 269 | 514 | 1178 | 0 | 306 | 0 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 55.2% | | ICU Level of Service B |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 97 | 360 | 314 | 238 | 95 | 58 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.36 | 0.70 | 0.63 | 0.35 | 0.47 | 0.56 |
| Hourly flow rate (vph) | 269 | 514 | 498 | 680 | 202 | 104 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | TWLTL | None | | | |
| Median storage veh) | | 2 | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1178 | | | | 1892 | 838 |
| vC1, stage 1 conf vol | | | | | 838 | |
| vC2, stage 2 conf vol | | | | | 1053 | |
| vCu, unblocked vol | 1178 | | | | 1892 | 838 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | 5.4 | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 55 | | | | 0 | 72 |
| cM capacity (veh/h) | 593 | | | | 166 | 366 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 269 | 514 | 1178 | 306 |
| Volume Left | 269 | 0 | 0 | 202 |
| Volume Right | 0 | 0 | 680 | 104 |
| cSH | 593 | 1700 | 1700 | 204 |
| Volume to Capacity | 0.45 | 0.30 | 0.69 | 1.50 |
| Queue Length 95th (ft) | 59 | 0 | 0 | 470 |
| Control Delay (s) | 16.0 | 0.0 | 0.0 | 291.5 |
| Lane LOS | C | | | F |
| Approach Delay (s) | 5.5 | | 0.0 | 291.5 |
| Approach LOS | | | | F |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 41.2 | | |
| Intersection Capacity Utilization | 55.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 26 | 487 | 694 | 75 | 66 | 31 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.983 | | 0.952 | |
| Flt Protected | 0.950 | | | | 0.969 | |
| Satd. Flow (prot) | 1770 | 1863 | 1831 | 0 | 1718 | 0 |
| Flt Permitted | 0.950 | | | | 0.969 | |
| Satd. Flow (perm) | 1770 | 1863 | 1831 | 0 | 1718 | 0 |
| Adj. Flow (vph) | 57 | 580 | 816 | 115 | 108 | 60 |
| Lane Group Flow (vph) | 57 | 580 | 931 | 0 | 168 | 0 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 53.3% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 26 | 487 | 694 | 75 | 66 | 31 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.46 | 0.84 | 0.85 | 0.65 | 0.61 | 0.52 |
| Hourly flow rate (vph) | 57 | 580 | 816 | 115 | 108 | 60 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | TWLTL | None | | | |
| Median storage veh) | | 2 | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 932 | | | | 1567 | 874 |
| vC1, stage 1 conf vol | | | | | 874 | |
| vC2, stage 2 conf vol | | | | | 693 | |
| vCu, unblocked vol | 932 | | | | 1567 | 874 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | 5.4 | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 92 | | | | 66 | 83 |
| cM capacity (veh/h) | 734 | | | | 317 | 349 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 57 | 580 | 932 | 168 |
| Volume Left | 57 | 0 | 0 | 108 |
| Volume Right | 0 | 0 | 115 | 60 |
| cSH | 734 | 1700 | 1700 | 328 |
| Volume to Capacity | 0.08 | 0.34 | 0.55 | 0.51 |
| Queue Length 95th (ft) | 6 | 0 | 0 | 69 |
| Control Delay (s) | 10.3 | 0.0 | 0.0 | 27.0 |
| Lane LOS | B | | | D |
| Approach Delay (s) | 0.9 | | 0.0 | 27.0 |
| Approach LOS | | | | D |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.9 | | |
| Intersection Capacity Utilization | 53.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 100 | 455 | 445 | 240 | 0 | 60 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 180 | | | 0 | 0 | 0 |
| Storage Lanes | 1 | | | 0 | 1 | 0 |
| Taper Length (ft) | 100 | | | | 25 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.953 | | 0.865 | |
| Flt Protected | 0.950 | | | | | |
| Satd. Flow (prot) | 1770 | 1863 | 1775 | 0 | 1611 | 0 |
| Flt Permitted | 0.950 | | | | | |
| Satd. Flow (perm) | 1770 | 1863 | 1775 | 0 | 1611 | 0 |
| Link Speed (mph) | | 45 | 45 | | 10 | |
| Link Distance (ft) | | 517 | 396 | | 817 | |
| Travel Time (s) | | 7.8 | 6.0 | | 55.7 | |
| Adj. Flow (vph) | 111 | 506 | 494 | 267 | 0 | 67 |
| Lane Group Flow (vph) | 111 | 506 | 761 | 0 | 67 | 0 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 57.3% | | ICU Level of Service B | |
| Analysis Period (min) 15 | | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 100 | 455 | 445 | 240 | 0 | 60 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 111 | 506 | 494 | 267 | 0 | 67 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | TWLTL | None | | | |
| Median storage veh) | | 2 | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 761 | | | | 1356 | 628 |
| vC1, stage 1 conf vol | | | | | 628 | |
| vC2, stage 2 conf vol | | | | | 728 | |
| vCu, unblocked vol | 761 | | | | 1356 | 628 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | 5.4 | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 87 | | | | 100 | 86 |
| cM capacity (veh/h) | 851 | | | | 346 | 483 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 111 | 506 | 761 | 67 |
| Volume Left | 111 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 267 | 67 |
| cSH | 851 | 1700 | 1700 | 483 |
| Volume to Capacity | 0.13 | 0.30 | 0.45 | 0.14 |
| Queue Length 95th (ft) | 11 | 0 | 0 | 12 |
| Control Delay (s) | 9.9 | 0.0 | 0.0 | 13.6 |
| Lane LOS | A | | | B |
| Approach Delay (s) | 1.8 | | 0.0 | 13.6 |
| Approach LOS | | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.4 | | |
| Intersection Capacity Utilization | 57.3% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 30 | 665 | 950 | 95 | 0 | 40 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.988 | | 0.865 | |
| Flt Protected | 0.950 | | | | | |
| Satd. Flow (prot) | 1770 | 1863 | 1840 | 0 | 1611 | 0 |
| Flt Permitted | 0.950 | | | | | |
| Satd. Flow (perm) | 1770 | 1863 | 1840 | 0 | 1611 | 0 |
| Adj. Flow (vph) | 33 | 739 | 1056 | 106 | 0 | 44 |
| Lane Group Flow (vph) | 33 | 739 | 1162 | 0 | 44 | 0 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 65.8% | | ICU Level of Service C |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 30 | 665 | 950 | 95 | 0 | 40 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 33 | 739 | 1056 | 106 | 0 | 44 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | TWLTL | None | | | |
| Median storage veh) | | 2 | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1161 | | | | 1914 | 1108 |
| vC1, stage 1 conf vol | | | | | 1108 | |
| vC2, stage 2 conf vol | | | | | 806 | |
| vCu, unblocked vol | 1161 | | | | 1914 | 1108 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | 5.4 | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 94 | | | | 100 | 83 |
| cM capacity (veh/h) | 602 | | | | 254 | 255 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 33 | 739 | 1161 | 44 |
| Volume Left | 33 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 106 | 44 |
| cSH | 602 | 1700 | 1700 | 255 |
| Volume to Capacity | 0.06 | 0.43 | 0.68 | 0.17 |
| Queue Length 95th (ft) | 4 | 0 | 0 | 15 |
| Control Delay (s) | 11.3 | 0.0 | 0.0 | 22.1 |
| Lane LOS | B | | | C |
| Approach Delay (s) | 0.5 | | 0.0 | 22.1 |
| Approach LOS | | | | C |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.7 | | |
| Intersection Capacity Utilization | 65.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 100 | 455 | 445 | 240 | 0 | 60 |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Frt | | | | 0.850 | | 0.865 |
| Flt Protected | 0.950 | | | | | |
| Satd. Flow (prot) | 1770 | 3539 | 3539 | 1583 | 0 | 1611 |
| Flt Permitted | 0.950 | | | | | |
| Satd. Flow (perm) | 1770 | 3539 | 3539 | 1583 | 0 | 1611 |
| Adj. Flow (vph) | 109 | 495 | 484 | 261 | 0 | 65 |
| Lane Group Flow (vph) | 109 | 495 | 484 | 261 | 0 | 65 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 27.1% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 100 | 455 | 445 | 240 | 0 | 60 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 109 | 495 | 484 | 261 | 0 | 65 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 396 | | | |
| pX, platoon unblocked | 0.97 | | | | 0.97 | 0.97 |
| vC, conflicting volume | 745 | | | | 948 | 242 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 667 | | | | 878 | 148 |
| tC, single (s) | 4.1 | | | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 88 | | | | 100 | 92 |
| cM capacity (veh/h) | 888 | | | | 244 | 844 |

| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | SB 1 |
|---|---|---|---|---|---|---|---|
| Volume Total | 109 | 247 | 247 | 242 | 242 | 261 | 65 |
| Volume Left | 109 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 0 | 0 | 0 | 261 | 65 |
| cSH | 888 | 1700 | 1700 | 1700 | 1700 | 1700 | 844 |
| Volume to Capacity | 0.12 | 0.15 | 0.15 | 0.14 | 0.14 | 0.15 | 0.08 |
| Queue Length 95th (ft) | 10 | 0 | 0 | 0 | 0 | 0 | 6 |
| Control Delay (s) | 9.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 9.6 |
| Lane LOS | A | | | | | | A |
| Approach Delay (s) | 1.7 | | | 0.0 | | | 9.6 |
| Approach LOS | | | | | | | A |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.2 | | |
| Intersection Capacity Utilization | 27.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 30 | 665 | 950 | 95 | 0 | 40 |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Frt | | | | 0.850 | | 0.865 |
| Flt Protected | 0.950 | | | | | |
| Satd. Flow (prot) | 1770 | 3539 | 3539 | 1583 | 0 | 1611 |
| Flt Permitted | 0.950 | | | | | |
| Satd. Flow (perm) | 1770 | 3539 | 3539 | 1583 | 0 | 1611 |
| Adj. Flow (vph) | 33 | 723 | 1033 | 103 | 0 | 43 |
| Lane Group Flow (vph) | 33 | 723 | 1033 | 103 | 0 | 43 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 36.3% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 30 | 665 | 950 | 95 | 0 | 40 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 33 | 723 | 1033 | 103 | 0 | 43 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 396 | | | |
| pX, platoon unblocked | 0.86 | | | | 0.86 | 0.86 |
| vC, conflicting volume | 1136 | | | | 1459 | 516 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 840 | | | | 1214 | 122 |
| tC, single (s) | 4.1 | | | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 95 | | | | 100 | 94 |
| cM capacity (veh/h) | 683 | | | | 143 | 782 |

| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | SB 1 |
|---|---|---|---|---|---|---|---|
| Volume Total | 33 | 361 | 361 | 516 | 516 | 103 | 43 |
| Volume Left | 33 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 0 | 0 | 0 | 103 | 43 |
| cSH | 683 | 1700 | 1700 | 1700 | 1700 | 1700 | 782 |
| Volume to Capacity | 0.05 | 0.21 | 0.21 | 0.30 | 0.30 | 0.06 | 0.06 |
| Queue Length 95th (ft) | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| Control Delay (s) | 10.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 9.9 |
| Lane LOS | B | | | | | | A |
| Approach Delay (s) | 0.5 | | | 0.0 | | | 9.9 |
| Approach LOS | | | | | | | A |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.4 | | |
| Intersection Capacity Utilization | 36.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

# Intersection K

## Lafayette High School Bus Loop and Longhill Road

## Intersection LOS Analysis

## AM/PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 4 | 415 | 0 | 2 | 317 | 4 | 0 | 0 | 2 | 17 | 0 | 8 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | | 0.994 | | | | 0.850 | | 0.957 | |
| Flt Protected | 0.950 | | | 0.950 | | | | | | | 0.967 | |
| Satd. Flow (prot) | 1770 | 1863 | 1863 | 1770 | 1852 | 0 | 1863 | 0 | 1583 | 0 | 1724 | 0 |
| Flt Permitted | 0.950 | | | 0.950 | | | | | | | 0.967 | |
| Satd. Flow (perm) | 1770 | 1863 | 1863 | 1770 | 1852 | 0 | 1863 | 0 | 1583 | 0 | 1724 | 0 |
| Adj. Flow (vph) | 16 | 1339 | 0 | 5 | 356 | 16 | 0 | 0 | 8 | 68 | 0 | 32 |
| Lane Group Flow (vph) | 16 | 1339 | 0 | 5 | 372 | 0 | 0 | 0 | 8 | 0 | 100 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 38.5% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 4 | 415 | 0 | 2 | 317 | 4 | 0 | 0 | 2 | 17 | 0 | 8 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.25 | 0.31 | 0.25 | 0.38 | 0.89 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| Hourly flow rate (vph) | 16 | 1339 | 0 | 5 | 356 | 16 | 0 | 0 | 8 | 68 | 0 | 32 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | TWLTL | | | | | | | |
| Median storage veh) | | | | | 2 | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 372 | | | 1339 | | | 1769 | 1753 | 1339 | 1753 | 1745 | 364 |
| vC1, stage 1 conf vol | | | | | | | 1371 | 1371 | | 375 | 375 | |
| vC2, stage 2 conf vol | | | | | | | 399 | 383 | | 1379 | 1371 | |
| vCu, unblocked vol | 372 | | | 1339 | | | 1769 | 1753 | 1339 | 1753 | 1745 | 364 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | 6.1 | 5.5 | | 6.1 | 5.5 | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 99 | | | 99 | | | 100 | 100 | 96 | 57 | 100 | 95 |
| cM capacity (veh/h) | 1186 | | | 515 | | | 169 | 200 | 187 | 157 | 196 | 681 |

| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | NB 1 | NB 2 | SB 1 |
|---|---|---|---|---|---|---|---|---|
| Volume Total | 16 | 1339 | 0 | 5 | 372 | 0 | 8 | 100 |
| Volume Left | 16 | 0 | 0 | 5 | 0 | 0 | 0 | 68 |
| Volume Right | 0 | 0 | 0 | 0 | 16 | 0 | 8 | 32 |
| cSH | 1186 | 1700 | 1700 | 515 | 1700 | 1700 | 187 | 208 |
| Volume to Capacity | 0.01 | 0.79 | 0.00 | 0.01 | 0.22 | 0.00 | 0.04 | 0.48 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 1 | 0 | 0 | 3 | 59 |
| Control Delay (s) | 8.1 | 0.0 | 0.0 | 12.1 | 0.0 | 0.0 | 25.1 | 37.2 |
| Lane LOS | A | | | B | | A | D | E |
| Approach Delay (s) | 0.1 | | | 0.2 | | 25.1 | | 37.2 |
| Approach LOS | | | | | | D | | E |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.2 | | |
| Intersection Capacity Utilization | 38.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1 | 487 | 1 | 2 | 530 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | | | | | | | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | | | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 0 | 1770 | 0 | 1863 | 0 | 1863 | 0 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | | | |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | 1770 | 1863 | 0 | 1770 | 0 | 1863 | 0 | 1863 | 0 |
| Adj. Flow (vph) | 4 | 553 | 4 | 4 | 589 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 4 | 553 | 4 | 4 | 589 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 37.9% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 1 | 487 | 1 | 2 | 530 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.25 | 0.88 | 0.25 | 0.50 | 0.90 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| Hourly flow rate (vph) | 4 | 553 | 4 | 4 | 589 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | TWLTL | | | | | | | |
| Median storage veh) | | | | | 2 | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 589 | | | 557 | | | 1158 | 1158 | 553 | 1158 | 1162 | 589 |
| vC1, stage 1 conf vol | | | | | | | 561 | 561 | | 597 | 597 | |
| vC2, stage 2 conf vol | | | | | | | 597 | 597 | | 561 | 565 | |
| vCu, unblocked vol | 589 | | | 557 | | | 1158 | 1158 | 553 | 1158 | 1162 | 589 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | 6.1 | 5.5 | | 6.1 | 5.5 | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 100 | | | 100 | | | 99 | 100 | 100 | 100 | 100 | 100 |
| cM capacity (veh/h) | 986 | | | 1013 | | | 379 | 386 | 532 | 379 | 385 | 508 |

| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | NB 1 | NB 2 | SB 1 |
|---|---|---|---|---|---|---|---|---|
| Volume Total | 4 | 553 | 4 | 4 | 589 | 4 | 0 | 0 |
| Volume Left | 4 | 0 | 0 | 4 | 0 | 4 | 0 | 0 |
| Volume Right | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| cSH | 986 | 1700 | 1700 | 1013 | 1700 | 379 | 1700 | 1700 |
| Volume to Capacity | 0.00 | 0.33 | 0.00 | 0.00 | 0.35 | 0.01 | 0.00 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Control Delay (s) | 8.7 | 0.0 | 0.0 | 8.6 | 0.0 | 14.6 | 0.0 | 0.0 |
| Lane LOS | A | | | A | | B | A | A |
| Approach Delay (s) | 0.1 | | | 0.1 | | 14.6 | | 0.0 |
| Approach LOS | | | | | | B | | A |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.1 | | |
| Intersection Capacity Utilization | 37.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 15 | 530 | 25 | 25 | 470 | 10 | 0 | 0 | 5 | 20 | 0 | 10 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 135 | | 120 | 50 | | 0 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 1 | 0 | | 0 |
| Taper Length (ft) | 160 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | 0.997 | | | | 0.850 | | 0.955 | |
| Flt Protected | 0.950 | | | 0.950 | | | | | | | 0.968 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1857 | 0 | 1863 | 0 | 1583 | 0 | 1722 | 0 |
| Flt Permitted | 0.950 | | | 0.950 | | | | | | | 0.968 | |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | 1770 | 1857 | 0 | 1863 | 0 | 1583 | 0 | 1722 | 0 |
| Link Speed (mph) | | 45 | | | 45 | | | 25 | | | 25 | |
| Link Distance (ft) | | 1389 | | | 517 | | | 400 | | | 302 | |
| Travel Time (s) | | 21.0 | | | 7.8 | | | 10.9 | | | 8.2 | |
| Adj. Flow (vph) | 17 | 589 | 28 | 28 | 522 | 11 | 0 | 0 | 6 | 22 | 0 | 11 |
| Lane Group Flow (vph) | 17 | 589 | 28 | 28 | 533 | 0 | 0 | 0 | 6 | 0 | 33 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 44.6% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 15 | 530 | 25 | 25 | 470 | 10 | 0 | 0 | 5 | 20 | 0 | 10 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 17 | 589 | 28 | 28 | 522 | 11 | 0 | 0 | 6 | 22 | 0 | 11 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | TWLTL | | | | | | | |
| Median storage veh) | | | | | 2 | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 533 | | | 617 | | | 1211 | 1211 | 589 | 1211 | 1233 | 528 |
| vC1, stage 1 conf vol | | | | | | | 622 | 622 | | 583 | 583 | |
| vC2, stage 2 conf vol | | | | | | | 589 | 589 | | 628 | 650 | |
| vCu, unblocked vol | 533 | | | 617 | | | 1211 | 1211 | 589 | 1211 | 1233 | 528 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | 6.1 | 5.5 | | 6.1 | 5.5 | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 98 | | | 97 | | | 100 | 100 | 99 | 94 | 100 | 98 |
| cM capacity (veh/h) | 1034 | | | 963 | | | 348 | 361 | 508 | 345 | 350 | 550 |

| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | NB 1 | NB 2 | SB 1 |
|---|---|---|---|---|---|---|---|---|
| Volume Total | 17 | 589 | 28 | 28 | 533 | 0 | 6 | 33 |
| Volume Left | 17 | 0 | 0 | 28 | 0 | 0 | 0 | 22 |
| Volume Right | 0 | 0 | 28 | 0 | 11 | 0 | 6 | 11 |
| cSH | 1034 | 1700 | 1700 | 963 | 1700 | 1700 | 508 | 394 |
| Volume to Capacity | 0.02 | 0.35 | 0.02 | 0.03 | 0.31 | 0.00 | 0.01 | 0.08 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 7 |
| Control Delay (s) | 8.5 | 0.0 | 0.0 | 8.8 | 0.0 | 0.0 | 12.2 | 15.0 |
| Lane LOS | A | | | A | | A | B | B |
| Approach Delay (s) | 0.2 | | | 0.4 | | 12.2 | | 15.0 |
| Approach LOS | | | | | | B | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.8 | | |
| Intersection Capacity Utilization | 44.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 685 | 5 | 25 | 960 | 5 | 10 | 0 | 5 | 5 | 0 | 5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | 0.999 | | | | 0.850 | | 0.932 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | | 0.976 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1861 | 0 | 1770 | 0 | 1583 | 0 | 1694 | 0 |
| Flt Permitted | 0.950 | | | 0.950 | | | 0.950 | | | | 0.976 | |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | 1770 | 1861 | 0 | 1770 | 0 | 1583 | 0 | 1694 | 0 |
| Adj. Flow (vph) | 6 | 761 | 6 | 28 | 1067 | 6 | 11 | 0 | 6 | 6 | 0 | 6 |
| Lane Group Flow (vph) | 6 | 761 | 6 | 28 | 1073 | 0 | 11 | 0 | 6 | 0 | 12 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 62.6% | ICU Level of Service B | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 5 | 685 | 5 | 25 | 960 | 5 | 10 | 0 | 5 | 5 | 0 | 5 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 6 | 761 | 6 | 28 | 1067 | 6 | 11 | 0 | 6 | 6 | 0 | 6 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | TWLTL | | | | | | | |
| Median storage veh) | | | | | 2 | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 1072 | | | 767 | | | 1900 | 1900 | 761 | 1903 | 1903 | 1069 |
| vC1, stage 1 conf vol | | | | | | | 772 | 772 | | 1125 | 1125 | |
| vC2, stage 2 conf vol | | | | | | | 1128 | 1128 | | 778 | 778 | |
| vCu, unblocked vol | 1072 | | | 767 | | | 1900 | 1900 | 761 | 1903 | 1903 | 1069 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | 6.1 | 5.5 | | 6.1 | 5.5 | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 99 | | | 97 | | | 94 | 100 | 99 | 97 | 100 | 98 |
| cM capacity (veh/h) | 650 | | | 847 | | | 197 | 224 | 405 | 199 | 223 | 269 |

| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | NB 1 | NB 2 | SB 1 |
|---|---|---|---|---|---|---|---|---|
| Volume Total | 6 | 761 | 6 | 28 | 1072 | 11 | 6 | 11 |
| Volume Left | 6 | 0 | 0 | 28 | 0 | 11 | 0 | 6 |
| Volume Right | 0 | 0 | 6 | 0 | 6 | 0 | 6 | 6 |
| cSH | 650 | 1700 | 1700 | 847 | 1700 | 197 | 405 | 229 |
| Volume to Capacity | 0.01 | 0.45 | 0.00 | 0.03 | 0.63 | 0.06 | 0.01 | 0.05 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 3 | 0 | 4 | 1 | 4 |
| Control Delay (s) | 10.6 | 0.0 | 0.0 | 9.4 | 0.0 | 24.4 | 14.0 | 21.6 |
| Lane LOS | B | | | A | | C | B | C |
| Approach Delay (s) | 0.1 | | | 0.2 | | 20.9 | | 21.6 |
| Approach LOS | | | | | | C | | C |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.5 | | |
| Intersection Capacity Utilization | 62.6% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 15 | 530 | 25 | 25 | 470 | 10 | 0 | 0 | 5 | 20 | 0 | 10 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.850 | |
| Flt Protected | 0.950 | | | 0.950 | | | | | | 0.950 | | |
| Satd. Flow (prot) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 0 | 1863 | 1583 | 1770 | 1583 | 0 |
| Flt Permitted | 0.950 | | | 0.950 | | | | | | 0.950 | | |
| Satd. Flow (perm) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 0 | 1863 | 1583 | 1770 | 1583 | 0 |
| Adj. Flow (vph) | 16 | 576 | 27 | 27 | 511 | 11 | 0 | 0 | 5 | 22 | 0 | 11 |
| Lane Group Flow (vph) | 16 | 576 | 27 | 27 | 511 | 11 | 0 | 0 | 5 | 22 | 11 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 31.3% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 15 | 530 | 25 | 25 | 470 | 10 | 0 | 0 | 5 | 20 | 0 | 10 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 16 | 576 | 27 | 27 | 511 | 11 | 0 | 0 | 5 | 22 | 0 | 11 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | 913 | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 522 | | | 603 | | | 929 | 1185 | 288 | 891 | 1201 | 255 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 522 | | | 603 | | | 929 | 1185 | 288 | 891 | 1201 | 255 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 98 | | | 97 | | | 100 | 100 | 99 | 90 | 100 | 99 |
| cM capacity (veh/h) | 1041 | | | 970 | | | 212 | 180 | 709 | 227 | 176 | 744 |

| Direction, Lane # | EB 1 | EB 2 | EB 3 | EB 4 | WB 1 | WB 2 | WB 3 | WB 4 | NB 1 | NB 2 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 16 | 288 | 288 | 27 | 27 | 255 | 255 | 11 | 0 | 5 | 22 | 11 |
| Volume Left | 16 | 0 | 0 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 22 | 0 |
| Volume Right | 0 | 0 | 0 | 27 | 0 | 0 | 0 | 11 | 0 | 5 | 0 | 11 |
| cSH | 1041 | 1700 | 1700 | 1700 | 970 | 1700 | 1700 | 1700 | 1700 | 709 | 227 | 744 |
| Volume to Capacity | 0.02 | 0.17 | 0.17 | 0.02 | 0.03 | 0.15 | 0.15 | 0.01 | 0.00 | 0.01 | 0.10 | 0.01 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 8 | 1 |
| Control Delay (s) | 8.5 | 0.0 | 0.0 | 0.0 | 8.8 | 0.0 | 0.0 | 0.0 | 0.0 | 10.1 | 22.5 | 9.9 |
| Lane LOS | A | | | | A | | | | A | B | C | A |
| Approach Delay (s) | 0.2 | | | | 0.4 | | | | 10.1 | | 18.3 | |
| Approach LOS | | | | | | | | | B | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 0.9 | |
| Intersection Capacity Utilization | | 31.3% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 685 | 5 | 25 | 960 | 5 | 10 | 0 | 5 | 5 | 0 | 5 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.850 | |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.950 | | 0.950 | | |
| Satd. Flow (prot) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 0 | 1770 | 1583 | 1770 | 1583 | 0 |
| Flt Permitted | 0.950 | | | 0.950 | | | | 0.950 | | 0.950 | | |
| Satd. Flow (perm) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 0 | 1770 | 1583 | 1770 | 1583 | 0 |
| Adj. Flow (vph) | 5 | 745 | 5 | 27 | 1043 | 5 | 11 | 0 | 5 | 5 | 0 | 5 |
| Lane Group Flow (vph) | 5 | 745 | 5 | 27 | 1043 | 5 | 0 | 11 | 5 | 5 | 5 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 40.4% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 5 | 685 | 5 | 25 | 960 | 5 | 10 | 0 | 5 | 5 | 0 | 5 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 5 | 745 | 5 | 27 | 1043 | 5 | 11 | 0 | 5 | 5 | 0 | 5 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | 913 | | | | | | | |
| pX, platoon unblocked | 0.88 | | | | | | 0.88 | 0.88 | | 0.88 | 0.88 | 0.88 |
| vC, conflicting volume | 1049 | | | 750 | | | 1337 | 1859 | 372 | 1486 | 1859 | 522 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 774 | | | 750 | | | 1103 | 1698 | 372 | 1273 | 1698 | 173 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 99 | | | 97 | | | 92 | 100 | 99 | 95 | 100 | 99 |
| cM capacity (veh/h) | 734 | | | 855 | | | 140 | 77 | 625 | 105 | 77 | 737 |

| Direction, Lane # | EB 1 | EB 2 | EB 3 | EB 4 | WB 1 | WB 2 | WB 3 | WB 4 | NB 1 | NB 2 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 5 | 372 | 372 | 5 | 27 | 522 | 522 | 5 | 11 | 5 | 5 | 5 |
| Volume Left | 5 | 0 | 0 | 0 | 27 | 0 | 0 | 0 | 11 | 0 | 5 | 0 |
| Volume Right | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 5 |
| cSH | 734 | 1700 | 1700 | 1700 | 855 | 1700 | 1700 | 1700 | 140 | 625 | 105 | 737 |
| Volume to Capacity | 0.01 | 0.22 | 0.22 | 0.00 | 0.03 | 0.31 | 0.31 | 0.00 | 0.08 | 0.01 | 0.05 | 0.01 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 6 | 1 | 4 | 1 |
| Control Delay (s) | 9.9 | 0.0 | 0.0 | 0.0 | 9.3 | 0.0 | 0.0 | 0.0 | 32.8 | 10.8 | 41.2 | 9.9 |
| Lane LOS | A | | | | A | | | | D | B | E | A |
| Approach Delay (s) | 0.1 | | | | 0.2 | | | | 25.5 | | 25.6 | |
| Approach LOS | | | | | | | | | D | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 0.5 | |
| Intersection Capacity Utilization | | 40.4% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |

# Intersection L

## Warhill Trail and Longhill Road

## Intersection LOS Analysis

## AM/PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1 | 302 | 49 | 27 | 322 | 4 | 68 | 1 | 20 | 5 | 2 | 24 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.979 | | | | 0.850 | | 0.960 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.967 | | | 0.968 | |
| Satd. Flow (prot) | 1770 | 1824 | 0 | 1770 | 1863 | 1583 | 0 | 1729 | 0 | 0 | 1803 | 1583 |
| Flt Permitted | 0.950 | | | 0.950 | | | | 0.967 | | | 0.968 | |
| Satd. Flow (perm) | 1770 | 1824 | 0 | 1770 | 1863 | 1583 | 0 | 1729 | 0 | 0 | 1803 | 1583 |
| Adj. Flow (vph) | 4 | 364 | 60 | 40 | 435 | 8 | 92 | 4 | 40 | 8 | 4 | 40 |
| Lane Group Flow (vph) | 4 | 424 | 0 | 40 | 435 | 8 | 0 | 136 | 0 | 0 | 12 | 40 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 40.8% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 1 | 302 | 49 | 27 | 322 | 4 | 68 | 1 | 20 | 5 | 2 | 24 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.25 | 0.83 | 0.82 | 0.68 | 0.74 | 0.50 | 0.74 | 0.25 | 0.50 | 0.62 | 0.50 | 0.60 |
| Hourly flow rate (vph) | 4 | 364 | 60 | 40 | 435 | 8 | 92 | 4 | 40 | 8 | 4 | 40 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | 4 |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 443 | | | 424 | | | 938 | 924 | 394 | 928 | 946 | 435 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 443 | | | 424 | | | 938 | 924 | 394 | 928 | 946 | 435 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 100 | | | 97 | | | 58 | 98 | 94 | 96 | 98 | 94 |
| cM capacity (veh/h) | 1117 | | | 1136 | | | 219 | 259 | 655 | 224 | 251 | 621 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | WB 3 | NB 1 | SB 1 |
|---|---|---|---|---|---|---|---|
| Volume Total | 4 | 424 | 40 | 435 | 8 | 136 | 52 |
| Volume Left | 4 | 0 | 40 | 0 | 0 | 92 | 8 |
| Volume Right | 0 | 60 | 0 | 0 | 8 | 40 | 40 |
| cSH | 1117 | 1700 | 1136 | 1700 | 1700 | 274 | 808 |
| Volume to Capacity | 0.00 | 0.25 | 0.03 | 0.26 | 0.00 | 0.50 | 0.06 |
| Queue Length 95th (ft) | 0 | 0 | 3 | 0 | 0 | 64 | 5 |
| Control Delay (s) | 8.2 | 0.0 | 8.3 | 0.0 | 0.0 | 30.4 | 13.5 |
| Lane LOS | A | | A | | | D | B |
| Approach Delay (s) | 0.1 | | 0.7 | | | 30.4 | 13.5 |
| Approach LOS | | | | | | D | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.7 | | |
| Intersection Capacity Utilization | 40.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 29 | 371 | 219 | 109 | 322 | 8 | 130 | 3 | 68 | 5 | 0 | 15 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.939 | | | | 0.850 | | 0.959 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.967 | | | 0.950 | |
| Satd. Flow (prot) | 1770 | 1749 | 0 | 1770 | 1863 | 1583 | 0 | 1727 | 0 | 0 | 1770 | 1583 |
| Flt Permitted | 0.950 | | | 0.950 | | | | 0.967 | | | 0.950 | |
| Satd. Flow (perm) | 1770 | 1749 | 0 | 1770 | 1863 | 1583 | 0 | 1727 | 0 | 0 | 1770 | 1583 |
| Adj. Flow (vph) | 32 | 395 | 270 | 214 | 362 | 12 | 181 | 4 | 80 | 8 | 0 | 20 |
| Lane Group Flow (vph) | 32 | 665 | 0 | 214 | 362 | 12 | 0 | 265 | 0 | 0 | 8 | 20 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 67.1% | ICU Level of Service C | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 29 | 371 | 219 | 109 | 322 | 8 | 130 | 3 | 68 | 5 | 0 | 15 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.91 | 0.94 | 0.81 | 0.51 | 0.89 | 0.67 | 0.72 | 0.75 | 0.85 | 0.62 | 0.25 | 0.75 |
| Hourly flow rate (vph) | 32 | 395 | 270 | 214 | 362 | 12 | 181 | 4 | 80 | 8 | 0 | 20 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | 4 |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 374 | | | 665 | | | 1393 | 1395 | 530 | 1330 | 1518 | 362 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 374 | | | 665 | | | 1393 | 1395 | 530 | 1330 | 1518 | 362 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 97 | | | 77 | | | 0 | 96 | 85 | 91 | 100 | 97 |
| cM capacity (veh/h) | 1185 | | | 924 | | | 93 | 106 | 549 | 88 | 89 | 683 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | WB 3 | NB 1 | SB 1 |
|---|---|---|---|---|---|---|---|
| Volume Total | 32 | 665 | 214 | 362 | 12 | 265 | 28 |
| Volume Left | 32 | 0 | 214 | 0 | 0 | 181 | 8 |
| Volume Right | 0 | 270 | 0 | 0 | 12 | 80 | 20 |
| cSH | 1185 | 1700 | 924 | 1700 | 1700 | 125 | 307 |
| Volume to Capacity | 0.03 | 0.39 | 0.23 | 0.21 | 0.01 | 2.12 | 0.09 |
| Queue Length 95th (ft) | 2 | 0 | 22 | 0 | 0 | 550 | 7 |
| Control Delay (s) | 8.1 | 0.0 | 10.1 | 0.0 | 0.0 | 588.0 | 21.8 |
| Lane LOS | A | | B | | | F | C |
| Approach Delay (s) | 0.4 | | 3.7 | | | 588.0 | 21.8 |
| Approach LOS | | | | | | F | C |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 100.6 | | |
| Intersection Capacity Utilization | 67.1% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 540 | 50 | 35 | 435 | 10 | 70 | 5 | 20 | 10 | 5 | 30 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 185 | | 0 | 180 | | 180 | 0 | | 0 | 0 | | 90 |
| Storage Lanes | 1 | | 0 | 1 | | 1 | 0 | | 0 | 0 | | 1 |
| Taper Length (ft) | 150 | | | 210 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.987 | | | | 0.850 | | 0.972 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.965 | | | 0.969 | |
| Satd. Flow (prot) | 1770 | 1839 | 0 | 1770 | 1863 | 1583 | 0 | 1747 | 0 | 0 | 1805 | 1583 |
| Flt Permitted | 0.950 | | | 0.950 | | | | 0.965 | | | 0.969 | |
| Satd. Flow (perm) | 1770 | 1839 | 0 | 1770 | 1863 | 1583 | 0 | 1747 | 0 | 0 | 1805 | 1583 |
| Link Speed (mph) | | 45 | | | 45 | | | 25 | | | 25 | |
| Link Distance (ft) | | 476 | | | 1389 | | | 557 | | | 696 | |
| Travel Time (s) | | 7.2 | | | 21.0 | | | 15.2 | | | 19.0 | |
| Adj. Flow (vph) | 6 | 600 | 56 | 39 | 483 | 11 | 78 | 6 | 22 | 11 | 6 | 33 |
| Lane Group Flow (vph) | 6 | 656 | 0 | 39 | 483 | 11 | 0 | 106 | 0 | 0 | 17 | 33 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 50.1% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 5 | 540 | 50 | 35 | 435 | 10 | 70 | 5 | 20 | 10 | 5 | 30 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 6 | 600 | 56 | 39 | 483 | 11 | 78 | 6 | 22 | 11 | 6 | 33 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | 4 |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 494 | | | 656 | | | 1219 | 1211 | 628 | 1197 | 1228 | 483 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 494 | | | 656 | | | 1219 | 1211 | 628 | 1197 | 1228 | 483 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 99 | | | 96 | | | 44 | 97 | 95 | 92 | 97 | 94 |
| cM capacity (veh/h) | 1069 | | | 932 | | | 139 | 174 | 483 | 146 | 170 | 583 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | WB 3 | NB 1 | SB 1 |
|---|---|---|---|---|---|---|---|
| Volume Total | 6 | 656 | 39 | 483 | 11 | 106 | 50 |
| Volume Left | 6 | 0 | 39 | 0 | 0 | 78 | 11 |
| Volume Right | 0 | 56 | 0 | 0 | 11 | 22 | 33 |
| cSH | 1069 | 1700 | 932 | 1700 | 1700 | 166 | 462 |
| Volume to Capacity | 0.01 | 0.39 | 0.04 | 0.28 | 0.01 | 0.64 | 0.11 |
| Queue Length 95th (ft) | 0 | 0 | 3 | 0 | 0 | 89 | 9 |
| Control Delay (s) | 8.4 | 0.0 | 9.0 | 0.0 | 0.0 | 58.6 | 18.1 |
| Lane LOS | A | | A | | | F | C |
| Approach Delay (s) | 0.1 | | 0.7 | | | 58.6 | 18.1 |
| Approach LOS | | | | | | F | C |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 5.5 | | |
| Intersection Capacity Utilization | 50.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 35 | 615 | 220 | 125 | 795 | 55 | 130 | 5 | 70 | 10 | 0 | 20 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.961 | | | | 0.850 | | 0.954 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.969 | | | 0.950 | |
| Satd. Flow (prot) | 1770 | 1790 | 0 | 1770 | 1863 | 1583 | 0 | 1722 | 0 | 0 | 1770 | 1583 |
| Flt Permitted | 0.950 | | | 0.950 | | | | 0.969 | | | 0.950 | |
| Satd. Flow (perm) | 1770 | 1790 | 0 | 1770 | 1863 | 1583 | 0 | 1722 | 0 | 0 | 1770 | 1583 |
| Adj. Flow (vph) | 39 | 683 | 244 | 139 | 883 | 61 | 144 | 6 | 78 | 11 | 0 | 22 |
| Lane Group Flow (vph) | 39 | 927 | 0 | 139 | 883 | 61 | 0 | 228 | 0 | 0 | 11 | 22 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 81.1% | ICU Level of Service D | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 35 | 615 | 220 | 125 | 795 | 55 | 130 | 5 | 70 | 10 | 0 | 20 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 39 | 683 | 244 | 139 | 883 | 61 | 144 | 6 | 78 | 11 | 0 | 22 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | 4 |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 944 | | | 928 | | | 2056 | 2106 | 806 | 2003 | 2167 | 883 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 944 | | | 928 | | | 2056 | 2106 | 806 | 2003 | 2167 | 883 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 95 | | | 81 | | | 0 | 86 | 80 | 57 | 100 | 94 |
| cM capacity (veh/h) | 726 | | | 737 | | | 31 | 39 | 382 | 26 | 36 | 345 |

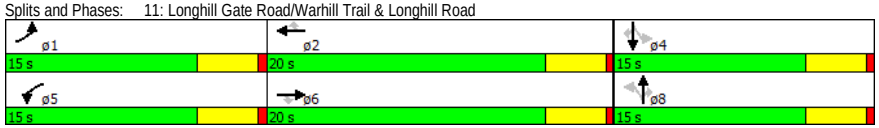
| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | WB 3 | NB 1 | SB 1 |
|---|---|---|---|---|---|---|---|
| Volume Total | 39 | 928 | 139 | 883 | 61 | 228 | 33 |
| Volume Left | 39 | 0 | 139 | 0 | 0 | 144 | 11 |
| Volume Right | 0 | 244 | 0 | 0 | 61 | 78 | 22 |
| cSH | 726 | 1700 | 737 | 1700 | 1700 | 46 | 78 |
| Volume to Capacity | 0.05 | 0.55 | 0.19 | 0.52 | 0.04 | 4.96 | 0.43 |
| Queue Length 95th (ft) | 4 | 0 | 17 | 0 | 0 | Err | 43 |
| Control Delay (s) | 10.2 | 0.0 | 11.0 | 0.0 | 0.0 | Err | 84.8 |
| Lane LOS | B | | B | | | F | F |
| Approach Delay (s) | 0.4 | | 1.4 | | | Err | 84.8 |
| Approach LOS | | | | | | F | F |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 987.5 | | |
| Intersection Capacity Utilization | 81.1% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 540 | 50 | 35 | 435 | 10 | 70 | 5 | 20 | 10 | 5 | 30 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.955 | | | 0.967 | |
| Satd. Flow (prot) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 0 | 1779 | 1583 | 0 | 1801 | 1583 |
| Flt Permitted | 0.950 | | | 0.950 | | | | 0.731 | | | 0.753 | |
| Satd. Flow (perm) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 0 | 1362 | 1583 | 0 | 1403 | 1583 |
| Satd. Flow (RTOR) | | | 109 | | | 109 | | | 109 | | | 109 |
| Adj. Flow (vph) | 5 | 587 | 54 | 38 | 473 | 11 | 76 | 5 | 22 | 11 | 5 | 33 |
| Lane Group Flow (vph) | 5 | 587 | 54 | 38 | 473 | 11 | 0 | 81 | 22 | 0 | 16 | 33 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | | 8 | | | 4 | |
| Permitted Phases | | | 6 | | | 2 | 8 | | 8 | 4 | | 4 |
| Total Split (s) | 15.0 | 20.0 | 20.0 | 15.0 | 20.0 | 20.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 |
| Act Effct Green (s) | 5.8 | 24.9 | 24.9 | 6.5 | 25.2 | 25.2 | | 7.8 | 7.8 | | 7.6 | 7.6 |
| Actuated g/C Ratio | 0.16 | 0.67 | 0.67 | 0.18 | 0.68 | 0.68 | | 0.21 | 0.21 | | 0.21 | 0.21 |
| v/c Ratio | 0.02 | 0.25 | 0.05 | 0.12 | 0.20 | 0.01 | | 0.28 | 0.05 | | 0.06 | 0.08 |
| Control Delay | 15.4 | 6.4 | 1.0 | 14.9 | 5.7 | 0.0 | | 15.2 | 0.2 | | 12.5 | 0.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | 15.4 | 6.4 | 1.0 | 14.9 | 5.7 | 0.0 | | 15.2 | 0.2 | | 12.5 | 0.4 |
| LOS | B | A | A | B | A | A | | B | A | | B | A |
| Approach Delay | | 6.0 | | | 6.3 | | | 12.0 | | | 4.3 | |
| Approach LOS | | A | | | A | | | B | | | A | |

| Intersection Summary | |
|---|---|
| Cycle Length: 50 | |
| Actuated Cycle Length: 36.9 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.28 | |
| Intersection Signal Delay: 6.5 | Intersection LOS: A |
| Intersection Capacity Utilization 39.1% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 11: Longhill Gate Road/Warhill Trail & Longhill Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 540 | 50 | 35 | 435 | 10 | 70 | 5 | 20 | 10 | 5 | 30 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 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 | 0.95 | 1.00 | 1.00 | 0.95 | 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 | 0.85 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.96 | 1.00 | | 0.97 | 1.00 |
| Satd. Flow (prot) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | | 1779 | 1583 | | 1801 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.73 | 1.00 | | 0.75 | 1.00 |
| Satd. Flow (perm) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | | 1362 | 1583 | | 1403 | 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) | 5 | 587 | 54 | 38 | 473 | 11 | 76 | 5 | 22 | 11 | 5 | 33 |
| RTOR Reduction (vph) | 0 | 0 | 24 | 0 | 0 | 5 | 0 | 0 | 19 | 0 | 0 | 29 |
| Lane Group Flow (vph) | 5 | 587 | 30 | 38 | 473 | 6 | 0 | 81 | 3 | 0 | 16 | 4 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | | 8 | | | 4 | |
| Permitted Phases | | | 6 | | | 2 | 8 | | 8 | 4 | | 4 |
| Actuated Green, G (s) | 1.0 | 23.2 | 23.2 | 1.3 | 23.5 | 23.5 | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Effective Green, g (s) | 1.0 | 23.2 | 23.2 | 1.3 | 23.5 | 23.5 | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Actuated g/C Ratio | 0.02 | 0.56 | 0.56 | 0.03 | 0.56 | 0.56 | | 0.13 | 0.13 | | 0.13 | 0.13 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 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 | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 42 | 1964 | 878 | 55 | 1989 | 889 | | 172 | 200 | | 177 | 200 |
| v/s Ratio Prot | 0.00 | c0.17 | | c0.02 | 0.13 | | | | | | | |
| v/s Ratio Perm | | | 0.02 | | | 0.00 | | c0.06 | 0.00 | | 0.01 | 0.00 |
| v/c Ratio | 0.12 | 0.30 | 0.03 | 0.69 | 0.24 | 0.01 | | 0.47 | 0.01 | | 0.09 | 0.02 |
| Uniform Delay, d1 | 20.0 | 5.0 | 4.2 | 20.1 | 4.6 | 4.0 | | 16.9 | 16.0 | | 16.1 | 16.0 |
| 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 | 1.3 | 0.4 | 0.1 | 31.3 | 0.3 | 0.0 | | 2.0 | 0.0 | | 0.2 | 0.0 |
| Delay (s) | 21.2 | 5.4 | 4.3 | 51.3 | 4.9 | 4.0 | | 19.0 | 16.0 | | 16.3 | 16.0 |
| Level of Service | C | A | A | D | A | A | | B | B | | B | B |
| Approach Delay (s) | | 5.4 | | | 8.3 | | | 18.3 | | | 16.1 | |
| Approach LOS | | A | | | A | | | B | | | B | |

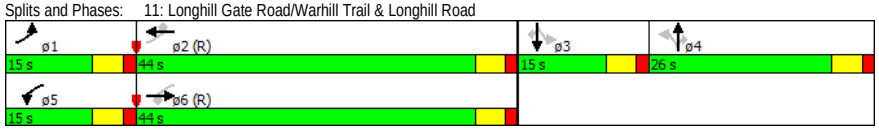
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 7.9 | HCM 2000 Level of Service | A |
| HCM 2000 Volume to Capacity ratio | 0.35 | | |
| Actuated Cycle Length (s) | 41.8 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 39.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 35 | 615 | 220 | 125 | 795 | 55 | 130 | 5 | 70 | 10 | 0 | 20 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.954 | | | 0.950 | |
| Satd. Flow (prot) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 0 | 1777 | 1583 | 0 | 1770 | 1583 |
| Flt Permitted | 0.267 | | | 0.344 | | | | 0.726 | | | 0.800 | |
| Satd. Flow (perm) | 497 | 3539 | 1583 | 641 | 3539 | 1583 | 0 | 1352 | 1583 | 0 | 1490 | 1583 |
| Satd. Flow (RTOR) | | | 239 | | | 131 | | | 131 | | | 131 |
| Adj. Flow (vph) | 38 | 668 | 239 | 136 | 864 | 60 | 141 | 5 | 76 | 11 | 0 | 22 |
| Lane Group Flow (vph) | 38 | 668 | 239 | 136 | 864 | 60 | 0 | 146 | 76 | 0 | 11 | 22 |
| Turn Type | D.P+P | NA | Perm | D.P+P | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | | 4 | | | 3 | |
| Permitted Phases | 2 | | 6 | 6 | | 2 | 4 | | 4 | 3 | | 3 |
| Total Split (s) | 15.0 | 44.0 | 44.0 | 15.0 | 44.0 | 44.0 | 26.0 | 26.0 | 26.0 | 15.0 | 15.0 | 15.0 |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 |
| Act Effct Green (s) | 63.3 | 53.0 | 53.0 | 61.3 | 59.1 | 59.1 | | 15.7 | 15.7 | | 7.2 | 7.2 |
| Actuated g/C Ratio | 0.63 | 0.53 | 0.53 | 0.61 | 0.59 | 0.59 | | 0.16 | 0.16 | | 0.07 | 0.07 |
| v/c Ratio | 0.10 | 0.36 | 0.25 | 0.28 | 0.41 | 0.06 | | 0.69 | 0.21 | | 0.10 | 0.09 |
| Control Delay | 9.6 | 16.8 | 3.4 | 13.0 | 17.2 | 2.8 | | 56.2 | 2.3 | | 44.1 | 0.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Delay | 9.6 | 16.8 | 3.4 | 13.0 | 17.2 | 2.8 | | 56.2 | 2.3 | | 44.1 | 0.8 |
| LOS | A | B | A | B | B | A | | E | A | | D | A |
| Approach Delay | | 13.1 | | | 15.8 | | | 37.7 | | | 15.2 | |
| Approach LOS | | B | | | B | | | D | | | B | |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBWB and 6:EBWB, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 16.8 — Intersection LOS: B
Intersection Capacity Utilization 51.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 11: Longhill Gate Road/Warhill Trail & Longhill Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 35 | 615 | 220 | 125 | 795 | 55 | 130 | 5 | 70 | 10 | 0 | 20 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 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 | 0.85 | | 1.00 | 0.85 |
| 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) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | | 1777 | 1583 | | 1770 | 1583 |
| Flt Permitted | 0.27 | 1.00 | 1.00 | 0.34 | 1.00 | 1.00 | | 0.73 | 1.00 | | 0.80 | 1.00 |
| Satd. Flow (perm) | 498 | 3539 | 1583 | 641 | 3539 | 1583 | | 1352 | 1583 | | 1490 | 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) | 38 | 668 | 239 | 136 | 864 | 60 | 141 | 5 | 76 | 11 | 0 | 22 |
| RTOR Reduction (vph) | 0 | 0 | 117 | 0 | 0 | 27 | 0 | 0 | 64 | 0 | 0 | 21 |
| Lane Group Flow (vph) | 38 | 668 | 122 | 136 | 864 | 33 | 0 | 146 | 12 | 0 | 11 | 1 |
| Turn Type | D.P+P | NA | Perm | D.P+P | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | | 4 | | | 3 | |
| Permitted Phases | 2 | | 6 | 6 | | 2 | 4 | | 4 | 3 | | 3 |
| Actuated Green, G (s) | 59.3 | 51.0 | 51.0 | 59.3 | 55.1 | 55.1 | | 15.7 | 15.7 | | 5.0 | 5.0 |
| Effective Green, g (s) | 59.3 | 51.0 | 51.0 | 59.3 | 55.1 | 55.1 | | 15.7 | 15.7 | | 5.0 | 5.0 |
| Actuated g/C Ratio | 0.59 | 0.51 | 0.51 | 0.59 | 0.55 | 0.55 | | 0.16 | 0.16 | | 0.05 | 0.05 |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 348 | 1804 | 807 | 473 | 1949 | 872 | | 212 | 248 | | 74 | 79 |
| v/s Ratio Prot | 0.00 | 0.19 | | c0.02 | c0.24 | | | | | | | |
| v/s Ratio Perm | 0.06 | | 0.08 | 0.15 | | 0.02 | | c0.11 | 0.01 | | c0.01 | 0.00 |
| v/c Ratio | 0.11 | 0.37 | 0.15 | 0.29 | 0.44 | 0.04 | | 0.69 | 0.05 | | 0.15 | 0.01 |
| Uniform Delay, d1 | 9.0 | 14.8 | 13.0 | 9.3 | 13.3 | 10.3 | | 39.8 | 35.8 | | 45.5 | 45.2 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.33 | 1.12 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.1 | 0.6 | 0.4 | 0.3 | 0.7 | 0.1 | | 9.0 | 0.1 | | 0.9 | 0.1 |
| Delay (s) | 9.2 | 15.4 | 13.4 | 12.6 | 15.6 | 10.4 | | 48.8 | 35.9 | | 46.4 | 45.2 |
| Level of Service | A | B | B | B | B | B | | D | D | | D | D |
| Approach Delay (s) | | 14.6 | | | 14.9 | | | 44.4 | | | 45.6 | |
| Approach LOS | | B | | | B | | | D | | | D | |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 18.1 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.47 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 20.0 |
| Intersection Capacity Utilization | 51.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

# Intersection M

## Ford's Colony Drive and Longhill Road

## Intersection LOS Analysis

## AM/PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 2 | 254 | 36 | 112 | 239 | 3 | 64 | 0 | 120 | 1 | 0 | 1 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.979 | | | | 0.850 | | 0.919 | | | 0.932 | |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.980 | | | 0.976 | |
| Satd. Flow (prot) | 1770 | 1824 | 0 | 1770 | 1863 | 1583 | 0 | 1678 | 0 | 0 | 1694 | 0 |
| Flt Permitted | 0.950 | | | 0.950 | | | | 0.980 | | | 0.976 | |
| Satd. Flow (perm) | 1770 | 1824 | 0 | 1770 | 1863 | 1583 | 0 | 1678 | 0 | 0 | 1694 | 0 |
| Adj. Flow (vph) | 4 | 292 | 48 | 160 | 295 | 8 | 91 | 0 | 136 | 4 | 0 | 4 |
| Lane Group Flow (vph) | 4 | 340 | 0 | 160 | 295 | 8 | 0 | 227 | 0 | 0 | 8 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 44.1% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 2 | 254 | 36 | 112 | 239 | 3 | 64 | 0 | 120 | 1 | 0 | 1 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.50 | 0.87 | 0.75 | 0.70 | 0.81 | 0.38 | 0.70 | 0.25 | 0.88 | 0.25 | 0.25 | 0.25 |
| Hourly flow rate (vph) | 4 | 292 | 48 | 160 | 295 | 8 | 91 | 0 | 136 | 4 | 0 | 4 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 303 | | | 340 | | | 943 | 947 | 316 | 1051 | 963 | 295 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 303 | | | 340 | | | 943 | 947 | 316 | 1051 | 963 | 295 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 100 | | | 87 | | | 58 | 100 | 81 | 97 | 100 | 99 |
| cM capacity (veh/h) | 1258 | | | 1219 | | | 216 | 226 | 725 | 149 | 221 | 744 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | WB 3 | NB 1 | SB 1 |
|---|---|---|---|---|---|---|---|
| Volume Total | 4 | 340 | 160 | 295 | 8 | 228 | 8 |
| Volume Left | 4 | 0 | 160 | 0 | 0 | 91 | 4 |
| Volume Right | 0 | 48 | 0 | 0 | 8 | 136 | 4 |
| cSH | 1258 | 1700 | 1219 | 1700 | 1700 | 373 | 248 |
| Volume to Capacity | 0.00 | 0.20 | 0.13 | 0.17 | 0.00 | 0.61 | 0.03 |
| Queue Length 95th (ft) | 0 | 0 | 11 | 0 | 0 | 97 | 2 |
| Control Delay (s) | 7.9 | 0.0 | 8.4 | 0.0 | 0.0 | 28.7 | 20.0 |
| Lane LOS | A | | A | | | D | C |
| Approach Delay (s) | 0.1 | | 2.9 | | | 28.7 | 20.0 |
| Approach LOS | | | | | | D | C |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 7.7 | | |
| Intersection Capacity Utilization | 44.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1 | 375 | 47 | 146 | 349 | 1 | 32 | 0 | 139 | 5 | 0 | 3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.982 | | | | 0.850 | | 0.895 | | | 0.973 | |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.989 | | | 0.962 | |
| Satd. Flow (prot) | 1770 | 1829 | 0 | 1770 | 1863 | 1583 | 0 | 1649 | 0 | 0 | 1744 | 0 |
| Flt Permitted | 0.950 | | | 0.950 | | | | 0.989 | | | 0.962 | |
| Satd. Flow (perm) | 1770 | 1829 | 0 | 1770 | 1863 | 1583 | 0 | 1649 | 0 | 0 | 1744 | 0 |
| Adj. Flow (vph) | 4 | 469 | 64 | 164 | 379 | 4 | 48 | 0 | 167 | 16 | 0 | 4 |
| Lane Group Flow (vph) | 4 | 533 | 0 | 164 | 379 | 4 | 0 | 215 | 0 | 0 | 20 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 50.9% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 1 | 375 | 47 | 146 | 349 | 1 | 32 | 0 | 139 | 5 | 0 | 3 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.25 | 0.80 | 0.73 | 0.89 | 0.92 | 0.25 | 0.67 | 0.25 | 0.83 | 0.31 | 0.25 | 0.75 |
| Hourly flow rate (vph) | 4 | 469 | 64 | 164 | 379 | 4 | 48 | 0 | 167 | 16 | 0 | 4 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 383 | | | 533 | | | 1220 | 1220 | 501 | 1352 | 1249 | 379 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 383 | | | 533 | | | 1220 | 1220 | 501 | 1352 | 1249 | 379 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 100 | | | 84 | | | 65 | 100 | 71 | 80 | 100 | 99 |
| cM capacity (veh/h) | 1175 | | | 1035 | | | 137 | 151 | 570 | 79 | 145 | 668 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | WB 3 | NB 1 | SB 1 |
|---|---|---|---|---|---|---|---|
| Volume Total | 4 | 533 | 164 | 379 | 4 | 215 | 20 |
| Volume Left | 4 | 0 | 164 | 0 | 0 | 48 | 16 |
| Volume Right | 0 | 64 | 0 | 0 | 4 | 167 | 4 |
| cSH | 1175 | 1700 | 1035 | 1700 | 1700 | 334 | 95 |
| Volume to Capacity | 0.00 | 0.31 | 0.16 | 0.22 | 0.00 | 0.64 | 0.21 |
| Queue Length 95th (ft) | 0 | 0 | 14 | 0 | 0 | 106 | 19 |
| Control Delay (s) | 8.1 | 0.0 | 9.1 | 0.0 | 0.0 | 33.3 | 52.5 |
| Lane LOS | A | | A | | | D | F |
| Approach Delay (s) | 0.1 | | 2.7 | | | 33.3 | 52.5 |
| Approach LOS | | | | | | D | F |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 7.4 | | |
| Intersection Capacity Utilization | 50.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 455 | 40 | 145 | 385 | 5 | 75 | 0 | 135 | 5 | 0 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 105 | | 0 | 150 | | 95 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 1 | 0 | | 0 | 0 | | 0 |
| Taper Length (ft) | 155 | | | 110 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.988 | | | | 0.850 | | 0.913 | | | 0.932 | |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.983 | | | 0.976 | |
| Satd. Flow (prot) | 1770 | 1840 | 0 | 1770 | 1863 | 1583 | 0 | 1672 | 0 | 0 | 1694 | 0 |
| Flt Permitted | 0.950 | | | 0.950 | | | | 0.983 | | | 0.976 | |
| Satd. Flow (perm) | 1770 | 1840 | 0 | 1770 | 1863 | 1583 | 0 | 1672 | 0 | 0 | 1694 | 0 |
| Link Speed (mph) | | 45 | | | 45 | | | 25 | | | 25 | |
| Link Distance (ft) | | 2164 | | | 1448 | | | 757 | | | 349 | |
| Travel Time (s) | | 32.8 | | | 21.9 | | | 20.6 | | | 9.5 | |
| Adj. Flow (vph) | 6 | 506 | 44 | 161 | 428 | 6 | 83 | 0 | 150 | 6 | 0 | 6 |
| Lane Group Flow (vph) | 6 | 550 | 0 | 161 | 428 | 6 | 0 | 233 | 0 | 0 | 12 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 58.5% | | ICU Level of Service B | |
| Analysis Period (min) 15 | | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 5 | 455 | 40 | 145 | 385 | 5 | 75 | 0 | 135 | 5 | 0 | 5 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 6 | 506 | 44 | 161 | 428 | 6 | 83 | 0 | 150 | 6 | 0 | 6 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 433 | | | 550 | | | 1294 | 1294 | 528 | 1417 | 1311 | 428 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 433 | | | 550 | | | 1294 | 1294 | 528 | 1417 | 1311 | 428 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 100 | | | 84 | | | 31 | 100 | 73 | 92 | 100 | 99 |
| cM capacity (veh/h) | 1126 | | | 1020 | | | 121 | 136 | 550 | 73 | 133 | 627 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | WB 3 | NB 1 | SB 1 |
|---|---|---|---|---|---|---|---|
| Volume Total | 6 | 550 | 161 | 428 | 6 | 233 | 11 |
| Volume Left | 6 | 0 | 161 | 0 | 0 | 83 | 6 |
| Volume Right | 0 | 44 | 0 | 0 | 6 | 150 | 6 |
| cSH | 1126 | 1700 | 1020 | 1700 | 1700 | 243 | 131 |
| Volume to Capacity | 0.00 | 0.32 | 0.16 | 0.25 | 0.00 | 0.96 | 0.08 |
| Queue Length 95th (ft) | 0 | 0 | 14 | 0 | 0 | 220 | 7 |
| Control Delay (s) | 8.2 | 0.0 | 9.2 | 0.0 | 0.0 | 91.7 | 35.0 |
| Lane LOS | A | | A | | | F | E |
| Approach Delay (s) | 0.1 | | 2.5 | | | 91.7 | 35.0 |
| Approach LOS | | | | | | F | E |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 16.7 | | |
| Intersection Capacity Utilization | 58.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 695 | 75 | 185 | 755 | 5 | 40 | 0 | 165 | 10 | 0 | 5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.985 | | | | 0.850 | | 0.891 | | | 0.952 | |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.990 | | | 0.969 | |
| Satd. Flow (prot) | 1770 | 1835 | 0 | 1770 | 1863 | 1583 | 0 | 1643 | 0 | 0 | 1718 | 0 |
| Flt Permitted | 0.950 | | | 0.950 | | | | 0.990 | | | 0.969 | |
| Satd. Flow (perm) | 1770 | 1835 | 0 | 1770 | 1863 | 1583 | 0 | 1643 | 0 | 0 | 1718 | 0 |
| Adj. Flow (vph) | 6 | 772 | 83 | 206 | 839 | 6 | 44 | 0 | 183 | 11 | 0 | 6 |
| Lane Group Flow (vph) | 6 | 855 | 0 | 206 | 839 | 6 | 0 | 227 | 0 | 0 | 17 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 73.6% | ICU Level of Service D | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 5 | 695 | 75 | 185 | 755 | 5 | 40 | 0 | 165 | 10 | 0 | 5 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 6 | 772 | 83 | 206 | 839 | 6 | 44 | 0 | 183 | 11 | 0 | 6 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 844 | | | 856 | | | 2081 | 2081 | 814 | 2217 | 2117 | 839 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 844 | | | 856 | | | 2081 | 2081 | 814 | 2217 | 2117 | 839 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 99 | | | 74 | | | 0 | 100 | 51 | 13 | 100 | 98 |
| cM capacity (veh/h) | 792 | | | 784 | | | 31 | 39 | 378 | 13 | 37 | 366 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | WB 3 | NB 1 | SB 1 |
|---|---|---|---|---|---|---|---|
| Volume Total | 6 | 856 | 206 | 839 | 6 | 228 | 17 |
| Volume Left | 6 | 0 | 206 | 0 | 0 | 44 | 11 |
| Volume Right | 0 | 83 | 0 | 0 | 6 | 183 | 6 |
| cSH | 792 | 1700 | 784 | 1700 | 1700 | 117 | 19 |
| Volume to Capacity | 0.01 | 0.50 | 0.26 | 0.49 | 0.00 | 1.94 | 0.89 |
| Queue Length 95th (ft) | 1 | 0 | 26 | 0 | 0 | 461 | 59 |
| Control Delay (s) | 9.6 | 0.0 | 11.2 | 0.0 | 0.0 | 514.5 | 447.9 |
| Lane LOS | A | | B | | | F | F |
| Approach Delay (s) | 0.1 | | 2.2 | | | 514.5 | 447.9 |
| Approach LOS | | | | | | F | F |

| Intersection Summary | | |
|---|---|---|
| Average Delay | 58.9 | |
| Intersection Capacity Utilization | 73.6% | ICU Level of Service D |
| Analysis Period (min) | 15 | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 455 | 40 | 145 | 385 | 5 | 75 | 0 | 135 | 5 | 0 | 5 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.932 | |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.950 | | | 0.976 | |
| Satd. Flow (prot) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 0 | 1770 | 1583 | 0 | 1694 | 0 |
| Flt Permitted | 0.950 | | | 0.950 | | | | 0.950 | | | 0.976 | |
| Satd. Flow (perm) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 0 | 1770 | 1583 | 0 | 1694 | 0 |
| Adj. Flow (vph) | 5 | 495 | 43 | 158 | 418 | 5 | 82 | 0 | 147 | 5 | 0 | 5 |
| Lane Group Flow (vph) | 5 | 495 | 43 | 158 | 418 | 5 | 0 | 82 | 147 | 0 | 10 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 37.9% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 5 | 455 | 40 | 145 | 385 | 5 | 75 | 0 | 135 | 5 | 0 | 5 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 5 | 495 | 43 | 158 | 418 | 5 | 82 | 0 | 147 | 5 | 0 | 5 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 424 | | | 538 | | | 1035 | 1245 | 247 | 1139 | 1283 | 209 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 424 | | | 538 | | | 1035 | 1245 | 247 | 1139 | 1283 | 209 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 100 | | | 85 | | | 50 | 100 | 81 | 95 | 100 | 99 |
| cM capacity (veh/h) | 1132 | | | 1026 | | | 162 | 146 | 753 | 111 | 138 | 797 |

| Direction, Lane # | EB 1 | EB 2 | EB 3 | EB 4 | WB 1 | WB 2 | WB 3 | WB 4 | NB 1 | NB 2 | SB 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 5 | 247 | 247 | 43 | 158 | 209 | 209 | 5 | 82 | 147 | 11 |
| Volume Left | 5 | 0 | 0 | 0 | 158 | 0 | 0 | 0 | 82 | 0 | 5 |
| Volume Right | 0 | 0 | 0 | 43 | 0 | 0 | 0 | 5 | 0 | 147 | 5 |
| cSH | 1132 | 1700 | 1700 | 1700 | 1026 | 1700 | 1700 | 1700 | 162 | 753 | 194 |
| Volume to Capacity | 0.00 | 0.15 | 0.15 | 0.03 | 0.15 | 0.12 | 0.12 | 0.00 | 0.50 | 0.19 | 0.06 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 61 | 18 | 4 |
| Control Delay (s) | 8.2 | 0.0 | 0.0 | 0.0 | 9.1 | 0.0 | 0.0 | 0.0 | 47.7 | 10.9 | 24.6 |
| Lane LOS | A | | | | A | | | | E | B | C |
| Approach Delay (s) | 0.1 | | | | 2.5 | | | | 24.1 | | 24.6 |
| Approach LOS | | | | | | | | | C | | C |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 5.3 | | |
| Intersection Capacity Utilization | 37.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 695 | 75 | 185 | 755 | 5 | 40 | 0 | 165 | 10 | 0 | 5 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.958 | |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.950 | | | 0.967 | |
| Satd. Flow (prot) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 0 | 1770 | 1583 | 0 | 1726 | 0 |
| Flt Permitted | 0.950 | | | 0.950 | | | | 0.950 | | | 0.967 | |
| Satd. Flow (perm) | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 | 0 | 1770 | 1583 | 0 | 1726 | 0 |
| Adj. Flow (vph) | 5 | 755 | 82 | 201 | 821 | 5 | 43 | 0 | 179 | 11 | 0 | 5 |
| Lane Group Flow (vph) | 5 | 755 | 82 | 201 | 821 | 5 | 0 | 43 | 179 | 0 | 16 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 47.0% | ICU Level of Service A | |
| Analysis Period (min) 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 5 | 695 | 75 | 185 | 755 | 5 | 40 | 0 | 165 | 10 | 0 | 5 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 5 | 755 | 82 | 201 | 821 | 5 | 43 | 0 | 179 | 11 | 0 | 5 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 826 | | | 837 | | | 1584 | 1995 | 378 | 1791 | 2071 | 410 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 826 | | | 837 | | | 1584 | 1995 | 378 | 1791 | 2071 | 410 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 99 | | | 75 | | | 25 | 100 | 71 | 62 | 100 | 99 |
| cM capacity (veh/h) | 800 | | | 793 | | | 58 | 44 | 620 | 29 | 40 | 590 |

| Direction, Lane # | EB 1 | EB 2 | EB 3 | EB 4 | WB 1 | WB 2 | WB 3 | WB 4 | NB 1 | NB 2 | SB 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume Total | 5 | 378 | 378 | 82 | 201 | 410 | 410 | 5 | 43 | 179 | 16 |
| Volume Left | 5 | 0 | 0 | 0 | 201 | 0 | 0 | 0 | 43 | 0 | 11 |
| Volume Right | 0 | 0 | 0 | 82 | 0 | 0 | 0 | 5 | 0 | 179 | 5 |
| cSH | 800 | 1700 | 1700 | 1700 | 793 | 1700 | 1700 | 1700 | 58 | 620 | 42 |
| Volume to Capacity | 0.01 | 0.22 | 0.22 | 0.05 | 0.25 | 0.24 | 0.24 | 0.00 | 0.75 | 0.29 | 0.38 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 81 | 30 | 33 |
| Control Delay (s) | 9.5 | 0.0 | 0.0 | 0.0 | 11.1 | 0.0 | 0.0 | 0.0 | 167.2 | 13.2 | 135.4 |
| Lane LOS | A | | | | B | | | | F | B | F |
| Approach Delay (s) | 0.1 | | | | 2.2 | | | | 43.2 | | 135.4 |
| Approach LOS | | | | | | | | | E | | F |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 6.7 | | |
| Intersection Capacity Utilization | 47.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

# Intersection N

## Centerville Road and Longhill Road

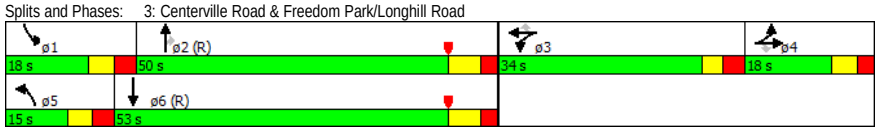
## Intersection LOS Analysis

## AM/PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 2 | 1 | 90 | 4 | 194 | 1 | 256 | 75 | 178 | 198 | 2 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.998 | |
| Flt Protected | | | | | 0.954 | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 1863 | 1583 | 0 | 1777 | 1583 | 1770 | 1863 | 1583 | 1770 | 1859 | 0 |
| Flt Permitted | | | | | 0.954 | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 0 | 1863 | 1583 | 0 | 1777 | 1583 | 1770 | 1863 | 1583 | 1770 | 1859 | 0 |
| Satd. Flow (RTOR) | | | 150 | | | 298 | | | 141 | | 1 | |
| Adj. Flow (vph) | 0 | 8 | 4 | 205 | 8 | 298 | 4 | 376 | 100 | 220 | 244 | 4 |
| Lane Group Flow (vph) | 0 | 8 | 4 | 0 | 213 | 298 | 4 | 376 | 100 | 220 | 248 | 0 |
| Turn Type | | NA | Perm | Split | NA | Perm | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | 2 | | | |
| Total Split (s) | 18.0 | 18.0 | 18.0 | 34.0 | 34.0 | 34.0 | 15.0 | 50.0 | 50.0 | 18.0 | 53.0 | |
| Total Lost Time (s) | | 6.0 | 6.0 | | 6.0 | 6.0 | 6.5 | 7.0 | 7.0 | 6.5 | 7.0 | |
| Act Effct Green (s) | | 7.1 | 7.1 | | 20.6 | 20.6 | 5.9 | 49.9 | 49.9 | 24.6 | 78.4 | |
| Actuated g/C Ratio | | 0.06 | 0.06 | | 0.17 | 0.17 | 0.05 | 0.42 | 0.42 | 0.20 | 0.65 | |
| v/c Ratio | | 0.07 | 0.02 | | 0.70 | 0.58 | 0.05 | 0.49 | 0.13 | 0.61 | 0.20 | |
| Control Delay | | 54.5 | 0.0 | | 58.4 | 9.1 | 55.0 | 29.5 | 1.8 | 53.3 | 12.2 | |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | | 54.5 | 0.0 | | 58.4 | 9.1 | 55.0 | 29.5 | 1.8 | 53.3 | 12.2 | |
| LOS | | D | A | | E | A | D | C | A | D | B | |
| Approach Delay | | 36.3 | | | 29.6 | | | 24.0 | | | 31.5 | |
| Approach LOS | | D | | | C | | | C | | | C | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.70 | |
| Intersection Signal Delay: 28.5 | Intersection LOS: C |
| Intersection Capacity Utilization 51.4% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 3: Centerville Road & Freedom Park/Longhill Road







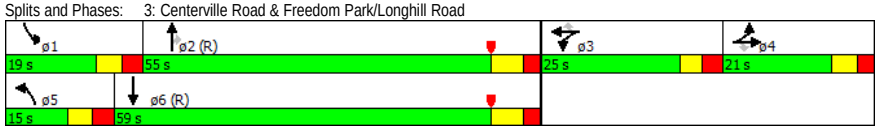

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 2 | 1 | 90 | 4 | 194 | 1 | 256 | 75 | 178 | 198 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.0 | 6.0 | | 6.0 | 6.0 | 6.5 | 7.0 | 7.0 | 6.5 | 7.0 | |
| Lane Util. Factor | | 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 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1863 | 1583 | | 1777 | 1583 | 1770 | 1863 | 1583 | 1770 | 1858 | |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1863 | 1583 | | 1777 | 1583 | 1770 | 1863 | 1583 | 1770 | 1858 | |
| Peak-hour factor, PHF | 0.25 | 0.25 | 0.25 | 0.44 | 0.50 | 0.65 | 0.25 | 0.68 | 0.75 | 0.81 | 0.81 | 0.50 |
| Adj. Flow (vph) | 0 | 8 | 4 | 205 | 8 | 298 | 4 | 376 | 100 | 220 | 244 | 4 |
| RTOR Reduction (vph) | 0 | 0 | 4 | 0 | 0 | 247 | 0 | 0 | 61 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 8 | 0 | 0 | 213 | 51 | 4 | 376 | 39 | 220 | 248 | 0 |
| Turn Type | | NA | Perm | Split | NA | Perm | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | 2 | | | |
| Actuated Green, G (s) | | 2.9 | 2.9 | | 20.6 | 20.6 | 1.3 | 46.4 | 46.4 | 24.6 | 69.7 | |
| Effective Green, g (s) | | 2.9 | 2.9 | | 20.6 | 20.6 | 1.3 | 46.4 | 46.4 | 24.6 | 69.7 | |
| Actuated g/C Ratio | | 0.02 | 0.02 | | 0.17 | 0.17 | 0.01 | 0.39 | 0.39 | 0.21 | 0.58 | |
| Clearance Time (s) | | 6.0 | 6.0 | | 6.0 | 6.0 | 6.5 | 7.0 | 7.0 | 6.5 | 7.0 | |
| Vehicle Extension (s) | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | |
| Lane Grp Cap (vph) | | 45 | 38 | | 305 | 271 | 19 | 720 | 612 | 362 | 1079 | |
| v/s Ratio Prot | | c0.00 | | | c0.12 | | 0.00 | c0.20 | | c0.12 | 0.13 | |
| v/s Ratio Perm | | | 0.00 | | | 0.03 | | | 0.02 | | | |
| v/c Ratio | | 0.18 | 0.00 | | 0.70 | 0.19 | 0.21 | 0.52 | 0.06 | 0.61 | 0.23 | |
| Uniform Delay, d1 | | 57.4 | 57.1 | | 46.8 | 42.5 | 58.8 | 28.3 | 23.1 | 43.3 | 12.2 | |
| 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 | | 7.1 | 0.4 | 5.5 | 2.7 | 0.2 | 2.9 | 0.5 | |
| Delay (s) | | 59.6 | 57.2 | | 53.8 | 42.9 | 64.3 | 31.0 | 23.3 | 46.2 | 12.7 | |
| Level of Service | | E | E | | D | D | E | C | C | D | B | |
| Approach Delay (s) | | 58.8 | | | 47.5 | | | 29.7 | | | 28.4 | |
| Approach LOS | | E | | | D | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 35.7 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.57 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 25.5 |
| Intersection Capacity Utilization | 51.4% | 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 | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 6 | 8 | 4 | 89 | 7 | 232 | 3 | 228 | 155 | 275 | 194 | 1 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.997 | |
| Flt Protected | | 0.976 | | | 0.957 | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 1818 | 1583 | 0 | 1783 | 1583 | 1770 | 1863 | 1583 | 1770 | 1857 | 0 |
| Flt Permitted | | 0.976 | | | 0.957 | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 0 | 1818 | 1583 | 0 | 1783 | 1583 | 1770 | 1863 | 1583 | 1770 | 1857 | 0 |
| Satd. Flow (RTOR) | | | 150 | | | 261 | | | 225 | | 1 | |
| Adj. Flow (vph) | 12 | 12 | 8 | 103 | 12 | 261 | 4 | 285 | 225 | 320 | 220 | 4 |
| Lane Group Flow (vph) | 0 | 24 | 8 | 0 | 115 | 261 | 4 | 285 | 225 | 320 | 224 | 0 |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | 2 | | | |
| Total Split (s) | 21.0 | 21.0 | 21.0 | 25.0 | 25.0 | 25.0 | 15.0 | 55.0 | 55.0 | 19.0 | 59.0 | |
| Total Lost Time (s) | | 6.0 | 6.0 | | 6.0 | 6.0 | 6.5 | 7.0 | 7.0 | 6.5 | 7.0 | |
| Act Effct Green (s) | | 7.9 | 7.9 | | 13.6 | 13.6 | 5.9 | 48.0 | 48.0 | 30.2 | 82.0 | |
| Actuated g/C Ratio | | 0.07 | 0.07 | | 0.11 | 0.11 | 0.05 | 0.40 | 0.40 | 0.25 | 0.68 | |
| v/c Ratio | | 0.20 | 0.03 | | 0.57 | 0.64 | 0.05 | 0.38 | 0.29 | 0.72 | 0.18 | |
| Control Delay | | 56.6 | 0.2 | | 60.8 | 13.0 | 55.3 | 27.4 | 4.0 | 54.0 | 10.1 | |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | | 56.6 | 0.2 | | 60.8 | 13.0 | 55.3 | 27.4 | 4.0 | 54.0 | 10.1 | |
| LOS | | E | A | | E | B | E | C | A | D | B | |
| Approach Delay | | 42.5 | | | 27.6 | | | 17.4 | | | 35.9 | |
| Approach LOS | | D | | | C | | | B | | | D | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.72 | |
| Intersection Signal Delay: 27.4 | Intersection LOS: C |
| Intersection Capacity Utilization 55.5% | ICU Level of Service B |
| Analysis Period (min) 15 | |

Splits and Phases: 3: Centerville Road & Freedom Park/Longhill Road







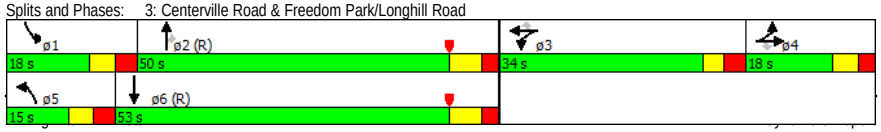

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 6 | 8 | 4 | 89 | 7 | 232 | 3 | 228 | 155 | 275 | 194 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.0 | 6.0 | | 6.0 | 6.0 | 6.5 | 7.0 | 7.0 | 6.5 | 7.0 | |
| Lane Util. Factor | | 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 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | | 0.98 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1817 | 1583 | | 1783 | 1583 | 1770 | 1863 | 1583 | 1770 | 1858 | |
| Flt Permitted | | 0.98 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1817 | 1583 | | 1783 | 1583 | 1770 | 1863 | 1583 | 1770 | 1858 | |
| Peak-hour factor, PHF | 0.50 | 0.67 | 0.50 | 0.86 | 0.58 | 0.89 | 0.75 | 0.80 | 0.69 | 0.86 | 0.88 | 0.25 |
| Adj. Flow (vph) | 12 | 12 | 8 | 103 | 12 | 261 | 4 | 285 | 225 | 320 | 220 | 4 |
| RTOR Reduction (vph) | 0 | 0 | 8 | 0 | 0 | 231 | 0 | 0 | 140 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 24 | 0 | 0 | 115 | 30 | 4 | 285 | 86 | 320 | 224 | 0 |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | 2 | | | |
| Actuated Green, G (s) | | 5.1 | 5.1 | | 13.6 | 13.6 | 1.3 | 45.6 | 45.6 | 30.2 | 74.5 | |
| Effective Green, g (s) | | 5.1 | 5.1 | | 13.6 | 13.6 | 1.3 | 45.6 | 45.6 | 30.2 | 74.5 | |
| Actuated g/C Ratio | | 0.04 | 0.04 | | 0.11 | 0.11 | 0.01 | 0.38 | 0.38 | 0.25 | 0.62 | |
| Clearance Time (s) | | 6.0 | 6.0 | | 6.0 | 6.0 | 6.5 | 7.0 | 7.0 | 6.5 | 7.0 | |
| Vehicle Extension (s) | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | |
| Lane Grp Cap (vph) | | 77 | 67 | | 202 | 179 | 19 | 707 | 601 | 445 | 1153 | |
| v/s Ratio Prot | | c0.01 | | | c0.06 | | 0.00 | c0.15 | | c0.18 | 0.12 | |
| v/s Ratio Perm | | | 0.00 | | | 0.02 | | | 0.05 | | | |
| v/c Ratio | | 0.31 | 0.01 | | 0.57 | 0.17 | 0.21 | 0.40 | 0.14 | 0.72 | 0.19 | |
| Uniform Delay, d1 | | 55.7 | 55.0 | | 50.4 | 48.1 | 58.8 | 27.2 | 24.4 | 41.0 | 9.8 | |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 2.7 | 0.0 | | 4.0 | 0.5 | 5.5 | 1.7 | 0.5 | 5.5 | 0.4 | |
| Delay (s) | | 58.5 | 55.1 | | 54.4 | 48.6 | 64.3 | 28.9 | 24.9 | 46.5 | 10.2 | |
| Level of Service | | E | E | | D | D | E | C | C | D | B | |
| Approach Delay (s) | | 57.6 | | | 50.4 | | | 27.4 | | | 31.6 | |
| Approach LOS | | E | | | D | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 35.5 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.52 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 25.5 |
| Intersection Capacity Utilization | 55.5% | 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 | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 5 | 5 | 145 | 10 | 305 | 5 | 390 | 115 | 370 | 300 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 115 | 0 | | 210 | 200 | | 125 | 250 | | 0 |
| Storage Lanes | 0 | | 1 | 0 | | 1 | 1 | | 1 | 1 | | 0 |
| Taper Length (ft) | 25 | | | 25 | | | 205 | | | 200 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.997 | |
| Flt Protected | | | | | 0.955 | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 1863 | 1583 | 0 | 1779 | 1583 | 1770 | 1863 | 1583 | 1770 | 1857 | 0 |
| Flt Permitted | | | | | 0.955 | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 0 | 1863 | 1583 | 0 | 1779 | 1583 | 1770 | 1863 | 1583 | 1770 | 1857 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 150 | | | 339 | | | 141 | | 1 | |
| Link Speed (mph) | | 25 | | | 45 | | | 45 | | | 45 | |
| Link Distance (ft) | | 417 | | | 2069 | | | 587 | | | 746 | |
| Travel Time (s) | | 11.4 | | | 31.3 | | | 8.9 | | | 11.3 | |
| Adj. Flow (vph) | 0 | 6 | 6 | 161 | 11 | 339 | 6 | 433 | 128 | 411 | 333 | 6 |
| Lane Group Flow (vph) | 0 | 6 | 6 | 0 | 172 | 339 | 6 | 433 | 128 | 411 | 339 | 0 |
| Turn Type | | NA | Perm | Split | NA | Perm | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | 2 | | | |
| Total Split (s) | 18.0 | 18.0 | 18.0 | 34.0 | 34.0 | 34.0 | 15.0 | 50.0 | 50.0 | 18.0 | 53.0 | |
| Total Lost Time (s) | | 6.0 | 6.0 | | 6.0 | 6.0 | 6.5 | 7.0 | 7.0 | 6.5 | 7.0 | |
| Act Effct Green (s) | | 7.1 | 7.1 | | 18.0 | 18.0 | 6.0 | 43.0 | 43.0 | 34.2 | 81.0 | |
| Actuated g/C Ratio | | 0.06 | 0.06 | | 0.15 | 0.15 | 0.05 | 0.36 | 0.36 | 0.28 | 0.68 | |
| v/c Ratio | | 0.06 | 0.03 | | 0.65 | 0.65 | 0.07 | 0.65 | 0.19 | 0.82 | 0.27 | |
| Control Delay | | 54.4 | 0.2 | | 58.6 | 10.6 | 55.6 | 37.7 | 4.1 | 55.9 | 11.6 | |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | | 54.4 | 0.2 | | 58.6 | 10.6 | 55.6 | 37.7 | 4.1 | 55.9 | 11.6 | |
| LOS | | D | A | | E | B | E | D | A | E | B | |
| Approach Delay | | 27.3 | | | 26.7 | | | 30.3 | | | 35.9 | |
| Approach LOS | | C | | | C | | | C | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.82 | | | |
| Intersection Signal Delay: 31.6 | | Intersection LOS: C | |
| Intersection Capacity Utilization 72.5% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 3: Centerville Road & Freedom Park/Longhill Road







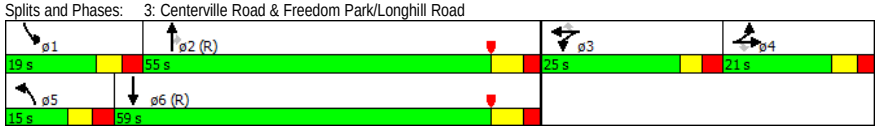

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 5 | 5 | 145 | 10 | 305 | 5 | 390 | 115 | 370 | 300 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.0 | 6.0 | | 6.0 | 6.0 | 6.5 | 7.0 | 7.0 | 6.5 | 7.0 | |
| Lane Util. Factor | | 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 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | | 1.00 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1863 | 1583 | | 1779 | 1583 | 1770 | 1863 | 1583 | 1770 | 1858 | |
| Flt Permitted | | 1.00 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1863 | 1583 | | 1779 | 1583 | 1770 | 1863 | 1583 | 1770 | 1858 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 6 | 6 | 161 | 11 | 339 | 6 | 433 | 128 | 411 | 333 | 6 |
| RTOR Reduction (vph) | 0 | 0 | 6 | 0 | 0 | 288 | 0 | 0 | 86 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 6 | 0 | 0 | 172 | 51 | 6 | 433 | 42 | 411 | 339 | 0 |
| Turn Type | | NA | Perm | Split | NA | Perm | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | 2 | | | |
| Actuated Green, G (s) | | 2.9 | 2.9 | | 18.0 | 18.0 | 1.4 | 39.4 | 39.4 | 34.2 | 72.2 | |
| Effective Green, g (s) | | 2.9 | 2.9 | | 18.0 | 18.0 | 1.4 | 39.4 | 39.4 | 34.2 | 72.2 | |
| Actuated g/C Ratio | | 0.02 | 0.02 | | 0.15 | 0.15 | 0.01 | 0.33 | 0.33 | 0.29 | 0.60 | |
| Clearance Time (s) | | 6.0 | 6.0 | | 6.0 | 6.0 | 6.5 | 7.0 | 7.0 | 6.5 | 7.0 | |
| Vehicle Extension (s) | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | |
| Lane Grp Cap (vph) | | 45 | 38 | | 266 | 237 | 20 | 611 | 519 | 504 | 1117 | |
| v/s Ratio Prot | | c0.00 | | | c0.10 | | 0.00 | c0.23 | | c0.23 | 0.18 | |
| v/s Ratio Perm | | | 0.00 | | | 0.03 | | | 0.03 | | | |
| v/c Ratio | | 0.13 | 0.00 | | 0.65 | 0.21 | 0.30 | 0.71 | 0.08 | 0.82 | 0.30 | |
| Uniform Delay, d1 | | 57.3 | 57.1 | | 48.0 | 44.8 | 58.8 | 35.3 | 27.8 | 40.0 | 11.6 | |
| 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 | | 5.6 | 0.5 | 8.3 | 6.8 | 0.3 | 9.8 | 0.7 | |
| Delay (s) | | 58.9 | 57.2 | | 53.6 | 45.3 | 67.1 | 42.1 | 28.1 | 49.8 | 12.3 | |
| Level of Service | | E | E | | D | D | E | D | C | D | B | |
| Approach Delay (s) | | 58.1 | | | 48.1 | | | 39.2 | | | 32.9 | |
| Approach LOS | | E | | | D | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 39.2 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 25.5 |
| Intersection Capacity Utilization | 72.5% | 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 | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 10 | 25 | 10 | 195 | 25 | 395 | 5 | 350 | 245 | 420 | 295 | 5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.997 | |
| Flt Protected | | 0.986 | | | 0.958 | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 1837 | 1583 | 0 | 1785 | 1583 | 1770 | 1863 | 1583 | 1770 | 1857 | 0 |
| Flt Permitted | | 0.986 | | | 0.958 | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 0 | 1837 | 1583 | 0 | 1785 | 1583 | 1770 | 1863 | 1583 | 1770 | 1857 | 0 |
| Satd. Flow (RTOR) | | | 150 | | | 439 | | | 210 | | 1 | |
| Adj. Flow (vph) | 11 | 28 | 11 | 217 | 28 | 439 | 6 | 389 | 272 | 467 | 328 | 6 |
| Lane Group Flow (vph) | 0 | 39 | 11 | 0 | 245 | 439 | 6 | 389 | 272 | 467 | 334 | 0 |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | 2 | | | |
| Total Split (s) | 21.0 | 21.0 | 21.0 | 25.0 | 25.0 | 25.0 | 15.0 | 55.0 | 55.0 | 19.0 | 59.0 | |
| Total Lost Time (s) | | 6.0 | 6.0 | | 6.0 | 6.0 | 6.5 | 7.0 | 7.0 | 6.5 | 7.0 | |
| Act Effct Green (s) | | 8.7 | 8.7 | | 18.5 | 18.5 | 6.0 | 48.0 | 48.0 | 21.9 | 73.7 | |
| Actuated g/C Ratio | | 0.07 | 0.07 | | 0.15 | 0.15 | 0.05 | 0.40 | 0.40 | 0.18 | 0.61 | |
| v/c Ratio | | 0.29 | 0.04 | | 0.89 | 0.71 | 0.07 | 0.52 | 0.36 | 1.45 | 0.29 | |
| Control Delay | | 57.9 | 0.3 | | 82.5 | 11.4 | 55.6 | 30.4 | 7.7 | 255.1 | 13.8 | |
| Queue Delay | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | | 57.9 | 0.3 | | 82.5 | 11.4 | 55.6 | 30.4 | 7.7 | 255.1 | 13.8 | |
| LOS | | E | A | | F | B | E | C | A | F | B | |
| Approach Delay | | 45.2 | | | 36.9 | | | 21.4 | | | 154.5 | |
| Approach LOS | | D | | | D | | | C | | | F | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 1.45 | |
| Intersection Signal Delay: 75.1 | Intersection LOS: E |
| Intersection Capacity Utilization 76.7% | ICU Level of Service D |
| Analysis Period (min) 15 | |

Splits and Phases: 3: Centerville Road & Freedom Park/Longhill Road







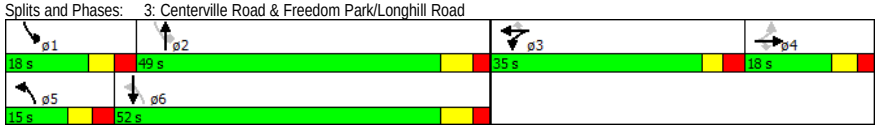

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 10 | 25 | 10 | 195 | 25 | 395 | 5 | 350 | 245 | 420 | 295 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.0 | 6.0 | | 6.0 | 6.0 | 6.5 | 7.0 | 7.0 | 6.5 | 7.0 | |
| Lane Util. Factor | | 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 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | | 0.99 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1837 | 1583 | | 1784 | 1583 | 1770 | 1863 | 1583 | 1770 | 1858 | |
| Flt Permitted | | 0.99 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1837 | 1583 | | 1784 | 1583 | 1770 | 1863 | 1583 | 1770 | 1858 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 11 | 28 | 11 | 217 | 28 | 439 | 6 | 389 | 272 | 467 | 328 | 6 |
| RTOR Reduction (vph) | 0 | 0 | 10 | 0 | 0 | 371 | 0 | 0 | 128 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 39 | 1 | 0 | 245 | 68 | 6 | 389 | 144 | 467 | 334 | 0 |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | 2 | | | |
| Actuated Green, G (s) | | 7.3 | 7.3 | | 18.5 | 18.5 | 1.4 | 46.8 | 46.8 | 21.9 | 67.3 | |
| Effective Green, g (s) | | 7.3 | 7.3 | | 18.5 | 18.5 | 1.4 | 46.8 | 46.8 | 21.9 | 67.3 | |
| Actuated g/C Ratio | | 0.06 | 0.06 | | 0.15 | 0.15 | 0.01 | 0.39 | 0.39 | 0.18 | 0.56 | |
| Clearance Time (s) | | 6.0 | 6.0 | | 6.0 | 6.0 | 6.5 | 7.0 | 7.0 | 6.5 | 7.0 | |
| Vehicle Extension (s) | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | |
| Lane Grp Cap (vph) | | 111 | 96 | | 275 | 244 | 20 | 726 | 617 | 323 | 1042 | |
| v/s Ratio Prot | | c0.02 | | | c0.14 | | 0.00 | c0.21 | | c0.26 | 0.18 | |
| v/s Ratio Perm | | | 0.00 | | | 0.04 | | | 0.09 | | | |
| v/c Ratio | | 0.35 | 0.01 | | 0.89 | 0.28 | 0.30 | 0.54 | 0.23 | 1.45 | 0.32 | |
| Uniform Delay, d1 | | 54.1 | 52.9 | | 49.8 | 44.8 | 58.8 | 28.2 | 24.6 | 49.0 | 14.1 | |
| 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 | | 28.5 | 0.7 | 8.3 | 2.8 | 0.9 | 217.3 | 0.8 | |
| Delay (s) | | 56.3 | 53.0 | | 78.3 | 45.6 | 67.1 | 31.0 | 25.4 | 266.4 | 14.9 | |
| Level of Service | | E | D | | E | D | E | C | C | F | B | |
| Approach Delay (s) | | 55.6 | | | 57.3 | | | 29.1 | | | 161.5 | |
| Approach LOS | | E | | | E | | | C | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 86.6 | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | 0.80 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 25.5 |
| Intersection Capacity Utilization | 76.7% | 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 | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 5 | 5 | 145 | 10 | 305 | 5 | 390 | 115 | 370 | 300 | 5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.998 | |
| Flt Protected | | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1863 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1859 | 0 |
| Flt Permitted | | | | 0.950 | | | 0.537 | | | 0.416 | | |
| Satd. Flow (perm) | 1863 | 1863 | 1583 | 1770 | 1863 | 1583 | 1000 | 1863 | 1583 | 775 | 1859 | 0 |
| Satd. Flow (RTOR) | | | 150 | | | 332 | | | 141 | | 1 | |
| Adj. Flow (vph) | 0 | 5 | 5 | 158 | 11 | 332 | 5 | 424 | 125 | 402 | 326 | 5 |
| Lane Group Flow (vph) | 0 | 5 | 5 | 158 | 11 | 332 | 5 | 424 | 125 | 402 | 331 | 0 |
| Turn Type | Perm | NA | Perm | Split | NA | Perm | D.P+P | NA | Perm | D.P+P | NA | |
| Protected Phases | | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | | | 3 | 6 | | 2 | 2 | | |
| Total Split (s) | 18.0 | 18.0 | 18.0 | 35.0 | 35.0 | 35.0 | 15.0 | 49.0 | 49.0 | 18.0 | 52.0 | |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.5 | 7.0 | 7.0 | 6.5 | 7.0 | |
| Act Effct Green (s) | | 7.1 | 7.1 | 14.4 | 14.4 | 14.4 | 60.0 | 42.4 | 42.4 | 54.5 | 58.5 | |
| Actuated g/C Ratio | | 0.08 | 0.08 | 0.16 | 0.16 | 0.16 | 0.66 | 0.47 | 0.47 | 0.60 | 0.65 | |
| v/c Ratio | | 0.03 | 0.02 | 0.56 | 0.04 | 0.62 | 0.01 | 0.49 | 0.15 | 0.68 | 0.27 | |
| Control Delay | | 44.0 | 0.2 | 43.4 | 32.9 | 9.8 | 8.2 | 20.7 | 3.2 | 16.8 | 10.6 | |
| Queue Delay | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | | 44.0 | 0.2 | 43.4 | 32.9 | 9.8 | 8.2 | 20.7 | 3.2 | 16.8 | 10.6 | |
| LOS | | D | A | D | C | A | A | C | A | B | B | |
| Approach Delay | | 22.1 | | | 20.9 | | | 16.6 | | | 14.0 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 90.3 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.68 | |
| Intersection Signal Delay: 16.8 | Intersection LOS: B |
| Intersection Capacity Utilization 72.0% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 3: Centerville Road & Freedom Park/Longhill Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 5 | 5 | 145 | 10 | 305 | 5 | 390 | 115 | 370 | 300 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.5 | 7.0 | 7.0 | 6.5 | 7.0 | |
| Lane Util. Factor | | 1.00 | 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 | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1859 | |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.54 | 1.00 | 1.00 | 0.42 | 1.00 | |
| Satd. Flow (perm) | | 1863 | 1583 | 1770 | 1863 | 1583 | 1000 | 1863 | 1583 | 774 | 1859 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 5 | 5 | 158 | 11 | 332 | 5 | 424 | 125 | 402 | 326 | 5 |
| RTOR Reduction (vph) | 0 | 0 | 5 | 0 | 0 | 284 | 0 | 0 | 65 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 5 | 0 | 158 | 11 | 48 | 5 | 424 | 60 | 402 | 331 | 0 |
| Turn Type | Perm | NA | Perm | Split | NA | Perm | D.P+P | NA | Perm | D.P+P | NA | |
| Protected Phases | | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | | | 3 | 6 | | 2 | 2 | | |
| Actuated Green, G (s) | | 1.2 | 1.2 | 14.4 | 14.4 | 14.4 | 59.5 | 47.9 | 47.9 | 59.5 | 58.5 | |
| Effective Green, g (s) | | 1.2 | 1.2 | 14.4 | 14.4 | 14.4 | 59.5 | 47.9 | 47.9 | 59.5 | 58.5 | |
| Actuated g/C Ratio | | 0.01 | 0.01 | 0.14 | 0.14 | 0.14 | 0.59 | 0.48 | 0.48 | 0.59 | 0.58 | |
| Clearance Time (s) | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.5 | 7.0 | 7.0 | 6.5 | 7.0 | |
| Vehicle Extension (s) | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | |
| Lane Grp Cap (vph) | | 22 | 18 | 253 | 266 | 226 | 599 | 887 | 753 | 572 | 1081 | |
| v/s Ratio Prot | | c0.00 | | c0.09 | 0.01 | | 0.00 | 0.23 | | c0.08 | 0.18 | |
| v/s Ratio Perm | | | 0.00 | | | 0.03 | 0.00 | | 0.04 | c0.33 | | |
| v/c Ratio | | 0.23 | 0.00 | 0.62 | 0.04 | 0.21 | 0.01 | 0.48 | 0.08 | 0.70 | 0.31 | |
| Uniform Delay, d1 | | 49.2 | 49.1 | 40.6 | 37.2 | 38.1 | 8.5 | 17.9 | 14.3 | 11.9 | 10.7 | |
| 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 | | 6.1 | 0.1 | 5.0 | 0.1 | 0.6 | 0.0 | 1.8 | 0.2 | 3.9 | 0.7 | |
| Delay (s) | | 55.4 | 49.2 | 45.5 | 37.2 | 38.6 | 8.5 | 19.7 | 14.5 | 15.8 | 11.4 | |
| Level of Service | | E | D | D | D | D | A | B | B | B | B | |
| Approach Delay (s) | | 52.3 | | | 40.8 | | | 18.4 | | | 13.8 | |
| Approach LOS | | D | | | D | | | B | | | B | |

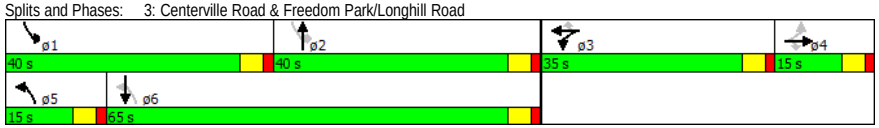
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 23.0 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.68 | | |
| Actuated Cycle Length (s) | 100.6 | Sum of lost time (s) | 25.5 |
| Intersection Capacity Utilization | 72.0% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 10 | 25 | 10 | 195 | 25 | 395 | 5 | 350 | 245 | 420 | 295 | 5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.998 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1859 | 0 |
| Flt Permitted | 0.870 | | | 0.950 | | | 0.521 | | | 0.380 | | |
| Satd. Flow (perm) | 1621 | 1863 | 1583 | 1770 | 1863 | 1583 | 970 | 1863 | 1583 | 708 | 1859 | 0 |
| Satd. Flow (RTOR) | | | 143 | | | 429 | | | 239 | | 1 | |
| Adj. Flow (vph) | 11 | 27 | 11 | 212 | 27 | 429 | 5 | 380 | 266 | 457 | 321 | 5 |
| Lane Group Flow (vph) | 11 | 27 | 11 | 212 | 27 | 429 | 5 | 380 | 266 | 457 | 326 | 0 |
| Turn Type | Perm | NA | Perm | Split | NA | Perm | D.P+P | NA | Perm | D.P+P | NA | |
| Protected Phases | | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | | | 3 | 6 | | 2 | 2 | | |
| Total Split (s) | 15.0 | 15.0 | 15.0 | 35.0 | 35.0 | 35.0 | 15.0 | 40.0 | 40.0 | 40.0 | 65.0 | |
| Total Lost Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Act Effct Green (s) | 8.1 | 8.1 | 8.1 | 19.5 | 19.5 | 19.5 | 66.7 | 39.7 | 39.7 | 62.3 | 65.7 | |
| Actuated g/C Ratio | 0.08 | 0.08 | 0.08 | 0.19 | 0.19 | 0.19 | 0.64 | 0.38 | 0.38 | 0.60 | 0.63 | |
| v/c Ratio | 0.09 | 0.19 | 0.04 | 0.64 | 0.08 | 0.67 | 0.01 | 0.54 | 0.36 | 0.70 | 0.28 | |
| Control Delay | 54.8 | 55.4 | 0.3 | 50.4 | 38.5 | 9.5 | 10.8 | 35.1 | 7.8 | 18.1 | 12.8 | |
| 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 | 54.8 | 55.4 | 0.3 | 50.4 | 38.5 | 9.5 | 10.8 | 35.1 | 7.8 | 18.1 | 12.8 | |
| LOS | D | E | A | D | D | A | B | D | A | B | B | |
| Approach Delay | | 42.9 | | | 23.6 | | | 23.7 | | | 15.9 | |
| Approach LOS | | D | | | C | | | C | | | B | |

**Intersection Summary**

Cycle Length: 130
Actuated Cycle Length: 104.6
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 21.3 — Intersection LOS: C
Intersection Capacity Utilization 71.7% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Centerville Road & Freedom Park/Longhill Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 10 | 25 | 10 | 195 | 25 | 395 | 5 | 350 | 245 | 420 | 295 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 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 | 1.00 | |
| 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) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1858 | |
| Flt Permitted | 0.87 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.52 | 1.00 | 1.00 | 0.38 | 1.00 | |
| Satd. Flow (perm) | 1620 | 1863 | 1583 | 1770 | 1863 | 1583 | 970 | 1863 | 1583 | 708 | 1858 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 11 | 27 | 11 | 212 | 27 | 429 | 5 | 380 | 266 | 457 | 321 | 5 |
| RTOR Reduction (vph) | 0 | 0 | 11 | 0 | 0 | 353 | 0 | 0 | 144 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 11 | 27 | 0 | 212 | 27 | 76 | 5 | 380 | 122 | 457 | 326 | 0 |
| Turn Type | Perm | NA | Perm | Split | NA | Perm | D.P+P | NA | Perm | D.P+P | NA | |
| Protected Phases | | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | | | 3 | 6 | | 2 | 2 | | |
| Actuated Green, G (s) | 4.6 | 4.6 | 4.6 | 19.5 | 19.5 | 19.5 | 66.7 | 44.1 | 44.1 | 66.7 | 65.7 | |
| Effective Green, g (s) | 4.6 | 4.6 | 4.6 | 19.5 | 19.5 | 19.5 | 66.7 | 44.1 | 44.1 | 66.7 | 65.7 | |
| Actuated g/C Ratio | 0.04 | 0.04 | 0.04 | 0.18 | 0.18 | 0.18 | 0.60 | 0.40 | 0.40 | 0.60 | 0.59 | |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | |
| Lane Grp Cap (vph) | 67 | 77 | 65 | 311 | 327 | 278 | 591 | 741 | 630 | 642 | 1101 | |
| v/s Ratio Prot | | c0.01 | | c0.12 | 0.01 | | 0.00 | 0.20 | | c0.15 | 0.18 | |
| v/s Ratio Perm | 0.01 | | 0.00 | | | 0.05 | 0.01 | | 0.08 | c0.28 | | |
| v/c Ratio | 0.16 | 0.35 | 0.01 | 0.68 | 0.08 | 0.27 | 0.01 | 0.51 | 0.19 | 0.71 | 0.30 | |
| Uniform Delay, d1 | 51.2 | 51.6 | 50.9 | 42.7 | 38.2 | 39.5 | 8.9 | 25.2 | 21.8 | 13.2 | 11.1 | |
| 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 | 1.4 | 3.2 | 0.1 | 6.3 | 0.1 | 0.6 | 0.0 | 2.5 | 0.7 | 3.7 | 0.7 | |
| Delay (s) | 52.6 | 54.9 | 51.0 | 49.0 | 38.3 | 40.1 | 8.9 | 27.8 | 22.4 | 16.9 | 11.8 | |
| Level of Service | D | D | D | D | D | D | A | C | C | B | B | |
| Approach Delay (s) | | 53.5 | | | 42.9 | | | 25.4 | | | 14.8 | |
| Approach LOS | | D | | | D | | | C | | | B | |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 27.6 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.69 | | |
| Actuated Cycle Length (s) | 110.8 | Sum of lost time (s) | 20.0 |
| Intersection Capacity Utilization | 71.7% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

# Arterial LOS Analysis

## Longhill Road

## AM/PM Peak Hour

## Arterial Level of Service: EB Longhill Road

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Devon Road | II | 45 | 125.9 | 25.0 | 150.9 | 1.58 | 37.6 | A |
| Williamsburg W Drive | II | 45 | 38.2 | 128.0 | 166.2 | 0.41 | 8.8 | F |
| Humelsine Parkway WB | II | 45 | 25.8 | 12.7 | 38.5 | 0.25 | 23.2 | C |
| Humelsine Parkway WB | II | 45 | 12.0 | 14.7 | 26.7 | 0.11 | 14.8 | E |
| Total | II | | 201.9 | 180.4 | 382.3 | 2.34 | 22.0 | C |

## Arterial Level of Service: WB Longhill Road

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Humelsine Parkway WB | II | 45 | 27.1 | 5.2 | 32.3 | 0.26 | 29.0 | B |
| Humelsine Parkway EB | II | 45 | 12.0 | 5.9 | 17.9 | 0.11 | 22.1 | C |
| Lane Pl Drive | II | 45 | 25.8 | 20.0 | 45.8 | 0.25 | 19.5 | D |
| Olde Towne Road | II | 45 | 38.2 | 70.8 | 109.0 | 0.41 | 13.4 | E |
| Centerville Road | II | 45 | 159.6 | 58.4 | 218.0 | 2.00 | 33.0 | B |
| Total | II | | 262.7 | 160.3 | 423.0 | 3.02 | 25.7 | C |

## Arterial Level of Service: EB Longhill Road

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Devon Road | II | 45 | 125.9 | 52.2 | 178.1 | 1.58 | 31.9 | B |
| Williamsburg W Drive | II | 45 | 38.2 | 115.1 | 153.3 | 0.41 | 9.5 | F |
| Humelsine Parkway WB | II | 45 | 25.8 | 13.4 | 39.2 | 0.25 | 22.8 | C |
| Humelsine Parkway WB | II | 45 | 12.0 | 21.9 | 33.9 | 0.11 | 11.6 | F |
| Total | II | | 201.9 | 202.6 | 404.5 | 2.34 | 20.8 | D |

## Arterial Level of Service: WB Longhill Road

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Humelsine Parkway WB | II | 45 | 27.1 | 9.4 | 36.5 | 0.26 | 25.7 | C |
| Humelsine Parkway EB | II | 45 | 12.0 | 7.4 | 19.4 | 0.11 | 20.3 | D |
| Lane Pl Drive | II | 45 | 25.8 | 335.1 | 360.9 | 0.25 | 2.5 | F |
| Olde Towne Road | II | 45 | 38.2 | 204.3 | 242.5 | 0.41 | 6.0 | F |
| Centerville Road | II | 45 | 159.6 | 60.8 | 220.4 | 2.00 | 32.7 | B |
| Total | II | | 262.7 | 617.0 | 879.7 | 3.02 | 12.4 | F |

## Arterial Level of Service: EB Longhill Road

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Devon Road | II | 45 | 125.9 | 25.2 | 151.1 | 1.58 | 37.6 | A |
| Williamsburg W Drive | II | 45 | 38.2 | 188.8 | 227.0 | 0.41 | 6.4 | F |
| Humelsine Parkway WB | II | 45 | 25.8 | 14.9 | 40.7 | 0.25 | 21.9 | D |
| Humelsine Parkway WB | II | 45 | 12.0 | 15.6 | 27.6 | 0.11 | 14.3 | E |
| Total | II | | 201.9 | 244.5 | 446.4 | 2.34 | 18.9 | D |

## Arterial Level of Service: WB Longhill Road

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Humelsine Parkway WB | II | 45 | 27.1 | 5.4 | 32.5 | 0.26 | 28.8 | B |
| Humelsine Parkway EB | II | 45 | 12.0 | 6.1 | 18.1 | 0.11 | 21.8 | D |
| Lane Pl Drive | II | 45 | 25.8 | 24.1 | 49.9 | 0.25 | 17.9 | D |
| Olde Towne Road | II | 45 | 38.2 | 42.4 | 80.6 | 0.41 | 18.1 | D |
| Centerville Road | II | 45 | 159.6 | 58.6 | 218.2 | 2.00 | 33.0 | B |
| Total | II | | 262.7 | 136.6 | 399.3 | 3.02 | 27.3 | C |

## Arterial Level of Service: EB Longhill Road

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Devon Road | II | 45 | 125.9 | 149.7 | 275.6 | 1.58 | 20.6 | D |
| Williamsburg W Drive | II | 45 | 38.2 | 349.5 | 387.7 | 0.41 | 3.8 | F |
| Humelsine Parkway WB | II | 45 | 25.8 | 15.4 | 41.2 | 0.25 | 21.6 | D |
| Humelsine Parkway WB | II | 45 | 12.0 | 23.2 | 35.2 | 0.11 | 11.2 | F |
| Total | II | | 201.9 | 537.8 | 739.7 | 2.34 | 11.4 | F |

## Arterial Level of Service: WB Longhill Road

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Humelsine Parkway WB | II | 45 | 27.1 | 9.2 | 36.3 | 0.26 | 25.8 | C |
| Humelsine Parkway EB | II | 45 | 12.0 | 10.3 | 22.3 | 0.11 | 17.7 | D |
| Lane Pl Drive | II | 45 | 25.8 | 733.5 | 759.3 | 0.25 | 1.2 | F |
| Olde Towne Road | II | 45 | 38.2 | 528.9 | 567.1 | 0.41 | 2.6 | F |
| Centerville Road | II | 45 | 159.6 | 82.5 | 242.1 | 2.00 | 29.7 | B |
| Total | II | | 262.7 | 1364.4 | 1627.1 | 3.02 | 6.7 | F |

## Arterial Level of Service: EB Longhill Road

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Longhill Gate Road | II | 45 | 95.2 | 6.4 | 101.6 | 1.19 | 42.2 | A |
| Season's Trace | II | 45 | 39.7 | 10.0 | 49.7 | 0.44 | 31.6 | B |
| Devon Road | II | 45 | 61.9 | 11.6 | 73.5 | 0.78 | 38.0 | A |
| Williamsburg W Drive | II | 45 | 21.2 | 12.3 | 33.5 | 0.19 | 20.9 | D |
| Humelsine Parkway WB | II | 45 | 25.8 | 7.3 | 33.1 | 0.25 | 26.9 | C |
| Humelsine Parkway WB | II | 45 | 12.0 | 10.1 | 22.1 | 0.11 | 17.9 | D |
| Total | II | | 255.8 | 57.7 | 313.5 | 2.96 | 33.9 | B |

## Arterial Level of Service: WB Longhill Road

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Humelsine Parkway WB | II | 45 | 27.1 | 4.3 | 31.4 | 0.26 | 29.9 | B |
| Humelsine Parkway EB | II | 45 | 12.0 | 8.1 | 20.1 | 0.11 | 19.6 | D |
| Lane Pl Drive | II | 45 | 25.8 | 3.6 | 29.4 | 0.25 | 30.3 | B |
| Olde Towne Road | II | 45 | 23.0 | 20.2 | 43.2 | 0.21 | 17.6 | D |
| Season's Trace | II | 45 | 61.9 | 12.0 | 73.9 | 0.78 | 37.8 | A |
| Warhill Trail | II | 45 | 39.7 | 5.7 | 45.4 | 0.44 | 34.6 | B |
| Centerville Road | II | 45 | 95.2 | 32.9 | 128.1 | 1.19 | 33.5 | B |
| Total | II | | 284.7 | 86.8 | 371.5 | 3.23 | 31.3 | B |

## Arterial Level of Service: EB Longhill Road

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Longhill Gate Road | II | 45 | 95.2 | 16.8 | 112.0 | 1.19 | 38.3 | A |
| Season's Trace | II | 45 | 39.7 | 4.0 | 43.7 | 0.44 | 35.9 | A |
| Devon Road | II | 45 | 61.9 | 16.0 | 77.9 | 0.78 | 35.9 | A |
| Williamsburg W Drive | II | 45 | 21.2 | 29.0 | 50.2 | 0.19 | 14.0 | E |
| Humelsine Parkway WB | II | 45 | 25.8 | 3.3 | 29.1 | 0.25 | 30.6 | B |
| Humelsine Parkway WB | II | 45 | 12.0 | 17.6 | 29.6 | 0.11 | 13.3 | E |
| Total | II | | 255.8 | 86.7 | 342.5 | 2.96 | 31.1 | B |

## Arterial Level of Service: WB Longhill Road

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Humelsine Parkway WB | II | 45 | 27.1 | 15.4 | 42.5 | 0.26 | 22.1 | C |
| Humelsine Parkway EB | II | 45 | 12.0 | 16.6 | 28.6 | 0.11 | 13.8 | E |
| Lane Pl Drive | II | 45 | 25.8 | 17.5 | 43.3 | 0.25 | 20.6 | D |
| Olde Towne Road | II | 45 | 23.0 | 22.0 | 45.0 | 0.21 | 16.9 | E |
| Season's Trace | II | 45 | 61.9 | 7.9 | 69.8 | 0.78 | 40.0 | A |
| Warhill Trail | II | 45 | 39.7 | 17.2 | 56.9 | 0.44 | 27.6 | C |
| Centerville Road | II | 45 | 95.2 | 38.5 | 133.7 | 1.19 | 32.1 | B |
| Total | II | | 284.7 | 135.1 | 419.8 | 3.23 | 27.7 | C |