# LEVEL OF SERVICE CALCULATIONS

# Year 2035 EMLUMP Volumes with Baseline Road Network:

## AM Peak Hour

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.8 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Vol, veh/h | 128 | 251 | 982 | 0 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | Free | Free | Yield | Yield | None | None |
| Storage Length | 50 | 0 | | 0 | 0 | |
| Median Width | 15 | | 0 | | | 0 |
| Grade, % | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 136 | 267 | 1045 | 0 | 0 | 0 |
| Number of Lanes | 1 | 1 | 2 | 0 | 0 | 2 |

| Major/Minor | | | Major 1 | | Major 2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1045 | 522 | 0 | 0 | 1045 | 0 |
| Stage 1 | 1045 | - | - | - | - | - |
| Stage 2 | 0 | - | - | - | - | - |
| Follow-up Headway | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Capacity-1 Maneuver | 224 | 499 | - | - | 661 | - |
| Stage 1 | 300 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Time blocked-Platoon, % | 0 | 0 | - | - | 0 | - |
| Mov Capacity-1 Maneuver | 224 | 499 | - | - | 661 | - |
| Mov Capacity-2 Maneuver | 224 | - | - | - | - | - |
| Stage 1 | 300 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 28 | 0 | 0 |
| HCM LOS | D | - | - |

| Minor Lane / Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Cap, veh/h | - | - | 224 | 499 | 661 | - |
| HCM Control Delay, s | - | - | 43.2 | 20.2 | 0 | - |
| HCM Lane V/C Ratio | - | - | 0.61 | 0.54 | - | - |
| HCM Lane LOS | - | - | E | C | A | - |
| HCM 95th-tile Q, veh | - | - | 3.5 | 3.1 | 0.0 | - |

Notes

~ : Volume Exceeds Capacity; $ : Delay Exceeds 300 Seconds; Error : Computation Not Defined

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 84 | 150 | 99 | 80 | 493 | 367 | 255 | 677 | 78 | 162 | 444 | 170 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.98 | 1.00 | | 0.95 | 1.00 | | 0.94 |
| Parking Bus Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow veh/h/ln | 193.7 | 186.3 | 178.8 | 193.7 | 186.3 | 178.8 | 193.7 | 186.3 | 178.8 | 186.3 | 186.3 | 186.3 |
| Lanes | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 2 | 2 | 0 |
| Cap, veh/h | 118 | 1081 | 446 | 113 | 1072 | 452 | 283 | 1258 | 515 | 244 | 672 | 255 |
| Arrive On Green | 0.06 | 0.31 | 0.31 | 0.06 | 0.30 | 0.30 | 0.15 | 0.36 | 0.36 | 0.14 | 0.55 | 0.55 |
| Sat Flow, veh/h | 1845 | 3539 | 1458 | 1845 | 3539 | 1491 | 1845 | 3539 | 1448 | 3442 | 2461 | 935 |
| Grp Volume(v), veh/h | 92 | 165 | 109 | 88 | 542 | 403 | 280 | 744 | 86 | 178 | 350 | 325 |
| Grp Sat Flow(s),veh/h/ln | 1845 | 1770 | 1458 | 1845 | 1770 | 1491 | 1845 | 1770 | 1448 | 1721 | 1770 | 1626 |
| Q Serve(g_s), s | 4.7 | 3.2 | 5.3 | 4.5 | 12.0 | 24.6 | 14.4 | 16.3 | 3.9 | 4.7 | 14.1 | 14.4 |
| Cycle Q Clear(g_c), s | 4.7 | 3.2 | 5.3 | 4.5 | 12.0 | 24.6 | 14.4 | 16.3 | 3.9 | 4.7 | 14.1 | 14.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.57 |
| Lane Grp Cap(c), veh/h | 118 | 1081 | 446 | 113 | 1072 | 452 | 283 | 1258 | 515 | 244 | 483 | 444 |
| V/C Ratio(X) | 0.78 | 0.15 | 0.24 | 0.78 | 0.51 | 0.89 | 0.99 | 0.59 | 0.17 | 0.73 | 0.72 | 0.73 |
| Avail Cap(c_a), veh/h | 128 | 1152 | 475 | 130 | 1144 | 482 | 283 | 1258 | 515 | 365 | 526 | 483 |
| HCM Platoon Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 43.9 | 24.1 | 24.8 | 44.1 | 27.3 | 31.7 | 40.3 | 25.1 | 21.0 | 40.0 | 18.9 | 19.0 |
| Incr Delay (d2), s/veh | 21.5 | 0.1 | 0.3 | 19.0 | 0.3 | 17.6 | 50.7 | 2.0 | 0.7 | 1.6 | 9.1 | 10.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile Back of Q (50%), veh/ln | 2.9 | 1.4 | 1.9 | 2.7 | 5.3 | 11.3 | 10.7 | 7.5 | 1.5 | 2.0 | 5.9 | 5.6 |
| Lane Grp Delay (d), s/veh | 65.4 | 24.2 | 25.1 | 63.1 | 27.6 | 49.3 | 90.9 | 27.1 | 21.7 | 41.6 | 28.0 | 29.2 |
| Lane Grp LOS | E | C | C | E | C | D | F | C | C | D | C | C |
| Approach Vol, veh/h | | 366 | | | 1033 | | | 1110 | | | 853 | |
| Approach Delay, s/veh | | 34.8 | | | 39.1 | | | 42.8 | | | 31.3 | |
| Approach LOS | | C | | | D | | | D | | | C | |

| Timer | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Assigned Phs | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Phs Duration (G+Y+Rc), s | 10.5 | 34.3 | | 10.2 | 34.1 | | 19.0 | 39.6 | | 11.1 | 31.7 | |
| Change Period (Y+Rc), s | 4.4 | 5.2 | | 4.4 | 5.2 | | 4.4 | 5.7 | | 4.4 | 5.7 | |
| Max Green Setting (Gmax), s | 6.6 | 31.0 | | 6.7 | 30.8 | | 14.6 | 33.6 | | 10.1 | 28.3 | |
| Max Q Clear Time (g_c+I1), s | 6.7 | 7.3 | | 6.5 | 26.6 | | 16.4 | 18.3 | | 6.7 | 16.4 | |
| Green Ext Time (p_c), s | 0.0 | 6.1 | | 0.0 | 2.3 | | 0.0 | 8.0 | | 0.1 | 6.8 | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2010 Ctrl Delay | | 37.9 | |
| HCM 2010 LOS | | D | |

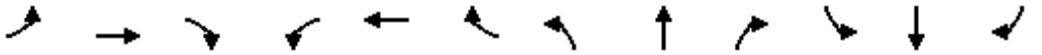
Notes

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 161 | 501 | 48 | 82 | 946 | 177 | 235 | 353 | 73 | 120 | 165 | 116 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 0.98 |
| Parking Bus Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow veh/h/ln | 178.8 | 186.3 | 193.7 | 193.7 | 186.3 | 178.8 | 186.3 | 186.3 | 193.7 | 178.8 | 186.3 | 186.3 |
| Lanes | 2 | 2 | 0 | 1 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 0 |
| Cap, veh/h | 269 | 1297 | 124 | 136 | 1387 | 579 | 408 | 1044 | 467 | 216 | 486 | 326 |
| Arrive On Green | 0.08 | 0.40 | 0.40 | 0.07 | 0.39 | 0.39 | 0.12 | 0.29 | 0.29 | 0.07 | 0.24 | 0.24 |
| Sat Flow, veh/h | 3304 | 3246 | 311 | 1845 | 3539 | 1476 | 3442 | 3539 | 1585 | 3304 | 2010 | 1346 |
| Grp Volume(v), veh/h | 215 | 364 | 368 | 109 | 1261 | 236 | 313 | 471 | 97 | 160 | 192 | 183 |
| Grp Sat Flow(s),veh/h/ln | 1652 | 1770 | 1787 | 1845 | 1770 | 1476 | 1721 | 1770 | 1585 | 1652 | 1770 | 1587 |
| Q Serve(g_s), s | 7.3 | 17.8 | 17.9 | 6.7 | 38.6 | 13.3 | 10.1 | 12.4 | 5.3 | 5.5 | 10.6 | 11.3 |
| Cycle Q Clear(g_c), s | 7.3 | 17.8 | 17.9 | 6.7 | 38.6 | 13.3 | 10.1 | 12.4 | 5.3 | 5.5 | 10.6 | 11.3 |
| Prop In Lane | 1.00 | | 0.17 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.85 |
| Lane Grp Cap(c), veh/h | 269 | 707 | 714 | 136 | 1387 | 579 | 408 | 1044 | 467 | 216 | 428 | 384 |
| V/C Ratio(X) | 0.80 | 0.51 | 0.52 | 0.80 | 0.91 | 0.41 | 0.77 | 0.45 | 0.21 | 0.74 | 0.45 | 0.48 |
| Avail Cap(c_a), veh/h | 276 | 707 | 714 | 251 | 1403 | 585 | 408 | 1064 | 476 | 325 | 509 | 456 |
| HCM Platoon Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 | 0.97 |
| Uniform Delay (d), s/veh | 51.8 | 26.0 | 26.1 | 52.3 | 33.0 | 25.3 | 49.1 | 32.9 | 30.4 | 52.7 | 37.0 | 37.3 |
| Incr Delay (d2), s/veh | 13.7 | 0.8 | 0.8 | 4.1 | 10.4 | 2.1 | 13.0 | 0.5 | 0.4 | 1.8 | 1.5 | 1.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile Back of Q (50%), veh/ln | 3.6 | 8.0 | 8.1 | 3.4 | 19.0 | 5.2 | 5.3 | 5.6 | 2.1 | 2.4 | 5.0 | 4.8 |
| Lane Grp Delay (d), s/veh | 65.5 | 26.8 | 26.8 | 56.4 | 43.3 | 27.4 | 62.0 | 33.4 | 30.7 | 54.5 | 38.5 | 39.1 |
| Lane Grp LOS | E | C | C | E | D | C | E | C | C | D | D | D |
| Approach Vol, veh/h | | 947 | | | 1606 | | | 881 | | | 535 | |
| Approach Delay, s/veh | | 35.6 | | | 41.9 | | | 43.3 | | | 43.5 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Assigned Phs | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Phs Duration (G+Y+Rc), s | 13.7 | 51.0 | | 12.9 | 50.1 | | 18.0 | 39.1 | | 11.9 | 33.0 | |
| Change Period (Y+Rc), s | 4.4 | 5.1 | | 4.4 | 5.1 | | 4.4 | 5.2 | | 4.4 | 5.2 | |
| Max Green Setting (Gmax), s | 9.6 | 39.7 | | 15.6 | 45.5 | | 13.6 | 34.5 | | 11.3 | 33.0 | |
| Max Q Clear Time (g_c+I1), s | 9.3 | 19.9 | | 8.7 | 40.6 | | 12.1 | 14.4 | | 7.5 | 13.3 | |
| Green Ext Time (p_c), s | 0.0 | 15.1 | | 0.1 | 4.4 | | 0.1 | 9.1 | | 0.1 | 9.0 | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2010 Ctrl Delay | | 40.9 | |
| HCM 2010 LOS | | D | |

Notes



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 89 | 510 | 86 | 87 | 1303 | 55 | 209 | 275 | 74 | 62 | 168 | 137 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.93 | 1.00 | | 0.99 |
| Parking Bus Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow veh/h/ln | 186.3 | 186.3 | 178.8 | 186.3 | 186.3 | 186.3 | 186.3 | 186.3 | 178.8 | 186.3 | 186.3 | 186.3 |
| Lanes | 1 | 2 | 1 | 1 | 3 | 0 | 1 | 2 | 1 | 1 | 2 | 0 |
| Cap, veh/h | 173 | 1279 | 541 | 159 | 1723 | 114 | 247 | 1024 | 410 | 175 | 462 | 373 |
| Arrive On Green | 0.10 | 0.36 | 0.36 | 0.09 | 0.35 | 0.35 | 0.14 | 0.29 | 0.29 | 0.10 | 0.25 | 0.25 |
| Sat Flow, veh/h | 1774 | 3539 | 1498 | 1774 | 4874 | 321 | 1774 | 3539 | 1416 | 1774 | 1856 | 1499 |
| Grp Volume(v), veh/h | 212 | 775 | 131 | 132 | 1374 | 736 | 317 | 654 | 112 | 148 | 381 | 345 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1498 | 1774 | 1695 | 1805 | 1774 | 1770 | 1416 | 1774 | 1770 | 1585 |
| Q Serve(g_s), s | 11.6 | 21.3 | 7.3 | 8.7 | 42.1 | 42.1 | 16.6 | 19.2 | 7.3 | 9.8 | 24.6 | 24.9 |
| Cycle Q Clear(g_c), s | 11.6 | 21.3 | 7.3 | 8.7 | 42.1 | 42.1 | 16.6 | 19.2 | 7.3 | 9.8 | 24.6 | 24.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.18 | 1.00 | | 1.00 | 1.00 | | 0.95 |
| Lane Grp Cap(c), veh/h | 173 | 1279 | 541 | 159 | 1198 | 638 | 247 | 1024 | 410 | 175 | 440 | 394 |
| V/C Ratio(X) | 1.23 | 0.61 | 0.24 | 0.83 | 1.15 | 1.15 | 1.28 | 0.64 | 0.27 | 0.85 | 0.87 | 0.87 |
| Avail Cap(c_a), veh/h | 173 | 1279 | 541 | 243 | 1198 | 638 | 247 | 1024 | 410 | 209 | 461 | 413 |
| HCM Platoon Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.8 | 31.1 | 26.6 | 53.4 | 38.5 | 38.5 | 51.3 | 36.9 | 32.7 | 52.8 | 42.9 | 43.0 |
| Incr Delay (d2), s/veh | 142.6 | 0.6 | 0.1 | 8.2 | 76.2 | 86.2 | 154.2 | 1.0 | 0.1 | 23.0 | 14.6 | 17.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile Back of Q (50%), veh/ln | 12.2 | 9.7 | 2.7 | 4.4 | 30.8 | 34.6 | 18.2 | 8.8 | 2.6 | 5.6 | 12.9 | 12.0 |
| Lane Grp Delay (d), s/veh | 196.3 | 31.7 | 26.7 | 61.5 | 114.7 | 124.7 | 205.5 | 37.9 | 32.8 | 75.8 | 57.4 | 60.0 |
| Lane Grp LOS | F | C | C | E | F | F | F | D | C | E | E | E |
| Approach Vol, veh/h | | 1118 | | | 2242 | | | 1083 | | | 874 | |
| Approach Delay, s/veh | | 62.3 | | | 114.9 | | | 86.5 | | | 61.6 | |
| Approach LOS | | E | | | F | | | F | | | E | |

| Timer | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Assigned Phs | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Phs Duration (G+Y+Rc), s | 16.0 | 48.4 | | 15.1 | 47.5 | | 21.0 | 39.5 | | 16.2 | 34.6 | |
| Change Period (Y+Rc), s | 4.4 | 5.4 | | 4.4 | 5.4 | | 4.4 | 5.0 | | 4.4 | 5.0 | |
| Max Green Setting (Gmax), s | 11.6 | 36.9 | | 16.3 | 42.1 | | 16.6 | 33.7 | | 14.0 | 31.0 | |
| Max Q Clear Time (g_c+I1), s | 13.6 | 23.3 | | 10.7 | 44.1 | | 18.6 | 21.2 | | 11.8 | 26.9 | |
| Green Ext Time (p_c), s | 0.0 | 11.8 | | 0.1 | 0.0 | | 0.0 | 5.3 | | 0.1 | 1.7 | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 2010 Ctrl Delay | | | 89.3 | | | | | | | | | |
| HCM 2010 LOS | | | F | | | | | | | | | |

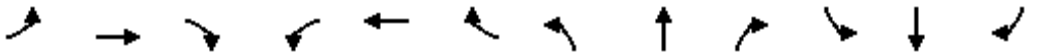
Notes

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 13 | 425 | 16 | 3 | 935 | 109 | 21 | 25 | 3 | 33 | 6 | 23 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 0.99 | | 0.97 | 0.98 | | 0.98 |
| Parking Bus Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow veh/h/ln | 186.3 | 193.7 | 178.8 | 186.3 | 193.7 | 178.8 | 186.3 | 186.3 | 186.3 | 186.3 | 186.3 | 186.3 |
| Lanes | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
| Cap, veh/h | 173 | 1374 | 1051 | 581 | 1350 | 1055 | 117 | 109 | 10 | 138 | 31 | 58 |
| Arrive On Green | 0.02 | 0.71 | 0.71 | 0.00 | 0.70 | 0.70 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1774 | 1937 | 1483 | 1774 | 1937 | 1513 | 509 | 1094 | 103 | 668 | 313 | 585 |
| Grp Volume(v), veh/h | 18 | 573 | 22 | 4 | 1261 | 147 | 66 | 0 | 0 | 83 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1937 | 1483 | 1774 | 1937 | 1513 | 1707 | 0 | 0 | 1566 | 0 | 0 |
| Q Serve(g_s), s | 0.2 | 9.4 | 0.3 | 0.1 | 43.5 | 2.5 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.2 | 9.4 | 0.3 | 0.1 | 43.5 | 2.5 | 2.6 | 0.0 | 0.0 | 3.6 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.42 | | 0.06 | 0.53 | | 0.37 |
| Lane Grp Cap(c), veh/h | 173 | 1374 | 1051 | 581 | 1350 | 1055 | 236 | 0 | 0 | 227 | 0 | 0 |
| V/C Ratio(X) | 0.10 | 0.42 | 0.02 | 0.01 | 0.93 | 0.14 | 0.28 | 0.00 | 0.00 | 0.37 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 236 | 1374 | 1051 | 666 | 1350 | 1055 | 656 | 0 | 0 | 612 | 0 | 0 |
| HCM Platoon Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 16.4 | 4.6 | 3.3 | 3.9 | 10.1 | 3.9 | 32.4 | 0.0 | 0.0 | 32.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.1 | 0.9 | 0.0 | 0.0 | 13.1 | 0.3 | 0.2 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile Back of Q (50%), veh/ln | 0.2 | 3.9 | 0.1 | 0.0 | 21.7 | 0.8 | 1.2 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 |
| Lane Grp Delay (d), s/veh | 16.5 | 5.6 | 3.3 | 3.9 | 23.3 | 4.2 | 32.6 | 0.0 | 0.0 | 33.1 | 0.0 | 0.0 |
| Lane Grp LOS | B | A | A | A | C | A | C | | | C | | |
| Approach Vol, veh/h | | 613 | | | 1412 | | | 66 | | | 83 | |
| Approach Delay, s/veh | | 5.8 | | | 21.2 | | | 32.6 | | | 33.1 | |
| Approach LOS | | A | | | C | | | C | | | C | |

| Timer | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Assigned Phs | 7 | 4 | | 3 | 8 | | | 2 | | | 6 | |
| Phs Duration (G+Y+Rc), s | 5.7 | 59.6 | | 4.7 | 58.7 | | | 12.5 | | | 12.5 | |
| Change Period (Y+Rc), s | 4.4 | 5.1 | | 4.4 | 5.1 | | | 4.9 | | | 4.9 | |
| Max Green Setting (Gmax), s | 4.0 | 53.6 | | 4.0 | 53.6 | | | 28.0 | | | 28.0 | |
| Max Q Clear Time (g_c+I1), s | 2.2 | 11.4 | | 2.1 | 45.5 | | | 4.6 | | | 5.6 | |
| Green Ext Time (p_c), s | 0.0 | 29.2 | | 0.0 | 7.3 | | | 0.5 | | | 0.5 | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2010 Ctrl Delay | | 17.7 | |
| HCM 2010 LOS | | B | |

Notes



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 243 | 132 | 171 | 712 | 0 | 0 | 0 | 0 | 120 | 0 | 141 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 8 | 12 | 12 | 12 | 12 | 12 | 12 | 15 | 12 | 13 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | | | | | 4.0 | | 4.0 |
| Lane Util. Factor | | 0.95 | 1.00 | 1.00 | 0.95 | | | | | 1.00 | | 1.00 |
| Frpb, ped/bikes | | 1.00 | 0.91 | 1.00 | 1.00 | | | | | 1.00 | | 0.99 |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | | | 1.00 | | 1.00 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 3539 | 1243 | 1770 | 3539 | | | | | 1947 | | 1621 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 3539 | 1243 | 1770 | 3539 | | | | | 1947 | | 1621 |
| Peak-hour factor, PHF | 0.90 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.90 | 0.90 | 0.90 | 0.92 | 0.92 | 0.92 |
| Growth Factor (vph) | 127% | 127% | 127% | 127% | 127% | 127% | 127% | 127% | 127% | 127% | 127% | 127% |
| Adj. Flow (vph) | 0 | 335 | 182 | 236 | 983 | 0 | 0 | 0 | 0 | 166 | 0 | 195 |
| RTOR Reduction (vph) | 0 | 0 | 145 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 335 | 37 | 236 | 983 | 0 | 0 | 0 | 0 | 166 | 0 | 195 |
| Confl. Peds. (#/hr) | | | 56 | | | | | | | | | 13 |
| Confl. Bikes (#/hr) | | | 2 | | | | | | | | | 3 |
| Turn Type | | NA | Perm | Prot | NA | | | | | Prot | | custom |
| Protected Phases | | 4 | | 3 | 8 | | | | | 2 | | 2 |
| Permitted Phases | | | 4 | | | | | | | | | 8 |
| Actuated Green, G (s) | | 12.3 | 12.3 | 11.7 | 28.0 | | | | | 24.0 | | 52.0 |
| Effective Green, g (s) | | 12.3 | 12.3 | 11.7 | 28.0 | | | | | 24.0 | | 52.0 |
| Actuated g/C Ratio | | 0.21 | 0.21 | 0.19 | 0.47 | | | | | 0.40 | | 0.87 |
| 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) | | 725 | 254 | 345 | 1651 | | | | | 778 | | 1621 |
| v/s Ratio Prot | | 0.09 | | c0.13 | c0.28 | | | | | c0.09 | | 0.05 |
| v/s Ratio Perm | | | 0.03 | | | | | | | | | 0.07 |
| v/c Ratio | | 0.46 | 0.15 | 0.68 | 0.60 | | | | | 0.21 | | 0.12 |
| Uniform Delay, d1 | | 20.9 | 19.5 | 22.4 | 11.8 | | | | | 11.8 | | 0.6 |
| Progression Factor | | 1.00 | 1.00 | 0.98 | 1.49 | | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | | 0.5 | 0.3 | 3.4 | 0.3 | | | | | 0.6 | | 0.0 |
| Delay (s) | | 21.4 | 19.8 | 25.4 | 18.0 | | | | | 12.4 | | 0.6 |
| Level of Service | | C | B | C | B | | | | | B | | A |
| Approach Delay (s) | | 20.9 | | | 19.4 | | | 0.0 | | | 6.1 | |
| Approach LOS | | C | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 17.5 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.46 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 68.4% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 55 | 317 | 0 | 0 | 619 | 323 | 276 | 2 | 188 | 0 | 0 | 0 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | | | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Adj Sat Flow veh/h/ln | 186.3 | 193.7 | 0.0 | 0.0 | 193.7 | 186.3 | 186.3 | 186.3 | 186.3 | | | |
| Lanes | 1 | 2 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | | | |
| Cap, veh/h | 97 | 1700 | 0 | 0 | 1226 | 0 | 686 | 5 | 617 | | | |
| Arrive On Green | 0.11 | 0.92 | 0.00 | 0.00 | 0.33 | 0.00 | 0.39 | 0.39 | 0.39 | | | |
| Sat Flow, veh/h | 1774 | 3778 | 0 | 0 | 3875 | 0 | 1761 | 14 | 1583 | | | |
| Grp Volume(v), veh/h | 77 | 442 | 0 | 0 | 864 | 0 | 388 | 0 | 262 | | | |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1840 | 0 | 0 | 1840 | 0 | 1775 | 0 | 1583 | | | |
| Q Serve(g_s), s | 2.3 | 0.7 | 0.0 | 0.0 | 11.0 | 0.0 | 9.2 | 0.0 | 6.5 | | | |
| Cycle Q Clear(g_c), s | 2.3 | 0.7 | 0.0 | 0.0 | 11.0 | 0.0 | 9.2 | 0.0 | 6.5 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 0.00 | 0.99 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 97 | 1700 | 0 | 0 | 1226 | 0 | 692 | 0 | 617 | | | |
| V/C Ratio(X) | 0.79 | 0.26 | 0.00 | 0.00 | 0.70 | 0.00 | 0.56 | 0.00 | 0.42 | | | |
| Avail Cap(c_a), veh/h | 198 | 2118 | 0 | 0 | 1434 | 0 | 692 | 0 | 617 | | | |
| HCM Platoon Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| Upstream Filter(I) | 0.93 | 0.93 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 23.7 | 1.1 | 0.0 | 0.0 | 15.7 | 0.0 | 12.8 | 0.0 | 12.0 | | | |
| Incr Delay (d2), s/veh | 12.7 | 0.1 | 0.0 | 0.0 | 1.3 | 0.0 | 3.3 | 0.0 | 2.1 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile Back of Q (50%), veh/ln | 1.2 | 0.2 | 0.0 | 0.0 | 4.7 | 0.0 | 4.2 | 0.0 | 2.6 | | | |
| Lane Grp Delay (d), s/veh | 36.4 | 1.2 | 0.0 | 0.0 | 17.0 | 0.0 | 16.1 | 0.0 | 14.2 | | | |
| Lane Grp LOS | D | A | | | B | | B | | B | | | |
| Approach Vol, veh/h | | 519 | | | 864 | | | 650 | | | | |
| Approach Delay, s/veh | | 6.4 | | | 17.0 | | | 15.3 | | | | |
| Approach LOS | | A | | | B | | | B | | | | |

| Timer | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Assigned Phs | 7 | 4 | | | 8 | | | 2 | | | | |
| Phs Duration (G+Y+Rc), s | 6.9 | 28.9 | | | 21.9 | | | 25.0 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | | 4.0 | | | 4.0 | | | | |
| Max Green Setting (Gmax), s | 6.0 | 31.0 | | | 21.0 | | | 21.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.3 | 2.7 | | | 13.0 | | | 11.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 10.5 | | | 4.9 | | | 2.4 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 2010 Ctrl Delay | | | 13.8 | | | | | | | | | |
| HCM 2010 LOS | | | B | | | | | | | | | |

| Notes |
|---|

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 161 | 144 | 69 | 334 | 674 | 252 | 230 | 524 | 178 | 154 | 362 | 154 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.97 | 1.00 | | 0.91 | 1.00 | | 0.97 |
| Parking Bus Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow veh/h/ln | 186.3 | 193.7 | 186.3 | 186.3 | 193.7 | 186.3 | 186.3 | 186.3 | 186.3 | 186.3 | 186.3 | 186.3 |
| Lanes | 1 | 2 | 0 | 1 | 2 | 0 | 1 | 2 | 1 | 1 | 2 | 0 |
| Cap, veh/h | 206 | 582 | 265 | 398 | 906 | 338 | 282 | 938 | 380 | 198 | 522 | 219 |
| Arrive On Green | 0.12 | 0.24 | 0.24 | 0.22 | 0.35 | 0.35 | 0.16 | 0.26 | 0.26 | 0.11 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1774 | 2427 | 1103 | 1774 | 2600 | 972 | 1774 | 3539 | 1434 | 1774 | 2404 | 1008 |
| Grp Volume(v), veh/h | 179 | 119 | 118 | 371 | 530 | 499 | 256 | 582 | 198 | 171 | 294 | 279 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1840 | 1690 | 1774 | 1840 | 1732 | 1774 | 1770 | 1434 | 1774 | 1770 | 1643 |
| Q Serve(g_s), s | 11.6 | 6.2 | 6.7 | 24.1 | 31.0 | 31.0 | 16.7 | 17.0 | 13.8 | 11.1 | 18.3 | 18.8 |
| Cycle Q Clear(g_c), s | 11.6 | 6.2 | 6.7 | 24.1 | 31.0 | 31.0 | 16.7 | 17.0 | 13.8 | 11.1 | 18.3 | 18.8 |
| Prop In Lane | 1.00 | | 0.65 | 1.00 | | 0.56 | 1.00 | | 1.00 | 1.00 | | 0.61 |
| Lane Grp Cap(c), veh/h | 206 | 442 | 406 | 398 | 641 | 603 | 282 | 938 | 380 | 198 | 384 | 357 |
| V/C Ratio(X) | 0.87 | 0.27 | 0.29 | 0.93 | 0.83 | 0.83 | 0.91 | 0.62 | 0.52 | 0.86 | 0.77 | 0.78 |
| Avail Cap(c_a), veh/h | 224 | 442 | 406 | 464 | 641 | 603 | 296 | 958 | 388 | 208 | 392 | 364 |
| HCM Platoon Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 51.0 | 36.3 | 36.5 | 44.7 | 35.0 | 35.0 | 48.5 | 38.0 | 36.8 | 51.3 | 43.2 | 43.3 |
| Incr Delay (d2), s/veh | 25.6 | 0.5 | 0.6 | 22.5 | 11.7 | 12.3 | 27.9 | 1.0 | 0.7 | 26.9 | 8.0 | 9.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile Back of Q (50%), veh/ln | 6.8 | 3.0 | 3.0 | 13.5 | 16.5 | 15.7 | 9.8 | 7.8 | 5.1 | 6.6 | 9.1 | 8.9 |
| Lane Grp Delay (d), s/veh | 76.6 | 36.7 | 37.0 | 67.2 | 46.7 | 47.4 | 76.5 | 38.9 | 37.5 | 78.2 | 51.1 | 53.0 |
| Lane Grp LOS | E | D | D | E | D | D | E | D | D | E | D | D |
| Approach Vol, veh/h | | 416 | | | 1400 | | | 1036 | | | 744 | |
| Approach Delay, s/veh | | 54.0 | | | 52.4 | | | 47.9 | | | 58.0 | |
| Approach LOS | | D | | | D | | | D | | | E | |

| Timer | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Assigned Phs | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Phs Duration (G+Y+Rc), s | 18.0 | 33.1 | | 30.8 | 45.8 | | 23.1 | 36.1 | | 17.5 | 30.5 | |
| Change Period (Y+Rc), s | 4.4 | 4.9 | | 4.4 | 4.9 | | 4.4 | 5.0 | | 4.4 | 5.0 | |
| Max Green Setting (Gmax), s | 14.8 | 25.0 | | 30.7 | 40.9 | | 19.6 | 31.8 | | 13.8 | 26.0 | |
| Max Q Clear Time (g_c+I1), s | 13.6 | 8.7 | | 26.1 | 33.0 | | 18.7 | 19.0 | | 13.1 | 20.8 | |
| Green Ext Time (p_c), s | 0.0 | 9.9 | | 0.3 | 5.6 | | 0.0 | 5.0 | | 0.0 | 2.8 | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 2010 Ctrl Delay | | | 52.5 | | | | | | | | | |
| HCM 2010 LOS | | | D | | | | | | | | | |

Notes

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 1.8 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Vol, veh/h | 32 | 4 | 309 | 110 | 49 | 435 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 6 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | None | None | None | None | None | None |
| Storage Length | 0 | 40 | | 400 | 0 | |
| Median Width | 0 | | 0 | | | 0 |
| Grade, % | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 55 | 7 | 529 | 188 | 84 | 744 |
| Number of Lanes | 1 | 1 | 2 | 1 | 0 | 2 |

| Major/Minor | | | Major 1 | | | Major 2 |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1069 | 264 | 0 | 0 | 529 | 0 |
| Stage 1 | 529 | - | - | - | - | - |
| Stage 2 | 540 | - | - | - | - | - |
| Follow-up Headway | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Capacity-1 Maneuver | 216 | 734 | - | - | 1034 | - |
| Stage 1 | 555 | - | - | - | - | - |
| Stage 2 | 548 | - | - | - | - | - |
| Time blocked-Platoon, % | 0 | 0 | - | - | 0 | - |
| Mov Capacity-1 Maneuver | 185 | 734 | - | - | 1034 | - |
| Mov Capacity-2 Maneuver | 185 | - | - | - | - | - |
| Stage 1 | 555 | - | - | - | - | - |
| Stage 2 | 470 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 29.9 | 0 | 1.3 |
| HCM LOS | D | - | - |

| Minor Lane / Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Cap, veh/h | - | - | 185 | 734 | 1034 | - |
| HCM Control Delay, s | - | - | 32.4 | 10 | 8.789 | 0.5 |
| HCM Lane V/C Ratio | - | - | 0.30 | 0.01 | 0.08 | - |
| HCM Lane LOS | - | - | D | B | A | A |
| HCM 95th-tile Q, veh | - | - | 1.2 | 0.0 | 0.3 | - |

Notes

~ : Volume Exceeds Capacity; $ : Delay Exceeds 300 Seconds; Error : Computation Not Defined

# Year 2035 EMLUMP Volumes with Baseline Road Network:

## PM Peak Hour

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 19.5 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Vol, veh/h | 112 | 197 | 1570 | 0 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | Free | Free | Yield | Yield | None | None |
| Storage Length | 50 | 0 | | 0 | 0 | |
| Median Width | 15 | | 0 | | | 0 |
| Grade, % | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 117 | 205 | 1635 | 0 | 0 | 0 |
| Number of Lanes | 1 | 1 | 2 | 0 | 0 | 2 |

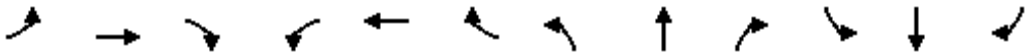
| Major/Minor | | | Major 1 | | Major 2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1635 | 818 | 0 | 0 | 1635 | 0 |
| Stage 1 | 1635 | - | - | - | - | - |
| Stage 2 | 0 | - | - | - | - | - |
| Follow-up Headway | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Capacity-1 Maneuver | # 92 | 319 | - | - | 393 | - |
| Stage 1 | 144 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Time blocked-Platoon, % | 0 | 0 | - | - | 0 | - |
| Mov Capacity-1 Maneuver | # 92 | 319 | - | - | 393 | - |
| Mov Capacity-2 Maneuver | # 92 | - | - | - | - | - |
| Stage 1 | 144 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 118.3 | 0 | 0 |
| HCM LOS | F | - | - |

| Minor Lane / Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Cap, veh/h | - | - | 92 | 319 | 393 | - |
| HCM Control Delay, s | - | - | 265.6 | 34.6 | 0 | - |
| HCM Lane V/C Ratio | - | - | 1.27 | 0.64 | - | - |
| HCM Lane LOS | - | - | F | D | A | - |
| HCM 95th-tile Q, veh | - | - | 8.3 | 4.2 | 0.0 | - |

Notes

~ : Volume Exceeds Capacity; $ : Delay Exceeds 300 Seconds; Error : Computation Not Defined



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 187 | 471 | 221 | 112 | 169 | 236 | 199 | 633 | 106 | 350 | 699 | 142 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1700 | 1700 | 1900 | 1900 | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Lane Width | 13 | 11 | 8 | 14 | 11 | 8 | 13 | 12 | 8 | 10 | 12 | 12 |
| Total Lost time (s) | 4.4 | 4.9 | 4.9 | 4.4 | 5.2 | 5.2 | 4.4 | 4.9 | 4.9 | 4.4 | 5.7 | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.95 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1829 | 3421 | 1172 | 1689 | 3421 | 1340 | 1636 | 3167 | 1162 | 2867 | 3064 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1829 | 3421 | 1172 | 1689 | 3421 | 1340 | 1636 | 3167 | 1162 | 2867 | 3064 | |
| Peak-hour factor, PHF | 0.96 | 0.96 | 0.96 | 0.90 | 0.90 | 0.90 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Adj. Flow (vph) | 195 | 491 | 230 | 124 | 188 | 262 | 207 | 659 | 110 | 365 | 728 | 148 |
| RTOR Reduction (vph) | 0 | 0 | 169 | 0 | 0 | 213 | 0 | 0 | 68 | 0 | 13 | 0 |
| Lane Group Flow (vph) | 195 | 491 | 61 | 124 | 188 | 49 | 207 | 659 | 42 | 365 | 863 | 0 |
| Confl. Peds. (#/hr) | | | 27 | | | 8 | | | 33 | | | 22 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 4 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | |
| Actuated Green, G (s) | 14.9 | 26.8 | 26.8 | 11.0 | 22.6 | 22.6 | 17.4 | 45.8 | 45.8 | 17.8 | 45.4 | |
| Effective Green, g (s) | 14.9 | 26.8 | 26.8 | 11.0 | 22.6 | 22.6 | 17.4 | 45.8 | 45.8 | 17.8 | 45.4 | |
| Actuated g/C Ratio | 0.12 | 0.22 | 0.22 | 0.09 | 0.19 | 0.19 | 0.14 | 0.38 | 0.38 | 0.15 | 0.38 | |
| Clearance Time (s) | 4.4 | 4.9 | 4.9 | 4.4 | 5.2 | 5.2 | 4.4 | 4.9 | 4.9 | 4.4 | 5.7 | |
| Vehicle Extension (s) | 2.0 | 3.2 | 3.2 | 2.0 | 2.6 | 2.6 | 2.0 | 3.3 | 3.3 | 2.0 | 2.3 | |
| Lane Grp Cap (vph) | 227 | 764 | 261 | 154 | 644 | 252 | 237 | 1208 | 443 | 425 | 1159 | |
| v/s Ratio Prot | c0.11 | c0.14 | | 0.07 | 0.05 | | 0.13 | 0.21 | | c0.13 | c0.28 | |
| v/s Ratio Perm | | | 0.05 | | | 0.04 | | | 0.04 | | | |
| v/c Ratio | 0.86 | 0.64 | 0.23 | 0.81 | 0.29 | 0.20 | 0.87 | 0.55 | 0.09 | 0.86 | 0.74 | |
| Uniform Delay, d1 | 51.5 | 42.3 | 38.2 | 53.4 | 41.8 | 41.0 | 50.2 | 29.0 | 23.8 | 49.9 | 32.3 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 25.2 | 1.9 | 0.5 | 24.2 | 0.2 | 0.3 | 27.2 | 1.8 | 0.4 | 15.2 | 4.4 | |
| Delay (s) | 76.8 | 44.2 | 38.7 | 77.7 | 42.0 | 41.3 | 77.4 | 30.7 | 24.2 | 65.1 | 36.6 | |
| Level of Service | E | D | D | E | D | D | E | C | C | E | D | |
| Approach Delay (s) | | 49.7 | | | 49.4 | | | 39.9 | | | 45.0 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 45.5 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.77 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 19.7 |
| Intersection Capacity Utilization | 83.1% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 115 | 762 | 80 | 80 | 607 | 132 | 221 | 265 | 88 | 237 | 336 | 225 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 14 | 13 | 12 | 8 | 10 | 11 | 14 | 9 | 12 | 12 |
| Total Lost time (s) | 4.4 | 4.9 | | 4.4 | 5.1 | 5.1 | 4.4 | 5.2 | 5.2 | 4.4 | 4.4 | |
| Lane Util. Factor | 0.97 | 0.95 | | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3090 | 3467 | | 1829 | 3539 | 1334 | 3204 | 3421 | 1653 | 3090 | 3285 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3090 | 3467 | | 1829 | 3539 | 1334 | 3204 | 3421 | 1653 | 3090 | 3285 | |
| Peak-hour factor, PHF | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Growth Factor (vph) | 120% | 120% | 150% | 120% | 120% | 120% | 140% | 140% | 140% | 120% | 120% | 120% |
| Adj. Flow (vph) | 144 | 952 | 125 | 100 | 759 | 165 | 322 | 386 | 128 | 296 | 420 | 281 |
| RTOR Reduction (vph) | 0 | 8 | 0 | 0 | 0 | 100 | 0 | 0 | 93 | 0 | 105 | 0 |
| Lane Group Flow (vph) | 144 | 1069 | 0 | 100 | 759 | 65 | 322 | 386 | 35 | 296 | 596 | 0 |
| Confl. Peds. (#/hr) | | | 13 | | | 14 | | | 7 | | | 21 |
| Confl. Bikes (#/hr) | | | 3 | | | 2 | | | 2 | | | 2 |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | 2 | | | |
| Actuated Green, G (s) | 17.8 | 44.3 | | 9.0 | 35.3 | 35.3 | 13.2 | 32.4 | 32.4 | 15.4 | 35.4 | |
| Effective Green, g (s) | 17.8 | 44.3 | | 9.0 | 35.3 | 35.3 | 13.2 | 32.4 | 32.4 | 15.4 | 35.4 | |
| Actuated g/C Ratio | 0.15 | 0.37 | | 0.08 | 0.29 | 0.29 | 0.11 | 0.27 | 0.27 | 0.13 | 0.29 | |
| Clearance Time (s) | 4.4 | 4.9 | | 4.4 | 5.1 | 5.1 | 4.4 | 5.2 | 5.2 | 4.4 | 4.4 | |
| Vehicle Extension (s) | 2.0 | 3.5 | | 2.0 | 3.2 | 3.2 | 2.0 | 4.4 | 4.4 | 2.0 | 4.9 | |
| Lane Grp Cap (vph) | 458 | 1279 | | 137 | 1041 | 392 | 352 | 923 | 446 | 396 | 969 | |
| v/s Ratio Prot | 0.05 | c0.31 | | c0.05 | 0.21 | | c0.10 | 0.11 | | 0.10 | c0.18 | |
| v/s Ratio Perm | | | | | | 0.05 | | | 0.02 | | | |
| v/c Ratio | 0.31 | 0.84 | | 0.73 | 0.73 | 0.17 | 0.91 | 0.42 | 0.08 | 0.75 | 0.62 | |
| Uniform Delay, d1 | 45.6 | 34.5 | | 54.3 | 38.1 | 31.4 | 52.8 | 36.0 | 32.7 | 50.4 | 36.4 | |
| Progression Factor | 0.71 | 1.40 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.4 | 5.4 | | 15.2 | 2.6 | 0.2 | 27.0 | 0.5 | 0.1 | 6.6 | 1.6 | |
| Delay (s) | 33.6 | 53.8 | | 69.5 | 40.7 | 31.6 | 79.8 | 36.6 | 32.8 | 57.0 | 38.1 | |
| Level of Service | C | D | | E | D | C | E | D | C | E | D | |
| Approach Delay (s) | | 51.4 | | | 42.0 | | | 52.6 | | | 43.7 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 47.4 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.77 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 19.1 |
| Intersection Capacity Utilization | 87.1% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 161 | 786 | 99 | 89 | 854 | 29 | 196 | 199 | 148 | 104 | 252 | 165 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 8 | 10 | 12 | 12 | 10 | 11 | 8 | 12 | 12 | 12 |
| Total Lost time (s) | 4.4 | 5.4 | 5.4 | 4.4 | 4.9 | | 4.4 | 4.9 | 4.9 | 4.4 | 5.0 | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.91 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.96 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 3539 | 1348 | 1652 | 5056 | | 1652 | 3421 | 1317 | 1770 | 3306 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1770 | 3539 | 1348 | 1652 | 5056 | | 1652 | 3421 | 1317 | 1770 | 3306 | |
| Peak-hour factor, PHF | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.96 |
| Adj. Flow (vph) | 164 | 802 | 101 | 91 | 871 | 30 | 200 | 203 | 151 | 106 | 257 | 172 |
| RTOR Reduction (vph) | 0 | 0 | 75 | 0 | 2 | 0 | 0 | 0 | 117 | 0 | 108 | 0 |
| Lane Group Flow (vph) | 164 | 802 | 26 | 91 | 899 | 0 | 200 | 203 | 34 | 106 | 321 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | 7 | | | 25 | | | 3 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | 2 | | | |
| Actuated Green, G (s) | 14.8 | 31.3 | 31.3 | 30.6 | 47.6 | | 18.5 | 27.0 | 27.0 | 12.0 | 20.4 | |
| Effective Green, g (s) | 14.8 | 31.3 | 31.3 | 30.6 | 47.6 | | 18.5 | 27.0 | 27.0 | 12.0 | 20.4 | |
| Actuated g/C Ratio | 0.12 | 0.26 | 0.26 | 0.26 | 0.40 | | 0.15 | 0.22 | 0.22 | 0.10 | 0.17 | |
| Clearance Time (s) | 4.4 | 5.4 | 5.4 | 4.4 | 4.9 | | 4.4 | 4.9 | 4.9 | 4.4 | 5.0 | |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.7 | | 2.5 | 2.0 | 2.0 | 3.0 | 2.0 | |
| Lane Grp Cap (vph) | 218 | 923 | 351 | 421 | 2005 | | 254 | 769 | 296 | 177 | 562 | |
| v/s Ratio Prot | c0.09 | c0.23 | | 0.06 | c0.18 | | c0.12 | 0.06 | | 0.06 | c0.10 | |
| v/s Ratio Perm | | | 0.02 | | | | | | 0.03 | | | |
| v/c Ratio | 0.75 | 0.87 | 0.08 | 0.22 | 0.45 | | 0.79 | 0.26 | 0.11 | 0.60 | 0.57 | |
| Uniform Delay, d1 | 50.8 | 42.4 | 33.4 | 35.2 | 26.6 | | 48.9 | 38.3 | 37.0 | 51.7 | 45.8 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 0.69 | 0.88 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 12.2 | 8.5 | 0.0 | 0.8 | 0.5 | | 14.3 | 0.1 | 0.1 | 5.4 | 0.9 | |
| Delay (s) | 63.0 | 50.8 | 33.5 | 25.0 | 24.0 | | 63.2 | 38.4 | 37.1 | 57.1 | 46.7 | |
| Level of Service | E | D | C | C | C | | E | D | D | E | D | |
| Approach Delay (s) | | 51.1 | | | 24.1 | | | 47.0 | | | 48.7 | |
| Approach LOS | | D | | | C | | | D | | | D | |

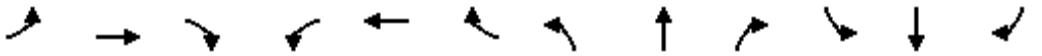
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 41.4 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.70 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 19.2 |
| Intersection Capacity Utilization | 69.0% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 26 | 776 | 18 | 8 | 587 | 37 | 19 | 10 | 6 | 64 | 7 | 26 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 13 | 8 | 10 | 13 | 8 | 12 | 12 | 12 | 12 | 12 | 12 |
| Total Lost time (s) | 4.4 | 5.1 | 5.1 | 4.4 | 5.1 | 5.1 | | 4.9 | | | 4.9 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | | | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.95 | | 1.00 | | | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | | | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 0.98 | | | 0.96 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.97 | | | 0.97 | |
| Satd. Flow (prot) | 1652 | 1925 | 1339 | 1652 | 1925 | 1308 | | 1767 | | | 1725 | |
| Flt Permitted | 0.36 | 1.00 | 1.00 | 0.28 | 1.00 | 1.00 | | 0.84 | | | 0.78 | |
| Satd. Flow (perm) | 625 | 1925 | 1339 | 487 | 1925 | 1308 | | 1521 | | | 1386 | |
| Peak-hour factor, PHF | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 27 | 817 | 19 | 8 | 618 | 39 | 20 | 11 | 6 | 67 | 7 | 27 |
| RTOR Reduction (vph) | 0 | 0 | 5 | 0 | 0 | 11 | 0 | 5 | 0 | 0 | 16 | 0 |
| Lane Group Flow (vph) | 27 | 817 | 14 | 8 | 618 | 28 | 0 | 32 | 0 | 0 | 85 | 0 |
| Confl. Peds. (#/hr) | | | 1 | | | 11 | | | 3 | | | 4 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | 75.8 | 73.0 | 73.0 | 71.8 | 71.0 | 71.0 | | 11.8 | | | 11.8 | |
| Effective Green, g (s) | 75.8 | 73.0 | 73.0 | 71.8 | 71.0 | 71.0 | | 11.8 | | | 11.8 | |
| Actuated g/C Ratio | 0.76 | 0.73 | 0.73 | 0.72 | 0.71 | 0.71 | | 0.12 | | | 0.12 | |
| Clearance Time (s) | 4.4 | 5.1 | 5.1 | 4.4 | 5.1 | 5.1 | | 4.9 | | | 4.9 | |
| Vehicle Extension (s) | 2.0 | 3.4 | 3.4 | 2.0 | 3.4 | 3.4 | | 2.0 | | | 2.0 | |
| Lane Grp Cap (vph) | 502 | 1405 | 977 | 358 | 1366 | 928 | | 179 | | | 163 | |
| v/s Ratio Prot | c0.00 | c0.42 | | 0.00 | 0.32 | | | | | | | |
| v/s Ratio Perm | 0.04 | | 0.01 | 0.02 | | 0.02 | | 0.02 | | | c0.06 | |
| v/c Ratio | 0.05 | 0.58 | 0.01 | 0.02 | 0.45 | 0.03 | | 0.18 | | | 0.52 | |
| Uniform Delay, d1 | 3.7 | 6.3 | 3.7 | 5.2 | 6.2 | 4.3 | | 39.7 | | | 41.5 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 0.0 | 1.8 | 0.0 | 0.0 | 1.1 | 0.1 | | 0.2 | | | 1.4 | |
| Delay (s) | 3.7 | 8.1 | 3.7 | 5.2 | 7.3 | 4.4 | | 39.9 | | | 42.8 | |
| Level of Service | A | A | A | A | A | A | | D | | | D | |
| Approach Delay (s) | | 7.9 | | | 7.1 | | | 39.9 | | | 42.8 | |
| Approach LOS | | A | | | A | | | D | | | D | |

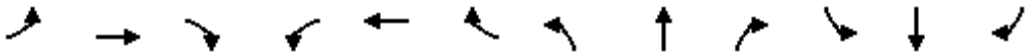
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 10.4 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.57 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 14.4 |
| Intersection Capacity Utilization | 58.6% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 510 | 296 | 168 | 473 | 0 | 0 | 0 | 0 | 331 | 0 | 179 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 8 | 12 | 12 | 12 | 12 | 12 | 12 | 15 | 12 | 13 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | | | | | 4.0 | | 4.0 |
| Lane Util. Factor | | 0.95 | 1.00 | 1.00 | 0.95 | | | | | 1.00 | | 1.00 |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | | | | | 1.00 | | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | | | | | 1.00 | | 1.00 |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 3539 | 1339 | 1770 | 3539 | | | | | 1947 | | 1636 |
| Flt Permitted | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 3539 | 1339 | 1770 | 3539 | | | | | 1947 | | 1636 |
| Peak-hour factor, PHF | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.90 | 0.90 | 0.90 | 0.96 | 0.96 | 0.96 |
| Growth Factor (vph) | 127% | 127% | 127% | 127% | 127% | 127% | 127% | 127% | 127% | 127% | 127% | 127% |
| Adj. Flow (vph) | 0 | 675 | 392 | 222 | 626 | 0 | 0 | 0 | 0 | 438 | 0 | 237 |
| RTOR Reduction (vph) | 0 | 0 | 216 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 675 | 176 | 222 | 626 | 0 | 0 | 0 | 0 | 438 | 0 | 237 |
| Confl. Peds. (#/hr) | | | 14 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 6 | | | | | | | | | |
| Turn Type | | NA | Perm | Prot | NA | | | | | Prot | | custom |
| Protected Phases | | 4 | | 3 | 8 | | | | | 2 | | 2 |
| Permitted Phases | | | 4 | | | | | | | | | 8 |
| Actuated Green, G (s) | | 27.0 | 27.0 | 4.0 | 35.0 | | | | | 17.0 | | 52.0 |
| Effective Green, g (s) | | 27.0 | 27.0 | 4.0 | 35.0 | | | | | 17.0 | | 52.0 |
| Actuated g/C Ratio | | 0.45 | 0.45 | 0.07 | 0.58 | | | | | 0.28 | | 0.87 |
| 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) | | 1592 | 602 | 118 | 2064 | | | | | 551 | | 1636 |
| v/s Ratio Prot | | c0.19 | | c0.13 | 0.18 | | | | | c0.23 | | 0.04 |
| v/s Ratio Perm | | | 0.13 | | | | | | | | | 0.10 |
| v/c Ratio | | 0.42 | 0.29 | 1.88 | 0.30 | | | | | 0.79 | | 0.14 |
| Uniform Delay, d1 | | 11.2 | 10.5 | 28.0 | 6.3 | | | | | 19.9 | | 0.6 |
| Progression Factor | | 1.00 | 1.00 | 0.80 | 1.67 | | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | | 0.8 | 1.2 | 424.5 | 0.1 | | | | | 7.8 | | 0.0 |
| Delay (s) | | 12.0 | 11.7 | 447.0 | 10.6 | | | | | 27.7 | | 0.7 |
| Level of Service | | B | B | F | B | | | | | C | | A |
| Approach Delay (s) | | 11.9 | | | 124.9 | | | 0.0 | | | 18.2 | |
| Approach LOS | | B | | | F | | | A | | | B | |

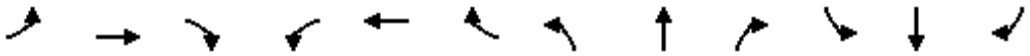
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 50.5 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.68 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 69.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 123 | 753 | 0 | 0 | 428 | 134 | 201 | 2 | 135 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 13 | 12 | 12 | 15 | 12 | 12 | 12 | 12 | 12 | 16 | 12 |
| Total Lost time (s) | 4.0 | 4.0 | | | 4.0 | | | 4.0 | 4.0 | | | |
| Lane Util. Factor | 1.00 | 0.95 | | | 0.95 | | | 1.00 | 1.00 | | | |
| Frpb, ped/bikes | 1.00 | 1.00 | | | 0.99 | | | 1.00 | 1.00 | | | |
| Flpb, ped/bikes | 1.00 | 1.00 | | | 1.00 | | | 1.00 | 1.00 | | | |
| Frt | 1.00 | 1.00 | | | 0.96 | | | 1.00 | 0.85 | | | |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | 1770 | 3657 | | | 3733 | | | 1775 | 1583 | | | |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | 1770 | 3657 | | | 3733 | | | 1775 | 1583 | | | |
| Peak-hour factor, PHF | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.90 | 0.90 | 0.90 |
| Growth Factor (vph) | 127% | 127% | 127% | 127% | 127% | 127% | 127% | 127% | 127% | 127% | 127% | 127% |
| Adj. Flow (vph) | 163 | 996 | 0 | 0 | 566 | 177 | 266 | 3 | 179 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 59 | 0 | 0 | 0 | 76 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 163 | 996 | 0 | 0 | 684 | 0 | 0 | 269 | 103 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | | | | |
| Turn Type | Prot | NA | | | NA | | Split | NA | Prot | | | |
| Protected Phases | 7 | 4 | | | 8 | | 2 | 2 | 2 | | | |
| Permitted Phases | | | | | | | | | | | | |
| Actuated Green, G (s) | 7.0 | 29.2 | | | 18.2 | | | 22.8 | 22.8 | | | |
| Effective Green, g (s) | 7.0 | 29.2 | | | 18.2 | | | 22.8 | 22.8 | | | |
| Actuated g/C Ratio | 0.12 | 0.49 | | | 0.30 | | | 0.38 | 0.38 | | | |
| Clearance Time (s) | 4.0 | 4.0 | | | 4.0 | | | 4.0 | 4.0 | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | | | 3.0 | 3.0 | | | |
| Lane Grp Cap (vph) | 206 | 1779 | | | 1132 | | | 674 | 601 | | | |
| v/s Ratio Prot | c0.09 | c0.27 | | | 0.18 | | | c0.15 | 0.07 | | | |
| v/s Ratio Perm | | | | | | | | | | | | |
| v/c Ratio | 0.79 | 0.56 | | | 0.60 | | | 0.40 | 0.17 | | | |
| Uniform Delay, d1 | 25.8 | 10.9 | | | 17.8 | | | 13.6 | 12.3 | | | |
| Progression Factor | 0.98 | 0.81 | | | 0.80 | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | 16.2 | 0.3 | | | 0.9 | | | 1.8 | 0.6 | | | |
| Delay (s) | 41.4 | 9.1 | | | 15.1 | | | 15.4 | 13.0 | | | |
| Level of Service | D | A | | | B | | | B | B | | | |
| Approach Delay (s) | | 13.7 | | | 15.1 | | | 14.4 | | | 0.0 | |
| Approach LOS | | B | | | B | | | B | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 14.3 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.55 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 69.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 225 | 637 | 185 | 275 | 311 | 278 | 85 | 321 | 294 | 275 | 501 | 85 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 13 | 12 | 10 | 13 | 12 | 12 | 11 | 12 | 11 | 12 | 12 |
| Total Lost time (s) | 4.4 | 4.9 | | 4.4 | 4.9 | | 4.4 | 5.0 | 5.0 | 4.4 | 5.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.99 | | 1.00 | 0.98 | | 1.00 | 1.00 | 0.92 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.97 | | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 3487 | | 1652 | 3347 | | 1770 | 3421 | 1451 | 1711 | 3428 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 3487 | | 1652 | 3347 | | 1770 | 3421 | 1451 | 1711 | 3428 | |
| Peak-hour factor, PHF | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Adj. Flow (vph) | 227 | 643 | 187 | 278 | 314 | 281 | 86 | 324 | 297 | 278 | 506 | 86 |
| RTOR Reduction (vph) | 0 | 21 | 0 | 0 | 130 | 0 | 0 | 0 | 242 | 0 | 11 | 0 |
| Lane Group Flow (vph) | 227 | 809 | 0 | 278 | 465 | 0 | 86 | 324 | 55 | 278 | 581 | 0 |
| Confl. Peds. (#/hr) | | | 16 | | | 18 | | | 48 | | | 40 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | 1 | | | 3 |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Actuated Green, G (s) | 18.5 | 35.2 | | 22.3 | 39.0 | | 8.6 | 22.3 | 22.3 | 21.5 | 35.2 | |
| Effective Green, g (s) | 18.5 | 35.2 | | 22.3 | 39.0 | | 8.6 | 22.3 | 22.3 | 21.5 | 35.2 | |
| Actuated g/C Ratio | 0.15 | 0.29 | | 0.19 | 0.32 | | 0.07 | 0.19 | 0.19 | 0.18 | 0.29 | |
| Clearance Time (s) | 4.4 | 4.9 | | 4.4 | 4.9 | | 4.4 | 5.0 | 5.0 | 4.4 | 5.0 | |
| Vehicle Extension (s) | 2.0 | 4.0 | | 2.0 | 4.1 | | 2.0 | 2.2 | 2.2 | 2.0 | 2.2 | |
| Lane Grp Cap (vph) | 254 | 1022 | | 306 | 1087 | | 126 | 635 | 269 | 306 | 1005 | |
| v/s Ratio Prot | 0.14 | c0.23 | | c0.17 | c0.14 | | 0.05 | 0.09 | | c0.16 | c0.17 | |
| v/s Ratio Perm | | | | | | | | | 0.04 | | | |
| v/c Ratio | 0.89 | 0.79 | | 0.91 | 0.43 | | 0.68 | 0.51 | 0.21 | 0.91 | 0.58 | |
| Uniform Delay, d1 | 49.8 | 39.0 | | 47.9 | 31.8 | | 54.4 | 43.9 | 41.3 | 48.3 | 36.1 | |
| Progression Factor | 1.05 | 0.83 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 27.8 | 5.8 | | 28.4 | 0.4 | | 11.5 | 0.4 | 0.2 | 28.4 | 0.6 | |
| Delay (s) | 79.9 | 38.2 | | 76.2 | 32.1 | | 65.9 | 44.3 | 41.5 | 76.6 | 36.6 | |
| Level of Service | E | D | | E | C | | E | D | D | E | D | |
| Approach Delay (s) | | 47.1 | | | 46.2 | | | 45.8 | | | 49.4 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 47.2 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.80 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 18.7 |
| Intersection Capacity Utilization | 87.7% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 1.4 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Vol, veh/h | 34 | 10 | 373 | 118 | 78 | 665 |
| Conflicting Peds, #/hr | 0 | 1 | 0 | 15 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | None | None | None | None | None | None |
| Storage Length | 0 | 40 | | 400 | 0 | |
| Median Width | 0 | | 0 | | | 0 |
| Grade, % | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 35 | 10 | 389 | 123 | 81 | 693 |
| Number of Lanes | 1 | 1 | 2 | 1 | 0 | 2 |

| Major/Minor | | | Major 1 | | | Major 2 |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 899 | 195 | 0 | 0 | 390 | 0 |
| Stage 1 | 390 | - | - | - | - | - |
| Stage 2 | 509 | - | - | - | - | - |
| Follow-up Headway | 3.52 | 3.32 | - | - | 2.22 | - |
| Pot Capacity-1 Maneuver | 279 | 814 | - | - | 1165 | - |
| Stage 1 | 653 | - | - | - | - | - |
| Stage 2 | 569 | - | - | - | - | - |
| Time blocked-Platoon, % | 0 | 0 | - | - | 0 | - |
| Mov Capacity-1 Maneuver | 244 | 813 | - | - | 1165 | - |
| Mov Capacity-2 Maneuver | 244 | - | - | - | - | - |
| Stage 1 | 652 | - | - | - | - | - |
| Stage 2 | 499 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 19.3 | 0 | 1.2 |
| HCM LOS | C | - | - |

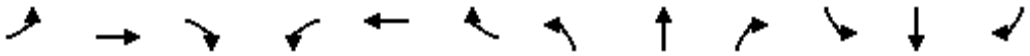
| Minor Lane / Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL | SBT |
|---|---|---|---|---|---|---|
| Cap, veh/h | - | - | 244 | 813 | 1165 | - |
| HCM Control Delay, s | - | - | 22.2 | 9.5 | 8.322 | 0.4 |
| HCM Lane V/C Ratio | - | - | 0.14 | 0.01 | 0.07 | - |
| HCM Lane LOS | - | - | C | A | A | A |
| HCM 95th-tile Q, veh | - | - | 0.5 | 0.0 | 0.2 | - |

Notes

~ : Volume Exceeds Capacity; $ : Delay Exceeds 300 Seconds; Error : Computation Not Defined

# Year 2035 EMLUMP Volumes with Proposed Intersection Modifications:

## Euclid & Market (AM Peak Hour) with Proposed Lane Reduction (1 EB & 1 WB Through Lane) & Single Turn Lane (EB & WB)



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 84 | 150 | 99 | 80 | 493 | 367 | 255 | 677 | 78 | 162 | 444 | 170 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1700 | 1700 | 1900 | 1900 | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Lane Width | 13 | 11 | 8 | 14 | 11 | 8 | 13 | 12 | 8 | 10 | 12 | 12 |
| Total Lost time (s) | 4.4 | 4.9 | 4.9 | 4.4 | 5.2 | 5.2 | 4.4 | 4.9 | 4.9 | 4.4 | 5.7 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.93 | 1.00 | 0.98 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1829 | 1801 | 1179 | 1689 | 1801 | 1345 | 1636 | 3167 | 1143 | 2867 | 2983 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1829 | 1801 | 1179 | 1689 | 1801 | 1345 | 1636 | 3167 | 1143 | 2867 | 2983 | |
| Peak-hour factor, PHF | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Adj. Flow (vph) | 92 | 165 | 109 | 88 | 542 | 403 | 280 | 744 | 86 | 178 | 488 | 187 |
| RTOR Reduction (vph) | 0 | 0 | 75 | 0 | 0 | 120 | 0 | 0 | 56 | 0 | 40 | 0 |
| Lane Group Flow (vph) | 92 | 165 | 34 | 88 | 542 | 283 | 280 | 744 | 30 | 178 | 635 | 0 |
| Confl. Peds. (#/hr) | | | 26 | | | 5 | | | 56 | | | 43 |
| Confl. Bikes (#/hr) | | | 5 | | | 3 | | | | | | 4 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | |
| Actuated Green, G (s) | 6.5 | 31.0 | 31.0 | 6.6 | 30.8 | 30.8 | 14.6 | 34.5 | 34.5 | 9.3 | 28.4 | |
| Effective Green, g (s) | 6.5 | 31.0 | 31.0 | 6.6 | 30.8 | 30.8 | 14.6 | 34.5 | 34.5 | 9.3 | 28.4 | |
| Actuated g/C Ratio | 0.06 | 0.31 | 0.31 | 0.07 | 0.31 | 0.31 | 0.15 | 0.34 | 0.34 | 0.09 | 0.28 | |
| Clearance Time (s) | 4.4 | 4.9 | 4.9 | 4.4 | 5.2 | 5.2 | 4.4 | 4.9 | 4.9 | 4.4 | 5.7 | |
| Vehicle Extension (s) | 2.0 | 3.2 | 3.2 | 2.0 | 2.6 | 2.6 | 2.0 | 3.3 | 3.3 | 2.0 | 2.3 | |
| Lane Grp Cap (vph) | 118 | 558 | 365 | 111 | 554 | 414 | 238 | 1092 | 394 | 266 | 847 | |
| v/s Ratio Prot | 0.05 | 0.09 | | c0.05 | c0.30 | | c0.17 | c0.23 | | 0.06 | 0.21 | |
| v/s Ratio Perm | | | 0.03 | | | 0.21 | | | 0.03 | | | |
| v/c Ratio | 0.78 | 0.30 | 0.09 | 0.79 | 0.98 | 0.68 | 1.18 | 0.68 | 0.08 | 0.67 | 0.75 | |
| Uniform Delay, d1 | 46.0 | 26.2 | 24.5 | 46.0 | 34.3 | 30.3 | 42.7 | 28.0 | 22.0 | 43.9 | 32.6 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 25.0 | 0.3 | 0.1 | 29.3 | 32.3 | 4.3 | 114.4 | 3.4 | 0.4 | 4.9 | 6.0 | |
| Delay (s) | 71.0 | 26.5 | 24.6 | 75.3 | 66.6 | 34.7 | 157.1 | 31.5 | 22.4 | 48.7 | 38.6 | |
| Level of Service | E | C | C | E | E | C | F | C | C | D | D | |
| Approach Delay (s) | | 37.2 | | | 54.9 | | | 62.5 | | | 40.7 | |
| Approach LOS | | D | | | D | | | E | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 51.9 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.92 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 19.7 |
| Intersection Capacity Utilization | 85.3% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

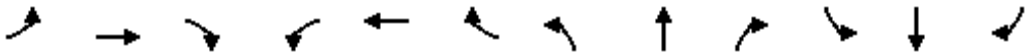
c Critical Lane Group

# Year 2035 EMLUMP Volumes with Proposed Intersection Modifications:

## Euclid & Market (PM Peak Hour) with Proposed Lane Reduction (1 EB & 1 WB Through Lane) & Single Turn Lane (EB & WB)

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 187 | 471 | 221 | 112 | 169 | 236 | 199 | 633 | 106 | 350 | 699 | 142 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.98 | 1.00 | | 0.96 | 1.00 | | 0.96 |
| Parking Bus Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow veh/h/ln | 193.7 | 186.3 | 178.8 | 193.7 | 186.3 | 178.8 | 193.7 | 186.3 | 178.8 | 186.3 | 186.3 | 186.3 |
| Lanes | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 0 |
| Cap, veh/h | 226 | 554 | 433 | 153 | 479 | 382 | 238 | 1105 | 454 | 432 | 899 | 183 |
| Arrive On Green | 0.12 | 0.30 | 0.30 | 0.08 | 0.26 | 0.26 | 0.13 | 0.31 | 0.31 | 0.13 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1845 | 1863 | 1458 | 1845 | 1863 | 1487 | 1845 | 3539 | 1452 | 3442 | 2911 | 591 |
| Grp Volume(v), veh/h | 195 | 491 | 230 | 124 | 188 | 262 | 207 | 659 | 110 | 365 | 442 | 434 |
| Grp Sat Flow(s),veh/h/ln | 1845 | 1863 | 1458 | 1845 | 1863 | 1487 | 1845 | 1770 | 1452 | 1721 | 1770 | 1733 |
| Q Serve(g_s), s | 11.2 | 27.2 | 14.2 | 7.2 | 9.0 | 17.2 | 11.9 | 17.0 | 6.1 | 11.2 | 24.9 | 25.0 |
| Cycle Q Clear(g_c), s | 11.2 | 27.2 | 14.2 | 7.2 | 9.0 | 17.2 | 11.9 | 17.0 | 6.1 | 11.2 | 24.9 | 25.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.34 |
| Lane Grp Cap(c), veh/h | 226 | 554 | 433 | 153 | 479 | 382 | 238 | 1105 | 454 | 432 | 546 | 535 |
| V/C Ratio(X) | 0.86 | 0.89 | 0.53 | 0.81 | 0.39 | 0.69 | 0.87 | 0.60 | 0.24 | 0.84 | 0.81 | 0.81 |
| Avail Cap(c_a), veh/h | 293 | 604 | 473 | 181 | 485 | 387 | 300 | 1204 | 494 | 601 | 610 | 597 |
| HCM Platoon Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 46.6 | 36.3 | 31.7 | 48.8 | 33.2 | 36.2 | 46.2 | 31.4 | 27.7 | 46.3 | 34.5 | 34.5 |
| Incr Delay (d2), s/veh | 15.2 | 14.2 | 1.1 | 17.8 | 0.4 | 4.6 | 16.7 | 2.4 | 1.3 | 5.8 | 12.3 | 12.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile Back of Q (50%), veh/ln | 6.3 | 15.1 | 5.3 | 4.2 | 4.3 | 6.9 | 6.8 | 8.0 | 2.4 | 5.3 | 12.9 | 12.7 |
| Lane Grp Delay (d), s/veh | 61.8 | 50.5 | 32.8 | 66.6 | 33.6 | 40.8 | 62.9 | 33.8 | 28.9 | 52.0 | 46.7 | 47.0 |
| Lane Grp LOS | E | D | C | E | C | D | E | C | C | D | D | D |
| Approach Vol, veh/h | | 916 | | | 574 | | | 976 | | | 1241 | |
| Approach Delay, s/veh | | 48.5 | | | 44.0 | | | 39.4 | | | 48.4 | |
| Approach LOS | | D | | | D | | | D | | | D | |
| **Timer** | | | | | | | | | | | | |
| Assigned Phs | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Phs Duration (G+Y+Rc), s | 17.7 | 37.4 | | 13.4 | 33.0 | | 18.4 | 39.5 | | 18.0 | 39.1 | |
| Change Period (Y+Rc), s | 4.4 | 5.2 | | 4.4 | 5.2 | | 4.4 | 5.7 | | 4.4 | 5.7 | |
| Max Green Setting (Gmax), s | 17.2 | 35.1 | | 10.6 | 28.2 | | 17.6 | 36.8 | | 18.9 | 37.3 | |
| Max Q Clear Time (g_c+I1), s | 13.2 | 29.2 | | 9.2 | 19.2 | | 13.9 | 19.0 | | 13.2 | 27.0 | |
| Green Ext Time (p_c), s | 0.1 | 2.9 | | 0.0 | 4.0 | | 0.1 | 9.2 | | 0.4 | 6.5 | |
| **Intersection Summary** | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 45.4 | | | | | | | | | |
| HCM 2010 LOS | | | D | | | | | | | | | |
| **Notes** | | | | | | | | | | | | |

## Euclid & Market (AM Peak Hour) with Proposed Lane Reduction (1 EB & 1 WB Through Lane) & Double Turn Lane (EB & WB)



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 84 | 150 | 99 | 80 | 493 | 367 | 255 | 677 | 78 | 162 | 444 | 170 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1700 | 1700 | 1900 | 1900 | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Lane Width | 13 | 11 | 8 | 14 | 11 | 8 | 13 | 12 | 8 | 10 | 12 | 12 |
| Total Lost time (s) | 4.4 | 4.9 | 4.9 | 4.4 | 5.2 | 5.2 | 4.4 | 4.9 | 4.9 | 4.4 | 5.7 | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.96 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.93 | 1.00 | 0.98 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3547 | 1801 | 1179 | 3276 | 1801 | 1345 | 1636 | 3167 | 1143 | 2867 | 2983 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3547 | 1801 | 1179 | 3276 | 1801 | 1345 | 1636 | 3167 | 1143 | 2867 | 2983 | |
| Peak-hour factor, PHF | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Adj. Flow (vph) | 92 | 165 | 109 | 88 | 542 | 403 | 280 | 744 | 86 | 178 | 488 | 187 |
| RTOR Reduction (vph) | 0 | 0 | 75 | 0 | 0 | 120 | 0 | 0 | 55 | 0 | 39 | 0 |
| Lane Group Flow (vph) | 92 | 165 | 34 | 88 | 542 | 283 | 280 | 744 | 31 | 178 | 636 | 0 |
| Confl. Peds. (#/hr) | | | 26 | | | 5 | | | 56 | | | 43 |
| Confl. Bikes (#/hr) | | | 5 | | | 3 | | | | | | 4 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | |
| Actuated Green, G (s) | 5.2 | 31.0 | 31.0 | 5.3 | 30.8 | 30.8 | 14.6 | 35.8 | 35.8 | 9.3 | 29.7 | |
| Effective Green, g (s) | 5.2 | 31.0 | 31.0 | 5.3 | 30.8 | 30.8 | 14.6 | 35.8 | 35.8 | 9.3 | 29.7 | |
| Actuated g/C Ratio | 0.05 | 0.31 | 0.31 | 0.05 | 0.31 | 0.31 | 0.15 | 0.36 | 0.36 | 0.09 | 0.30 | |
| Clearance Time (s) | 4.4 | 4.9 | 4.9 | 4.4 | 5.2 | 5.2 | 4.4 | 4.9 | 4.9 | 4.4 | 5.7 | |
| Vehicle Extension (s) | 2.0 | 3.2 | 3.2 | 2.0 | 2.6 | 2.6 | 2.0 | 3.3 | 3.3 | 2.0 | 2.3 | |
| Lane Grp Cap (vph) | 184 | 558 | 365 | 173 | 554 | 414 | 238 | 1133 | 409 | 266 | 885 | |
| v/s Ratio Prot | 0.03 | 0.09 | | c0.03 | c0.30 | | c0.17 | c0.23 | | 0.06 | 0.21 | |
| v/s Ratio Perm | | | 0.03 | | | 0.21 | | | 0.03 | | | |
| v/c Ratio | 0.50 | 0.30 | 0.09 | 0.51 | 0.98 | 0.68 | 1.18 | 0.66 | 0.08 | 0.67 | 0.72 | |
| Uniform Delay, d1 | 46.1 | 26.2 | 24.5 | 46.1 | 34.3 | 30.3 | 42.7 | 26.9 | 21.2 | 43.9 | 31.4 | |
| 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 | 0.8 | 0.3 | 0.1 | 0.9 | 32.3 | 4.3 | 114.4 | 3.0 | 0.4 | 4.9 | 5.0 | |
| Delay (s) | 46.9 | 26.5 | 24.6 | 46.9 | 66.6 | 34.7 | 157.1 | 29.9 | 21.5 | 48.7 | 36.4 | |
| Level of Service | D | C | C | D | E | C | F | C | C | D | D | |
| Approach Delay (s) | | 31.1 | | | 52.5 | | | 61.4 | | | 39.0 | |
| Approach LOS | | C | | | D | | | E | | | D | |

| Intersection Summary | | | | | |
|---|---|---|---|---|---|
| HCM 2000 Control Delay | 49.7 | HCM 2000 Level of Service | D | | |
| HCM 2000 Volume to Capacity ratio | 0.89 | | | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 19.7 | | |
| Intersection Capacity Utilization | 84.0% | ICU Level of Service | E | | |
| Analysis Period (min) | 15 | | | | |

c Critical Lane Group

## Euclid & Market (PM Peak Hour) with Proposed Lane Reduction (1 EB & 1 WB Through Lane) & Double Turn Lane (EB & WB)

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 187 | 471 | 221 | 112 | 169 | 236 | 199 | 633 | 106 | 350 | 699 | 142 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.98 | 1.00 | | 0.96 | 1.00 | | 0.97 |
| Parking Bus Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow veh/h/ln | 193.7 | 186.3 | 178.8 | 193.7 | 186.3 | 178.8 | 193.7 | 186.3 | 178.8 | 186.3 | 186.3 | 186.3 |
| Lanes | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 0 |
| Cap, veh/h | 264 | 572 | 448 | 186 | 532 | 425 | 240 | 1143 | 469 | 437 | 930 | 189 |
| Arrive On Green | 0.07 | 0.31 | 0.31 | 0.05 | 0.29 | 0.29 | 0.13 | 0.32 | 0.32 | 0.13 | 0.32 | 0.32 |
| Sat Flow, veh/h | 3579 | 1863 | 1459 | 3579 | 1863 | 1488 | 1845 | 3539 | 1454 | 3442 | 2911 | 592 |
| Grp Volume(v), veh/h | 195 | 491 | 230 | 124 | 188 | 262 | 207 | 659 | 110 | 365 | 442 | 434 |
| Grp Sat Flow(s),veh/h/ln | 1790 | 1863 | 1459 | 1790 | 1863 | 1488 | 1845 | 1770 | 1454 | 1721 | 1770 | 1733 |
| Q Serve(g_s), s | 5.5 | 25.6 | 13.4 | 3.5 | 8.3 | 15.7 | 11.3 | 16.0 | 5.7 | 10.7 | 23.4 | 23.4 |
| Cycle Q Clear(g_c), s | 5.5 | 25.6 | 13.4 | 3.5 | 8.3 | 15.7 | 11.3 | 16.0 | 5.7 | 10.7 | 23.4 | 23.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.34 |
| Lane Grp Cap(c), veh/h | 264 | 572 | 448 | 186 | 532 | 425 | 240 | 1143 | 469 | 437 | 565 | 554 |
| V/C Ratio(X) | 0.74 | 0.86 | 0.51 | 0.67 | 0.35 | 0.62 | 0.86 | 0.58 | 0.23 | 0.84 | 0.78 | 0.78 |
| Avail Cap(c_a), veh/h | 409 | 670 | 525 | 229 | 571 | 456 | 333 | 1328 | 546 | 634 | 657 | 644 |
| HCM Platoon Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 46.8 | 33.6 | 29.4 | 48.0 | 29.3 | 31.9 | 43.9 | 29.1 | 25.6 | 44.0 | 31.8 | 31.8 |
| Incr Delay (d2), s/veh | 1.5 | 9.7 | 1.0 | 2.9 | 0.3 | 2.0 | 11.9 | 2.1 | 1.2 | 4.4 | 10.4 | 10.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile Back of Q (50%), veh/ln | 2.6 | 13.6 | 5.0 | 1.7 | 3.9 | 6.1 | 6.1 | 7.4 | 2.2 | 5.0 | 12.1 | 11.9 |
| Lane Grp Delay (d), s/veh | 48.3 | 43.4 | 30.4 | 51.0 | 29.6 | 33.9 | 55.9 | 31.2 | 26.7 | 48.3 | 42.2 | 42.4 |
| Lane Grp LOS | D | D | C | D | C | C | E | C | C | D | D | D |
| Approach Vol, veh/h | | 916 | | | 574 | | | 976 | | | 1241 | |
| Approach Delay, s/veh | | 41.1 | | | 36.2 | | | 35.9 | | | 44.1 | |
| Approach LOS | | D | | | D | | | D | | | D | |

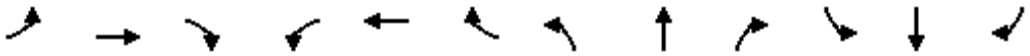
| Timer | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Assigned Phs | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Phs Duration (G+Y+Rc), s | 12.0 | 36.9 | | 9.8 | 34.7 | | 17.8 | 39.0 | | 17.5 | 38.7 | |
| Change Period (Y+Rc), s | 4.4 | 5.2 | | 4.4 | 5.2 | | 4.4 | 5.7 | | 4.4 | 5.7 | |
| Max Green Setting (Gmax), s | 11.8 | 37.1 | | 6.6 | 31.6 | | 18.6 | 38.7 | | 19.0 | 38.3 | |
| Max Q Clear Time (g_c+I1), s | 7.5 | 27.6 | | 5.5 | 17.7 | | 13.3 | 18.0 | | 12.7 | 25.4 | |
| Green Ext Time (p_c), s | 0.1 | 4.1 | | 0.0 | 5.1 | | 0.1 | 10.0 | | 0.4 | 7.5 | |

| Intersection Summary | |
|---|---|
| HCM 2010 Ctrl Delay | 40.0 |
| HCM 2010 LOS | D |

Notes

# Year 2035 EMLUMP Volumes with Proposed Intersection Modifications:

## Euclid & Imperial (AM Peak Hour)



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 161 | 501 | 48 | 82 | 946 | 177 | 235 | 353 | 73 | 120 | 165 | 116 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 14 | 13 | 12 | 8 | 10 | 11 | 14 | 9 | 12 | 12 |
| Total Lost time (s) | 4.4 | 4.9 | 4.9 | 4.4 | 5.1 | 5.1 | 4.4 | 5.2 | 5.2 | 4.4 | 4.4 | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.93 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.96 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| 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) | 3090 | 3539 | 1576 | 1829 | 3539 | 1325 | 3204 | 3421 | 1620 | 3090 | 3273 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3090 | 3539 | 1576 | 1829 | 3539 | 1325 | 3204 | 3421 | 1620 | 3090 | 3273 | |
| 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 |
| Growth Factor (vph) | 120% | 120% | 140% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% | 120% |
| Adj. Flow (vph) | 215 | 668 | 75 | 109 | 1261 | 236 | 313 | 471 | 97 | 160 | 220 | 155 |
| RTOR Reduction (vph) | 0 | 0 | 49 | 0 | 0 | 76 | 0 | 0 | 75 | 0 | 120 | 0 |
| Lane Group Flow (vph) | 215 | 668 | 26 | 109 | 1261 | 160 | 313 | 471 | 22 | 160 | 255 | 0 |
| Confl. Peds. (#/hr) | | | 55 | | | 21 | | | 25 | | | 19 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 1 | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | |
| Actuated Green, G (s) | 13.2 | 42.0 | 42.0 | 22.7 | 51.3 | 51.3 | 12.8 | 27.2 | 27.2 | 9.2 | 24.4 | |
| Effective Green, g (s) | 13.2 | 42.0 | 42.0 | 22.7 | 51.3 | 51.3 | 12.8 | 27.2 | 27.2 | 9.2 | 24.4 | |
| Actuated g/C Ratio | 0.11 | 0.35 | 0.35 | 0.19 | 0.43 | 0.43 | 0.11 | 0.23 | 0.23 | 0.08 | 0.20 | |
| Clearance Time (s) | 4.4 | 4.9 | 4.9 | 4.4 | 5.1 | 5.1 | 4.4 | 5.2 | 5.2 | 4.4 | 4.4 | |
| Vehicle Extension (s) | 2.0 | 3.5 | 3.5 | 2.0 | 3.2 | 3.2 | 2.0 | 4.4 | 4.4 | 2.0 | 4.9 | |
| Lane Grp Cap (vph) | 339 | 1238 | 551 | 345 | 1512 | 566 | 341 | 775 | 367 | 236 | 665 | |
| v/s Ratio Prot | c0.07 | 0.19 | | 0.06 | c0.36 | | c0.10 | c0.14 | | 0.05 | 0.08 | |
| v/s Ratio Perm | | | 0.02 | | | 0.12 | | | 0.01 | | | |
| v/c Ratio | 0.63 | 0.54 | 0.05 | 0.32 | 0.83 | 0.28 | 0.92 | 0.61 | 0.06 | 0.68 | 0.38 | |
| Uniform Delay, d1 | 51.1 | 31.3 | 25.8 | 42.0 | 30.6 | 22.4 | 53.1 | 41.6 | 36.4 | 54.0 | 41.3 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 2.8 | 0.5 | 0.0 | 2.4 | 5.6 | 1.2 | 28.1 | 1.7 | 0.1 | 6.0 | 0.7 | |
| Delay (s) | 53.9 | 31.8 | 25.8 | 44.3 | 36.1 | 23.6 | 81.2 | 43.4 | 36.5 | 59.9 | 42.0 | |
| Level of Service | D | C | C | D | D | C | F | D | D | E | D | |
| Approach Delay (s) | | 36.3 | | | 34.8 | | | 56.0 | | | 47.4 | |
| Approach LOS | | D | | | C | | | E | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 41.6 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.77 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 19.1 |
| Intersection Capacity Utilization | 77.6% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

# Year 2035 EMLUMP Volumes with Proposed Intersection Modifications:

## Euclid & Imperial (PM Peak Hour)

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 138 | 914 | 120 | 96 | 728 | 158 | 309 | 371 | 123 | 270 | 403 | 284 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow veh/h/ln | 178.8 | 186.3 | 193.7 | 193.7 | 186.3 | 178.8 | 186.3 | 186.3 | 193.7 | 178.8 | 186.3 | 186.3 |
| Lanes | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 0 |
| Cap, veh/h | 202 | 1203 | 560 | 126 | 1229 | 515 | 388 | 1099 | 501 | 345 | 593 | 414 |
| Arrive On Green | 0.06 | 0.34 | 0.00 | 0.07 | 0.35 | 0.35 | 0.11 | 0.31 | 0.31 | 0.10 | 0.30 | 0.30 |
| Sat Flow, veh/h | 3304 | 3539 | 1647 | 1845 | 3539 | 1482 | 3442 | 3539 | 1614 | 3304 | 1964 | 1370 |
| Grp Volume(v), veh/h | 144 | 952 | 0 | 100 | 758 | 165 | 322 | 386 | 128 | 281 | 378 | 338 |
| Grp Sat Flow(s),veh/h/ln | 1652 | 1770 | 1647 | 1845 | 1770 | 1482 | 1721 | 1770 | 1614 | 1652 | 1770 | 1564 |
| Q Serve(g_s), s | 4.6 | 26.3 | 0.0 | 5.8 | 19.2 | 8.8 | 9.9 | 9.1 | 6.4 | 9.0 | 20.5 | 20.8 |
| Cycle Q Clear(g_c), s | 4.6 | 26.3 | 0.0 | 5.8 | 19.2 | 8.8 | 9.9 | 9.1 | 6.4 | 9.0 | 20.5 | 20.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.88 |
| Lane Grp Cap(c), veh/h | 202 | 1203 | 560 | 126 | 1229 | 515 | 388 | 1099 | 501 | 345 | 535 | 473 |
| V/C Ratio(X) | 0.71 | 0.79 | 0.00 | 0.79 | 0.62 | 0.32 | 0.83 | 0.35 | 0.26 | 0.81 | 0.71 | 0.71 |
| Avail Cap(c_a), veh/h | 327 | 1280 | 595 | 181 | 1270 | 532 | 528 | 1110 | 506 | 535 | 583 | 515 |
| HCM Platoon Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 | 0.98 | 0.98 |
| Uniform Delay (d), s/veh | 49.8 | 32.2 | 0.0 | 49.6 | 29.3 | 25.9 | 47.0 | 28.9 | 27.9 | 47.4 | 33.5 | 33.6 |
| Incr Delay (d2), s/veh | 1.7 | 5.4 | 0.0 | 8.7 | 0.9 | 0.4 | 5.9 | 0.3 | 0.4 | 2.8 | 4.7 | 5.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile Back of Q (50%), veh/ln | 2.0 | 12.5 | 0.0 | 3.1 | 8.7 | 3.3 | 4.7 | 4.1 | 2.6 | 4.0 | 9.8 | 9.0 |
| Lane Grp Delay (d), s/veh | 51.6 | 37.6 | 0.0 | 58.3 | 30.2 | 26.3 | 52.9 | 29.2 | 28.4 | 50.2 | 38.1 | 39.1 |
| Lane Grp LOS | D | D | | E | C | C | D | C | C | D | D | D |
| Approach Vol, veh/h | | 1096 | | | 1023 | | | 836 | | | 997 | |
| Approach Delay, s/veh | | 39.4 | | | 32.3 | | | 38.2 | | | 41.9 | |
| Approach LOS | | D | | | C | | | D | | | D | |

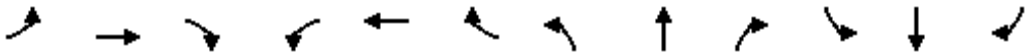
| Timer | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Assigned Phs | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Phs Duration (G+Y+Rc), s | 11.0 | 41.9 | | 11.8 | 42.7 | | 16.6 | 38.8 | | 15.7 | 37.9 | |
| Change Period (Y+Rc), s | 4.4 | 5.1 | | 4.4 | 5.1 | | 4.4 | 5.2 | | 4.4 | 5.2 | |
| Max Green Setting (Gmax), s | 10.7 | 39.1 | | 10.6 | 38.8 | | 16.6 | 33.9 | | 17.5 | 35.6 | |
| Max Q Clear Time (g_c+I1), s | 6.6 | 28.3 | | 7.8 | 21.2 | | 11.9 | 11.1 | | 11.0 | 22.8 | |
| Green Ext Time (p_c), s | 0.1 | 8.4 | | 0.0 | 12.3 | | 0.3 | 13.0 | | 0.3 | 8.6 | |

| Intersection Summary | | |
|---|---|---|
| HCM 2010 Ctrl Delay | | 37.9 |
| HCM 2010 LOS | | D |

Notes

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 115 | 762 | 80 | 80 | 607 | 132 | 221 | 265 | 88 | 237 | 336 | 225 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 14 | 13 | 12 | 8 | 10 | 11 | 14 | 9 | 12 | 12 |
| Total Lost time (s) | 4.4 | 4.9 | | 4.4 | 5.1 | 5.1 | 4.4 | 5.2 | | 4.4 | 4.4 | |
| Lane Util. Factor | 0.97 | 0.95 | | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3090 | 3466 | | 1829 | 3539 | 1334 | 3204 | 3276 | | 3090 | 3285 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3090 | 3466 | | 1829 | 3539 | 1334 | 3204 | 3276 | | 3090 | 3285 | |
| Peak-hour factor, PHF | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Growth Factor (vph) | 120% | 120% | 150% | 120% | 120% | 120% | 140% | 140% | 140% | 120% | 120% | 120% |
| Adj. Flow (vph) | 144 | 952 | 125 | 100 | 759 | 165 | 322 | 386 | 128 | 296 | 420 | 281 |
| RTOR Reduction (vph) | 0 | 8 | 0 | 0 | 0 | 100 | 0 | 28 | 0 | 0 | 105 | 0 |
| Lane Group Flow (vph) | 144 | 1069 | 0 | 100 | 759 | 65 | 322 | 486 | 0 | 296 | 596 | 0 |
| Confl. Peds. (#/hr) | | | 13 | | | 14 | | | 7 | | | 21 |
| Confl. Bikes (#/hr) | | | 3 | | | 2 | | | 2 | | | 2 |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Actuated Green, G (s) | 17.7 | 44.3 | | 9.0 | 35.4 | 35.4 | 13.2 | 32.4 | | 15.4 | 35.4 | |
| Effective Green, g (s) | 17.7 | 44.3 | | 9.0 | 35.4 | 35.4 | 13.2 | 32.4 | | 15.4 | 35.4 | |
| Actuated g/C Ratio | 0.15 | 0.37 | | 0.08 | 0.29 | 0.29 | 0.11 | 0.27 | | 0.13 | 0.29 | |
| Clearance Time (s) | 4.4 | 4.9 | | 4.4 | 5.1 | 5.1 | 4.4 | 5.2 | | 4.4 | 4.4 | |
| Vehicle Extension (s) | 2.0 | 3.5 | | 2.0 | 3.2 | 3.2 | 2.0 | 4.4 | | 2.0 | 4.9 | |
| Lane Grp Cap (vph) | 455 | 1279 | | 137 | 1044 | 393 | 352 | 884 | | 396 | 969 | |
| v/s Ratio Prot | 0.05 | c0.31 | | c0.05 | 0.21 | | c0.10 | 0.15 | | 0.10 | c0.18 | |
| v/s Ratio Perm | | | | | | 0.05 | | | | | | |
| v/c Ratio | 0.32 | 0.84 | | 0.73 | 0.73 | 0.17 | 0.91 | 0.55 | | 0.75 | 0.62 | |
| Uniform Delay, d1 | 45.7 | 34.5 | | 54.3 | 38.0 | 31.3 | 52.8 | 37.5 | | 50.4 | 36.4 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.8 | 6.6 | | 15.2 | 2.6 | 0.2 | 27.0 | 1.0 | | 6.6 | 1.6 | |
| Delay (s) | 47.6 | 41.1 | | 69.5 | 40.6 | 31.6 | 79.8 | 38.6 | | 57.0 | 38.1 | |
| Level of Service | D | D | | E | D | C | E | D | | E | D | |
| Approach Delay (s) | | 41.9 | | | 41.9 | | | 54.5 | | | 43.7 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 44.9 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.77 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 19.1 |
| Intersection Capacity Utilization | 86.3% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 115 | 762 | 80 | 80 | 607 | 132 | 221 | 265 | 88 | 237 | 336 | 225 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 9 | 12 | 14 | 13 | 12 | 8 | 10 | 11 | 14 | 9 | 12 | 12 |
| Total Lost time (s) | 4.4 | 4.9 | | 4.4 | 5.1 | 5.1 | 4.4 | 5.2 | 5.2 | 4.4 | 4.4 | |
| Lane Util. Factor | 0.97 | 0.95 | | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 0.98 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3090 | 3467 | | 1829 | 3539 | 1334 | 3204 | 3421 | 1650 | 3090 | 3285 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3090 | 3467 | | 1829 | 3539 | 1334 | 3204 | 3421 | 1650 | 3090 | 3285 | |
| Peak-hour factor, PHF | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Growth Factor (vph) | 120% | 120% | 150% | 120% | 120% | 120% | 140% | 140% | 140% | 120% | 120% | 120% |
| Adj. Flow (vph) | 144 | 952 | 125 | 100 | 759 | 165 | 322 | 386 | 128 | 296 | 420 | 281 |
| RTOR Reduction (vph) | 0 | 8 | 0 | 0 | 0 | 100 | 0 | 0 | 93 | 0 | 105 | 0 |
| Lane Group Flow (vph) | 144 | 1069 | 0 | 100 | 759 | 65 | 322 | 386 | 35 | 296 | 596 | 0 |
| Confl. Peds. (#/hr) | | | 13 | | | 14 | | | 7 | | | 21 |
| Confl. Bikes (#/hr) | | | 3 | | | 2 | | | 2 | | | 2 |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | 2 | | | |
| Actuated Green, G (s) | 17.8 | 44.3 | | 9.0 | 35.3 | 35.3 | 13.2 | 32.4 | 32.4 | 15.4 | 35.4 | |
| Effective Green, g (s) | 17.8 | 44.3 | | 9.0 | 35.3 | 35.3 | 13.2 | 32.4 | 32.4 | 15.4 | 35.4 | |
| Actuated g/C Ratio | 0.15 | 0.37 | | 0.08 | 0.29 | 0.29 | 0.11 | 0.27 | 0.27 | 0.13 | 0.29 | |
| Clearance Time (s) | 4.4 | 4.9 | | 4.4 | 5.1 | 5.1 | 4.4 | 5.2 | 5.2 | 4.4 | 4.4 | |
| Vehicle Extension (s) | 2.0 | 3.5 | | 2.0 | 3.2 | 3.2 | 2.0 | 4.4 | 4.4 | 2.0 | 4.9 | |
| Lane Grp Cap (vph) | 458 | 1279 | | 137 | 1041 | 392 | 352 | 923 | 445 | 396 | 969 | |
| v/s Ratio Prot | 0.05 | c0.31 | | c0.05 | 0.21 | | c0.10 | 0.11 | | 0.10 | c0.18 | |
| v/s Ratio Perm | | | | | | 0.05 | | | 0.02 | | | |
| v/c Ratio | 0.31 | 0.84 | | 0.73 | 0.73 | 0.17 | 0.91 | 0.42 | 0.08 | 0.75 | 0.62 | |
| Uniform Delay, d1 | 45.6 | 34.5 | | 54.3 | 38.1 | 31.4 | 52.8 | 36.0 | 32.7 | 50.4 | 36.4 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.8 | 6.6 | | 15.2 | 2.6 | 0.2 | 27.0 | 0.5 | 0.1 | 6.6 | 1.6 | |
| Delay (s) | 47.4 | 41.1 | | 69.5 | 40.7 | 31.6 | 79.8 | 36.6 | 32.8 | 57.0 | 38.1 | |
| Level of Service | D | D | | E | D | C | E | D | C | E | D | |
| Approach Delay (s) | | 41.9 | | | 42.0 | | | 52.6 | | | 43.7 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 44.6 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.77 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 19.1 |
| Intersection Capacity Utilization | 87.1% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |