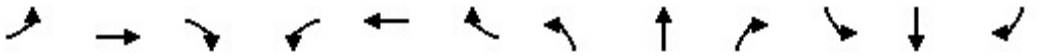
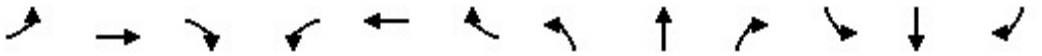


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 703 | 523 | 318 | 51 | 734 | 493 | 249 | 871 | 12 | 224 | 906 | 313 |
| v/c Ratio | 1.46 | 0.65 | 0.53 | 0.42 | 1.48 | 0.93 | 0.63 | 0.39 | 0.01 | 0.60 | 0.42 | 0.37 |
| Control Delay | 254.8 | 45.3 | 7.9 | 60.5 | 262.1 | 40.5 | 55.3 | 23.5 | 0.0 | 55.2 | 24.4 | 3.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 254.8 | 45.3 | 7.9 | 60.5 | 262.1 | 40.5 | 55.3 | 23.5 | 0.0 | 55.2 | 24.4 | 3.9 |
| Queue Length 50th (ft) | ~363 | 188 | 0 | 36 | ~390 | 107 | 91 | 157 | 0 | 81 | 168 | 0 |
| Queue Length 95th (ft) | #482 | 255 | 79 | 76 | #513 | #318 | 129 | 205 | 0 | 118 | 218 | 56 |
| Internal Link Dist (ft) | | 695 | | | 440 | | | 948 | | | 564 | |
| Turn Bay Length (ft) | 550 | | 550 | 270 | | 270 | 550 | | 950 | 425 | | 430 |
| Base Capacity (vph) | 481 | 810 | 602 | 155 | 496 | 528 | 572 | 2218 | 811 | 790 | 2159 | 838 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.46 | 0.65 | 0.53 | 0.33 | 1.48 | 0.93 | 0.44 | 0.39 | 0.01 | 0.28 | 0.42 | 0.37 |

Intersection Summary

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

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



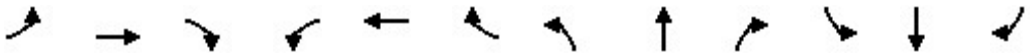
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 689 | 513 | 312 | 50 | 719 | 483 | 244 | 854 | 12 | 220 | 888 | 307 |
| Future Volume (veh/h) | 689 | 513 | 312 | 50 | 719 | 483 | 244 | 854 | 12 | 220 | 888 | 307 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1885 | 1870 | 1900 | 1900 | 1885 | 1885 | 1870 |
| Adj Flow Rate, veh/h | 703 | 523 | 0 | 51 | 734 | 493 | 249 | 871 | 12 | 224 | 906 | 0 |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 0 | 0 | 1 | 1 | 2 |
| Cap, veh/h | 485 | 866 | | 66 | 499 | 224 | 317 | 2336 | 725 | 295 | 2281 | |
| Arrive On Green | 0.14 | 0.24 | 0.00 | 0.04 | 0.14 | 0.14 | 0.09 | 0.45 | 0.45 | 0.08 | 0.44 | 0.00 |
| Sat Flow, veh/h | 3456 | 3554 | 1585 | 1781 | 3554 | 1594 | 3456 | 5187 | 1609 | 3483 | 5147 | 1585 |
| Grp Volume(v), veh/h | 703 | 523 | 0 | 51 | 734 | 493 | 249 | 871 | 12 | 224 | 906 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1585 | 1781 | 1777 | 1594 | 1728 | 1729 | 1609 | 1742 | 1716 | 1585 |
| Q Serve(g_s), s | 16.0 | 14.9 | 0.0 | 3.2 | 16.0 | 16.0 | 8.0 | 12.6 | 0.5 | 7.2 | 13.6 | 0.0 |
| Cycle Q Clear(g_c), s | 16.0 | 14.9 | 0.0 | 3.2 | 16.0 | 16.0 | 8.0 | 12.6 | 0.5 | 7.2 | 13.6 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 485 | 866 | | 66 | 499 | 224 | 317 | 2336 | 725 | 295 | 2281 | |
| V/C Ratio(X) | 1.45 | 0.60 | | 0.78 | 1.47 | 2.20 | 0.78 | 0.37 | 0.02 | 0.76 | 0.40 | |
| Avail Cap(c_a), veh/h | 485 | 866 | | 156 | 499 | 224 | 576 | 2336 | 725 | 794 | 2281 | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 49.0 | 38.2 | 0.0 | 54.4 | 49.0 | 49.0 | 50.7 | 20.7 | 17.4 | 51.0 | 21.4 | 0.0 |
| Incr Delay (d2), s/veh | 213.6 | 1.2 | 0.0 | 13.3 | 223.0 | 555.9 | 3.2 | 0.5 | 0.0 | 3.0 | 0.5 | 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 BackOfQ(50%),veh/ln | 21.3 | 6.6 | 0.0 | 1.7 | 22.5 | 40.9 | 3.6 | 5.2 | 0.2 | 3.2 | 5.5 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 262.6 | 39.4 | 0.0 | 67.8 | 272.0 | 604.9 | 53.9 | 21.2 | 17.4 | 54.0 | 22.0 | 0.0 |
| LnGrp LOS | F | D | | E | F | F | D | C | B | D | C | |
| Approach Vol, veh/h | | 1226 | A | | 1278 | | | 1132 | | | 1130 | A |
| Approach Delay, s/veh | | 167.4 | | | 392.2 | | | 28.3 | | | 28.3 | |
| Approach LOS | | F | | | F | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 15.5 | 56.5 | 21.0 | 21.0 | 14.7 | 57.3 | 9.2 | 32.8 |
| Change Period (Y+Rc), s | 5.0 | 6.0 | 5.0 | 5.0 | 5.0 | 6.0 | 5.0 | 5.0 |
| Max Green Setting (Gmax), s | 19.0 | 42.0 | 16.0 | 16.0 | 26.0 | 35.0 | 10.0 | 22.0 |
| Max Q Clear Time (g_c+I1), s | 10.0 | 15.6 | 18.0 | 18.0 | 9.2 | 14.6 | 5.2 | 16.9 |
| Green Ext Time (p_c), s | 0.4 | 12.2 | 0.0 | 0.0 | 0.5 | 10.2 | 0.0 | 1.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 161.7 |
| HCM 6th LOS | F |

**Notes**

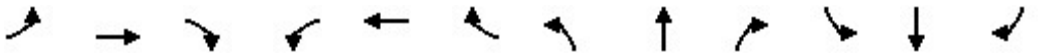
Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 120 | 158 | 187 | 424 | 135 | 95 | 145 | 1346 | 359 | 98 | 1187 | 64 |
| v/c Ratio | 0.66 | 0.72 | 0.37 | 1.00 | 0.52 | 0.29 | 0.69 | 0.55 | 0.31 | 0.58 | 0.51 | 0.08 |
| Control Delay | 65.9 | 67.0 | 20.0 | 93.5 | 53.8 | 6.0 | 64.9 | 22.7 | 2.5 | 62.8 | 23.8 | 0.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 65.9 | 67.0 | 20.0 | 93.5 | 53.8 | 6.0 | 64.9 | 22.7 | 2.5 | 62.8 | 23.8 | 0.6 |
| Queue Length 50th (ft) | 85 | 112 | 61 | 162 | 92 | 0 | 103 | 256 | 14 | 70 | 228 | 0 |
| Queue Length 95th (ft) | 146 | #186 | 119 | #268 | 159 | 29 | 167 | 319 | 52 | 123 | 286 | 4 |
| Internal Link Dist (ft) | | 380 | | | 538 | | | 1004 | | | 707 | |
| Turn Bay Length (ft) | 150 | | 350 | 460 | | | 400 | | | 270 | | 280 |
| Base Capacity (vph) | 219 | 245 | 544 | 425 | 259 | 327 | 261 | 2444 | 1154 | 219 | 2315 | 783 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.55 | 0.64 | 0.34 | 1.00 | 0.52 | 0.29 | 0.56 | 0.55 | 0.31 | 0.45 | 0.51 | 0.08 |

Intersection Summary

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 110 | 145 | 172 | 390 | 124 | 87 | 133 | 1238 | 330 | 90 | 1092 | 59 |
| Future Volume (veh/h) | 110 | 145 | 172 | 390 | 124 | 87 | 133 | 1238 | 330 | 90 | 1092 | 59 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1885 | 1870 | 1870 | 1885 | 1885 | 1885 | 1856 | 1870 | 1885 | 1885 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 120 | 158 | 187 | 424 | 135 | 95 | 145 | 1346 | 359 | 98 | 1187 | 64 |
| 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 |
| Percent Heavy Veh, % | 1 | 2 | 2 | 1 | 1 | 1 | 3 | 2 | 1 | 1 | 2 | 2 |
| Cap, veh/h | 147 | 231 | 351 | 428 | 309 | 262 | 174 | 2558 | 997 | 123 | 2407 | 747 |
| Arrive On Green | 0.08 | 0.12 | 0.12 | 0.12 | 0.16 | 0.16 | 0.10 | 0.50 | 0.50 | 0.07 | 0.47 | 0.47 |
| Sat Flow, veh/h | 1795 | 1870 | 1585 | 3483 | 1885 | 1598 | 1767 | 5106 | 1598 | 1795 | 5106 | 1585 |
| Grp Volume(v), veh/h | 120 | 158 | 187 | 424 | 135 | 95 | 145 | 1346 | 359 | 98 | 1187 | 64 |
| Grp Sat Flow(s),veh/h/ln | 1795 | 1870 | 1585 | 1742 | 1885 | 1598 | 1767 | 1702 | 1598 | 1795 | 1702 | 1585 |
| Q Serve(g_s), s | 7.5 | 9.2 | 11.9 | 13.9 | 7.4 | 6.0 | 9.2 | 20.4 | 12.4 | 6.1 | 18.3 | 2.5 |
| Cycle Q Clear(g_c), s | 7.5 | 9.2 | 11.9 | 13.9 | 7.4 | 6.0 | 9.2 | 20.4 | 12.4 | 6.1 | 18.3 | 2.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 147 | 231 | 351 | 428 | 309 | 262 | 174 | 2558 | 997 | 123 | 2407 | 747 |
| V/C Ratio(X) | 0.81 | 0.69 | 0.53 | 0.99 | 0.44 | 0.36 | 0.84 | 0.53 | 0.36 | 0.79 | 0.49 | 0.09 |
| Avail Cap(c_a), veh/h | 220 | 246 | 364 | 428 | 309 | 262 | 264 | 2558 | 997 | 220 | 2407 | 747 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 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 | 51.5 | 47.9 | 39.2 | 49.9 | 42.9 | 42.4 | 50.5 | 19.3 | 10.4 | 52.3 | 20.7 | 16.6 |
| Incr Delay (d2), s/veh | 11.1 | 7.1 | 1.4 | 41.1 | 1.0 | 0.8 | 11.2 | 0.8 | 1.0 | 8.3 | 0.7 | 0.2 |
| 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 BackOfQ(50%),veh/ln | 3.8 | 4.7 | 4.7 | 8.4 | 3.5 | 2.4 | 4.6 | 8.0 | 4.5 | 3.0 | 7.3 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 62.6 | 54.9 | 40.5 | 91.0 | 43.9 | 43.2 | 61.7 | 20.1 | 11.4 | 60.6 | 21.5 | 16.8 |
| LnGrp LOS | E | D | D | F | D | D | E | C | B | E | C | B |
| Approach Vol, veh/h | | 465 | | | 654 | | | 1850 | | | 1349 | |
| Approach Delay, s/veh | | 51.1 | | | 74.3 | | | 21.6 | | | 24.1 | |
| Approach LOS | | D | | | E | | | C | | | C | |

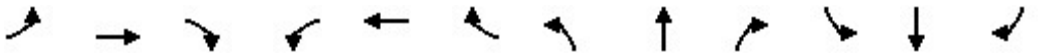
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.2 | 59.7 | 19.0 | 19.1 | 12.8 | 63.1 | 14.4 | 23.7 |
| Change Period (Y+Rc), s | 5.0 | 6.0 | 5.0 | 5.0 | 5.0 | 6.0 | 5.0 | 5.0 |
| Max Green Setting (Gmax), s | 17.0 | 47.0 | 14.0 | 15.0 | 14.0 | 50.0 | 14.0 | 15.0 |
| Max Q Clear Time (g_c+I1), s | 11.2 | 20.3 | 15.9 | 13.9 | 8.1 | 22.4 | 9.5 | 9.4 |
| Green Ext Time (p_c), s | 0.1 | 16.7 | 0.0 | 0.2 | 0.1 | 21.2 | 0.1 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 33.6 |
| HCM 6th LOS | C |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 7 | 39 | 279 | 277 | 161 | 37 | 1180 | 172 | 60 | 1884 |
| v/c Ratio | 0.08 | 0.17 | 0.73 | 0.72 | 0.33 | 0.32 | 0.45 | 0.14 | 0.45 | 0.67 |
| Control Delay | 54.0 | 1.5 | 53.8 | 53.3 | 6.7 | 57.7 | 19.1 | 0.7 | 60.0 | 21.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.0 | 1.5 | 53.8 | 53.3 | 6.7 | 57.7 | 19.1 | 0.7 | 60.0 | 21.4 |
| Queue Length 50th (ft) | 5 | 0 | 205 | 203 | 0 | 26 | 206 | 0 | 43 | 388 |
| Queue Length 95th (ft) | 20 | 0 | #354 | #350 | 48 | 60 | 263 | 11 | 85 | 472 |
| Internal Link Dist (ft) | 349 | | | 285 | | | 640 | | | 671 |
| Turn Bay Length (ft) | | | | | 160 | 65 | | 215 | 450 | |
| Base Capacity (vph) | 191 | 316 | 384 | 386 | 495 | 170 | 2625 | 1261 | 304 | 2809 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.04 | 0.12 | 0.73 | 0.72 | 0.33 | 0.22 | 0.45 | 0.14 | 0.20 | 0.67 |

Intersection Summary

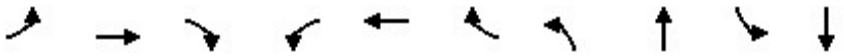
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 2 | 36 | 509 | 8 | 150 | 34 | 1097 | 160 | 56 | 1729 | 23 |
| Future Volume (vph) | 5 | 2 | 36 | 509 | 8 | 150 | 34 | 1097 | 160 | 56 | 1729 | 23 |
| 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 | 6.0 | 5.0 | 5.0 | 6.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | |
| Frpb, ped/bikes | | 1.00 | 0.98 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 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 | | 0.97 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1821 | 1533 | 1681 | 1689 | 1583 | 1770 | 5085 | 1568 | 1736 | 5125 | |
| Flt Permitted | | 0.97 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1821 | 1533 | 1681 | 1689 | 1583 | 1770 | 5085 | 1568 | 1736 | 5125 | |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Adj. Flow (vph) | 5 | 2 | 39 | 547 | 9 | 161 | 37 | 1180 | 172 | 60 | 1859 | 25 |
| RTOR Reduction (vph) | 0 | 0 | 38 | 0 | 0 | 124 | 0 | 0 | 48 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 7 | 1 | 279 | 277 | 37 | 37 | 1180 | 124 | 60 | 1883 | 0 |
| Confl. Peds. (#/hr) | | | 1 | 1 | | | | | | | | |
| Heavy Vehicles (%) | 1% | 0% | 3% | 2% | 0% | 2% | 2% | 2% | 3% | 4% | 1% | 2% |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 3 | 3 | | 4 | 4 | | 1 | 6 | 4 | 5 | 2 | |
| Permitted Phases | | | 3 | | | 4 | | | 6 | | | |
| Actuated Green, G (s) | | 3.3 | 3.3 | 26.1 | 26.1 | 26.1 | 5.2 | 55.8 | 81.9 | 7.8 | 58.4 | |
| Effective Green, g (s) | | 3.3 | 3.3 | 26.1 | 26.1 | 26.1 | 5.2 | 55.8 | 81.9 | 7.8 | 58.4 | |
| Actuated g/C Ratio | | 0.03 | 0.03 | 0.23 | 0.23 | 0.23 | 0.05 | 0.49 | 0.72 | 0.07 | 0.51 | |
| Clearance Time (s) | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 6.0 | 5.0 | 5.0 | 6.0 | |
| Vehicle Extension (s) | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.5 | 4.0 | 2.0 | 2.5 | 4.0 | |
| Lane Grp Cap (vph) | | 52 | 44 | 384 | 386 | 362 | 80 | 2488 | 1126 | 118 | 2625 | |
| v/s Ratio Prot | | c0.00 | | c0.17 | 0.16 | | 0.02 | 0.23 | 0.03 | c0.03 | c0.37 | |
| v/s Ratio Perm | | | 0.00 | | | 0.02 | | | 0.05 | | | |
| v/c Ratio | | 0.13 | 0.03 | 0.73 | 0.72 | 0.10 | 0.46 | 0.47 | 0.11 | 0.51 | 0.72 | |
| Uniform Delay, d1 | | 54.0 | 53.8 | 40.6 | 40.5 | 34.7 | 53.0 | 19.3 | 4.9 | 51.2 | 21.4 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.4 | 0.1 | 5.7 | 5.2 | 0.0 | 3.1 | 0.7 | 0.0 | 2.5 | 1.7 | |
| Delay (s) | | 54.4 | 53.9 | 46.4 | 45.8 | 34.7 | 56.1 | 20.0 | 4.9 | 53.7 | 23.2 | |
| Level of Service | | D | D | D | D | C | E | B | A | D | C | |
| Approach Delay (s) | | 54.0 | | | 43.5 | | | 19.1 | | | 24.1 | |
| Approach LOS | | D | | | D | | | B | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 26.1 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.70 | | |
| Actuated Cycle Length (s) | 114.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 72.4% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

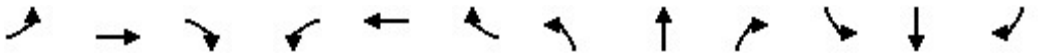


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 37 | 689 | 89 | 93 | 686 | 405 | 194 | 879 | 395 | 1439 |
| v/c Ratio | 0.34 | 0.90 | 0.20 | 0.58 | 0.69 | 0.55 | 0.80 | 0.55 | 1.16 | 0.76 |
| Control Delay | 59.2 | 60.4 | 4.0 | 63.4 | 42.4 | 6.8 | 71.3 | 32.6 | 140.6 | 35.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 59.2 | 60.4 | 4.0 | 63.4 | 42.4 | 6.8 | 71.3 | 32.6 | 140.6 | 35.1 |
| Queue Length 50th (ft) | 27 | 261 | 0 | 67 | 248 | 0 | 138 | 187 | ~343 | 341 |
| Queue Length 95th (ft) | 60 | #421 | 21 | 117 | #357 | 85 | #231 | 231 | #535 | 408 |
| Internal Link Dist (ft) | | 487 | | | 952 | | | 657 | | 412 |
| Turn Bay Length (ft) | 230 | | 55 | 475 | | 875 | 475 | | 275 | |
| Base Capacity (vph) | 217 | 764 | 436 | 248 | 988 | 737 | 279 | 1601 | 341 | 1882 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.17 | 0.90 | 0.20 | 0.38 | 0.69 | 0.55 | 0.70 | 0.55 | 1.16 | 0.76 |

Intersection Summary

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

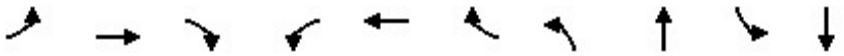
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 36 | 668 | 86 | 90 | 665 | 393 | 188 | 725 | 128 | 383 | 1353 | 43 |
| Future Volume (veh/h) | 36 | 668 | 86 | 90 | 665 | 393 | 188 | 725 | 128 | 383 | 1353 | 43 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1856 | 1870 | 1856 | 1870 | 1870 | 1885 | 1885 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 37 | 689 | 89 | 93 | 686 | 405 | 194 | 747 | 132 | 395 | 1395 | 44 |
| 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 |
| Percent Heavy Veh, % | 2 | 2 | 3 | 2 | 3 | 2 | 2 | 1 | 1 | 2 | 2 | 2 |
| Cap, veh/h | 54 | 592 | 262 | 117 | 713 | 321 | 223 | 1720 | 301 | 344 | 2330 | 73 |
| Arrive On Green | 0.03 | 0.17 | 0.17 | 0.07 | 0.20 | 0.20 | 0.13 | 0.39 | 0.39 | 0.19 | 0.46 | 0.46 |
| Sat Flow, veh/h | 1781 | 3554 | 1572 | 1781 | 3526 | 1585 | 1781 | 4406 | 771 | 1781 | 5085 | 160 |
| Grp Volume(v), veh/h | 37 | 689 | 89 | 93 | 686 | 405 | 194 | 580 | 299 | 395 | 934 | 505 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1572 | 1781 | 1763 | 1585 | 1781 | 1716 | 1746 | 1781 | 1702 | 1841 |
| Q Serve(g_s), s | 2.3 | 19.0 | 5.7 | 5.9 | 22.0 | 23.1 | 12.2 | 14.1 | 14.3 | 22.0 | 23.3 | 23.3 |
| Cycle Q Clear(g_c), s | 2.3 | 19.0 | 5.7 | 5.9 | 22.0 | 23.1 | 12.2 | 14.1 | 14.3 | 22.0 | 23.3 | 23.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.44 | 1.00 | | 0.09 |
| Lane Grp Cap(c), veh/h | 54 | 592 | 262 | 117 | 713 | 321 | 223 | 1339 | 682 | 344 | 1560 | 844 |
| V/C Ratio(X) | 0.69 | 1.16 | 0.34 | 0.79 | 0.96 | 1.26 | 0.87 | 0.43 | 0.44 | 1.15 | 0.60 | 0.60 |
| Avail Cap(c_a), veh/h | 219 | 592 | 262 | 250 | 713 | 321 | 281 | 1339 | 682 | 344 | 1560 | 844 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 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 | 54.7 | 47.5 | 42.0 | 52.5 | 45.0 | 45.5 | 49.0 | 25.5 | 25.6 | 46.0 | 23.1 | 23.1 |
| Incr Delay (d2), s/veh | 5.6 | 91.0 | 2.8 | 4.5 | 25.3 | 141.1 | 17.9 | 1.0 | 2.0 | 95.4 | 1.7 | 3.1 |
| 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 BackOfQ(50%),veh/ln | 1.1 | 15.8 | 2.4 | 2.8 | 12.0 | 21.6 | 6.5 | 5.9 | 6.3 | 18.8 | 9.6 | 10.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.4 | 138.5 | 44.7 | 57.0 | 70.4 | 186.6 | 66.8 | 26.5 | 27.6 | 141.4 | 24.8 | 26.2 |
| LnGrp LOS | E | F | D | E | E | F | E | C | C | F | C | C |
| Approach Vol, veh/h | | 815 | | | 1184 | | | 1073 | | | 1834 | |
| Approach Delay, s/veh | | 124.7 | | | 109.1 | | | 34.1 | | | 50.3 | |
| Approach LOS | | F | | | F | | | C | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 19.3 | 58.2 | 8.5 | 28.1 | 27.0 | 50.5 | 12.5 | 24.0 |
| Change Period (Y+Rc), s | 5.0 | 6.0 | 5.0 | 5.0 | 5.0 | 6.0 | 5.0 | 5.0 |
| Max Green Setting (Gmax), s | 18.0 | 40.0 | 14.0 | 21.0 | 22.0 | 36.0 | 16.0 | 19.0 |
| Max Q Clear Time (g_c+I1), s | 14.2 | 25.3 | 4.3 | 25.1 | 24.0 | 16.3 | 7.9 | 21.0 |
| Green Ext Time (p_c), s | 0.1 | 12.7 | 0.0 | 0.0 | 0.0 | 11.5 | 0.1 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 73.3 |
| HCM 6th LOS | E |

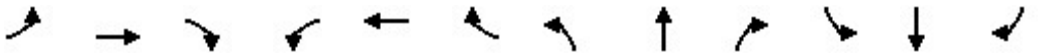


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 70 | 258 | 148 | 281 | 239 | 82 | 93 | 1289 | 140 | 1434 |
| v/c Ratio | 0.29 | 1.02 | 0.28 | 1.04 | 0.84 | 0.22 | 0.57 | 0.69 | 0.71 | 0.73 |
| Control Delay | 48.0 | 110.9 | 12.6 | 114.0 | 73.4 | 1.3 | 62.1 | 30.6 | 68.8 | 32.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 48.0 | 110.9 | 12.6 | 114.0 | 73.4 | 1.3 | 62.1 | 30.6 | 68.8 | 32.4 |
| Queue Length 50th (ft) | 47 | ~197 | 26 | ~234 | 174 | 0 | 66 | 272 | 100 | 319 |
| Queue Length 95th (ft) | 92 | #364 | 74 | #403 | #320 | 0 | 117 | 330 | 166 | 396 |
| Internal Link Dist (ft) | | 431 | | | 703 | | | 305 | | 418 |
| Turn Bay Length (ft) | 225 | | 350 | 325 | | | 275 | | 175 | |
| Base Capacity (vph) | 240 | 253 | 574 | 270 | 283 | 377 | 222 | 1862 | 227 | 1973 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.29 | 1.02 | 0.26 | 1.04 | 0.84 | 0.22 | 0.42 | 0.69 | 0.62 | 0.73 |

Intersection Summary

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

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



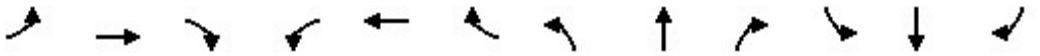
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 68 | 250 | 144 | 273 | 232 | 80 | 90 | 921 | 330 | 136 | 1345 | 46 |
| Future Volume (vph) | 68 | 250 | 144 | 273 | 232 | 80 | 90 | 921 | 330 | 136 | 1345 | 46 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.8 | | 6.5 | 6.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.91 | | 1.00 | 0.91 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 1.00 | |
| 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 | 1863 | 1583 | 1770 | 1863 | 1583 | 1752 | 4871 | | 1787 | 5062 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1752 | 4871 | | 1787 | 5062 | |
| 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) | 70 | 258 | 148 | 281 | 239 | 82 | 93 | 949 | 340 | 140 | 1387 | 47 |
| RTOR Reduction (vph) | 0 | 0 | 76 | 0 | 0 | 69 | 0 | 56 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 70 | 258 | 72 | 281 | 239 | 13 | 93 | 1233 | 0 | 140 | 1431 | 0 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 3% | 2% | 3% | 1% | 2% | 1% |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | 1 | 3 | 3 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 4 | | | 3 | | | | | | |
| Actuated Green, G (s) | 15.5 | 15.5 | 26.2 | 17.4 | 17.4 | 17.4 | 10.7 | 42.3 | | 12.5 | 44.4 | |
| Effective Green, g (s) | 15.5 | 15.5 | 26.2 | 17.4 | 17.4 | 17.4 | 10.7 | 42.3 | | 12.5 | 44.4 | |
| Actuated g/C Ratio | 0.14 | 0.14 | 0.23 | 0.15 | 0.15 | 0.15 | 0.09 | 0.37 | | 0.11 | 0.39 | |
| Clearance Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.8 | | 6.5 | 6.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 2.5 | 3.0 | 3.0 | 3.0 | 2.5 | 4.0 | | 2.5 | 4.0 | |
| Lane Grp Cap (vph) | 240 | 253 | 454 | 270 | 284 | 241 | 164 | 1807 | | 195 | 1971 | |
| v/s Ratio Prot | 0.04 | c0.14 | 0.01 | c0.16 | 0.13 | | 0.05 | 0.25 | | c0.08 | c0.28 | |
| v/s Ratio Perm | | | 0.03 | | | 0.01 | | | | | | |
| v/c Ratio | 0.29 | 1.02 | 0.16 | 1.04 | 0.84 | 0.05 | 0.57 | 0.68 | | 0.72 | 0.73 | |
| Uniform Delay, d1 | 44.3 | 49.2 | 35.1 | 48.3 | 47.0 | 41.3 | 49.4 | 30.2 | | 49.0 | 29.6 | |
| 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 | 0.7 | 61.8 | 0.1 | 65.8 | 19.6 | 0.1 | 3.6 | 2.1 | | 11.1 | 2.4 | |
| Delay (s) | 45.0 | 111.0 | 35.2 | 114.1 | 66.6 | 41.3 | 53.0 | 32.3 | | 60.2 | 32.0 | |
| Level of Service | D | F | D | F | E | D | D | C | | E | C | |
| Approach Delay (s) | | 77.7 | | | 85.3 | | | 33.7 | | | 34.5 | |
| Approach LOS | | E | | | F | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 46.9 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.86 | | |
| Actuated Cycle Length (s) | 114.0 | Sum of lost time (s) | 26.3 |
| Intersection Capacity Utilization | 82.9% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 6 | 106 | 95 | 17 | 1377 | 120 | 1728 |
| v/c Ratio | 0.04 | 0.70 | 0.37 | 0.18 | 0.43 | 0.65 | 0.46 |
| Control Delay | 0.5 | 72.0 | 13.3 | 55.3 | 11.1 | 64.5 | 7.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 0.5 | 72.0 | 13.3 | 55.3 | 11.1 | 64.5 | 7.0 |
| Queue Length 50th (ft) | 0 | 75 | 0 | 12 | 175 | 85 | 127 |
| Queue Length 95th (ft) | 0 | #150 | 49 | 36 | 221 | 145 | 249 |
| Internal Link Dist (ft) | 239 | 270 | | | 271 | | 254 |
| Turn Bay Length (ft) | | | 95 | 200 | | 175 | |
| Base Capacity (vph) | 254 | 172 | 282 | 177 | 3239 | 232 | 3758 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.02 | 0.62 | 0.34 | 0.10 | 0.43 | 0.52 | 0.46 |

Intersection Summary

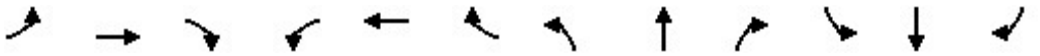
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 4 | 0 | 2 | 99 | 2 | 90 | 16 | 1268 | 40 | 114 | 1626 | 15 |
| Future Volume (veh/h) | 4 | 0 | 2 | 99 | 2 | 90 | 16 | 1268 | 40 | 114 | 1626 | 15 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1900 | 1900 | 1900 | 1900 | 1900 | 1856 | 1796 | 1856 | 1856 | 1870 | 1856 | 1856 |
| Adj Flow Rate, veh/h | 4 | 0 | 2 | 104 | 2 | 95 | 17 | 1335 | 42 | 120 | 1712 | 16 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 0 | 0 | 0 | 0 | 0 | 3 | 7 | 3 | 3 | 2 | 3 | 3 |
| Cap, veh/h | 71 | 10 | 14 | 192 | 2 | 149 | 31 | 3440 | 108 | 147 | 3863 | 36 |
| Arrive On Green | 0.10 | 0.00 | 0.10 | 0.10 | 0.10 | 0.10 | 0.02 | 0.68 | 0.68 | 0.08 | 0.75 | 0.75 |
| Sat Flow, veh/h | 188 | 110 | 149 | 1359 | 26 | 1572 | 1711 | 5045 | 159 | 1781 | 5175 | 48 |
| Grp Volume(v), veh/h | 6 | 0 | 0 | 106 | 0 | 95 | 17 | 894 | 483 | 120 | 1117 | 611 |
| Grp Sat Flow(s),veh/h/ln | 448 | 0 | 0 | 1385 | 0 | 1572 | 1711 | 1689 | 1827 | 1781 | 1689 | 1847 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 6.6 | 1.1 | 13.0 | 13.0 | 7.6 | 14.3 | 14.3 |
| Cycle Q Clear(g_c), s | 8.7 | 0.0 | 0.0 | 8.6 | 0.0 | 6.6 | 1.1 | 13.0 | 13.0 | 7.6 | 14.3 | 14.3 |
| Prop In Lane | 0.67 | | 0.33 | 0.98 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 95 | 0 | 0 | 194 | 0 | 149 | 31 | 2303 | 1246 | 147 | 2521 | 1378 |
| V/C Ratio(X) | 0.06 | 0.00 | 0.00 | 0.55 | 0.00 | 0.64 | 0.54 | 0.39 | 0.39 | 0.81 | 0.44 | 0.44 |
| Avail Cap(c_a), veh/h | 134 | 0 | 0 | 234 | 0 | 193 | 180 | 2303 | 1246 | 234 | 2521 | 1378 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.1 | 0.0 | 0.0 | 50.6 | 0.0 | 49.7 | 55.5 | 7.8 | 7.8 | 51.4 | 5.5 | 5.5 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 1.8 | 0.0 | 3.3 | 10.5 | 0.5 | 0.9 | 8.8 | 0.6 | 1.0 |
| 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 BackOfQ(50%),veh/ln | 0.2 | 0.0 | 0.0 | 3.1 | 0.0 | 2.7 | 0.6 | 4.5 | 5.0 | 3.7 | 4.5 | 5.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 47.3 | 0.0 | 0.0 | 52.4 | 0.0 | 53.0 | 66.0 | 8.3 | 8.8 | 60.2 | 6.0 | 6.5 |
| LnGrp LOS | D | A | A | D | A | D | E | A | A | E | A | A |
| Approach Vol, veh/h | | 6 | | | 201 | | | 1394 | | | 1848 | |
| Approach Delay, s/veh | | 47.3 | | | 52.7 | | | 9.2 | | | 9.7 | |
| Approach LOS | | D | | | D | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.1 | 91.1 | | 15.8 | 14.4 | 83.7 | | 15.8 | | | | |
| Change Period (Y+Rc), s | 5.0 | 6.0 | | 5.0 | 5.0 | 6.0 | | 5.0 | | | | |
| Max Green Setting (Gmax), s | 12.0 | 72.0 | | 14.0 | 15.0 | 69.0 | | 14.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 3.1 | 16.3 | | 10.6 | 9.6 | 15.0 | | 10.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 30.1 | | 0.2 | 0.1 | 20.9 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 12.1 | |
| HCM 6th LOS | | B | |

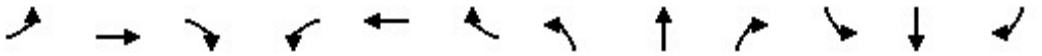


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 284 | 596 | 69 | 198 | 662 | 189 | 28 | 1442 | 235 | 156 | 1232 | 719 |
| v/c Ratio | 0.97 | 0.97 | 0.04 | 0.71 | 1.20 | 0.32 | 0.26 | 0.85 | 0.28 | 0.70 | 0.79 | 0.69 |
| Control Delay | 92.3 | 76.8 | 0.1 | 60.5 | 147.2 | 17.3 | 56.7 | 41.6 | 5.1 | 64.1 | 33.2 | 8.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 92.3 | 76.8 | 0.1 | 60.5 | 147.2 | 17.3 | 56.7 | 41.6 | 5.1 | 64.1 | 33.2 | 8.3 |
| Queue Length 50th (ft) | 229 | 241 | 0 | 139 | ~310 | 58 | 20 | 359 | 23 | 111 | 426 | 47 |
| Queue Length 95th (ft) | #418 | #363 | 0 | #237 | #428 | 114 | 49 | #444 | 46 | 179 | #577 | 194 |
| Internal Link Dist (ft) | | 738 | | | 586 | | | 849 | | | 590 | |
| Turn Bay Length (ft) | 650 | | 410 | | | 230 | 775 | | 425 | 485 | | |
| Base Capacity (vph) | 293 | 613 | 1568 | 279 | 553 | 618 | 155 | 1691 | 841 | 258 | 1561 | 1043 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.97 | 0.97 | 0.04 | 0.71 | 1.20 | 0.31 | 0.18 | 0.85 | 0.28 | 0.60 | 0.79 | 0.69 |

Intersection Summary

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

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



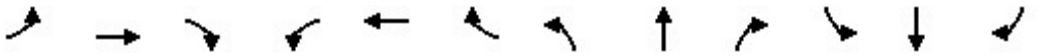
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 368 | 486 | 67 | 192 | 642 | 183 | 27 | 1399 | 228 | 151 | 1195 | 697 |
| Future Volume (vph) | 368 | 486 | 67 | 192 | 642 | 183 | 27 | 1399 | 228 | 151 | 1195 | 697 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.0 | 5.0 | 4.0 | 6.0 | 6.0 | 5.0 | 5.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Lane Util. Factor | 0.91 | 0.91 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.91 | 1.00 | 1.00 | 0.95 | 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 | 0.85 |
| Flt Protected | 0.95 | 0.99 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1595 | 3331 | 1568 | 1770 | 3505 | 1583 | 1770 | 5036 | 1583 | 1736 | 3539 | 1583 |
| Flt Permitted | 0.95 | 0.99 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1595 | 3331 | 1568 | 1770 | 3505 | 1583 | 1770 | 5036 | 1583 | 1736 | 3539 | 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) | 379 | 501 | 69 | 198 | 662 | 189 | 28 | 1442 | 235 | 156 | 1232 | 719 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 55 | 0 | 0 | 60 | 0 | 0 | 356 |
| Lane Group Flow (vph) | 284 | 596 | 69 | 198 | 662 | 134 | 28 | 1442 | 175 | 156 | 1232 | 363 |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 3% | 2% | 2% | 3% | 2% | 4% | 2% | 2% |
| Turn Type | Split | NA | Free | Split | NA | pm+ov | Prot | NA | pm+ov | Prot | NA | Perm |
| Protected Phases | 3 | 3 | | 4 | 4 | 5 | 1 | 6 | 4 | 5 | 2 | |
| Permitted Phases | | | Free | | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 21.0 | 21.0 | 114.0 | 18.0 | 18.0 | 32.7 | 4.7 | 38.3 | 56.3 | 14.7 | 48.3 | 48.3 |
| Effective Green, g (s) | 21.0 | 21.0 | 114.0 | 18.0 | 18.0 | 32.7 | 4.7 | 38.3 | 56.3 | 14.7 | 48.3 | 48.3 |
| Actuated g/C Ratio | 0.18 | 0.18 | 1.00 | 0.16 | 0.16 | 0.29 | 0.04 | 0.34 | 0.49 | 0.13 | 0.42 | 0.42 |
| Clearance Time (s) | 5.0 | 5.0 | | 6.0 | 6.0 | 5.0 | 5.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 2.5 | 2.5 | | 2.5 | 2.5 | 2.5 | 2.5 | 5.0 | 2.5 | 2.5 | 5.0 | 5.0 |
| Lane Grp Cap (vph) | 293 | 613 | 1568 | 279 | 553 | 454 | 72 | 1691 | 781 | 223 | 1499 | 670 |
| v/s Ratio Prot | 0.18 | c0.18 | | 0.11 | c0.19 | 0.04 | 0.02 | 0.29 | 0.04 | c0.09 | c0.35 | |
| v/s Ratio Perm | | | 0.04 | | | 0.05 | | | 0.08 | | | 0.23 |
| v/c Ratio | 0.97 | 0.97 | 0.04 | 0.71 | 1.20 | 0.30 | 0.39 | 0.85 | 0.22 | 0.70 | 0.82 | 0.54 |
| Uniform Delay, d1 | 46.2 | 46.2 | 0.0 | 45.5 | 48.0 | 31.7 | 53.3 | 35.2 | 16.4 | 47.5 | 29.0 | 24.6 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 43.6 | 29.3 | 0.1 | 7.5 | 105.3 | 0.3 | 2.5 | 5.7 | 0.1 | 8.5 | 5.2 | 3.1 |
| Delay (s) | 89.8 | 75.5 | 0.1 | 53.0 | 153.3 | 31.9 | 55.8 | 40.9 | 16.5 | 56.1 | 34.2 | 27.7 |
| Level of Service | F | E | A | D | F | C | E | D | B | E | C | C |
| Approach Delay (s) | | 74.3 | | | 112.5 | | | 37.8 | | | 33.6 | |
| Approach LOS | | E | | | F | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 55.7 | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | 0.94 | | |
| Actuated Cycle Length (s) | 114.0 | Sum of lost time (s) | 22.0 |
| Intersection Capacity Utilization | 89.4% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 76 | 376 | 595 | 8 | 559 | 358 | 566 | 10 | 67 | 1180 | 151 |
| v/c Ratio | 0.55 | 0.35 | 0.65 | 0.11 | 0.80 | 0.73 | 0.32 | 0.01 | 0.54 | 0.79 | 0.19 |
| Control Delay | 76.3 | 38.9 | 15.6 | 67.3 | 60.7 | 65.7 | 23.3 | 0.0 | 77.3 | 41.0 | 3.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 76.3 | 38.9 | 15.6 | 67.3 | 60.7 | 65.7 | 23.3 | 0.0 | 77.3 | 41.0 | 3.9 |
| Queue Length 50th (ft) | 68 | 137 | 196 | 7 | 252 | 162 | 160 | 0 | 60 | 484 | 0 |
| Queue Length 95th (ft) | 120 | 185 | 298 | 26 | 301 | 207 | 252 | 0 | 109 | #780 | 38 |
| Internal Link Dist (ft) | | 434 | | | 495 | | 535 | | | 418 | |
| Turn Bay Length (ft) | 275 | | 230 | 200 | | 315 | | 115 | 340 | | 240 |
| Base Capacity (vph) | 322 | 1134 | 957 | 193 | 824 | 607 | 1756 | 769 | 159 | 1499 | 776 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.24 | 0.33 | 0.62 | 0.04 | 0.68 | 0.59 | 0.32 | 0.01 | 0.42 | 0.79 | 0.19 |

Intersection Summary

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 71 | 350 | 553 | 7 | 457 | 63 | 333 | 526 | 9 | 62 | 1097 | 140 |
| Future Volume (veh/h) | 71 | 350 | 553 | 7 | 457 | 63 | 333 | 526 | 9 | 62 | 1097 | 140 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1900 | 1885 | 1870 | 1900 | 1841 | 1841 | 1841 | 1826 | 1648 | 1781 | 1870 | 1885 |
| Adj Flow Rate, veh/h | 76 | 376 | 595 | 8 | 491 | 68 | 358 | 566 | 0 | 67 | 1180 | 0 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 0 | 1 | 2 | 0 | 4 | 4 | 4 | 5 | 17 | 8 | 2 | 1 |
| Cap, veh/h | 97 | 1100 | 681 | 17 | 812 | 112 | 416 | 1678 | | 84 | 1461 | |
| Arrive On Green | 0.05 | 0.31 | 0.31 | 0.01 | 0.26 | 0.26 | 0.12 | 0.48 | 0.00 | 0.05 | 0.41 | 0.00 |
| Sat Flow, veh/h | 1810 | 3582 | 1585 | 1810 | 3087 | 426 | 3401 | 3469 | 1397 | 1697 | 3554 | 1598 |
| Grp Volume(v), veh/h | 76 | 376 | 595 | 8 | 277 | 282 | 358 | 566 | 0 | 67 | 1180 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1810 | 1791 | 1585 | 1810 | 1749 | 1764 | 1700 | 1735 | 1397 | 1697 | 1777 | 1598 |
| Q Serve(g_s), s | 5.8 | 11.4 | 43.0 | 0.6 | 19.4 | 19.6 | 14.5 | 14.1 | 0.0 | 5.5 | 41.0 | 0.0 |
| Cycle Q Clear(g_c), s | 5.8 | 11.4 | 43.0 | 0.6 | 19.4 | 19.6 | 14.5 | 14.1 | 0.0 | 5.5 | 41.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.24 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 97 | 1100 | 681 | 17 | 460 | 464 | 416 | 1678 | | 84 | 1461 | |
| V/C Ratio(X) | 0.78 | 0.34 | 0.87 | 0.46 | 0.60 | 0.61 | 0.86 | 0.34 | | 0.80 | 0.81 | |
| Avail Cap(c_a), veh/h | 323 | 1100 | 681 | 194 | 460 | 464 | 607 | 1678 | | 158 | 1461 | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 65.5 | 37.5 | 36.5 | 69.0 | 45.2 | 45.2 | 60.3 | 22.3 | 0.0 | 65.8 | 36.4 | 0.0 |
| Incr Delay (d2), s/veh | 9.8 | 0.2 | 12.1 | 13.6 | 2.2 | 2.3 | 7.4 | 0.5 | 0.0 | 11.8 | 4.9 | 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 BackOfQ(50%),veh/ln | 3.0 | 5.1 | 20.7 | 0.4 | 8.8 | 8.9 | 6.7 | 5.9 | 0.0 | 2.7 | 18.7 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 75.3 | 37.7 | 48.6 | 82.6 | 47.4 | 47.5 | 67.7 | 22.8 | 0.0 | 77.6 | 41.3 | 0.0 |
| LnGrp LOS | E | D | D | F | D | D | E | C | | E | D | |
| Approach Vol, veh/h | | 1047 | | | 567 | | | 924 | A | | 1247 | A |
| Approach Delay, s/veh | | 46.6 | | | 47.9 | | | 40.2 | | | 43.2 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.0 | 73.7 | 6.3 | 48.0 | 22.1 | 63.5 | 12.5 | 41.8 |
| Change Period (Y+Rc), s | 5.0 | 6.0 | 5.0 | 5.0 | 5.0 | 6.0 | 5.0 | 5.0 |
| Max Green Setting (Gmax), s | 13.0 | 48.0 | 15.0 | 43.0 | 25.0 | 36.0 | 25.0 | 33.0 |
| Max Q Clear Time (g_c+I1), s | 7.5 | 16.1 | 2.6 | 45.0 | 16.5 | 43.0 | 7.8 | 21.6 |
| Green Ext Time (p_c), s | 0.0 | 8.0 | 0.0 | 0.0 | 0.7 | 0.0 | 0.1 | 2.6 |

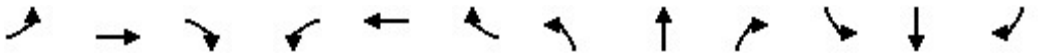
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 44.1 |
| HCM 6th LOS | D |

**Notes**

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 211 | 102 | 143 | 283 | 16 | 73 | 638 | 31 | 28 | 1267 | 481 |
| v/c Ratio | 0.59 | 0.28 | 0.35 | 0.67 | 0.05 | 0.49 | 0.33 | 0.03 | 0.28 | 0.72 | 0.50 |
| Control Delay | 56.5 | 49.2 | 9.1 | 56.9 | 0.3 | 61.4 | 16.7 | 0.1 | 58.3 | 27.5 | 8.1 |
| 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 | 56.5 | 49.2 | 9.1 | 56.9 | 0.3 | 61.4 | 16.7 | 0.1 | 58.3 | 27.5 | 8.1 |
| Queue Length 50th (ft) | 78 | 37 | 6 | 107 | 0 | 53 | 143 | 0 | 20 | 380 | 54 |
| Queue Length 95th (ft) | 115 | 64 | 54 | 150 | 0 | 99 | 217 | 0 | 50 | 552 | 167 |
| Internal Link Dist (ft) | | 599 | | 369 | | | 448 | | | 430 | |
| Turn Bay Length (ft) | 340 | | 340 | | 80 | 210 | | | 280 | | 215 |
| Base Capacity (vph) | 508 | 529 | 475 | 512 | 349 | 233 | 1906 | 954 | 189 | 1756 | 960 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.42 | 0.19 | 0.30 | 0.55 | 0.05 | 0.31 | 0.33 | 0.03 | 0.15 | 0.72 | 0.50 |

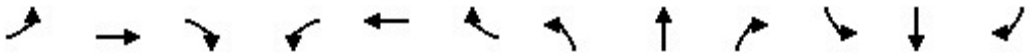
Intersection Summary



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 196 | 95 | 133 | 95 | 168 | 15 | 68 | 593 | 29 | 26 | 1178 | 447 |
| Future Volume (vph) | 196 | 95 | 133 | 95 | 168 | 15 | 68 | 593 | 29 | 26 | 1178 | 447 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 5.0 | | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 3467 | 3610 | 1556 | | 3499 | 1615 | 1805 | 3438 | 1615 | 1687 | 3539 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 3467 | 3610 | 1556 | | 3499 | 1615 | 1805 | 3438 | 1615 | 1687 | 3539 | 1583 |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Adj. Flow (vph) | 211 | 102 | 143 | 102 | 181 | 16 | 73 | 638 | 31 | 28 | 1267 | 481 |
| RTOR Reduction (vph) | 0 | 0 | 108 | 0 | 0 | 14 | 0 | 0 | 14 | 0 | 0 | 174 |
| Lane Group Flow (vph) | 211 | 102 | 35 | 0 | 283 | 2 | 73 | 638 | 17 | 28 | 1267 | 307 |
| Confl. Peds. (#/hr) | | | 1 | 1 | | | | | | | | |
| Heavy Vehicles (%) | 1% | 0% | 3% | 2% | 1% | 0% | 0% | 5% | 0% | 7% | 2% | 2% |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 4 | 4 | 5 | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | 2 | | | 6 |
| Actuated Green, G (s) | 11.9 | 11.9 | 21.5 | | 14.0 | 14.0 | 9.6 | 62.3 | 62.3 | 4.8 | 57.5 | 57.5 |
| Effective Green, g (s) | 11.9 | 11.9 | 21.5 | | 14.0 | 14.0 | 9.6 | 62.3 | 62.3 | 4.8 | 57.5 | 57.5 |
| Actuated g/C Ratio | 0.10 | 0.10 | 0.19 | | 0.12 | 0.12 | 0.08 | 0.54 | 0.54 | 0.04 | 0.50 | 0.50 |
| Clearance Time (s) | 6.0 | 6.0 | 5.0 | | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 2.5 | 2.5 | 2.5 | | 2.5 | 2.5 | 2.5 | 6.0 | 6.0 | 2.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 355 | 370 | 288 | | 422 | 194 | 149 | 1846 | 867 | 69 | 1754 | 784 |
| v/s Ratio Prot | c0.06 | 0.03 | 0.01 | | c0.08 | | c0.04 | c0.19 | | 0.02 | c0.36 | |
| v/s Ratio Perm | | | 0.01 | | | 0.00 | | | 0.01 | | | 0.19 |
| v/c Ratio | 0.59 | 0.28 | 0.12 | | 0.67 | 0.01 | 0.49 | 0.35 | 0.02 | 0.41 | 0.72 | 0.39 |
| Uniform Delay, d1 | 49.7 | 48.1 | 39.4 | | 48.8 | 44.9 | 50.9 | 15.3 | 12.6 | 54.2 | 23.0 | 18.3 |
| 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 | 2.2 | 0.3 | 0.1 | | 3.8 | 0.0 | 1.8 | 0.5 | 0.0 | 2.8 | 2.6 | 1.5 |
| Delay (s) | 52.0 | 48.4 | 39.5 | | 52.6 | 44.9 | 52.7 | 15.8 | 12.6 | 57.0 | 25.6 | 19.8 |
| Level of Service | D | D | D | | D | D | D | B | B | E | C | B |
| Approach Delay (s) | | 47.3 | | | 52.2 | | | 19.3 | | | 24.5 | |
| Approach LOS | | D | | | D | | | B | | | C | |

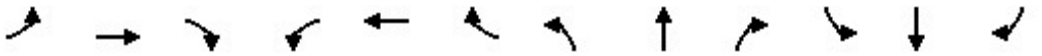
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 29.0 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.67 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 23.0 |
| Intersection Capacity Utilization | 69.1% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 15 | 15 | 117 | 22 | 23 | 73 | 90 | 637 | 71 | 88 | 1321 | 96 |
| v/c Ratio | 0.15 | 0.14 | 0.30 | 0.24 | 0.24 | 0.29 | 0.41 | 0.31 | 0.07 | 0.58 | 0.63 | 0.10 |
| Control Delay | 54.4 | 54.1 | 9.1 | 58.0 | 58.0 | 2.9 | 57.1 | 14.4 | 0.1 | 65.5 | 18.4 | 0.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.4 | 54.1 | 9.1 | 58.0 | 58.0 | 2.9 | 57.1 | 14.4 | 0.1 | 65.5 | 18.4 | 0.2 |
| Queue Length 50th (ft) | 11 | 11 | 1 | 16 | 17 | 0 | 34 | 128 | 0 | 64 | 325 | 0 |
| Queue Length 95th (ft) | 33 | 33 | 48 | 45 | 46 | 0 | 59 | 199 | 0 | 116 | 474 | 0 |
| Internal Link Dist (ft) | | 193 | | | 125 | | | 406 | | | 259 | |
| Turn Bay Length (ft) | 250 | | 130 | 175 | | 175 | 350 | | | 215 | | 615 |
| Base Capacity (vph) | 158 | 163 | 385 | 140 | 144 | 290 | 299 | 2051 | 1003 | 172 | 2099 | 998 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.09 | 0.30 | 0.16 | 0.16 | 0.25 | 0.30 | 0.31 | 0.07 | 0.51 | 0.63 | 0.10 |

Intersection Summary



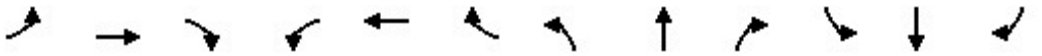
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 20 | 8 | 110 | 37 | 6 | 69 | 85 | 599 | 67 | 83 | 1242 | 90 |
| Future Volume (vph) | 20 | 8 | 110 | 37 | 6 | 69 | 85 | 599 | 67 | 83 | 1242 | 90 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 7.3 | 7.3 | 7.3 | 8.0 | 8.0 | 8.0 | 7.6 | 5.9 | 5.9 | 7.8 | 5.9 | 5.9 |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 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 | 0.85 |
| Flt Protected | 0.95 | 0.98 | 1.00 | 0.95 | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1715 | 1770 | 1583 | 1633 | 1679 | 1583 | 3335 | 3438 | 1553 | 1805 | 3539 | 1553 |
| Flt Permitted | 0.95 | 0.98 | 1.00 | 0.95 | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1715 | 1770 | 1583 | 1633 | 1679 | 1583 | 3335 | 3438 | 1553 | 1805 | 3539 | 1553 |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 21 | 9 | 117 | 39 | 6 | 73 | 90 | 637 | 71 | 88 | 1321 | 96 |
| RTOR Reduction (vph) | 0 | 0 | 93 | 0 | 0 | 70 | 0 | 0 | 31 | 0 | 0 | 40 |
| Lane Group Flow (vph) | 15 | 15 | 24 | 22 | 23 | 3 | 90 | 637 | 40 | 88 | 1321 | 56 |
| Heavy Vehicles (%) | 0% | 0% | 2% | 5% | 0% | 2% | 5% | 5% | 4% | 0% | 2% | 4% |
| Turn Type | Split | NA | pt+ov | Split | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 4 | 4 | 4 5 | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 3 | | | 2 | | | 6 |
| Actuated Green, G (s) | 6.8 | 6.8 | 21.8 | 5.5 | 5.5 | 5.5 | 7.7 | 66.1 | 66.1 | 8.6 | 67.2 | 67.2 |
| Effective Green, g (s) | 6.8 | 6.8 | 21.8 | 5.5 | 5.5 | 5.5 | 7.7 | 66.1 | 66.1 | 8.6 | 67.2 | 67.2 |
| Actuated g/C Ratio | 0.06 | 0.06 | 0.19 | 0.05 | 0.05 | 0.05 | 0.07 | 0.57 | 0.57 | 0.07 | 0.58 | 0.58 |
| Clearance Time (s) | 7.3 | 7.3 | | 8.0 | 8.0 | 8.0 | 7.6 | 5.9 | 5.9 | 7.8 | 5.9 | 5.9 |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 | 2.0 | 6.0 | 6.0 | 2.0 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 100 | 103 | 297 | 77 | 79 | 75 | 221 | 1959 | 884 | 133 | 2050 | 899 |
| v/s Ratio Prot | c0.01 | 0.01 | 0.01 | 0.01 | c0.01 | | 0.03 | 0.19 | | c0.05 | c0.37 | |
| v/s Ratio Perm | | | | | | 0.00 | | | 0.03 | | | 0.04 |
| v/c Ratio | 0.15 | 0.15 | 0.08 | 0.29 | 0.29 | 0.05 | 0.41 | 0.33 | 0.05 | 0.66 | 0.64 | 0.06 |
| Uniform Delay, d1 | 51.9 | 51.8 | 38.8 | 53.4 | 53.4 | 52.7 | 52.0 | 13.2 | 11.0 | 52.3 | 16.4 | 10.6 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.3 | 0.2 | 0.0 | 0.7 | 0.7 | 0.1 | 0.4 | 0.4 | 0.1 | 9.2 | 1.6 | 0.1 |
| Delay (s) | 52.1 | 52.1 | 38.9 | 54.1 | 54.1 | 52.8 | 52.4 | 13.6 | 11.1 | 61.5 | 18.0 | 10.8 |
| Level of Service | D | D | D | D | D | D | D | B | B | E | B | B |
| Approach Delay (s) | | 41.6 | | | 53.3 | | | 17.8 | | | 20.0 | |
| Approach LOS | | D | | | D | | | B | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 22.1 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.59 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 29.0 |
| Intersection Capacity Utilization | 65.1% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 117 | 339 | 52 | 88 | 771 | 107 | 100 | 1415 |
| v/c Ratio | 0.57 | 0.88 | 0.11 | 0.53 | 0.51 | 0.15 | 0.76 | 0.89 |
| Control Delay | 27.4 | 67.9 | 0.5 | 61.5 | 25.3 | 3.9 | 87.0 | 39.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 27.4 | 67.9 | 0.5 | 61.5 | 25.3 | 3.9 | 87.0 | 39.8 |
| Queue Length 50th (ft) | 20 | 236 | 0 | 64 | 221 | 0 | 75 | 538 |
| Queue Length 95th (ft) | 76 | #416 | 0 | 114 | 281 | 31 | #168 | #756 |
| Internal Link Dist (ft) | 151 | 218 | | | 318 | | | 355 |
| Turn Bay Length (ft) | | | 50 | 150 | | 450 | 250 | |
| Base Capacity (vph) | 242 | 396 | 486 | 248 | 1516 | 728 | 134 | 1587 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.48 | 0.86 | 0.11 | 0.35 | 0.51 | 0.15 | 0.75 | 0.89 |

Intersection Summary

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 25 | 83 | 305 | 6 | 48 | 81 | 709 | 98 | 92 | 1302 | 0 |
| Future Volume (vph) | 0 | 25 | 83 | 305 | 6 | 48 | 81 | 709 | 98 | 92 | 1302 | 0 |
| 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 | 6.0 | 6.0 | 5.0 | 6.0 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frt | | 0.90 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | | 1.00 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1703 | | | 1695 | 1524 | 1805 | 3438 | 1509 | 1671 | 3539 | |
| Flt Permitted | | 1.00 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1703 | | | 1695 | 1524 | 1805 | 3438 | 1509 | 1671 | 3539 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 27 | 90 | 332 | 7 | 52 | 88 | 771 | 107 | 100 | 1415 | 0 |
| RTOR Reduction (vph) | 0 | 83 | 0 | 0 | 0 | 40 | 0 | 0 | 60 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 34 | 0 | 0 | 339 | 12 | 88 | 771 | 47 | 100 | 1415 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 7% | 0% | 6% | 0% | 5% | 7% | 8% | 2% | 0% |
| Turn Type | | NA | | Split | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 3 | 3 | | 4 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 4 | | | 2 | | | 6 |
| Actuated Green, G (s) | | 8.4 | | | 26.3 | 26.3 | 9.2 | 51.2 | 51.2 | 9.1 | 51.1 | |
| Effective Green, g (s) | | 8.4 | | | 26.3 | 26.3 | 9.2 | 51.2 | 51.2 | 9.1 | 51.1 | |
| Actuated g/C Ratio | | 0.07 | | | 0.23 | 0.23 | 0.08 | 0.44 | 0.44 | 0.08 | 0.44 | |
| Clearance Time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 6.0 | 6.0 | 5.0 | 6.0 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 2.5 | 4.5 | 4.5 | 2.5 | 4.5 | |
| Lane Grp Cap (vph) | | 123 | | | 384 | 345 | 143 | 1517 | 666 | 131 | 1558 | |
| v/s Ratio Prot | | c0.02 | | | c0.20 | | 0.05 | 0.22 | | c0.06 | c0.40 | |
| v/s Ratio Perm | | | | | | 0.01 | | | 0.03 | | | |
| v/c Ratio | | 0.27 | | | 0.88 | 0.03 | 0.62 | 0.51 | 0.07 | 0.76 | 0.91 | |
| Uniform Delay, d1 | | 50.9 | | | 43.4 | 35.0 | 51.7 | 23.3 | 18.7 | 52.4 | 30.3 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.2 | | | 20.5 | 0.0 | 6.6 | 1.2 | 0.2 | 21.9 | 9.3 | |
| Delay (s) | | 52.1 | | | 63.9 | 35.0 | 58.2 | 24.6 | 18.9 | 74.3 | 39.6 | |
| Level of Service | | D | | | E | C | E | C | B | E | D | |
| Approach Delay (s) | | 52.1 | | | 60.1 | | | 27.0 | | | 41.9 | |
| Approach LOS | | D | | | E | | | C | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 39.8 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.83 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 79.0% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 111 | 638 | 290 | 470 | 703 | 141 | 351 | 763 | 338 | 278 | 1576 |
| v/c Ratio | 0.49 | 0.87 | 0.43 | 1.09 | 0.74 | 0.20 | 0.86 | 0.61 | 0.38 | 0.73 | 0.89 |
| Control Delay | 60.0 | 58.1 | 17.2 | 117.2 | 43.7 | 10.4 | 71.3 | 33.2 | 13.4 | 61.6 | 42.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 60.0 | 58.1 | 17.2 | 117.2 | 43.7 | 10.4 | 71.3 | 33.2 | 13.4 | 61.6 | 42.3 |
| Queue Length 50th (ft) | 41 | 244 | 88 | ~204 | 253 | 28 | 134 | 247 | 109 | 104 | 401 |
| Queue Length 95th (ft) | 72 | #340 | 164 | #309 | 323 | 68 | #211 | 314 | 176 | 150 | 468 |
| Internal Link Dist (ft) | | 473 | | | 499 | | | 459 | | | 344 |
| Turn Bay Length (ft) | 280 | | 470 | 200 | | 390 | 320 | | | 240 | |
| Base Capacity (vph) | 239 | 733 | 676 | 431 | 956 | 724 | 414 | 1245 | 892 | 410 | 1773 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.46 | 0.87 | 0.43 | 1.09 | 0.74 | 0.19 | 0.85 | 0.61 | 0.38 | 0.68 | 0.89 |

Intersection Summary

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

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 102 | 587 | 267 | 432 | 647 | 130 | 323 | 702 | 311 | 256 | 1319 | 131 |
| Future Volume (veh/h) | 102 | 587 | 267 | 432 | 647 | 130 | 323 | 702 | 311 | 256 | 1319 | 131 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1885 | 1841 | 1870 | 1826 | 1841 | 1826 | 1870 | 1826 | 1870 | 1856 | 1856 | 1856 |
| Adj Flow Rate, veh/h | 111 | 638 | 0 | 470 | 703 | 141 | 351 | 763 | 0 | 278 | 1434 | 142 |
| 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 |
| Percent Heavy Veh, % | 1 | 4 | 2 | 5 | 4 | 5 | 2 | 5 | 2 | 3 | 3 | 3 |
| Cap, veh/h | 175 | 721 | | 436 | 998 | 594 | 406 | 1320 | | 338 | 1694 | 168 |
| Arrive On Green | 0.05 | 0.21 | 0.00 | 0.13 | 0.29 | 0.29 | 0.12 | 0.38 | 0.00 | 0.10 | 0.36 | 0.36 |
| Sat Flow, veh/h | 3483 | 3497 | 1585 | 3374 | 3497 | 1547 | 3456 | 3469 | 1585 | 3428 | 4685 | 464 |
| Grp Volume(v), veh/h | 111 | 638 | 0 | 470 | 703 | 141 | 351 | 763 | 0 | 278 | 1034 | 542 |
| Grp Sat Flow(s),veh/h/ln | 1742 | 1749 | 1585 | 1687 | 1749 | 1547 | 1728 | 1735 | 1585 | 1714 | 1689 | 1772 |
| Q Serve(g_s), s | 3.6 | 20.5 | 0.0 | 15.0 | 20.9 | 7.2 | 11.6 | 20.3 | 0.0 | 9.2 | 32.7 | 32.7 |
| Cycle Q Clear(g_c), s | 3.6 | 20.5 | 0.0 | 15.0 | 20.9 | 7.2 | 11.6 | 20.3 | 0.0 | 9.2 | 32.7 | 32.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.26 |
| Lane Grp Cap(c), veh/h | 175 | 721 | | 436 | 998 | 594 | 406 | 1320 | | 338 | 1221 | 641 |
| V/C Ratio(X) | 0.63 | 0.88 | | 1.08 | 0.70 | 0.24 | 0.86 | 0.58 | | 0.82 | 0.85 | 0.85 |
| Avail Cap(c_a), veh/h | 240 | 739 | | 436 | 998 | 594 | 417 | 1320 | | 414 | 1221 | 641 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.0 | 44.7 | 0.0 | 50.5 | 37.1 | 24.2 | 50.3 | 28.5 | 0.0 | 51.3 | 34.1 | 34.1 |
| Incr Delay (d2), s/veh | 2.8 | 14.9 | 0.0 | 65.4 | 4.2 | 0.9 | 16.4 | 1.8 | 0.0 | 9.9 | 7.3 | 13.0 |
| 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 BackOfQ(50%),veh/ln | 1.7 | 10.3 | 0.0 | 10.3 | 9.4 | 2.8 | 5.9 | 8.7 | 0.0 | 4.4 | 14.4 | 16.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 56.8 | 59.6 | 0.0 | 115.9 | 41.3 | 25.2 | 66.7 | 30.4 | 0.0 | 61.1 | 41.4 | 47.1 |
| LnGrp LOS | E | E | | F | D | C | E | C | | E | D | D |
| Approach Vol, veh/h | | 749 | A | | 1314 | | | 1114 | A | | 1854 | |
| Approach Delay, s/veh | | 59.2 | | | 66.2 | | | 41.8 | | | 46.0 | |
| Approach LOS | | E | | | E | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.4 | 50.1 | 10.8 | 38.6 | 18.6 | 48.0 | 20.0 | 29.4 |
| Change Period (Y+Rc), s | 5.0 | 6.0 | 5.0 | 5.5 | 5.0 | 6.0 | 5.0 | 5.5 |
| Max Green Setting (Gmax), s | 14.0 | 41.0 | 8.0 | 31.5 | 14.0 | 41.0 | 15.0 | 24.5 |
| Max Q Clear Time (g_c+I1), s | 11.2 | 22.3 | 5.6 | 22.9 | 13.6 | 34.7 | 17.0 | 22.5 |
| Green Ext Time (p_c), s | 0.2 | 12.8 | 0.0 | 6.3 | 0.1 | 6.2 | 0.0 | 1.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 52.3 |
| HCM 6th LOS | D |

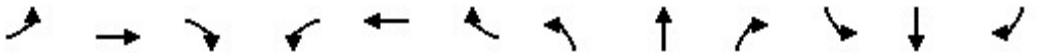
**Notes**

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 12 | 250 | 160 | 14 | 1350 | 155 | 101 | 2085 |
| v/c Ratio | 0.12 | 0.98 | 0.30 | 0.14 | 0.46 | 0.16 | 0.58 | 0.59 |
| Control Delay | 49.1 | 101.6 | 9.2 | 55.2 | 14.7 | 2.5 | 62.6 | 11.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 49.1 | 101.6 | 9.2 | 55.2 | 14.7 | 2.5 | 62.6 | 11.6 |
| Queue Length 50th (ft) | 7 | 189 | 21 | 10 | 183 | 0 | 73 | 198 |
| Queue Length 95th (ft) | 28 | #355 | 58 | 32 | 300 | 33 | 128 | 477 |
| Internal Link Dist (ft) | 192 | 548 | | | 450 | | | 520 |
| Turn Bay Length (ft) | | | 225 | 315 | | 395 | 165 | |
| Base Capacity (vph) | 109 | 255 | 575 | 108 | 2964 | 987 | 224 | 3505 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.11 | 0.98 | 0.28 | 0.13 | 0.46 | 0.16 | 0.45 | 0.59 |

Intersection Summary

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

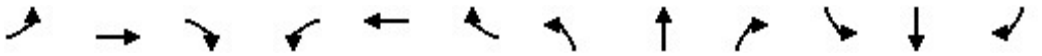


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 8 | 1 | 2 | 228 | 2 | 147 | 13 | 1242 | 143 | 93 | 1902 | 17 |
| Future Volume (vph) | 8 | 1 | 2 | 228 | 2 | 147 | 13 | 1242 | 143 | 93 | 1902 | 17 |
| 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 | 6.0 | 6.0 | 5.0 | 6.0 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | |
| Frt | | 0.98 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | | 0.96 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1790 | | | 1741 | 1583 | 1805 | 4988 | 1553 | 1736 | 5031 | |
| Flt Permitted | | 0.96 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1790 | | | 1741 | 1583 | 1805 | 4988 | 1553 | 1736 | 5031 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 9 | 1 | 2 | 248 | 2 | 160 | 14 | 1350 | 155 | 101 | 2067 | 18 |
| RTOR Reduction (vph) | 0 | 2 | 0 | 0 | 0 | 92 | 0 | 0 | 68 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 10 | 0 | 0 | 250 | 68 | 14 | 1350 | 87 | 101 | 2084 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 4% | 0% | 2% | 0% | 4% | 4% | 4% | 3% | 0% |
| Turn Type | Split | NA | | Split | NA | pm+ov | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 3 | | | 2 | | | |
| Actuated Green, G (s) | | 1.4 | | | 17.0 | 28.7 | 2.8 | 64.9 | 64.9 | 11.7 | 73.8 | |
| Effective Green, g (s) | | 1.4 | | | 17.0 | 28.7 | 2.8 | 64.9 | 64.9 | 11.7 | 73.8 | |
| Actuated g/C Ratio | | 0.01 | | | 0.15 | 0.25 | 0.02 | 0.56 | 0.56 | 0.10 | 0.64 | |
| Clearance Time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 6.0 | 6.0 | 5.0 | 6.0 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | |
| Lane Grp Cap (vph) | | 21 | | | 255 | 391 | 43 | 2790 | 868 | 175 | 3200 | |
| v/s Ratio Prot | | c0.01 | | | c0.14 | 0.02 | 0.01 | 0.27 | | c0.06 | c0.41 | |
| v/s Ratio Perm | | | | | | 0.03 | | | 0.06 | | | |
| v/c Ratio | | 0.48 | | | 0.98 | 0.17 | 0.33 | 0.48 | 0.10 | 0.58 | 0.65 | |
| Uniform Delay, d1 | | 56.9 | | | 49.3 | 34.3 | 55.7 | 15.4 | 11.9 | 49.8 | 13.1 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 16.1 | | | 50.7 | 0.2 | 4.4 | 0.6 | 0.2 | 4.6 | 1.0 | |
| Delay (s) | | 73.1 | | | 100.0 | 34.5 | 60.1 | 16.0 | 12.2 | 54.3 | 14.2 | |
| Level of Service | | E | | | F | C | E | B | B | D | B | |
| Approach Delay (s) | | 73.1 | | | 74.5 | | | 16.0 | | | 16.0 | |
| Approach LOS | | E | | | E | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 22.0 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 71.5% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBT | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 117 | 190 | 66 | 101 | 1536 | 24 | 2177 | 114 |
| v/c Ratio | 0.67 | 0.52 | 0.36 | 0.56 | 0.44 | 0.21 | 0.70 | 0.11 |
| Control Delay | 66.4 | 11.6 | 32.8 | 60.5 | 9.3 | 55.2 | 17.4 | 1.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 66.4 | 11.6 | 32.8 | 60.5 | 9.3 | 55.2 | 17.4 | 1.7 |
| Queue Length 50th (ft) | 84 | 0 | 24 | 73 | 191 | 17 | 379 | 0 |
| Queue Length 95th (ft) | 144 | 64 | 67 | 125 | 254 | 45 | 513 | 20 |
| Internal Link Dist (ft) | 312 | | 290 | | 483 | | 269 | |
| Turn Bay Length (ft) | | 215 | | 415 | | 275 | | 1000 |
| Base Capacity (vph) | 214 | 403 | 216 | 282 | 3482 | 163 | 3119 | 1021 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.55 | 0.47 | 0.31 | 0.36 | 0.44 | 0.15 | 0.70 | 0.11 |

Intersection Summary



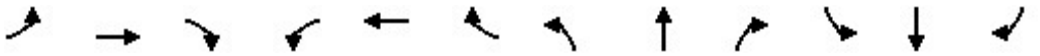
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 95 | 13 | 175 | 30 | 3 | 28 | 93 | 1375 | 38 | 22 | 2003 | 105 |
| Future Volume (vph) | 95 | 13 | 175 | 30 | 3 | 28 | 93 | 1375 | 38 | 22 | 2003 | 105 |
| 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 | | 5.5 | 6.0 | | 5.5 | 6.0 | 6.0 |
| Lane Util. Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 0.91 | | 1.00 | 0.91 | 1.00 |
| Frt | | 1.00 | 0.85 | | 0.94 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 0.96 | 1.00 | | 0.98 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | | 1758 | 1568 | | 1649 | | 1770 | 4973 | | 1805 | 5036 | 1568 |
| Flt Permitted | | 0.75 | 1.00 | | 0.73 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | | 1382 | 1568 | | 1230 | | 1770 | 4973 | | 1805 | 5036 | 1568 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 103 | 14 | 190 | 33 | 3 | 30 | 101 | 1495 | 41 | 24 | 2177 | 114 |
| RTOR Reduction (vph) | 0 | 0 | 166 | 0 | 26 | 0 | 0 | 2 | 0 | 0 | 0 | 43 |
| Lane Group Flow (vph) | 0 | 117 | 24 | 0 | 40 | 0 | 101 | 1534 | 0 | 24 | 2177 | 71 |
| Heavy Vehicles (%) | 4% | 0% | 3% | 11% | 0% | 0% | 2% | 4% | 0% | 0% | 3% | 3% |
| Turn Type | Perm | NA | Perm | Perm | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | | | | | | | 6 |
| Actuated Green, G (s) | | 14.7 | 14.7 | | 14.7 | | 11.9 | 79.0 | | 4.8 | 71.9 | 71.9 |
| Effective Green, g (s) | | 14.7 | 14.7 | | 14.7 | | 11.9 | 79.0 | | 4.8 | 71.9 | 71.9 |
| Actuated g/C Ratio | | 0.13 | 0.13 | | 0.13 | | 0.10 | 0.68 | | 0.04 | 0.62 | 0.62 |
| Clearance Time (s) | | 6.0 | 6.0 | | 6.0 | | 5.5 | 6.0 | | 5.5 | 6.0 | 6.0 |
| Vehicle Extension (s) | | 3.5 | 3.5 | | 3.5 | | 3.0 | 5.0 | | 3.0 | 5.0 | 5.0 |
| Lane Grp Cap (vph) | | 175 | 198 | | 155 | | 181 | 3386 | | 74 | 3121 | 971 |
| v/s Ratio Prot | | | | | | | c0.06 | 0.31 | | 0.01 | c0.43 | |
| v/s Ratio Perm | | c0.08 | 0.02 | | 0.03 | | | | | | | 0.05 |
| v/c Ratio | | 0.67 | 0.12 | | 0.26 | | 0.56 | 0.45 | | 0.32 | 0.70 | 0.07 |
| Uniform Delay, d1 | | 48.3 | 44.9 | | 45.7 | | 49.5 | 8.5 | | 54.0 | 14.8 | 8.8 |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 9.7 | 0.3 | | 1.0 | | 3.7 | 0.4 | | 2.5 | 1.3 | 0.1 |
| Delay (s) | | 58.0 | 45.3 | | 46.8 | | 53.2 | 9.0 | | 56.6 | 16.1 | 8.9 |
| Level of Service | | E | D | | D | | D | A | | E | B | A |
| Approach Delay (s) | | 50.1 | | | 46.8 | | | 11.7 | | | 16.2 | |
| Approach LOS | | D | | | D | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 17.3 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.68 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 17.5 |
| Intersection Capacity Utilization | 70.4% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 51 | 156 | 77 | 14 | 69 | 1563 | 48 | 2317 |
| v/c Ratio | 0.39 | 0.59 | 0.67 | 0.07 | 0.49 | 0.49 | 0.35 | 0.73 |
| Control Delay | 58.9 | 17.2 | 80.2 | 0.6 | 61.8 | 13.2 | 57.7 | 18.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 58.9 | 17.2 | 80.2 | 0.6 | 61.8 | 13.2 | 57.7 | 18.9 |
| Queue Length 50th (ft) | 37 | 0 | 57 | 0 | 50 | 230 | 35 | 451 |
| Queue Length 95th (ft) | 75 | 63 | #126 | 0 | 95 | 310 | 73 | 601 |
| Internal Link Dist (ft) | 178 | | 254 | | | 316 | | 213 |
| Turn Bay Length (ft) | | 115 | | 100 | 315 | | 320 | |
| Base Capacity (vph) | 179 | 306 | 119 | 213 | 209 | 3201 | 171 | 3182 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.28 | 0.51 | 0.65 | 0.07 | 0.33 | 0.49 | 0.28 | 0.73 |

Intersection Summary

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 38 | 10 | 147 | 68 | 5 | 13 | 65 | 1443 | 26 | 45 | 2119 | 59 |
| Future Volume (vph) | 38 | 10 | 147 | 68 | 5 | 13 | 65 | 1443 | 26 | 45 | 2119 | 59 |
| 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 | 6.0 | | 5.0 | 6.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.91 | | 1.00 | 0.91 | |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | 0.96 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1733 | 1615 | | 1734 | 1455 | 1736 | 4978 | | 1805 | 5019 | |
| Flt Permitted | | 0.96 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1733 | 1615 | | 1734 | 1455 | 1736 | 4978 | | 1805 | 5019 | |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 40 | 11 | 156 | 72 | 5 | 14 | 69 | 1535 | 28 | 48 | 2254 | 63 |
| RTOR Reduction (vph) | 0 | 0 | 144 | 0 | 0 | 13 | 0 | 1 | 0 | 0 | 2 | 0 |
| Lane Group Flow (vph) | 0 | 51 | 12 | 0 | 77 | 1 | 69 | 1562 | 0 | 48 | 2315 | 0 |
| Heavy Vehicles (%) | 7% | 0% | 0% | 5% | 0% | 11% | 4% | 4% | 0% | 0% | 3% | 0% |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | | | | |
| Actuated Green, G (s) | | 8.8 | 8.8 | | 6.4 | 6.4 | 8.3 | 72.6 | | 7.2 | 71.5 | |
| Effective Green, g (s) | | 8.8 | 8.8 | | 6.4 | 6.4 | 8.3 | 72.6 | | 7.2 | 71.5 | |
| Actuated g/C Ratio | | 0.08 | 0.08 | | 0.06 | 0.06 | 0.07 | 0.63 | | 0.06 | 0.62 | |
| Clearance Time (s) | | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 6.0 | | 5.0 | 6.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 | 2.5 | 6.0 | | 2.5 | 6.0 | |
| Lane Grp Cap (vph) | | 131 | 122 | | 95 | 80 | 124 | 3115 | | 112 | 3093 | |
| v/s Ratio Prot | | c0.03 | | | c0.04 | | c0.04 | 0.31 | | 0.03 | c0.46 | |
| v/s Ratio Perm | | | 0.01 | | | 0.00 | | | | | | |
| v/c Ratio | | 0.39 | 0.10 | | 0.81 | 0.01 | 0.56 | 0.50 | | 0.43 | 0.75 | |
| Uniform Delay, d1 | | 51.0 | 49.9 | | 54.2 | 51.8 | 52.1 | 11.8 | | 52.4 | 15.8 | |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.9 | 0.3 | | 38.8 | 0.0 | 4.3 | 0.6 | | 1.9 | 1.7 | |
| Delay (s) | | 53.0 | 50.2 | | 93.0 | 51.9 | 56.3 | 12.4 | | 54.3 | 17.6 | |
| Level of Service | | D | D | | F | D | E | B | | D | B | |
| Approach Delay (s) | | 50.9 | | | 86.7 | | | 14.3 | | | 18.3 | |
| Approach LOS | | D | | | F | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 19.8 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.70 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 70.5% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | WBL | WBR | NBT | SBL | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 16 | 7 | 1663 | 3 | 2489 |
| v/c Ratio | 0.14 | 0.06 | 0.38 | 0.04 | 0.55 |
| Control Delay | 53.6 | 29.4 | 3.3 | 52.7 | 2.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 53.6 | 29.4 | 3.3 | 52.7 | 2.9 |
| Queue Length 50th (ft) | 12 | 0 | 83 | 2 | 166 |
| Queue Length 95th (ft) | 35 | 15 | 212 | 12 | 214 |
| Internal Link Dist (ft) | 469 | | 187 | | 179 |
| Turn Bay Length (ft) | | | | 170 | |
| Base Capacity (vph) | 182 | 169 | 4342 | 116 | 4514 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.04 | 0.38 | 0.03 | 0.55 |

Intersection Summary

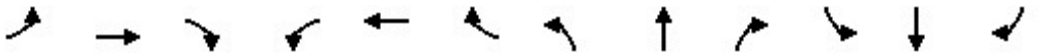
| Movement | WBL | WBR | NBU | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 15 | 7 | 0 | 1542 | 22 | 3 | 2340 |
| Future Volume (vph) | 15 | 7 | 0 | 1542 | 22 | 3 | 2340 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 5.9 | | 6.8 | 5.9 |
| Lane Util. Factor | 1.00 | 1.00 | | 0.91 | | 1.00 | 0.91 |
| Frt | 1.00 | 0.85 | | 1.00 | | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1805 | 1615 | | 4975 | | 1203 | 5036 |
| Flt Permitted | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1805 | 1615 | | 4975 | | 1203 | 5036 |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.92 | 0.94 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 16 | 7 | 0 | 1640 | 23 | 3 | 2489 |
| RTOR Reduction (vph) | 0 | 7 | 0 | 1 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 16 | 0 | 0 | 1662 | 0 | 3 | 2489 |
| Heavy Vehicles (%) | 0% | 0% | 2% | 4% | 7% | 50% | 3% |
| Turn Type | Prot | Perm | Prot | NA | | Prot | NA |
| Protected Phases | 4 | | 5 | 2 | | 1 | 6 |
| Permitted Phases | | 4 | | | | | |
| Actuated Green, G (s) | 4.7 | 4.7 | | 90.9 | | 1.4 | 99.1 |
| Effective Green, g (s) | 4.7 | 4.7 | | 90.9 | | 1.4 | 99.1 |
| Actuated g/C Ratio | 0.04 | 0.04 | | 0.78 | | 0.01 | 0.85 |
| Clearance Time (s) | 6.3 | 6.3 | | 5.9 | | 6.8 | 5.9 |
| Vehicle Extension (s) | 3.5 | 3.5 | | 5.5 | | 3.0 | 5.5 |
| Lane Grp Cap (vph) | 73 | 65 | | 3898 | | 14 | 4302 |
| v/s Ratio Prot | c0.01 | | | 0.33 | | 0.00 | c0.49 |
| v/s Ratio Perm | | 0.00 | | | | | |
| v/c Ratio | 0.22 | 0.00 | | 0.43 | | 0.21 | 0.58 |
| Uniform Delay, d1 | 53.9 | 53.4 | | 4.1 | | 56.8 | 2.4 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.8 | 0.0 | | 0.3 | | 7.6 | 0.6 |
| Delay (s) | 55.7 | 53.4 | | 4.4 | | 64.3 | 3.0 |
| Level of Service | E | D | | A | | E | A |
| Approach Delay (s) | 55.0 | | | 4.4 | | | 3.1 |
| Approach LOS | D | | | A | | | A |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 3.9 | HCM 2000 Level of Service | A |
| HCM 2000 Volume to Capacity ratio | 0.60 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 19.0 |
| Intersection Capacity Utilization | 61.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 53 | 41 | 27 | 4 | 49 | 1551 | 14 | 27 | 2351 | 52 |
| v/c Ratio | 0.42 | 0.18 | 0.25 | 0.02 | 0.40 | 0.43 | 0.01 | 0.26 | 0.67 | 0.05 |
| Control Delay | 60.6 | 1.7 | 57.5 | 0.2 | 62.0 | 5.5 | 0.0 | 57.5 | 15.5 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 60.6 | 1.7 | 57.5 | 0.2 | 62.0 | 5.5 | 0.0 | 57.5 | 15.5 | 0.1 |
| Queue Length 50th (ft) | 39 | 0 | 20 | 0 | 37 | 110 | 0 | 20 | 427 | 0 |
| Queue Length 95th (ft) | 79 | 0 | 50 | 0 | m51 | m117 | m0 | 50 | 601 | 0 |
| Internal Link Dist (ft) | 284 | | 261 | | | 193 | | | 145 | |
| Turn Bay Length (ft) | | 115 | | | 190 | | 75 | 295 | | 105 |
| Base Capacity (vph) | 182 | 276 | 156 | 216 | 167 | 3637 | 1208 | 186 | 3520 | 1139 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.29 | 0.15 | 0.17 | 0.02 | 0.29 | 0.43 | 0.01 | 0.15 | 0.67 | 0.05 |

Intersection Summary

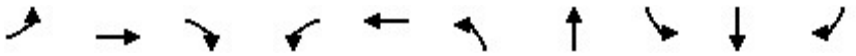
m Volume for 95th percentile queue is metered by upstream signal.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 49 | 2 | 40 | 23 | 3 | 4 | 48 | 1504 | 14 | 26 | 2280 | 50 |
| Future Volume (vph) | 49 | 2 | 40 | 23 | 3 | 4 | 48 | 1504 | 14 | 26 | 2280 | 50 |
| 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 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Lane Util. Factor | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | 1.00 |
| Frpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 0.95 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | | 1762 | 1615 | | 1819 | 1214 | 1752 | 4988 | 1615 | 1805 | 5036 | 1581 |
| Flt Permitted | | 0.95 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | | 1762 | 1615 | | 1819 | 1214 | 1752 | 4988 | 1615 | 1805 | 5036 | 1581 |
| 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) | 51 | 2 | 41 | 24 | 3 | 4 | 49 | 1551 | 14 | 27 | 2351 | 52 |
| RTOR Reduction (vph) | 0 | 0 | 38 | 0 | 0 | 4 | 0 | 0 | 5 | 0 | 0 | 18 |
| Lane Group Flow (vph) | 0 | 53 | 3 | 0 | 27 | 0 | 49 | 1551 | 9 | 27 | 2351 | 34 |
| Confl. Peds. (#/hr) | | | | | | | 1 | | | | | 1 |
| Heavy Vehicles (%) | 3% | 0% | 0% | 0% | 0% | 33% | 3% | 4% | 0% | 0% | 3% | 0% |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 3 | 3 | | 4 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 3 | | | 4 | | | 2 | | | 6 |
| Actuated Green, G (s) | | 7.4 | 7.4 | | 4.6 | 4.6 | 7.1 | 78.4 | 78.4 | 4.6 | 75.9 | 75.9 |
| Effective Green, g (s) | | 7.4 | 7.4 | | 4.6 | 4.6 | 7.1 | 78.4 | 78.4 | 4.6 | 75.9 | 75.9 |
| Actuated g/C Ratio | | 0.06 | 0.06 | | 0.04 | 0.04 | 0.06 | 0.68 | 0.68 | 0.04 | 0.65 | 0.65 |
| Clearance Time (s) | | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | | 2.5 | 2.5 | | 2.5 | 2.5 | 2.5 | 4.0 | 4.0 | 2.5 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | | 112 | 103 | | 72 | 48 | 107 | 3371 | 1091 | 71 | 3295 | 1034 |
| v/s Ratio Prot | | c0.03 | | | c0.01 | | c0.03 | 0.31 | | 0.01 | c0.47 | |
| v/s Ratio Perm | | | 0.00 | | | 0.00 | | | 0.01 | | | 0.02 |
| v/c Ratio | | 0.47 | 0.03 | | 0.38 | 0.00 | 0.46 | 0.46 | 0.01 | 0.38 | 0.71 | 0.03 |
| Uniform Delay, d1 | | 52.4 | 50.9 | | 54.3 | 53.5 | 52.6 | 8.8 | 6.1 | 54.3 | 13.0 | 7.1 |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.11 | 0.55 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 2.3 | 0.1 | | 2.4 | 0.0 | 1.3 | 0.3 | 0.0 | 2.5 | 1.3 | 0.1 |
| Delay (s) | | 54.7 | 51.0 | | 56.7 | 53.5 | 59.9 | 5.1 | 6.1 | 56.8 | 14.3 | 7.1 |
| Level of Service | | D | D | | E | D | E | A | A | E | B | A |
| Approach Delay (s) | | 53.1 | | | 56.3 | | | 6.8 | | | 14.7 | |
| Approach LOS | | D | | | E | | | A | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 12.8 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.66 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 65.7% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

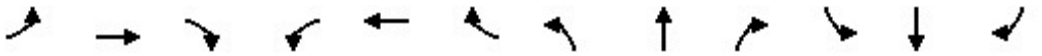


| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 152 | 378 | 151 | 254 | 873 | 121 | 1429 | 214 | 2025 | 296 |
| v/c Ratio | 0.81 | 0.79 | 0.44 | 0.93 | 1.32 | 0.67 | 0.71 | 0.82 | 0.90 | 0.36 |
| Control Delay | 81.2 | 61.8 | 11.6 | 87.9 | 190.9 | 68.4 | 32.0 | 73.9 | 35.7 | 11.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 81.2 | 61.8 | 11.6 | 87.9 | 190.9 | 68.4 | 32.0 | 73.9 | 35.7 | 11.3 |
| Queue Length 50th (ft) | 112 | 146 | 0 | 189 | ~441 | 87 | 327 | 171 | 273 | 36 |
| Queue Length 95th (ft) | #215 | #218 | 61 | #342 | #572 | 152 | 384 | #278 | #432 | 143 |
| Internal Link Dist (ft) | | 762 | | | 867 | | 276 | | 418 | |
| Turn Bay Length (ft) | 200 | | 215 | 725 | | 280 | | 330 | | 245 |
| Base Capacity (vph) | 202 | 479 | 345 | 280 | 661 | 202 | 2001 | 280 | 2253 | 832 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.75 | 0.79 | 0.44 | 0.91 | 1.32 | 0.60 | 0.71 | 0.76 | 0.90 | 0.36 |

Intersection Summary

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

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 144 | 359 | 143 | 241 | 582 | 247 | 115 | 1194 | 163 | 203 | 1924 | 281 |
| Future Volume (veh/h) | 144 | 359 | 143 | 241 | 582 | 247 | 115 | 1194 | 163 | 203 | 1924 | 281 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adj Flow Rate, veh/h | 152 | 378 | 151 | 254 | 613 | 260 | 121 | 1257 | 172 | 214 | 2025 | 0 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cap, veh/h | 180 | 444 | 198 | 281 | 441 | 187 | 148 | 1875 | 257 | 243 | 2380 | |
| Arrive On Green | 0.10 | 0.12 | 0.12 | 0.16 | 0.18 | 0.18 | 0.08 | 0.41 | 0.41 | 0.13 | 0.46 | 0.00 |
| Sat Flow, veh/h | 1810 | 3610 | 1610 | 1810 | 2470 | 1047 | 1810 | 4613 | 631 | 1810 | 5187 | 1610 |
| Grp Volume(v), veh/h | 152 | 378 | 151 | 254 | 448 | 425 | 121 | 942 | 487 | 214 | 2025 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1810 | 1805 | 1610 | 1810 | 1805 | 1712 | 1810 | 1729 | 1786 | 1810 | 1729 | 1610 |
| Q Serve(g_s), s | 9.6 | 11.9 | 10.5 | 16.0 | 20.7 | 20.7 | 7.6 | 25.8 | 25.8 | 13.5 | 40.2 | 0.0 |
| Cycle Q Clear(g_c), s | 9.6 | 11.9 | 10.5 | 16.0 | 20.7 | 20.7 | 7.6 | 25.8 | 25.8 | 13.5 | 40.2 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.61 | 1.00 | | 0.35 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 180 | 444 | 198 | 281 | 323 | 306 | 148 | 1406 | 726 | 243 | 2380 | |
| V/C Ratio(X) | 0.85 | 0.85 | 0.76 | 0.90 | 1.39 | 1.39 | 0.82 | 0.67 | 0.67 | 0.88 | 0.85 | |
| Avail Cap(c_a), veh/h | 203 | 467 | 208 | 281 | 323 | 306 | 203 | 1406 | 726 | 281 | 2380 | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 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 | 0.00 |
| Uniform Delay (d), s/veh | 51.4 | 49.8 | 49.2 | 48.2 | 47.6 | 47.6 | 52.4 | 28.1 | 28.1 | 49.3 | 27.9 | 0.0 |
| Incr Delay (d2), s/veh | 22.4 | 13.6 | 14.7 | 29.7 | 192.9 | 194.4 | 16.4 | 2.6 | 4.9 | 23.6 | 4.1 | 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 BackOfQ(50%),veh/ln | 5.5 | 6.2 | 5.0 | 9.5 | 26.5 | 25.3 | 4.1 | 11.0 | 11.9 | 7.7 | 17.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 73.7 | 63.5 | 63.9 | 77.8 | 240.5 | 242.0 | 68.8 | 30.6 | 33.0 | 72.9 | 31.9 | 0.0 |
| LnGrp LOS | E | E | E | E | F | F | E | C | C | E | C | |
| Approach Vol, veh/h | | 681 | | | 1127 | | | 1550 | | | 2239 | A |
| Approach Delay, s/veh | | 65.8 | | | 204.4 | | | 34.4 | | | 35.8 | |
| Approach LOS | | E | | | F | | | C | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.6 | 53.1 | 23.0 | 19.3 | 14.5 | 59.2 | 16.5 | 25.7 |
| Change Period (Y+Rc), s | 5.0 | 6.0 | 5.0 | 5.0 | 5.0 | 6.0 | 5.0 | 5.0 |
| Max Green Setting (Gmax), s | 18.0 | 44.0 | 18.0 | 15.0 | 13.0 | 49.0 | 13.0 | 20.0 |
| Max Q Clear Time (g_c+I1), s | 15.5 | 27.8 | 18.0 | 13.9 | 9.6 | 42.2 | 11.6 | 22.7 |
| Green Ext Time (p_c), s | 0.1 | 11.1 | 0.0 | 0.4 | 0.1 | 6.3 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 73.0 |
| HCM 6th LOS | E |

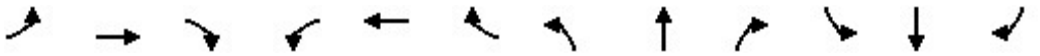
**Notes**

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

| Lane Group | EBT | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 136 | 86 | 37 | 1593 | 49 | 2304 |
| v/c Ratio | 0.76 | 0.59 | 0.24 | 0.48 | 0.21 | 0.67 |
| Control Delay | 60.6 | 62.0 | 9.3 | 12.5 | 7.6 | 14.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 60.6 | 62.0 | 9.3 | 12.5 | 7.6 | 14.8 |
| Queue Length 50th (ft) | 66 | 55 | 8 | 238 | 10 | 429 |
| Queue Length 95th (ft) | #159 | 109 | 18 | 284 | 22 | 499 |
| Internal Link Dist (ft) | 218 | 764 | | 385 | | 854 |
| Turn Bay Length (ft) | | | 230 | | 215 | |
| Base Capacity (vph) | 190 | 162 | 175 | 3342 | 252 | 3457 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.72 | 0.53 | 0.21 | 0.48 | 0.19 | 0.67 |

Intersection Summary

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 45 | 10 | 74 | 59 | 5 | 18 | 35 | 1452 | 62 | 47 | 2168 | 21 |
| Future Volume (vph) | 45 | 10 | 74 | 59 | 5 | 18 | 35 | 1452 | 62 | 47 | 2168 | 21 |
| 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 | 6.0 | | 5.0 | 6.0 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | | 1.00 | 0.91 | | 1.00 | 0.91 | |
| Frt | | 0.92 | | | 0.97 | | 1.00 | 0.99 | | 1.00 | 1.00 | |
| Flt Protected | | 0.98 | | | 0.97 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1723 | | | 1779 | | 1805 | 5155 | | 1805 | 5180 | |
| Flt Permitted | | 0.98 | | | 0.97 | | 0.05 | 1.00 | | 0.12 | 1.00 | |
| Satd. Flow (perm) | | 1723 | | | 1779 | | 104 | 5155 | | 220 | 5180 | |
| 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) | 47 | 11 | 78 | 62 | 5 | 19 | 37 | 1528 | 65 | 49 | 2282 | 22 |
| RTOR Reduction (vph) | 0 | 42 | 0 | 0 | 9 | 0 | 0 | 3 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 94 | 0 | 0 | 77 | 0 | 37 | 1590 | 0 | 49 | 2303 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Turn Type | Split | NA | | Split | NA | | pm+pt | NA | | pm+pt | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | 2 | | | 6 | | |
| Actuated Green, G (s) | | 9.2 | | | 7.7 | | 76.9 | 73.2 | | 79.3 | 74.4 | |
| Effective Green, g (s) | | 9.2 | | | 7.7 | | 76.9 | 73.2 | | 79.3 | 74.4 | |
| Actuated g/C Ratio | | 0.08 | | | 0.07 | | 0.66 | 0.63 | | 0.68 | 0.64 | |
| Clearance Time (s) | | 5.0 | | | 5.0 | | 5.0 | 6.0 | | 5.0 | 6.0 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | | 2.5 | 4.0 | | 2.5 | 4.0 | |
| Lane Grp Cap (vph) | | 136 | | | 118 | | 123 | 3252 | | 217 | 3322 | |
| v/s Ratio Prot | | c0.05 | | | c0.04 | | c0.01 | 0.31 | | 0.01 | c0.44 | |
| v/s Ratio Perm | | | | | | | 0.19 | | | 0.14 | | |
| v/c Ratio | | 0.69 | | | 0.65 | | 0.30 | 0.49 | | 0.23 | 0.69 | |
| Uniform Delay, d1 | | 52.0 | | | 52.8 | | 11.5 | 11.4 | | 7.3 | 13.4 | |
| Progression Factor | | 1.00 | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 13.6 | | | 11.7 | | 1.0 | 0.5 | | 0.4 | 1.2 | |
| Delay (s) | | 65.6 | | | 64.5 | | 12.5 | 11.9 | | 7.6 | 14.6 | |
| Level of Service | | E | | | E | | B | B | | A | B | |
| Approach Delay (s) | | 65.6 | | | 64.5 | | | 12.0 | | | 14.5 | |
| Approach LOS | | E | | | E | | | B | | | B | |

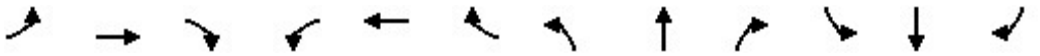
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 16.2 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.67 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 60.4% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 8 | 17 | 1018 | 269 | 1358 | 390 | 299 | 2090 |
| v/c Ratio | 0.09 | 0.18 | 0.99 | 0.29 | 0.76 | 0.48 | 1.01 | 0.73 |
| Control Delay | 53.5 | 47.6 | 68.4 | 5.5 | 37.1 | 5.4 | 104.5 | 21.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 53.5 | 47.6 | 68.4 | 5.5 | 37.1 | 5.4 | 104.5 | 21.4 |
| Queue Length 50th (ft) | 6 | 10 | ~451 | 22 | 327 | 5 | ~230 | 409 |
| Queue Length 95th (ft) | 22 | 34 | #603 | 73 | 384 | 73 | #410 | 468 |
| Internal Link Dist (ft) | | 212 | | | 241 | | | 321 |
| Turn Bay Length (ft) | | | | 250 | | 230 | 235 | |
| Base Capacity (vph) | 171 | 169 | 1025 | 914 | 1788 | 805 | 295 | 2861 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.05 | 0.10 | 0.99 | 0.29 | 0.76 | 0.48 | 1.01 | 0.73 |

Intersection Summary

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

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



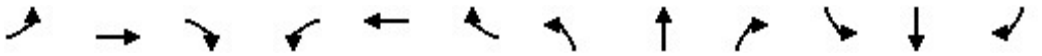
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 8 | 8 | 9 | 977 | 0 | 258 | 0 | 1304 | 374 | 287 | 2006 | 0 |
| Future Volume (vph) | 8 | 8 | 9 | 977 | 0 | 258 | 0 | 1304 | 374 | 287 | 2006 | 0 |
| 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 | | 6.0 | 6.0 | 5.0 | 6.0 | |
| Lane Util. Factor | 1.00 | 1.00 | | 0.97 | | 1.00 | | 0.91 | 1.00 | 1.00 | 0.91 | |
| Frt | 1.00 | 0.92 | | 1.00 | | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1805 | 1749 | | 3502 | | 1615 | | 5187 | 1615 | 1805 | 5187 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1805 | 1749 | | 3502 | | 1615 | | 5187 | 1615 | 1805 | 5187 | |
| 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 |
| Adj. Flow (vph) | 8 | 8 | 9 | 1018 | 0 | 269 | 0 | 1358 | 390 | 299 | 2090 | 0 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 0 | 117 | 0 | 0 | 255 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 8 | 13 | 0 | 1018 | 0 | 152 | 0 | 1358 | 135 | 299 | 2090 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Turn Type | Split | NA | | Prot | | pm+ov | | NA | Perm | Prot | NA | |
| Protected Phases | 3 | 3 | | 4 | | 1 | | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 4.0 | 4.0 | | 34.0 | | 53.0 | | 38.0 | 38.0 | 19.0 | 62.0 | |
| Effective Green, g (s) | 4.0 | 4.0 | | 34.0 | | 53.0 | | 38.0 | 38.0 | 19.0 | 62.0 | |
| Actuated g/C Ratio | 0.03 | 0.03 | | 0.29 | | 0.46 | | 0.33 | 0.33 | 0.16 | 0.53 | |
| Clearance Time (s) | 5.0 | 5.0 | | 5.0 | | 5.0 | | 6.0 | 6.0 | 5.0 | 6.0 | |
| Vehicle Extension (s) | 2.5 | 2.5 | | 2.5 | | 2.5 | | 6.0 | 6.0 | 2.5 | 6.0 | |
| Lane Grp Cap (vph) | 62 | 60 | | 1026 | | 807 | | 1699 | 529 | 295 | 2772 | |
| v/s Ratio Prot | 0.00 | c0.01 | | c0.29 | | 0.03 | | 0.26 | | c0.17 | c0.40 | |
| v/s Ratio Perm | | | | | | 0.06 | | | 0.08 | | | |
| v/c Ratio | 0.13 | 0.22 | | 0.99 | | 0.19 | | 0.80 | 0.26 | 1.01 | 0.75 | |
| Uniform Delay, d1 | 54.3 | 54.5 | | 40.9 | | 18.7 | | 35.5 | 28.6 | 48.5 | 21.1 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.7 | 1.3 | | 26.1 | | 0.1 | | 4.0 | 1.2 | 55.9 | 2.0 | |
| Delay (s) | 55.0 | 55.8 | | 66.9 | | 18.8 | | 39.6 | 29.8 | 104.4 | 23.0 | |
| Level of Service | D | E | | E | | B | | D | C | F | C | |
| Approach Delay (s) | | 55.6 | | | 56.9 | | | 37.4 | | | 33.2 | |
| Approach LOS | | E | | | E | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 40.2 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.89 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 88.1% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 177 | 175 | 197 | 26 | 9 | 17 | 1459 | 29 | 3157 |
| v/c Ratio | 0.73 | 0.71 | 0.49 | 0.25 | 0.04 | 0.18 | 0.45 | 0.27 | 0.94 |
| Control Delay | 64.1 | 63.0 | 10.3 | 57.2 | 0.4 | 56.1 | 14.4 | 57.7 | 28.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 64.1 | 63.0 | 10.3 | 57.2 | 0.4 | 56.1 | 14.4 | 57.7 | 28.2 |
| Queue Length 50th (ft) | 133 | 131 | 0 | 19 | 0 | 12 | 237 | 21 | 716 |
| Queue Length 95th (ft) | 209 | 206 | 64 | 48 | 0 | 37 | 320 | 51 | #1153 |
| Internal Link Dist (ft) | | 248 | | 223 | | | 466 | | 240 |
| Turn Bay Length (ft) | | | 105 | | 50 | 450 | | 180 | |
| Base Capacity (vph) | 279 | 280 | 427 | 174 | 263 | 124 | 3251 | 202 | 3345 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.63 | 0.63 | 0.46 | 0.15 | 0.03 | 0.14 | 0.45 | 0.14 | 0.94 |

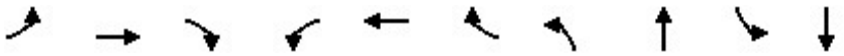
Intersection Summary

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 324 | 10 | 187 | 16 | 9 | 9 | 16 | 1335 | 51 | 28 | 2637 | 362 |
| Future Volume (vph) | 324 | 10 | 187 | 16 | 9 | 9 | 16 | 1335 | 51 | 28 | 2637 | 362 |
| 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 | 6.0 | | 5.0 | 6.0 | |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.91 | | 1.00 | 0.91 | |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 0.96 | 1.00 | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1715 | 1724 | 1615 | | 1840 | 1615 | 1805 | 5158 | | 1805 | 5093 | |
| Flt Permitted | 0.95 | 0.96 | 1.00 | | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1715 | 1724 | 1615 | | 1840 | 1615 | 1805 | 5158 | | 1805 | 5093 | |
| 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) | 341 | 11 | 197 | 17 | 9 | 9 | 17 | 1405 | 54 | 29 | 2776 | 381 |
| RTOR Reduction (vph) | 0 | 0 | 169 | 0 | 0 | 9 | 0 | 2 | 0 | 0 | 12 | 0 |
| Lane Group Flow (vph) | 177 | 175 | 28 | 0 | 26 | 0 | 17 | 1457 | 0 | 29 | 3145 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | | | | |
| Actuated Green, G (s) | 16.6 | 16.6 | 16.6 | | 4.6 | 4.6 | 2.9 | 69.0 | | 4.8 | 70.9 | |
| Effective Green, g (s) | 16.6 | 16.6 | 16.6 | | 4.6 | 4.6 | 2.9 | 69.0 | | 4.8 | 70.9 | |
| Actuated g/C Ratio | 0.14 | 0.14 | 0.14 | | 0.04 | 0.04 | 0.02 | 0.59 | | 0.04 | 0.61 | |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 6.0 | | 5.0 | 6.0 | |
| Vehicle Extension (s) | 2.5 | 2.5 | 2.5 | | 2.5 | 2.5 | 2.5 | 6.0 | | 2.5 | 6.0 | |
| Lane Grp Cap (vph) | 245 | 246 | 231 | | 72 | 64 | 45 | 3068 | | 74 | 3112 | |
| v/s Ratio Prot | c0.10 | 0.10 | | | c0.01 | | 0.01 | 0.28 | | c0.02 | c0.62 | |
| v/s Ratio Perm | | | 0.02 | | | 0.00 | | | | | | |
| v/c Ratio | 0.72 | 0.71 | 0.12 | | 0.36 | 0.01 | 0.38 | 0.47 | | 0.39 | 1.01 | |
| Uniform Delay, d1 | 47.5 | 47.4 | 43.3 | | 54.3 | 53.5 | 55.7 | 13.3 | | 54.2 | 22.5 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 9.5 | 8.7 | 0.2 | | 2.2 | 0.0 | 3.8 | 0.5 | | 2.5 | 18.8 | |
| Delay (s) | 57.0 | 56.1 | 43.5 | | 56.5 | 53.5 | 59.5 | 13.8 | | 56.7 | 41.3 | |
| Level of Service | E | E | D | | E | D | E | B | | E | D | |
| Approach Delay (s) | | 51.9 | | | 55.7 | | | 14.3 | | | 41.5 | |
| Approach LOS | | D | | | E | | | B | | | D | |

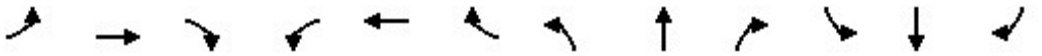
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 35.0 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.92 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 88.1% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 172 | 705 | 93 | 142 | 813 | 236 | 122 | 584 | 371 | 705 |
| v/c Ratio | 0.60 | 0.48 | 0.14 | 0.54 | 0.80 | 0.33 | 0.49 | 0.46 | 0.83 | 0.46 |
| Control Delay | 60.0 | 34.8 | 3.6 | 59.5 | 45.4 | 11.4 | 58.9 | 35.5 | 66.0 | 31.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 60.0 | 34.8 | 3.6 | 59.5 | 45.4 | 11.4 | 58.9 | 35.5 | 66.0 | 31.4 |
| Queue Length 50th (ft) | 65 | 154 | 0 | 54 | 290 | 52 | 46 | 131 | 140 | 146 |
| Queue Length 95th (ft) | 100 | 199 | 26 | 86 | 376 | 110 | 76 | 169 | #214 | 194 |
| Internal Link Dist (ft) | | 437 | | | 433 | | | 569 | | 731 |
| Turn Bay Length (ft) | 415 | | 350 | 300 | | | 400 | | 550 | |
| Base Capacity (vph) | 370 | 1503 | 711 | 418 | 1052 | 714 | 398 | 1268 | 466 | 1546 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.46 | 0.47 | 0.13 | 0.34 | 0.77 | 0.33 | 0.31 | 0.46 | 0.80 | 0.46 |

Intersection Summary

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



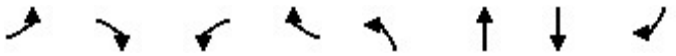
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 158 | 649 | 86 | 131 | 748 | 217 | 112 | 419 | 119 | 341 | 481 | 167 |
| Future Volume (veh/h) | 158 | 649 | 86 | 131 | 748 | 217 | 112 | 419 | 119 | 341 | 481 | 167 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1781 | 1826 | 1633 | 1752 | 1856 | 1826 | 1781 | 1856 | 1856 | 1885 | 1856 | 1856 |
| Adj Flow Rate, veh/h | 172 | 705 | 93 | 142 | 813 | 236 | 122 | 455 | 129 | 371 | 523 | 182 |
| 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 |
| Percent Heavy Veh, % | 8 | 5 | 18 | 10 | 3 | 5 | 8 | 3 | 3 | 1 | 3 | 3 |
| Cap, veh/h | 228 | 1409 | 471 | 196 | 967 | 613 | 192 | 1187 | 325 | 427 | 1364 | 460 |
| Arrive On Green | 0.07 | 0.28 | 0.28 | 0.06 | 0.27 | 0.27 | 0.06 | 0.30 | 0.30 | 0.12 | 0.36 | 0.36 |
| Sat Flow, veh/h | 3291 | 4985 | 1383 | 3237 | 3526 | 1546 | 3291 | 3952 | 1084 | 3483 | 3741 | 1263 |
| Grp Volume(v), veh/h | 172 | 705 | 93 | 142 | 813 | 236 | 122 | 387 | 197 | 371 | 471 | 234 |
| Grp Sat Flow(s),veh/h/ln | 1646 | 1662 | 1383 | 1618 | 1763 | 1546 | 1646 | 1689 | 1659 | 1742 | 1689 | 1627 |
| Q Serve(g_s), s | 6.1 | 13.9 | 5.6 | 5.1 | 25.7 | 12.8 | 4.3 | 10.7 | 11.2 | 12.3 | 12.1 | 12.6 |
| Cycle Q Clear(g_c), s | 6.1 | 13.9 | 5.6 | 5.1 | 25.7 | 12.8 | 4.3 | 10.7 | 11.2 | 12.3 | 12.1 | 12.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.65 | 1.00 | | 0.78 |
| Lane Grp Cap(c), veh/h | 228 | 1409 | 471 | 196 | 967 | 613 | 192 | 1014 | 498 | 427 | 1231 | 593 |
| V/C Ratio(X) | 0.76 | 0.50 | 0.20 | 0.72 | 0.84 | 0.38 | 0.64 | 0.38 | 0.40 | 0.87 | 0.38 | 0.40 |
| Avail Cap(c_a), veh/h | 377 | 1409 | 471 | 425 | 1037 | 644 | 404 | 1014 | 498 | 458 | 1231 | 593 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 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 | 53.9 | 35.4 | 27.5 | 54.4 | 40.4 | 25.3 | 54.3 | 32.6 | 32.8 | 50.8 | 27.7 | 27.8 |
| Incr Delay (d2), s/veh | 1.9 | 0.5 | 0.3 | 1.9 | 6.6 | 0.7 | 1.3 | 1.1 | 2.4 | 14.7 | 0.9 | 2.0 |
| 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 BackOfQ(50%),veh/ln | 2.6 | 5.7 | 1.9 | 2.1 | 11.9 | 4.8 | 1.8 | 4.5 | 4.8 | 6.2 | 5.1 | 5.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 55.9 | 35.8 | 27.8 | 56.3 | 47.0 | 26.0 | 55.7 | 33.7 | 35.1 | 65.5 | 28.6 | 29.8 |
| LnGrp LOS | E | D | C | E | D | C | E | C | D | E | C | C |
| Approach Vol, veh/h | | 970 | | | 1191 | | | 706 | | | 1076 | |
| Approach Delay, s/veh | | 38.6 | | | 43.9 | | | 37.9 | | | 41.6 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 21.0 | 42.7 | 13.7 | 40.7 | 13.4 | 50.3 | 14.7 | 39.7 |
| Change Period (Y+Rc), s | 6.5 | * 7.3 | 6.5 | * 7.3 | 6.5 | * 7.3 | 6.5 | 7.3 |
| Max Green Setting (Gmax), s | 15.5 | * 27 | 15.5 | * 33 | 14.5 | * 28 | 13.5 | 34.7 |
| Max Q Clear Time (g_c+I1), s | 14.3 | 13.2 | 7.1 | 15.9 | 6.3 | 14.6 | 8.1 | 27.7 |
| Green Ext Time (p_c), s | 0.1 | 6.2 | 0.1 | 7.3 | 0.1 | 5.6 | 0.1 | 4.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 40.9 |
| HCM 6th LOS | D |

Notes

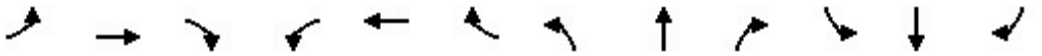
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



| Lane Group | EBL | EBR | WBL | WBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 197 | 183 | 126 | 28 | 321 | 613 | 550 | 150 |
| v/c Ratio | 0.54 | 0.27 | 0.64 | 0.10 | 0.76 | 0.28 | 0.50 | 0.19 |
| Control Delay | 54.6 | 3.4 | 65.4 | 0.7 | 55.4 | 10.6 | 32.6 | 2.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.6 | 3.4 | 65.4 | 0.7 | 55.4 | 10.6 | 32.6 | 2.5 |
| Queue Length 50th (ft) | 74 | 0 | 92 | 0 | 219 | 103 | 182 | 0 |
| Queue Length 95th (ft) | 109 | 34 | 158 | 0 | #466 | 147 | 213 | 27 |
| Internal Link Dist (ft) | | | | | | 335 | 653 | |
| Turn Bay Length (ft) | | 275 | | 50 | 210 | | | 115 |
| Base Capacity (vph) | 472 | 724 | 215 | 292 | 424 | 2168 | 1238 | 817 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.42 | 0.25 | 0.59 | 0.10 | 0.76 | 0.28 | 0.44 | 0.18 |

Intersection Summary

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 181 | 0 | 168 | 116 | 0 | 26 | 295 | 547 | 17 | 10 | 496 | 138 |
| Future Volume (vph) | 181 | 0 | 168 | 116 | 0 | 26 | 295 | 547 | 17 | 10 | 496 | 138 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.5 | | 5.5 | 5.5 | | 5.5 | 5.5 | 6.0 | | | 6.0 | 5.5 |
| Lane Util. Factor | 0.97 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | | | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Frt | 1.00 | | 0.85 | 1.00 | | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 |
| Flt Protected | 0.95 | | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (prot) | 3183 | | 1553 | 1805 | | 1495 | 1719 | 3416 | | | 3459 | 1392 |
| Flt Permitted | 0.95 | | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | | | 0.94 | 1.00 |
| Satd. Flow (perm) | 3183 | | 1553 | 1805 | | 1495 | 1719 | 3416 | | | 3247 | 1392 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 197 | 0 | 183 | 126 | 0 | 28 | 321 | 595 | 18 | 11 | 539 | 150 |
| RTOR Reduction (vph) | 0 | 0 | 117 | 0 | 0 | 25 | 0 | 1 | 0 | 0 | 0 | 82 |
| Lane Group Flow (vph) | 197 | 0 | 66 | 126 | 0 | 3 | 321 | 612 | 0 | 0 | 550 | 68 |
| Confl. Peds. (#/hr) | 1 | | | | | 1 | 1 | | 1 | 1 | | 1 |
| Heavy Vehicles (%) | 10% | 14% | 4% | 0% | 8% | 8% | 5% | 5% | 10% | 17% | 4% | 16% |
| Turn Type | Prot | | pt+ov | Prot | | Prot | Prot | NA | | Perm | NA | pt+ov |
| Protected Phases | 3 | | 3 5 | 4 | | 4 | 5 | 2 | | | 6 | 3 6 |
| Permitted Phases | | | | | | | | | | 6 | | |
| Actuated Green, G (s) | 13.4 | | 42.5 | 12.8 | | 12.8 | 29.1 | 74.8 | | | 40.2 | 59.6 |
| Effective Green, g (s) | 13.4 | | 42.5 | 12.8 | | 12.8 | 29.1 | 74.8 | | | 40.2 | 53.6 |
| Actuated g/C Ratio | 0.11 | | 0.36 | 0.11 | | 0.11 | 0.25 | 0.63 | | | 0.34 | 0.45 |
| Clearance Time (s) | 5.5 | | | 5.5 | | 5.5 | 5.5 | 6.0 | | | 6.0 | |
| Vehicle Extension (s) | 3.5 | | | 3.5 | | 3.5 | 3.0 | 7.0 | | | 7.0 | |
| Lane Grp Cap (vph) | 361 | | 559 | 195 | | 162 | 423 | 2165 | | | 1106 | 632 |
| v/s Ratio Prot | c0.06 | | 0.04 | c0.07 | | 0.00 | c0.19 | 0.18 | | | | 0.05 |
| v/s Ratio Perm | | | | | | | | | | | c0.17 | |
| v/c Ratio | 0.55 | | 0.12 | 0.65 | | 0.02 | 0.76 | 0.28 | | | 0.50 | 0.11 |
| Uniform Delay, d1 | 49.4 | | 25.2 | 50.4 | | 47.0 | 41.2 | 9.6 | | | 30.9 | 18.5 |
| Progression Factor | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.9 | | 0.1 | 7.5 | | 0.1 | 7.6 | 0.3 | | | 1.6 | 0.1 |
| Delay (s) | 51.3 | | 25.3 | 57.9 | | 47.0 | 48.8 | 10.0 | | | 32.5 | 18.6 |
| Level of Service | D | | C | E | | D | D | A | | | C | B |
| Approach Delay (s) | | 38.8 | | | 55.9 | | | 23.3 | | | 29.5 | |
| Approach LOS | | D | | | E | | | C | | | C | |

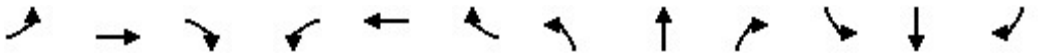
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 30.3 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.60 | | |
| Actuated Cycle Length (s) | 118.0 | Sum of lost time (s) | 22.5 |
| Intersection Capacity Utilization | 51.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 52 | 342 | 189 | 1030 | 585 | 321 | 76 | 217 | 303 | 83 |
| v/c Ratio | 0.47 | 0.37 | 0.81 | 0.85 | 0.68 | 0.38 | 0.15 | 0.77 | 0.51 | 0.20 |
| Control Delay | 70.3 | 39.1 | 78.4 | 47.2 | 10.2 | 41.5 | 0.6 | 68.2 | 50.8 | 1.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 70.3 | 39.1 | 78.4 | 47.2 | 10.2 | 41.5 | 0.6 | 68.2 | 50.8 | 1.1 |
| Queue Length 50th (ft) | 41 | 115 | 151 | 421 | 48 | 115 | 0 | 170 | 118 | 0 |
| Queue Length 95th (ft) | 85 | 173 | 222 | #549 | 182 | 160 | 0 | #286 | 166 | 0 |
| Internal Link Dist (ft) | | 442 | | 279 | | 310 | | | 329 | |
| Turn Bay Length (ft) | 210 | | 80 | | | | | 150 | | 150 |
| Base Capacity (vph) | 111 | 931 | 342 | 1205 | 864 | 835 | 518 | 283 | 594 | 406 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.47 | 0.37 | 0.55 | 0.85 | 0.68 | 0.38 | 0.15 | 0.77 | 0.51 | 0.20 |

Intersection Summary

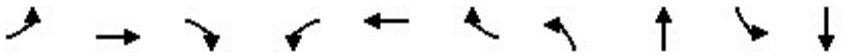
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 48 | 287 | 31 | 176 | 958 | 544 | 63 | 235 | 71 | 202 | 282 | 77 |
| Future Volume (vph) | 48 | 287 | 31 | 176 | 958 | 544 | 63 | 235 | 71 | 202 | 282 | 77 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 5.0 | | 5.8 | 5.0 | 5.0 | | 7.1 | 7.1 | 7.0 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 0.99 | | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1597 | 3526 | | 1770 | 3505 | 1553 | | 3490 | 1583 | 1687 | 3539 | 1503 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1597 | 3526 | | 1770 | 3505 | 1553 | | 3490 | 1583 | 1687 | 3539 | 1503 |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Adj. Flow (vph) | 52 | 309 | 33 | 189 | 1030 | 585 | 68 | 253 | 76 | 217 | 303 | 83 |
| RTOR Reduction (vph) | 0 | 6 | 0 | 0 | 0 | 330 | 0 | 0 | 59 | 0 | 0 | 69 |
| Lane Group Flow (vph) | 52 | 336 | 0 | 189 | 1030 | 255 | 0 | 321 | 17 | 217 | 303 | 14 |
| Confl. Peds. (#/hr) | | | | | | | 1 | | | | | 1 |
| Heavy Vehicles (%) | 13% | 1% | 0% | 2% | 3% | 4% | 0% | 3% | 2% | 7% | 2% | 6% |
| Turn Type | Prot | NA | | Prot | NA | Perm | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 1 | | 2 | 2 | |
| Permitted Phases | | | | | | 4 | | | 1 | | | 2 |
| Actuated Green, G (s) | 7.0 | 34.1 | | 16.4 | 43.0 | 43.0 | | 28.6 | 28.6 | 21.0 | 21.0 | 21.0 |
| Effective Green, g (s) | 7.0 | 34.1 | | 16.4 | 43.0 | 43.0 | | 28.6 | 28.6 | 21.0 | 21.0 | 21.0 |
| Actuated g/C Ratio | 0.06 | 0.27 | | 0.13 | 0.34 | 0.34 | | 0.23 | 0.23 | 0.17 | 0.17 | 0.17 |
| Clearance Time (s) | 6.3 | 5.0 | | 5.8 | 5.0 | 5.0 | | 7.1 | 7.1 | 7.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 2.0 | 0.2 | | 0.2 | 2.0 | 2.0 | | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 |
| Lane Grp Cap (vph) | 89 | 961 | | 232 | 1205 | 534 | | 798 | 362 | 283 | 594 | 252 |
| v/s Ratio Prot | 0.03 | 0.10 | | c0.11 | c0.29 | | | c0.09 | | c0.13 | 0.09 | |
| v/s Ratio Perm | | | | | | 0.16 | | | 0.01 | | | 0.01 |
| v/c Ratio | 0.58 | 0.35 | | 0.81 | 0.85 | 0.48 | | 0.40 | 0.05 | 0.77 | 0.51 | 0.06 |
| Uniform Delay, d1 | 57.6 | 36.5 | | 52.8 | 38.1 | 32.2 | | 40.9 | 37.6 | 49.7 | 47.3 | 43.7 |
| 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 | 6.2 | 1.0 | | 18.4 | 7.8 | 3.0 | | 1.5 | 0.3 | 17.9 | 3.1 | 0.4 |
| Delay (s) | 63.7 | 37.5 | | 71.2 | 45.9 | 35.2 | | 42.4 | 37.8 | 67.5 | 50.4 | 44.1 |
| Level of Service | E | D | | E | D | D | | D | D | E | D | D |
| Approach Delay (s) | | 41.0 | | | 45.1 | | | 41.6 | | | 55.7 | |
| Approach LOS | | D | | | D | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 46.2 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 125.0 | Sum of lost time (s) | 25.4 |
| Intersection Capacity Utilization | 90.5% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

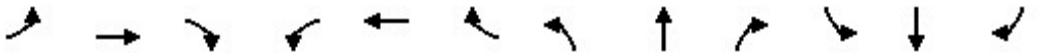


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 138 | 575 | 72 | 230 | 853 | 162 | 75 | 484 | 134 | 725 |
| v/c Ratio | 0.40 | 0.82 | 0.15 | 0.56 | 1.04 | 0.24 | 0.53 | 0.51 | 0.67 | 0.61 |
| Control Delay | 44.4 | 54.5 | 0.7 | 45.3 | 86.1 | 5.1 | 63.6 | 30.7 | 63.9 | 25.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 44.4 | 54.5 | 0.7 | 45.3 | 86.1 | 5.1 | 63.6 | 30.7 | 63.9 | 25.8 |
| Queue Length 50th (ft) | 95 | 220 | 0 | 152 | ~374 | 5 | 54 | 128 | 96 | 174 |
| Queue Length 95th (ft) | 174 | #367 | 0 | 236 | #501 | 46 | 101 | 179 | 154 | 231 |
| Internal Link Dist (ft) | | 455 | | | 617 | | | 1015 | | 812 |
| Turn Bay Length (ft) | 225 | | 135 | 285 | | 165 | 210 | | 450 | |
| Base Capacity (vph) | 344 | 703 | 474 | 413 | 819 | 751 | 190 | 988 | 282 | 1224 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.40 | 0.82 | 0.15 | 0.56 | 1.04 | 0.22 | 0.39 | 0.49 | 0.48 | 0.59 |

Intersection Summary

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

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 141 | 515 | 66 | 212 | 785 | 149 | 69 | 287 | 158 | 123 | 356 | 311 |
| Future Volume (vph) | 141 | 515 | 66 | 212 | 785 | 149 | 69 | 287 | 158 | 123 | 356 | 311 |
| 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 | 6.0 | | 5.0 | 6.0 | |
| Lane Util. Factor | 0.91 | 0.91 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.95 | | 1.00 | 0.93 | |
| 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) | 1643 | 3355 | 1615 | 1787 | 3539 | 1538 | 1805 | 3360 | | 1787 | 3307 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1643 | 3355 | 1615 | 1787 | 3539 | 1538 | 1805 | 3360 | | 1787 | 3307 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 153 | 560 | 72 | 230 | 853 | 162 | 75 | 312 | 172 | 134 | 387 | 338 |
| RTOR Reduction (vph) | 0 | 0 | 57 | 0 | 0 | 98 | 0 | 66 | 0 | 0 | 142 | 0 |
| Lane Group Flow (vph) | 138 | 575 | 15 | 230 | 853 | 64 | 75 | 418 | 0 | 134 | 583 | 0 |
| Heavy Vehicles (%) | 0% | 3% | 0% | 1% | 2% | 5% | 0% | 1% | 3% | 1% | 2% | 1% |
| Turn Type | Split | NA | Perm | Split | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 3 | 3 | | 4 | 4 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 3 | | | 4 | | | | | | |
| Actuated Green, G (s) | 23.9 | 23.9 | 23.9 | 26.4 | 26.4 | 39.3 | 7.9 | 29.8 | | 12.9 | 34.8 | |
| Effective Green, g (s) | 23.9 | 23.9 | 23.9 | 26.4 | 26.4 | 39.3 | 7.9 | 29.8 | | 12.9 | 34.8 | |
| Actuated g/C Ratio | 0.21 | 0.21 | 0.21 | 0.23 | 0.23 | 0.34 | 0.07 | 0.26 | | 0.11 | 0.31 | |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 6.0 | | 5.0 | 6.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 6.0 | | 2.0 | 6.0 | |
| Lane Grp Cap (vph) | 344 | 703 | 338 | 413 | 819 | 597 | 125 | 878 | | 202 | 1009 | |
| v/s Ratio Prot | 0.08 | c0.17 | | 0.13 | c0.24 | 0.01 | 0.04 | 0.12 | | c0.07 | c0.18 | |
| v/s Ratio Perm | | | 0.01 | | | 0.03 | | | | | | |
| v/c Ratio | 0.40 | 0.82 | 0.04 | 0.56 | 1.04 | 0.11 | 0.60 | 0.48 | | 0.66 | 0.58 | |
| Uniform Delay, d1 | 38.9 | 43.0 | 35.9 | 38.6 | 43.8 | 25.4 | 51.5 | 35.5 | | 48.5 | 33.4 | |
| 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 | 0.8 | 7.3 | 0.1 | 1.6 | 42.8 | 0.0 | 5.1 | 1.8 | | 6.2 | 2.4 | |
| Delay (s) | 39.6 | 50.3 | 36.0 | 40.3 | 86.6 | 25.4 | 56.6 | 37.4 | | 54.7 | 35.8 | |
| Level of Service | D | D | D | D | F | C | E | D | | D | D | |
| Approach Delay (s) | | 47.1 | | | 70.1 | | | 39.9 | | | 38.7 | |
| Approach LOS | | D | | | E | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 52.2 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.80 | | |
| Actuated Cycle Length (s) | 114.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 77.4% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

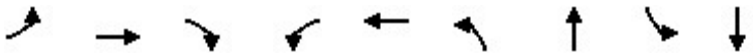
| Lane Group | EBT | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1070 | 233 | 937 | 186 | 110 |
| v/c Ratio | 0.75 | 0.63 | 0.43 | 0.56 | 0.28 |
| Control Delay | 19.2 | 17.7 | 6.7 | 28.7 | 7.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 19.2 | 17.7 | 6.7 | 28.7 | 7.0 |
| Queue Length 50th (ft) | 157 | 30 | 75 | 62 | 0 |
| Queue Length 95th (ft) | 255 | #124 | 134 | 116 | 33 |
| Internal Link Dist (ft) | 202 | | 219 | 505 | |
| Turn Bay Length (ft) | | | | 90 | |
| Base Capacity (vph) | 1423 | 368 | 2204 | 520 | 547 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.75 | 0.63 | 0.43 | 0.36 | 0.20 |

Intersection Summary

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

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 697 | 287 | 214 | 862 | 171 | 101 |
| Future Volume (vph) | 697 | 287 | 214 | 862 | 171 | 101 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.5 | | 5.5 | 5.5 | 5.0 | 5.0 |
| Lane Util. Factor | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 |
| Frt | 0.96 | | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 1.00 | | 0.95 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 3394 | | 1787 | 3471 | 1752 | 1583 |
| Flt Permitted | 1.00 | | 0.13 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 3394 | | 248 | 3471 | 1752 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 758 | 312 | 233 | 937 | 186 | 110 |
| RTOR Reduction (vph) | 41 | 0 | 0 | 0 | 0 | 89 |
| Lane Group Flow (vph) | 1029 | 0 | 233 | 937 | 186 | 21 |
| Heavy Vehicles (%) | 2% | 1% | 1% | 4% | 3% | 2% |
| Turn Type | NA | | pm+pt | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 4 | |
| Permitted Phases | | | 6 | | | 4 |
| Actuated Green, G (s) | 24.8 | | 38.6 | 38.6 | 11.6 | 11.6 |
| Effective Green, g (s) | 24.8 | | 38.6 | 38.6 | 11.6 | 11.6 |
| Actuated g/C Ratio | 0.41 | | 0.64 | 0.64 | 0.19 | 0.19 |
| Clearance Time (s) | 5.5 | | 5.5 | 5.5 | 5.0 | 5.0 |
| Vehicle Extension (s) | 6.0 | | 3.0 | 6.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 1386 | | 368 | 2207 | 334 | 302 |
| v/s Ratio Prot | c0.30 | | c0.09 | 0.27 | c0.11 | |
| v/s Ratio Perm | | | 0.32 | | | 0.01 |
| v/c Ratio | 0.74 | | 0.63 | 0.42 | 0.56 | 0.07 |
| Uniform Delay, d1 | 15.2 | | 8.5 | 5.5 | 22.2 | 20.1 |
| Progression Factor | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.0 | | 3.5 | 0.4 | 2.0 | 0.1 |
| Delay (s) | 18.2 | | 12.0 | 5.9 | 24.2 | 20.2 |
| Level of Service | B | | B | A | C | C |
| Approach Delay (s) | 18.2 | | | 7.1 | 22.7 | |
| Approach LOS | B | | | A | C | |

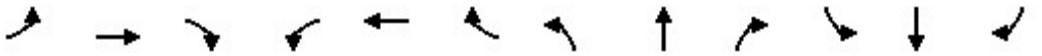
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 13.6 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 60.7 | Sum of lost time (s) | 19.0 |
| Intersection Capacity Utilization | 63.1% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |



| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 197 | 178 | 217 | 137 | 290 | 110 | 493 | 60 | 841 |
| v/c Ratio | 0.56 | 0.34 | 0.36 | 0.30 | 0.68 | 0.62 | 0.41 | 0.37 | 0.80 |
| Control Delay | 20.2 | 21.6 | 5.2 | 14.1 | 27.2 | 46.8 | 17.1 | 34.6 | 26.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 20.2 | 21.6 | 5.2 | 14.1 | 27.2 | 46.8 | 17.1 | 34.6 | 26.7 |
| Queue Length 50th (ft) | 48 | 56 | 0 | 32 | 86 | 40 | 73 | 22 | 144 |
| Queue Length 95th (ft) | 88 | 105 | 44 | 63 | 158 | #114 | 123 | 57 | #258 |
| Internal Link Dist (ft) | | 244 | | | 266 | | 277 | | 252 |
| Turn Bay Length (ft) | 240 | | | 75 | | 260 | | 200 | |
| Base Capacity (vph) | 349 | 591 | 655 | 461 | 572 | 181 | 1263 | 170 | 1102 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.56 | 0.30 | 0.33 | 0.30 | 0.51 | 0.61 | 0.39 | 0.35 | 0.76 |

Intersection Summary

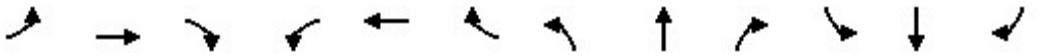
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 181 | 164 | 200 | 126 | 187 | 80 | 101 | 406 | 48 | 55 | 635 | 139 |
| Future Volume (veh/h) | 181 | 164 | 200 | 126 | 187 | 80 | 101 | 406 | 48 | 55 | 635 | 139 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1870 | 1885 | 1870 | 1811 | 1811 | 1826 | 1870 | 1870 | 1856 | 1856 | 1856 |
| Adj Flow Rate, veh/h | 197 | 178 | 217 | 137 | 203 | 87 | 110 | 441 | 52 | 60 | 690 | 151 |
| 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 |
| Percent Heavy Veh, % | 3 | 2 | 1 | 2 | 6 | 6 | 5 | 2 | 2 | 3 | 3 | 3 |
| Cap, veh/h | 358 | 423 | 361 | 421 | 253 | 109 | 140 | 1072 | 126 | 74 | 853 | 186 |
| Arrive On Green | 0.10 | 0.23 | 0.23 | 0.08 | 0.21 | 0.21 | 0.08 | 0.33 | 0.33 | 0.04 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1767 | 1870 | 1598 | 1781 | 1203 | 515 | 1739 | 3204 | 376 | 1767 | 2876 | 629 |
| Grp Volume(v), veh/h | 197 | 178 | 217 | 137 | 0 | 290 | 110 | 244 | 249 | 60 | 423 | 418 |
| Grp Sat Flow(s),veh/h/ln | 1767 | 1870 | 1598 | 1781 | 0 | 1718 | 1739 | 1777 | 1803 | 1767 | 1763 | 1742 |
| Q Serve(g_s), s | 4.8 | 4.5 | 6.8 | 3.3 | 0.0 | 8.9 | 3.5 | 5.9 | 6.0 | 1.9 | 12.4 | 12.4 |
| Cycle Q Clear(g_c), s | 4.8 | 4.5 | 6.8 | 3.3 | 0.0 | 8.9 | 3.5 | 5.9 | 6.0 | 1.9 | 12.4 | 12.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.30 | 1.00 | | 0.21 | 1.00 | | 0.36 |
| Lane Grp Cap(c), veh/h | 358 | 423 | 361 | 421 | 0 | 362 | 140 | 594 | 603 | 74 | 523 | 517 |
| V/C Ratio(X) | 0.55 | 0.42 | 0.60 | 0.33 | 0.00 | 0.80 | 0.79 | 0.41 | 0.41 | 0.81 | 0.81 | 0.81 |
| Avail Cap(c_a), veh/h | 358 | 604 | 516 | 448 | 0 | 555 | 187 | 594 | 603 | 174 | 569 | 563 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.8 | 18.5 | 19.3 | 15.2 | 0.0 | 20.9 | 25.2 | 14.3 | 14.3 | 26.5 | 18.1 | 18.2 |
| Incr Delay (d2), s/veh | 1.1 | 0.7 | 1.6 | 0.2 | 0.0 | 4.8 | 10.5 | 0.6 | 0.6 | 7.4 | 8.5 | 8.7 |
| 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 BackOfQ(50%),veh/ln | 1.8 | 1.9 | 2.4 | 1.2 | 0.0 | 3.7 | 1.7 | 2.2 | 2.2 | 0.9 | 5.7 | 5.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 16.9 | 19.1 | 20.9 | 15.4 | 0.0 | 25.7 | 35.6 | 15.0 | 15.0 | 33.9 | 26.7 | 26.8 |
| LnGrp LOS | B | B | C | B | A | C | D | B | B | C | C | C |
| Approach Vol, veh/h | | 592 | | | 427 | | | 603 | | | 901 | |
| Approach Delay, s/veh | | 19.0 | | | 22.4 | | | 18.7 | | | 27.2 | |
| Approach LOS | | B | | | C | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.4 | 23.7 | 8.6 | 17.1 | 8.5 | 21.5 | 9.5 | 16.2 |
| Change Period (Y+Rc), s | 4.0 | 5.0 | 4.0 | 4.5 | 4.0 | 5.0 | 4.0 | 4.5 |
| Max Green Setting (Gmax), s | 5.5 | 18.5 | 5.5 | 18.0 | 6.0 | 18.0 | 5.5 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 3.9 | 8.0 | 5.3 | 8.8 | 5.5 | 14.4 | 6.8 | 10.9 |
| Green Ext Time (p_c), s | 0.0 | 2.9 | 0.0 | 1.2 | 0.0 | 2.1 | 0.0 | 0.9 |

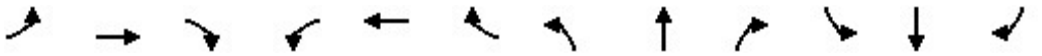
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 22.5 |
| HCM 6th LOS | C |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 105 | 921 | 49 | 188 | 811 | 60 | 85 | 329 | 215 | 126 | 351 | 243 |
| v/c Ratio | 0.28 | 0.72 | 0.08 | 0.59 | 0.55 | 0.08 | 0.26 | 0.48 | 0.45 | 0.37 | 0.50 | 0.47 |
| Control Delay | 10.9 | 23.5 | 0.2 | 19.2 | 18.6 | 0.2 | 18.1 | 27.1 | 7.3 | 20.0 | 27.3 | 7.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 10.9 | 23.5 | 0.2 | 19.2 | 18.6 | 0.2 | 18.1 | 27.1 | 7.3 | 20.0 | 27.3 | 7.1 |
| Queue Length 50th (ft) | 20 | 175 | 0 | 37 | 142 | 0 | 25 | 67 | 0 | 38 | 72 | 0 |
| Queue Length 95th (ft) | 48 | 271 | 0 | #112 | 224 | 0 | 53 | 104 | 50 | 74 | 110 | 52 |
| Internal Link Dist (ft) | | 568 | | | 685 | | | 340 | | | 433 | |
| Turn Bay Length (ft) | 225 | | 200 | 400 | | 305 | 230 | | 190 | 330 | | 275 |
| Base Capacity (vph) | 376 | 1381 | 686 | 325 | 1479 | 715 | 321 | 1234 | 685 | 337 | 1270 | 730 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.28 | 0.67 | 0.07 | 0.58 | 0.55 | 0.08 | 0.26 | 0.27 | 0.31 | 0.37 | 0.28 | 0.33 |

Intersection Summary

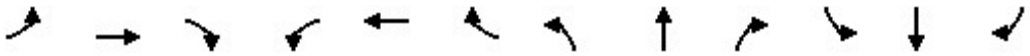
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 97 | 847 | 45 | 173 | 746 | 55 | 78 | 303 | 198 | 116 | 323 | 224 |
| Future Volume (veh/h) | 97 | 847 | 45 | 173 | 746 | 55 | 78 | 303 | 198 | 116 | 323 | 224 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1856 | 1841 | 1811 | 1841 | 1781 | 1870 | 1841 | 1826 | 1900 | 1885 | 1900 |
| Adj Flow Rate, veh/h | 105 | 921 | 49 | 188 | 811 | 60 | 85 | 329 | 215 | 126 | 351 | 243 |
| 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 |
| Percent Heavy Veh, % | 2 | 3 | 4 | 6 | 4 | 8 | 2 | 4 | 5 | 0 | 1 | 0 |
| Cap, veh/h | 344 | 1230 | 544 | 345 | 1352 | 583 | 320 | 691 | 306 | 351 | 789 | 355 |
| Arrive On Green | 0.06 | 0.35 | 0.35 | 0.10 | 0.39 | 0.39 | 0.05 | 0.20 | 0.20 | 0.08 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1781 | 3526 | 1559 | 1725 | 3497 | 1509 | 1781 | 3497 | 1547 | 1810 | 3582 | 1610 |
| Grp Volume(v), veh/h | 105 | 921 | 49 | 188 | 811 | 60 | 85 | 329 | 215 | 126 | 351 | 243 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1763 | 1559 | 1725 | 1749 | 1509 | 1781 | 1749 | 1547 | 1810 | 1791 | 1610 |
| Q Serve(g_s), s | 2.4 | 14.8 | 1.4 | 4.3 | 11.9 | 1.6 | 2.4 | 5.3 | 8.3 | 3.5 | 5.4 | 8.9 |
| Cycle Q Clear(g_c), s | 2.4 | 14.8 | 1.4 | 4.3 | 11.9 | 1.6 | 2.4 | 5.3 | 8.3 | 3.5 | 5.4 | 8.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 344 | 1230 | 544 | 345 | 1352 | 583 | 320 | 691 | 306 | 351 | 789 | 355 |
| V/C Ratio(X) | 0.30 | 0.75 | 0.09 | 0.55 | 0.60 | 0.10 | 0.27 | 0.48 | 0.70 | 0.36 | 0.44 | 0.69 |
| Avail Cap(c_a), veh/h | 418 | 1404 | 620 | 394 | 1480 | 638 | 377 | 1256 | 556 | 368 | 1286 | 578 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 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 | 12.8 | 18.4 | 14.0 | 13.5 | 15.7 | 12.6 | 19.0 | 22.8 | 23.9 | 18.4 | 21.6 | 22.9 |
| Incr Delay (d2), s/veh | 0.5 | 2.4 | 0.1 | 1.3 | 0.9 | 0.1 | 0.4 | 0.5 | 2.9 | 0.6 | 0.4 | 2.3 |
| 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 BackOfQ(50%),veh/ln | 0.9 | 5.9 | 0.5 | 1.6 | 4.4 | 0.5 | 1.0 | 2.1 | 3.1 | 1.4 | 2.2 | 3.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 13.3 | 20.8 | 14.1 | 14.9 | 16.5 | 12.7 | 19.4 | 23.3 | 26.9 | 19.0 | 22.0 | 25.3 |
| LnGrp LOS | B | C | B | B | B | B | B | C | C | B | C | C |
| Approach Vol, veh/h | | 1075 | | | 1059 | | | 629 | | | 720 | |
| Approach Delay, s/veh | | 19.8 | | | 16.0 | | | 24.0 | | | 22.6 | |
| Approach LOS | | B | | | B | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.2 | 27.3 | 8.9 | 17.7 | 7.7 | 29.8 | 7.4 | 19.1 |
| Change Period (Y+Rc), s | 4.0 | 5.0 | 4.0 | 5.0 | 4.0 | 5.0 | 4.0 | 5.0 |
| Max Green Setting (Gmax), s | 8.0 | 25.5 | 5.5 | 23.0 | 6.4 | 27.1 | 5.5 | 23.0 |
| Max Q Clear Time (g_c+I1), s | 6.3 | 16.8 | 5.5 | 10.3 | 4.4 | 13.9 | 4.4 | 10.9 |
| Green Ext Time (p_c), s | 0.1 | 5.6 | 0.0 | 2.4 | 0.0 | 6.9 | 0.0 | 2.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 20.0 |
| HCM 6th LOS | B |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 277 | 815 | 88 | 21 | 863 | 73 | 28 | 253 | 38 | 151 | 362 | 500 |
| v/c Ratio | 0.73 | 0.49 | 0.11 | 0.06 | 0.76 | 0.11 | 0.09 | 0.42 | 0.09 | 0.42 | 0.37 | 0.59 |
| Control Delay | 24.6 | 15.7 | 1.7 | 9.4 | 27.5 | 0.4 | 17.5 | 29.0 | 0.4 | 22.2 | 23.9 | 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 | 0.0 |
| Total Delay | 24.6 | 15.7 | 1.7 | 9.4 | 27.5 | 0.4 | 17.5 | 29.0 | 0.4 | 22.2 | 23.9 | 12.8 |
| Queue Length 50th (ft) | 55 | 101 | 0 | 4 | 171 | 0 | 9 | 55 | 0 | 51 | 66 | 85 |
| Queue Length 95th (ft) | #184 | 226 | 13 | 15 | 273 | 0 | 25 | 88 | 0 | 93 | 120 | 220 |
| Internal Link Dist (ft) | | 299 | | | 266 | | | 659 | | | 468 | |
| Turn Bay Length (ft) | 430 | | 75 | 230 | | 245 | 264 | | 55 | 346 | | 95 |
| Base Capacity (vph) | 391 | 1676 | 803 | 350 | 1239 | 683 | 319 | 901 | 544 | 358 | 1002 | 842 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.71 | 0.49 | 0.11 | 0.06 | 0.70 | 0.11 | 0.09 | 0.28 | 0.07 | 0.42 | 0.36 | 0.59 |

Intersection Summary

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

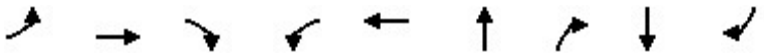
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 255 | 750 | 81 | 19 | 794 | 67 | 26 | 233 | 35 | 139 | 333 | 460 |
| Future Volume (veh/h) | 255 | 750 | 81 | 19 | 794 | 67 | 26 | 233 | 35 | 139 | 333 | 460 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1841 | 1811 | 1811 | 1841 | 1870 | 1900 | 1885 | 1841 | 1870 | 1885 | 1856 |
| Adj Flow Rate, veh/h | 277 | 815 | 0 | 21 | 863 | 0 | 28 | 253 | 0 | 151 | 362 | 500 |
| 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 |
| Percent Heavy Veh, % | 3 | 4 | 6 | 6 | 4 | 2 | 0 | 1 | 4 | 2 | 1 | 3 |
| Cap, veh/h | 386 | 1498 | | 292 | 1098 | | 262 | 745 | | 423 | 991 | 638 |
| Arrive On Green | 0.13 | 0.43 | 0.00 | 0.01 | 0.31 | 0.00 | 0.02 | 0.21 | 0.00 | 0.09 | 0.28 | 0.28 |
| Sat Flow, veh/h | 1767 | 3497 | 1535 | 1725 | 3497 | 1585 | 1810 | 3582 | 1560 | 1781 | 3582 | 1572 |
| Grp Volume(v), veh/h | 277 | 815 | 0 | 21 | 863 | 0 | 28 | 253 | 0 | 151 | 362 | 500 |
| Grp Sat Flow(s),veh/h/ln | 1767 | 1749 | 1535 | 1725 | 1749 | 1585 | 1810 | 1791 | 1560 | 1781 | 1791 | 1572 |
| Q Serve(g_s), s | 6.9 | 12.2 | 0.0 | 0.6 | 15.8 | 0.0 | 0.9 | 4.2 | 0.0 | 4.4 | 5.7 | 19.5 |
| Cycle Q Clear(g_c), s | 6.9 | 12.2 | 0.0 | 0.6 | 15.8 | 0.0 | 0.9 | 4.2 | 0.0 | 4.4 | 5.7 | 19.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 386 | 1498 | | 292 | 1098 | | 262 | 745 | | 423 | 991 | 638 |
| V/C Ratio(X) | 0.72 | 0.54 | | 0.07 | 0.79 | | 0.11 | 0.34 | | 0.36 | 0.37 | 0.78 |
| Avail Cap(c_a), veh/h | 435 | 1539 | | 402 | 1266 | | 371 | 915 | | 446 | 991 | 638 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.2 | 15.0 | 0.0 | 16.2 | 22.0 | 0.0 | 21.4 | 23.8 | 0.0 | 18.0 | 20.5 | 18.3 |
| Incr Delay (d2), s/veh | 4.9 | 0.5 | 0.0 | 0.1 | 3.3 | 0.0 | 0.2 | 0.3 | 0.0 | 0.5 | 0.2 | 6.4 |
| 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 BackOfQ(50%),veh/ln | 3.0 | 4.5 | 0.0 | 0.2 | 6.5 | 0.0 | 0.4 | 1.7 | 0.0 | 1.8 | 2.3 | 7.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 20.1 | 15.5 | 0.0 | 16.3 | 25.3 | 0.0 | 21.6 | 24.0 | 0.0 | 18.5 | 20.7 | 24.6 |
| LnGrp LOS | C | B | | B | C | | C | C | | B | C | C |
| Approach Vol, veh/h | | 1092 | A | | 884 | A | | 281 | A | | 1013 | |
| Approach Delay, s/veh | | 16.7 | | | 25.1 | | | 23.8 | | | 22.3 | |
| Approach LOS | | B | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.1 | 28.1 | 10.1 | 19.2 | 5.0 | 36.2 | 5.3 | 24.0 |
| Change Period (Y+Rc), s | 4.0 | 6.0 | 4.0 | 4.5 | 4.0 | 6.0 | 4.0 | 4.5 |
| Max Green Setting (Gmax), s | 11.0 | 25.5 | 7.0 | 18.0 | 5.5 | 31.0 | 5.5 | 19.5 |
| Max Q Clear Time (g_c+I1), s | 8.9 | 17.8 | 6.4 | 6.2 | 2.6 | 14.2 | 2.9 | 21.5 |
| Green Ext Time (p_c), s | 0.2 | 4.3 | 0.0 | 1.2 | 0.0 | 7.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 21.3 |
| HCM 6th LOS | C |

**Notes**

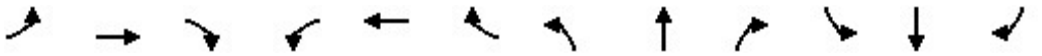
Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



| Lane Group | EBL | EBT | EBR | WBL | WBT | NBT | NBR | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 62 | 683 | 87 | 118 | 903 | 101 | 71 | 138 | 112 |
| v/c Ratio | 0.28 | 0.70 | 0.16 | 0.51 | 0.65 | 0.51 | 0.22 | 0.76 | 0.18 |
| Control Delay | 21.5 | 32.4 | 3.2 | 27.7 | 29.3 | 42.8 | 3.2 | 55.8 | 4.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 21.5 | 32.4 | 3.2 | 27.7 | 29.3 | 42.8 | 3.2 | 55.8 | 4.8 |
| Queue Length 50th (ft) | 20 | 173 | 0 | 40 | 154 | 50 | 0 | 64 | 0 |
| Queue Length 95th (ft) | 50 | #260 | 20 | #85 | 216 | 98 | 11 | #180 | 32 |
| Internal Link Dist (ft) | | 521 | | | 373 | 430 | | 331 | |
| Turn Bay Length (ft) | 275 | | | 250 | | | 130 | | 610 |
| Base Capacity (vph) | 224 | 999 | 542 | 233 | 1426 | 340 | 462 | 192 | 665 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.28 | 0.68 | 0.16 | 0.51 | 0.63 | 0.30 | 0.15 | 0.72 | 0.17 |

Intersection Summary

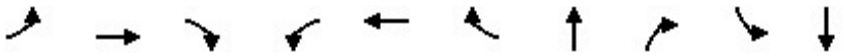
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 57 | 628 | 80 | 109 | 797 | 34 | 51 | 42 | 65 | 38 | 89 | 103 |
| Future Volume (vph) | 57 | 628 | 80 | 109 | 797 | 34 | 51 | 42 | 65 | 38 | 89 | 103 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 4.5 | 4.5 | 4.0 | 4.5 | | | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.91 | | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | | 1.00 | 0.85 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.97 | 1.00 | | 0.99 | 1.00 |
| Satd. Flow (prot) | 1805 | 3539 | 1615 | 1752 | 5008 | | | 1820 | 1538 | | 1821 | 1583 |
| Flt Permitted | 0.19 | 1.00 | 1.00 | 0.21 | 1.00 | | | 0.76 | 1.00 | | 0.28 | 1.00 |
| Satd. Flow (perm) | 352 | 3539 | 1615 | 389 | 5008 | | | 1414 | 1538 | | 520 | 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) | 62 | 683 | 87 | 118 | 866 | 37 | 55 | 46 | 71 | 41 | 97 | 112 |
| RTOR Reduction (vph) | 0 | 0 | 63 | 0 | 5 | 0 | 0 | 0 | 63 | 0 | 0 | 73 |
| Lane Group Flow (vph) | 62 | 683 | 24 | 118 | 898 | 0 | 0 | 101 | 8 | 0 | 138 | 39 |
| Confl. Peds. (#/hr) | 1 | | | | | 1 | | | | | | |
| Heavy Vehicles (%) | 0% | 2% | 0% | 3% | 3% | 0% | 3% | 0% | 5% | 0% | 4% | 2% |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | | 4 | | | 3 | |
| Permitted Phases | 6 | | 6 | 2 | | | 4 | | 4 | 3 | | 3 |
| Actuated Green, G (s) | 25.7 | 21.6 | 21.6 | 25.7 | 21.6 | | | 9.0 | 9.0 | | 27.4 | 27.4 |
| Effective Green, g (s) | 25.7 | 21.6 | 21.6 | 25.7 | 21.6 | | | 9.0 | 9.0 | | 27.4 | 27.4 |
| Actuated g/C Ratio | 0.32 | 0.27 | 0.27 | 0.32 | 0.27 | | | 0.11 | 0.11 | | 0.34 | 0.34 |
| Clearance Time (s) | 4.0 | 4.5 | 4.5 | 4.0 | 4.5 | | | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 2.0 | 4.5 | 4.5 | 2.0 | 4.5 | | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 188 | 960 | 438 | 195 | 1358 | | | 159 | 173 | | 178 | 544 |
| v/s Ratio Prot | 0.02 | c0.19 | | c0.03 | 0.18 | | | | | | | |
| v/s Ratio Perm | 0.09 | | 0.01 | 0.16 | | | | c0.07 | 0.01 | | c0.27 | 0.02 |
| v/c Ratio | 0.33 | 0.71 | 0.05 | 0.61 | 0.66 | | | 0.64 | 0.05 | | 0.78 | 0.07 |
| Uniform Delay, d1 | 19.4 | 26.2 | 21.4 | 20.3 | 25.8 | | | 33.7 | 31.5 | | 23.3 | 17.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.4 | 2.9 | 0.1 | 3.6 | 1.5 | | | 8.0 | 0.1 | | 18.8 | 0.1 |
| Delay (s) | 19.8 | 29.1 | 21.5 | 23.9 | 27.2 | | | 41.8 | 31.6 | | 42.1 | 17.6 |
| Level of Service | B | C | C | C | C | | | D | C | | D | B |
| Approach Delay (s) | | 27.6 | | | 26.8 | | | 37.6 | | | 31.1 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 28.4 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 79.6 | Sum of lost time (s) | 17.5 |
| Intersection Capacity Utilization | 47.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

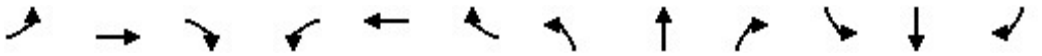
c Critical Lane Group



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 77 | 586 | 12 | 18 | 952 | 512 | 100 | 39 | 428 | 211 |
| v/c Ratio | 0.80 | 0.44 | 0.02 | 0.19 | 0.89 | 0.62 | 0.52 | 0.13 | 0.91 | 0.42 |
| Control Delay | 99.5 | 26.4 | 0.1 | 52.9 | 46.6 | 6.4 | 53.1 | 0.8 | 63.3 | 22.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 99.5 | 26.4 | 0.1 | 52.9 | 46.6 | 6.4 | 53.1 | 0.8 | 63.3 | 22.7 |
| Queue Length 50th (ft) | 51 | 136 | 0 | 12 | 313 | 0 | 63 | 0 | 273 | 69 |
| Queue Length 95th (ft) | #142 | 234 | 0 | 36 | #461 | 84 | 117 | 0 | #486 | 145 |
| Internal Link Dist (ft) | | 315 | | | 426 | | 221 | | | 272 |
| Turn Bay Length (ft) | | | 35 | 415 | | 415 | | 45 | 215 | |
| Base Capacity (vph) | 96 | 1338 | 656 | 94 | 1065 | 825 | 316 | 397 | 469 | 501 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.80 | 0.44 | 0.02 | 0.19 | 0.89 | 0.62 | 0.32 | 0.10 | 0.91 | 0.42 |

Intersection Summary

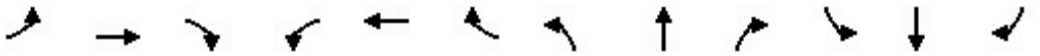
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 71 | 539 | 11 | 17 | 876 | 471 | 24 | 68 | 36 | 394 | 69 | 125 |
| Future Volume (vph) | 71 | 539 | 11 | 17 | 876 | 471 | 24 | 68 | 36 | 394 | 69 | 125 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.5 | 5.5 | 5.5 | 6.2 | 5.6 | 5.6 | | 6.9 | 6.9 | 8.1 | 8.1 | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 0.90 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1656 | 3471 | 1417 | 1805 | 3471 | 1534 | | 1809 | 1482 | 1770 | 1672 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1656 | 3471 | 1417 | 1805 | 3471 | 1534 | | 1809 | 1482 | 1770 | 1672 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 77 | 586 | 12 | 18 | 952 | 512 | 26 | 74 | 39 | 428 | 75 | 136 |
| RTOR Reduction (vph) | 0 | 0 | 8 | 0 | 0 | 342 | 0 | 0 | 35 | 0 | 59 | 0 |
| Lane Group Flow (vph) | 77 | 586 | 4 | 18 | 952 | 170 | 0 | 100 | 4 | 428 | 152 | 0 |
| Confl. Peds. (#/hr) | 1 | | | | | 1 | | | | | | |
| Heavy Vehicles (%) | 9% | 4% | 14% | 0% | 4% | 3% | 0% | 5% | 9% | 2% | 2% | 3% |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Split | NA | Perm | Split | NA | |
| Protected Phases | 1 | 6 | | 5 | 2 | | 3 | 3 | | 4 | 4 | |
| Permitted Phases | | | 6 | | | 2 | | | 3 | | | |
| Actuated Green, G (s) | 6.0 | 39.7 | 39.7 | 2.1 | 35.4 | 35.4 | | 11.0 | 11.0 | 27.3 | 27.3 | |
| Effective Green, g (s) | 6.0 | 39.7 | 39.7 | 2.1 | 35.4 | 35.4 | | 11.0 | 11.0 | 27.3 | 27.3 | |
| Actuated g/C Ratio | 0.06 | 0.37 | 0.37 | 0.02 | 0.33 | 0.33 | | 0.10 | 0.10 | 0.26 | 0.26 | |
| Clearance Time (s) | 6.5 | 5.5 | 5.5 | 6.2 | 5.6 | 5.6 | | 6.9 | 6.9 | 8.1 | 8.1 | |
| Vehicle Extension (s) | 3.0 | 6.0 | 6.0 | 3.0 | 6.0 | 6.0 | | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 93 | 1290 | 526 | 35 | 1150 | 508 | | 186 | 152 | 452 | 427 | |
| v/s Ratio Prot | c0.05 | c0.17 | | 0.01 | c0.27 | | | c0.06 | | c0.24 | 0.09 | |
| v/s Ratio Perm | | | 0.00 | | | 0.11 | | | 0.00 | | | |
| v/c Ratio | 0.83 | 0.45 | 0.01 | 0.51 | 0.83 | 0.33 | | 0.54 | 0.03 | 0.95 | 0.36 | |
| Uniform Delay, d1 | 49.9 | 25.4 | 21.1 | 51.8 | 32.9 | 26.8 | | 45.5 | 43.1 | 39.0 | 32.6 | |
| 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 | 42.7 | 0.7 | 0.0 | 12.2 | 5.9 | 1.1 | | 3.0 | 0.1 | 29.0 | 0.5 | |
| Delay (s) | 92.6 | 26.1 | 21.2 | 64.0 | 38.8 | 27.9 | | 48.5 | 43.2 | 68.0 | 33.1 | |
| Level of Service | F | C | C | E | D | C | | D | D | E | C | |
| Approach Delay (s) | | 33.6 | | | 35.3 | | | 47.0 | | | 56.5 | |
| Approach LOS | | C | | | D | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 40.1 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.84 | | |
| Actuated Cycle Length (s) | 106.8 | Sum of lost time (s) | 27.1 |
| Intersection Capacity Utilization | 73.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

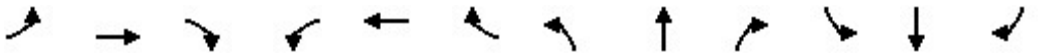
c Critical Lane Group



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 211 | 341 | 489 | 51 | 393 | 12 | 450 | 87 | 45 | 7 | 161 | 617 |
| v/c Ratio | 0.90 | 0.35 | 0.46 | 0.45 | 0.64 | 0.03 | 0.67 | 0.24 | 0.10 | 0.02 | 0.37 | 0.85 |
| Control Delay | 92.1 | 38.8 | 4.7 | 72.1 | 53.2 | 0.1 | 52.1 | 44.7 | 0.5 | 42.0 | 45.8 | 41.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 92.1 | 38.8 | 4.7 | 72.1 | 53.2 | 0.1 | 52.1 | 44.7 | 0.5 | 42.0 | 45.8 | 41.1 |
| Queue Length 50th (ft) | 172 | 122 | 34 | 41 | 158 | 0 | 174 | 60 | 0 | 4 | 112 | 393 |
| Queue Length 95th (ft) | #360 | 174 | 99 | 90 | 220 | 0 | 247 | 115 | 0 | 19 | 198 | #710 |
| Internal Link Dist (ft) | | 216 | | | 777 | | | 626 | | | 561 | |
| Turn Bay Length (ft) | 150 | | 230 | 115 | | 200 | 130 | | 90 | 265 | | |
| Base Capacity (vph) | 235 | 1113 | 1095 | 132 | 877 | 539 | 815 | 447 | 515 | 418 | 432 | 728 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.90 | 0.31 | 0.45 | 0.39 | 0.45 | 0.02 | 0.55 | 0.19 | 0.09 | 0.02 | 0.37 | 0.85 |

Intersection Summary

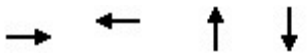
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 194 | 314 | 450 | 47 | 362 | 11 | 414 | 80 | 41 | 6 | 148 | 568 |
| Future Volume (vph) | 194 | 314 | 450 | 47 | 362 | 11 | 414 | 80 | 41 | 6 | 148 | 568 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 8.2 | 5.5 | 5.5 | 7.3 | 6.1 | 6.1 | 8.3 | 8.3 | 8.3 | 9.1 | 9.1 | 9.1 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1752 | 3374 | 1583 | 1719 | 3374 | 1594 | 3400 | 1863 | 1455 | 1805 | 1863 | 1568 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1752 | 3374 | 1583 | 1719 | 3374 | 1594 | 3400 | 1863 | 1455 | 1805 | 1863 | 1568 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 211 | 341 | 489 | 51 | 393 | 12 | 450 | 87 | 45 | 7 | 161 | 617 |
| RTOR Reduction (vph) | 0 | 0 | 193 | 0 | 0 | 10 | 0 | 0 | 34 | 0 | 0 | 52 |
| Lane Group Flow (vph) | 211 | 341 | 296 | 51 | 393 | 2 | 450 | 87 | 11 | 7 | 161 | 565 |
| Confl. Peds. (#/hr) | 1 | | | | | 1 | | | | | | |
| Heavy Vehicles (%) | 3% | 7% | 2% | 5% | 7% | 0% | 3% | 2% | 11% | 0% | 2% | 3% |
| Turn Type | Prot | NA | pt+ov | Prot | NA | Perm | Split | NA | pt+ov | Split | NA | pt+ov |
| Protected Phases | 1 | 6 | 6 3 | 5 | 2 | | 3 | 3 | 3 5 | 4 | 4 | 4 1 |
| Permitted Phases | | | | | | 2 | | | | | | |
| Actuated Green, G (s) | 16.9 | 35.9 | 66.4 | 7.0 | 24.5 | 24.5 | 25.0 | 25.0 | 32.0 | 29.2 | 29.2 | 55.2 |
| Effective Green, g (s) | 16.9 | 35.9 | 66.4 | 7.0 | 24.5 | 24.5 | 25.0 | 25.0 | 32.0 | 29.2 | 29.2 | 55.2 |
| Actuated g/C Ratio | 0.13 | 0.28 | 0.52 | 0.05 | 0.19 | 0.19 | 0.20 | 0.20 | 0.25 | 0.23 | 0.23 | 0.43 |
| Clearance Time (s) | 8.2 | 5.5 | | 7.3 | 6.1 | 6.1 | 8.3 | 8.3 | | 9.1 | 9.1 | |
| Vehicle Extension (s) | 3.0 | 5.0 | | 3.0 | 5.0 | 5.0 | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 232 | 951 | 825 | 94 | 649 | 306 | 667 | 365 | 365 | 414 | 427 | 679 |
| v/s Ratio Prot | c0.12 | 0.10 | 0.19 | 0.03 | c0.12 | | c0.13 | 0.05 | 0.01 | 0.00 | 0.09 | c0.36 |
| v/s Ratio Perm | | | | | | 0.00 | | | | | | |
| v/c Ratio | 0.91 | 0.36 | 0.36 | 0.54 | 0.61 | 0.01 | 0.67 | 0.24 | 0.03 | 0.02 | 0.38 | 0.83 |
| Uniform Delay, d1 | 54.4 | 36.5 | 17.9 | 58.6 | 47.0 | 41.6 | 47.4 | 43.1 | 36.0 | 37.9 | 41.4 | 32.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 35.2 | 0.5 | 0.6 | 6.3 | 2.4 | 0.0 | 2.7 | 0.3 | 0.0 | 0.0 | 0.6 | 8.6 |
| Delay (s) | 89.6 | 37.0 | 18.5 | 64.9 | 49.3 | 41.6 | 50.1 | 43.5 | 36.0 | 38.0 | 41.9 | 40.6 |
| Level of Service | F | D | B | E | D | D | D | D | D | D | D | D |
| Approach Delay (s) | | 39.0 | | | 50.9 | | | 48.0 | | | 40.8 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 43.2 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.82 | | |
| Actuated Cycle Length (s) | 127.3 | Sum of lost time (s) | 31.7 |
| Intersection Capacity Utilization | 77.1% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



| Lane Group | EBT | WBT | NBT | SBT |
|---|---|---|---|---|
| Lane Group Flow (vph) | 663 | 1218 | 73 | 109 |
| v/c Ratio | 0.31 | 0.53 | 0.26 | 0.38 |
| Control Delay | 4.6 | 6.1 | 14.6 | 15.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 4.6 | 6.1 | 14.6 | 15.1 |
| Queue Length 50th (ft) | 31 | 71 | 12 | 15 |
| Queue Length 95th (ft) | 65 | 143 | 36 | 46 |
| Internal Link Dist (ft) | 196 | 212 | 242 | 190 |
| Turn Bay Length (ft) | | | | |
| Base Capacity (vph) | 2106 | 2291 | 748 | 730 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.31 | 0.53 | 0.10 | 0.15 |

Intersection Summary

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 32 | 558 | 19 | 9 | 1089 | 22 | 41 | 11 | 15 | 37 | 11 | 52 |
| Future Volume (vph) | 32 | 558 | 19 | 9 | 1089 | 22 | 41 | 11 | 15 | 37 | 11 | 52 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 4.5 | | | 4.5 | | | 4.5 | | | 4.5 | |
| Lane Util. Factor | | 0.95 | | | 0.95 | | | 1.00 | | | 1.00 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | | | 1.00 | | | 0.99 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | | | 1.00 | | | 1.00 | |
| Frt | | 1.00 | | | 1.00 | | | 0.97 | | | 0.93 | |
| Flt Protected | | 1.00 | | | 1.00 | | | 0.97 | | | 0.98 | |
| Satd. Flow (prot) | | 3539 | | | 3522 | | | 1784 | | | 1719 | |
| Flt Permitted | | 0.87 | | | 0.95 | | | 0.84 | | | 0.85 | |
| Satd. Flow (perm) | | 3075 | | | 3348 | | | 1543 | | | 1485 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 35 | 607 | 21 | 10 | 1184 | 24 | 45 | 12 | 16 | 40 | 12 | 57 |
| RTOR Reduction (vph) | 0 | 3 | 0 | 0 | 2 | 0 | 0 | 14 | 0 | 0 | 30 | 0 |
| Lane Group Flow (vph) | 0 | 660 | 0 | 0 | 1216 | 0 | 0 | 59 | 0 | 0 | 79 | 0 |
| Confl. Peds. (#/hr) | | | 2 | 2 | | | 7 | | | | | 7 |
| Heavy Vehicles (%) | 5% | 1% | 0% | 0% | 2% | 10% | 0% | 0% | 0% | 0% | 0% | 0% |
| Turn Type | Perm | NA | | Perm | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | | 4 | | | 4 | | | 2 | | | 2 | |
| Permitted Phases | 4 | | | 4 | | | 2 | | | 2 | | |
| Actuated Green, G (s) | | 28.3 | | | 28.3 | | | 6.4 | | | 6.4 | |
| Effective Green, g (s) | | 28.3 | | | 28.3 | | | 6.4 | | | 6.4 | |
| Actuated g/C Ratio | | 0.65 | | | 0.65 | | | 0.15 | | | 0.15 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | | | 4.5 | | | 4.5 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | | | 3.0 | | | 3.0 | |
| Lane Grp Cap (vph) | | 1991 | | | 2168 | | | 225 | | | 217 | |
| v/s Ratio Prot | | | | | | | | | | | | |
| v/s Ratio Perm | | 0.21 | | | c0.36 | | | 0.04 | | | c0.05 | |
| v/c Ratio | | 0.33 | | | 0.56 | | | 0.26 | | | 0.36 | |
| Uniform Delay, d1 | | 3.5 | | | 4.3 | | | 16.6 | | | 16.8 | |
| Progression Factor | | 1.00 | | | 1.00 | | | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | | 0.1 | | | 0.4 | | | 0.6 | | | 1.0 | |
| Delay (s) | | 3.6 | | | 4.7 | | | 17.2 | | | 17.9 | |
| Level of Service | | A | | | A | | | B | | | B | |
| Approach Delay (s) | | 3.6 | | | 4.7 | | | 17.2 | | | 17.9 | |
| Approach LOS | | A | | | A | | | B | | | B | |

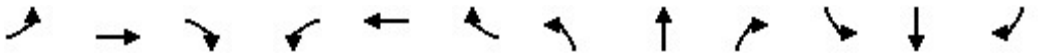
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 5.5 | HCM 2000 Level of Service | A |
| HCM 2000 Volume to Capacity ratio | 0.52 | | |
| Actuated Cycle Length (s) | 43.7 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 56.1% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 359 | 326 | 1078 | 171 | 183 | 435 | 114 | 868 |
| v/c Ratio | 0.73 | 0.65 | 0.97 | 0.29 | 0.93 | 0.44 | 0.66 | 0.95 |
| Control Delay | 66.3 | 11.8 | 68.0 | 10.1 | 108.9 | 43.8 | 78.8 | 70.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 66.3 | 11.8 | 68.0 | 10.1 | 108.9 | 43.8 | 78.8 | 70.2 |
| Queue Length 50th (ft) | 166 | 0 | 510 | 19 | 168 | 170 | 101 | 406 |
| Queue Length 95th (ft) | 222 | 92 | #696 | 78 | #332 | 241 | 171 | #571 |
| Internal Link Dist (ft) | 371 | | 350 | | | 338 | | 383 |
| Turn Bay Length (ft) | | 195 | | 300 | 210 | | 265 | |
| Base Capacity (vph) | 620 | 546 | 1110 | 599 | 197 | 983 | 221 | 913 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.58 | 0.60 | 0.97 | 0.29 | 0.93 | 0.44 | 0.52 | 0.95 |

Intersection Summary

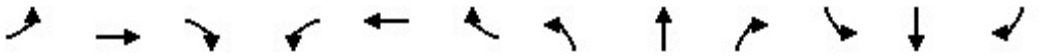
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 65 | 265 | 300 | 161 | 831 | 157 | 168 | 363 | 37 | 105 | 688 | 110 |
| Future Volume (vph) | 65 | 265 | 300 | 161 | 831 | 157 | 168 | 363 | 37 | 105 | 688 | 110 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.5 | 5.5 | | 5.5 | 5.5 | 5.5 | 6.0 | | 5.5 | 6.0 | |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.99 | | 1.00 | 0.99 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.98 | |
| Flt Protected | | 0.99 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 3471 | 1562 | | 3477 | 1577 | 1719 | 3511 | | 1770 | 3450 | |
| Flt Permitted | | 0.99 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 3471 | 1562 | | 3477 | 1577 | 1719 | 3511 | | 1770 | 3450 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 71 | 288 | 326 | 175 | 903 | 171 | 183 | 395 | 40 | 114 | 748 | 120 |
| RTOR Reduction (vph) | 0 | 0 | 279 | 0 | 0 | 96 | 0 | 5 | 0 | 0 | 9 | 0 |
| Lane Group Flow (vph) | 0 | 359 | 47 | 0 | 1078 | 75 | 183 | 430 | 0 | 114 | 859 | 0 |
| Confl. Peds. (#/hr) | 1 | | 1 | 1 | | 1 | 1 | | 1 | 1 | | 1 |
| Heavy Vehicles (%) | 3% | 3% | 2% | 3% | 3% | 1% | 5% | 1% | 4% | 2% | 2% | 4% |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | | | | |
| Actuated Green, G (s) | | 20.0 | 20.0 | | 44.7 | 44.7 | 16.1 | 39.0 | | 13.8 | 36.7 | |
| Effective Green, g (s) | | 20.0 | 20.0 | | 44.7 | 44.7 | 16.1 | 39.0 | | 13.8 | 36.7 | |
| Actuated g/C Ratio | | 0.14 | 0.14 | | 0.32 | 0.32 | 0.12 | 0.28 | | 0.10 | 0.26 | |
| Clearance Time (s) | | 5.5 | 5.5 | | 5.5 | 5.5 | 5.5 | 6.0 | | 5.5 | 6.0 | |
| Vehicle Extension (s) | | 2.5 | 2.5 | | 2.5 | 2.5 | 3.0 | 6.0 | | 3.0 | 6.0 | |
| Lane Grp Cap (vph) | | 495 | 223 | | 1110 | 503 | 197 | 978 | | 174 | 904 | |
| v/s Ratio Prot | | c0.10 | | | c0.31 | | c0.11 | 0.12 | | 0.06 | c0.25 | |
| v/s Ratio Perm | | | 0.03 | | | 0.05 | | | | | | |
| v/c Ratio | | 0.73 | 0.21 | | 0.97 | 0.15 | 0.93 | 0.44 | | 0.66 | 0.95 | |
| Uniform Delay, d1 | | 57.4 | 53.0 | | 47.0 | 34.1 | 61.4 | 41.5 | | 60.8 | 50.8 | |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 4.9 | 0.3 | | 20.3 | 0.1 | 43.9 | 0.9 | | 8.6 | 19.7 | |
| Delay (s) | | 62.3 | 53.4 | | 67.3 | 34.2 | 105.3 | 42.4 | | 69.4 | 70.4 | |
| Level of Service | | E | D | | E | C | F | D | | E | E | |
| Approach Delay (s) | | 58.0 | | | 62.8 | | | 61.0 | | | 70.3 | |
| Approach LOS | | E | | | E | | | E | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 63.6 | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | 0.92 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 22.5 |
| Intersection Capacity Utilization | 87.8% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

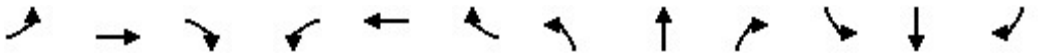


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 522 | 783 | 352 | 116 | 574 | 493 | 528 | 1517 | 97 | 618 | 1386 | 664 |
| v/c Ratio | 1.24 | 1.24 | 0.65 | 0.78 | 1.16 | 1.05 | 0.87 | 0.74 | 0.14 | 1.13 | 0.72 | 0.88 |
| Control Delay | 168.7 | 160.3 | 13.7 | 84.0 | 135.2 | 77.2 | 61.7 | 32.2 | 3.2 | 123.3 | 33.2 | 34.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 168.7 | 160.3 | 13.7 | 84.0 | 135.2 | 77.2 | 61.7 | 32.2 | 3.2 | 123.3 | 33.2 | 34.7 |
| Queue Length 50th (ft) | ~245 | ~380 | 25 | 85 | ~262 | ~203 | 194 | 343 | 0 | ~271 | 319 | 302 |
| Queue Length 95th (ft) | #354 | #504 | 122 | #178 | #376 | #413 | #275 | 401 | 24 | #385 | 375 | #544 |
| Internal Link Dist (ft) | | 695 | | | 440 | | | 948 | | | 564 | |
| Turn Bay Length (ft) | 550 | | 550 | 270 | | 270 | 550 | | 950 | 425 | | 430 |
| Base Capacity (vph) | 421 | 632 | 539 | 155 | 496 | 468 | 632 | 2047 | 707 | 547 | 1931 | 756 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.24 | 1.24 | 0.65 | 0.75 | 1.16 | 1.05 | 0.84 | 0.74 | 0.14 | 1.13 | 0.72 | 0.88 |

Intersection Summary

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

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



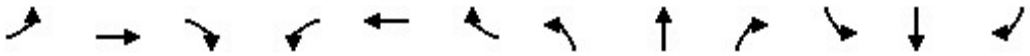
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 496 | 744 | 334 | 110 | 545 | 468 | 502 | 1441 | 92 | 587 | 1317 | 631 |
| Future Volume (veh/h) | 496 | 744 | 334 | 110 | 545 | 468 | 502 | 1441 | 92 | 587 | 1317 | 631 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1885 | 1870 | 1900 | 1900 | 1885 | 1885 | 1870 |
| Adj Flow Rate, veh/h | 522 | 783 | 0 | 116 | 574 | 493 | 528 | 1517 | 97 | 618 | 1386 | 0 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 0 | 0 | 1 | 1 | 2 |
| Cap, veh/h | 424 | 652 | | 142 | 499 | 224 | 589 | 2048 | 636 | 550 | 1967 | |
| Arrive On Green | 0.12 | 0.18 | 0.00 | 0.08 | 0.14 | 0.14 | 0.17 | 0.39 | 0.39 | 0.16 | 0.38 | 0.00 |
| Sat Flow, veh/h | 3456 | 3554 | 1585 | 1781 | 3554 | 1598 | 3456 | 5187 | 1610 | 3483 | 5147 | 1585 |
| Grp Volume(v), veh/h | 522 | 783 | 0 | 116 | 574 | 493 | 528 | 1517 | 97 | 618 | 1386 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1585 | 1781 | 1777 | 1598 | 1728 | 1729 | 1610 | 1742 | 1716 | 1585 |
| Q Serve(g_s), s | 14.0 | 20.9 | 0.0 | 7.3 | 16.0 | 16.0 | 17.1 | 28.5 | 4.4 | 18.0 | 26.0 | 0.0 |
| Cycle Q Clear(g_c), s | 14.0 | 20.9 | 0.0 | 7.3 | 16.0 | 16.0 | 17.1 | 28.5 | 4.4 | 18.0 | 26.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 424 | 652 | | 142 | 499 | 224 | 589 | 2048 | 636 | 550 | 1967 | |
| V/C Ratio(X) | 1.23 | 1.20 | | 0.82 | 1.15 | 2.20 | 0.90 | 0.74 | 0.15 | 1.12 | 0.70 | |
| Avail Cap(c_a), veh/h | 424 | 652 | | 156 | 499 | 224 | 637 | 2048 | 636 | 550 | 1967 | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 50.0 | 46.5 | 0.0 | 51.6 | 49.0 | 49.0 | 46.3 | 29.5 | 22.2 | 48.0 | 29.8 | 0.0 |
| Incr Delay (d2), s/veh | 122.6 | 104.7 | 0.0 | 24.7 | 88.9 | 553.7 | 14.4 | 2.5 | 0.5 | 77.1 | 2.1 | 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 BackOfQ(50%),veh/ln | 13.2 | 18.6 | 0.0 | 4.2 | 13.2 | 40.8 | 8.5 | 12.1 | 1.8 | 13.7 | 10.9 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 172.6 | 151.2 | 0.0 | 76.4 | 137.9 | 602.7 | 60.7 | 32.0 | 22.7 | 125.1 | 31.9 | 0.0 |
| LnGrp LOS | F | F | | E | F | F | E | C | C | F | C | |
| Approach Vol, veh/h | | 1305 | A | | 1183 | | | 2142 | | | 2004 | A |
| Approach Delay, s/veh | | 159.8 | | | 325.6 | | | 38.6 | | | 60.7 | |
| Approach LOS | | F | | | F | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 24.4 | 49.6 | 19.0 | 21.0 | 23.0 | 51.0 | 14.1 | 25.9 |
| Change Period (Y+Rc), s | 5.0 | 6.0 | 5.0 | 5.0 | 5.0 | 6.0 | 5.0 | 5.0 |
| Max Green Setting (Gmax), s | 21.0 | 42.0 | 14.0 | 16.0 | 18.0 | 45.0 | 10.0 | 20.0 |
| Max Q Clear Time (g_c+I1), s | 19.1 | 28.0 | 16.0 | 18.0 | 20.0 | 30.5 | 9.3 | 22.9 |
| Green Ext Time (p_c), s | 0.4 | 11.1 | 0.0 | 0.0 | 0.0 | 12.3 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 120.3 |
| HCM 6th LOS | F |

**Notes**

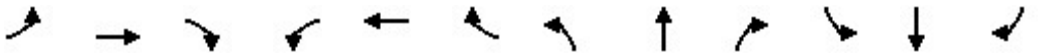
Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 102 | 242 | 214 | 555 | 307 | 91 | 219 | 1851 | 577 | 99 | 1585 | 111 |
| v/c Ratio | 0.75 | 0.89 | 0.36 | 0.92 | 0.67 | 0.18 | 0.91 | 0.85 | 0.53 | 0.80 | 0.87 | 0.16 |
| Control Delay | 83.7 | 81.6 | 13.9 | 68.9 | 47.3 | 0.7 | 88.1 | 34.4 | 9.6 | 93.0 | 40.5 | 0.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 83.7 | 81.6 | 13.9 | 68.9 | 47.3 | 0.7 | 88.1 | 34.4 | 9.6 | 93.0 | 40.5 | 0.5 |
| Queue Length 50th (ft) | 74 | 176 | 46 | 208 | 204 | 0 | 160 | 444 | 152 | 73 | 398 | 0 |
| Queue Length 95th (ft) | #161 | #318 | 109 | #308 | 302 | 0 | #301 | 513 | 237 | #167 | 465 | 0 |
| Internal Link Dist (ft) | | 380 | | | 538 | | | 1004 | | | 707 | |
| Turn Bay Length (ft) | 150 | | 350 | 460 | | | 400 | | | 270 | | 280 |
| Base Capacity (vph) | 141 | 277 | 605 | 608 | 462 | 522 | 245 | 2172 | 1096 | 125 | 1826 | 703 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.72 | 0.87 | 0.35 | 0.91 | 0.66 | 0.17 | 0.89 | 0.85 | 0.53 | 0.79 | 0.87 | 0.16 |

Intersection Summary

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 99 | 235 | 208 | 538 | 298 | 88 | 212 | 1795 | 560 | 96 | 1537 | 108 |
| Future Volume (veh/h) | 99 | 235 | 208 | 538 | 298 | 88 | 212 | 1795 | 560 | 96 | 1537 | 108 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1885 | 1870 | 1870 | 1885 | 1885 | 1885 | 1856 | 1870 | 1885 | 1885 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 102 | 242 | 214 | 555 | 307 | 91 | 219 | 1851 | 577 | 99 | 1585 | 111 |
| 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 |
| Percent Heavy Veh, % | 1 | 2 | 2 | 1 | 1 | 1 | 3 | 2 | 1 | 1 | 2 | 2 |
| Cap, veh/h | 127 | 272 | 452 | 607 | 470 | 398 | 246 | 2180 | 961 | 123 | 1821 | 565 |
| Arrive On Green | 0.07 | 0.15 | 0.15 | 0.17 | 0.25 | 0.25 | 0.14 | 0.43 | 0.43 | 0.07 | 0.36 | 0.36 |
| Sat Flow, veh/h | 1795 | 1870 | 1585 | 3483 | 1885 | 1598 | 1767 | 5106 | 1598 | 1795 | 5106 | 1585 |
| Grp Volume(v), veh/h | 102 | 242 | 214 | 555 | 307 | 91 | 219 | 1851 | 577 | 99 | 1585 | 111 |
| Grp Sat Flow(s),veh/h/ln | 1795 | 1870 | 1585 | 1742 | 1885 | 1598 | 1767 | 1702 | 1598 | 1795 | 1702 | 1585 |
| Q Serve(g_s), s | 6.4 | 14.5 | 12.7 | 17.8 | 16.6 | 5.2 | 13.9 | 37.1 | 25.7 | 6.2 | 33.0 | 5.5 |
| Cycle Q Clear(g_c), s | 6.4 | 14.5 | 12.7 | 17.8 | 16.6 | 5.2 | 13.9 | 37.1 | 25.7 | 6.2 | 33.0 | 5.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 127 | 272 | 452 | 607 | 470 | 398 | 246 | 2180 | 961 | 123 | 1821 | 565 |
| V/C Ratio(X) | 0.80 | 0.89 | 0.47 | 0.91 | 0.65 | 0.23 | 0.89 | 0.85 | 0.60 | 0.80 | 0.87 | 0.20 |
| Avail Cap(c_a), veh/h | 142 | 279 | 457 | 611 | 470 | 398 | 248 | 2180 | 961 | 126 | 1821 | 565 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 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 | 52.2 | 47.8 | 33.7 | 46.2 | 38.4 | 34.1 | 48.2 | 29.4 | 14.2 | 52.3 | 34.2 | 25.4 |
| Incr Delay (d2), s/veh | 24.1 | 27.1 | 0.8 | 18.1 | 3.2 | 0.3 | 29.7 | 4.4 | 2.8 | 28.6 | 6.0 | 0.8 |
| 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 BackOfQ(50%),veh/ln | 3.7 | 8.8 | 5.0 | 9.2 | 8.1 | 2.0 | 8.1 | 15.7 | 9.5 | 3.8 | 14.4 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 76.3 | 74.8 | 34.5 | 64.3 | 41.6 | 34.3 | 77.9 | 33.7 | 17.0 | 80.9 | 40.3 | 26.2 |
| LnGrp LOS | E | E | C | E | D | C | E | C | B | F | D | C |
| Approach Vol, veh/h | | 558 | | | 953 | | | 2647 | | | 1795 | |
| Approach Delay, s/veh | | 59.6 | | | 54.2 | | | 33.7 | | | 41.6 | |
| Approach LOS | | E | | | D | | | C | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.9 | 46.6 | 24.9 | 21.6 | 12.8 | 54.7 | 13.1 | 33.4 |
| Change Period (Y+Rc), s | 5.0 | 6.0 | 5.0 | 5.0 | 5.0 | 6.0 | 5.0 | 5.0 |
| Max Green Setting (Gmax), s | 16.0 | 40.0 | 20.0 | 17.0 | 8.0 | 48.0 | 9.0 | 28.0 |
| Max Q Clear Time (g_c+I1), s | 15.9 | 35.0 | 19.8 | 16.5 | 8.2 | 39.1 | 8.4 | 18.6 |
| Green Ext Time (p_c), s | 0.0 | 4.0 | 0.0 | 0.1 | 0.0 | 7.7 | 0.0 | 1.4 |

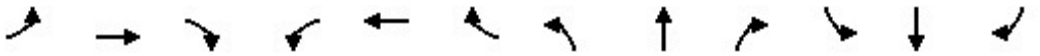
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 41.8 |
| HCM 6th LOS | D |

| Lane Group | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 54 | 45 | 144 | 141 | 214 | 24 | 2164 | 492 | 258 | 1740 |
| v/c Ratio | 0.43 | 0.17 | 0.68 | 0.66 | 0.55 | 0.24 | 0.91 | 0.44 | 0.88 | 0.55 |
| Control Delay | 60.5 | 1.4 | 63.0 | 61.8 | 11.7 | 56.1 | 36.7 | 2.2 | 76.2 | 16.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 60.5 | 1.4 | 63.0 | 61.8 | 11.7 | 56.1 | 36.7 | 2.2 | 76.2 | 16.2 |
| Queue Length 50th (ft) | 39 | 0 | 105 | 103 | 0 | 17 | ~586 | 10 | 184 | 308 |
| Queue Length 95th (ft) | 79 | 0 | 178 | 175 | 69 | 44 | #708 | 33 | #348 | 393 |
| Internal Link Dist (ft) | 349 | | | 285 | | | 640 | | | 671 |
| Turn Bay Length (ft) | | | | | 160 | 65 | | 215 | 450 | |
| Base Capacity (vph) | 177 | 306 | 243 | 244 | 412 | 170 | 2378 | 1149 | 294 | 3148 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.31 | 0.15 | 0.59 | 0.58 | 0.52 | 0.14 | 0.91 | 0.43 | 0.88 | 0.55 |

Intersection Summary

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

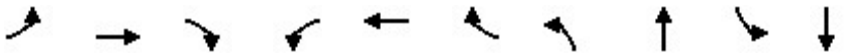
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 22 | 44 | 274 | 3 | 208 | 23 | 2099 | 477 | 250 | 1656 | 32 |
| Future Volume (vph) | 30 | 22 | 44 | 274 | 3 | 208 | 23 | 2099 | 477 | 250 | 1656 | 32 |
| 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 | 6.0 | 5.0 | 5.0 | 6.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | |
| Frpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 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 | | 0.97 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1836 | 1568 | 1681 | 1688 | 1583 | 1770 | 5085 | 1568 | 1736 | 5118 | |
| Flt Permitted | | 0.97 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1836 | 1568 | 1681 | 1688 | 1583 | 1770 | 5085 | 1568 | 1736 | 5118 | |
| 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) | 31 | 23 | 45 | 282 | 3 | 214 | 24 | 2164 | 492 | 258 | 1707 | 33 |
| RTOR Reduction (vph) | 0 | 0 | 42 | 0 | 0 | 187 | 0 | 0 | 181 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 54 | 3 | 144 | 141 | 27 | 24 | 2164 | 311 | 258 | 1739 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | | | | 2 |
| Heavy Vehicles (%) | 1% | 0% | 3% | 2% | 0% | 2% | 2% | 2% | 3% | 4% | 1% | 2% |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 3 | 3 | | 4 | 4 | | 1 | 6 | 4 | 5 | 2 | |
| Permitted Phases | | | 3 | | | 4 | | | 6 | | | |
| Actuated Green, G (s) | | 6.9 | 6.9 | 14.5 | 14.5 | 14.5 | 4.5 | 52.3 | 66.8 | 19.3 | 67.1 | |
| Effective Green, g (s) | | 6.9 | 6.9 | 14.5 | 14.5 | 14.5 | 4.5 | 52.3 | 66.8 | 19.3 | 67.1 | |
| Actuated g/C Ratio | | 0.06 | 0.06 | 0.13 | 0.13 | 0.13 | 0.04 | 0.46 | 0.59 | 0.17 | 0.59 | |
| Clearance Time (s) | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 6.0 | 5.0 | 5.0 | 6.0 | |
| Vehicle Extension (s) | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.5 | 4.0 | 2.0 | 2.5 | 4.0 | |
| Lane Grp Cap (vph) | | 111 | 94 | 213 | 214 | 201 | 69 | 2332 | 918 | 293 | 3012 | |
| v/s Ratio Prot | | c0.03 | | c0.09 | 0.08 | | 0.01 | c0.43 | 0.04 | c0.15 | 0.34 | |
| v/s Ratio Perm | | | 0.00 | | | 0.02 | | | 0.16 | | | |
| v/c Ratio | | 0.49 | 0.03 | 0.68 | 0.66 | 0.14 | 0.35 | 0.93 | 0.34 | 0.88 | 0.58 | |
| Uniform Delay, d1 | | 51.8 | 50.4 | 47.5 | 47.4 | 44.2 | 53.3 | 29.1 | 12.2 | 46.2 | 14.6 | |
| 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 | | 1.2 | 0.0 | 6.5 | 5.5 | 0.1 | 2.2 | 8.0 | 0.1 | 24.9 | 0.8 | |
| Delay (s) | | 53.1 | 50.4 | 54.0 | 52.9 | 44.3 | 55.5 | 37.1 | 12.3 | 71.1 | 15.4 | |
| Level of Service | | D | D | D | D | D | E | D | B | E | B | |
| Approach Delay (s) | | 51.9 | | | 49.5 | | | 32.7 | | | 22.6 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 30.8 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.84 | | |
| Actuated Cycle Length (s) | 114.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 82.1% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

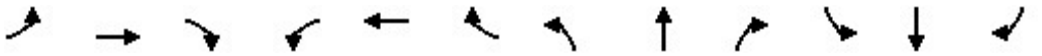


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 90 | 672 | 103 | 170 | 714 | 589 | 261 | 1702 | 472 | 1555 |
| v/c Ratio | 0.57 | 1.03 | 0.24 | 0.91 | 0.93 | 0.88 | 0.92 | 1.09 | 1.22 | 0.84 |
| Control Delay | 63.3 | 89.6 | 1.6 | 98.0 | 64.5 | 29.9 | 83.4 | 88.9 | 157.8 | 38.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 63.3 | 89.6 | 1.6 | 98.0 | 64.5 | 29.9 | 83.4 | 88.9 | 157.8 | 38.3 |
| Queue Length 50th (ft) | 64 | ~278 | 0 | 125 | ~285 | 140 | 189 | ~513 | ~425 | 380 |
| Queue Length 95th (ft) | 114 | #398 | 3 | #258 | #466 | #389 | #339 | #612 | #630 | 445 |
| Internal Link Dist (ft) | | 487 | | | 952 | | | 657 | | 412 |
| Turn Bay Length (ft) | 230 | | 55 | 475 | | 875 | 475 | | 275 | |
| Base Capacity (vph) | 248 | 651 | 425 | 186 | 768 | 668 | 295 | 1562 | 388 | 1844 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.36 | 1.03 | 0.24 | 0.91 | 0.93 | 0.88 | 0.88 | 1.09 | 1.22 | 0.84 |

Intersection Summary

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

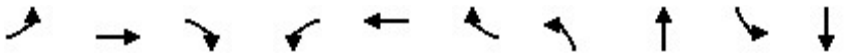
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 83 | 618 | 95 | 156 | 657 | 542 | 240 | 1423 | 143 | 434 | 1335 | 96 |
| Future Volume (veh/h) | 83 | 618 | 95 | 156 | 657 | 542 | 240 | 1423 | 143 | 434 | 1335 | 96 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1856 | 1870 | 1856 | 1870 | 1870 | 1885 | 1885 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 90 | 672 | 103 | 170 | 714 | 589 | 261 | 1547 | 155 | 472 | 1451 | 104 |
| 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 |
| Percent Heavy Veh, % | 2 | 2 | 3 | 2 | 3 | 2 | 2 | 1 | 1 | 2 | 2 | 2 |
| Cap, veh/h | 114 | 655 | 289 | 188 | 795 | 357 | 288 | 1460 | 146 | 391 | 1773 | 127 |
| Arrive On Green | 0.06 | 0.18 | 0.18 | 0.11 | 0.23 | 0.23 | 0.16 | 0.31 | 0.31 | 0.22 | 0.36 | 0.36 |
| Sat Flow, veh/h | 1781 | 3554 | 1570 | 1781 | 3526 | 1583 | 1781 | 4755 | 476 | 1781 | 4863 | 349 |
| Grp Volume(v), veh/h | 90 | 672 | 103 | 170 | 714 | 589 | 261 | 1116 | 586 | 472 | 1016 | 539 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1570 | 1781 | 1763 | 1583 | 1781 | 1716 | 1800 | 1781 | 1702 | 1808 |
| Q Serve(g_s), s | 5.7 | 21.0 | 6.5 | 10.8 | 22.4 | 25.7 | 16.4 | 35.0 | 35.0 | 25.0 | 30.8 | 30.8 |
| Cycle Q Clear(g_c), s | 5.7 | 21.0 | 6.5 | 10.8 | 22.4 | 25.7 | 16.4 | 35.0 | 35.0 | 25.0 | 30.8 | 30.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.26 | 1.00 | | 0.19 |
| Lane Grp Cap(c), veh/h | 114 | 655 | 289 | 188 | 795 | 357 | 288 | 1053 | 552 | 391 | 1241 | 659 |
| V/C Ratio(X) | 0.79 | 1.03 | 0.36 | 0.91 | 0.90 | 1.65 | 0.91 | 1.06 | 1.06 | 1.21 | 0.82 | 0.82 |
| Avail Cap(c_a), veh/h | 250 | 655 | 289 | 188 | 795 | 357 | 297 | 1053 | 552 | 391 | 1241 | 659 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 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 | 52.6 | 46.5 | 40.6 | 50.4 | 42.9 | 44.1 | 46.9 | 39.5 | 39.5 | 44.5 | 32.8 | 32.8 |
| Incr Delay (d2), s/veh | 4.6 | 42.1 | 2.7 | 39.7 | 14.5 | 304.7 | 28.2 | 44.9 | 55.4 | 115.4 | 6.1 | 10.9 |
| 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 BackOfQ(50%),veh/ln | 2.7 | 13.0 | 2.7 | 6.8 | 11.3 | 40.2 | 9.5 | 21.0 | 23.7 | 23.4 | 13.5 | 15.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 57.2 | 88.6 | 43.3 | 90.1 | 57.3 | 348.8 | 75.1 | 84.4 | 94.9 | 159.9 | 38.9 | 43.7 |
| LnGrp LOS | E | F | D | F | E | F | E | F | F | F | D | D |
| Approach Vol, veh/h | | 865 | | | 1473 | | | 1963 | | | 2027 | |
| Approach Delay, s/veh | | 79.9 | | | 177.7 | | | 86.3 | | | 68.3 | |
| Approach LOS | | E | | | F | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.4 | 47.6 | 12.3 | 30.7 | 30.0 | 41.0 | 17.0 | 26.0 |
| Change Period (Y+Rc), s | 5.0 | 6.0 | 5.0 | 5.0 | 5.0 | 6.0 | 5.0 | 5.0 |
| Max Green Setting (Gmax), s | 19.0 | 41.0 | 16.0 | 17.0 | 25.0 | 35.0 | 12.0 | 21.0 |
| Max Q Clear Time (g_c+I1), s | 18.4 | 32.8 | 7.7 | 27.7 | 27.0 | 37.0 | 12.8 | 23.0 |
| Green Ext Time (p_c), s | 0.0 | 7.6 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 100.9 |
| HCM 6th LOS | F |

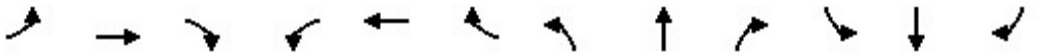


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 137 | 275 | 194 | 211 | 266 | 124 | 213 | 2151 | 21 | 474 |
| v/c Ratio | 0.66 | 1.25 | 0.37 | 0.82 | 0.99 | 0.34 | 1.03 | 0.84 | 0.21 | 0.24 |
| Control Delay | 63.8 | 186.3 | 6.5 | 73.2 | 101.5 | 5.5 | 120.1 | 28.2 | 55.6 | 23.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 63.8 | 186.3 | 6.5 | 73.2 | 101.5 | 5.5 | 120.1 | 28.2 | 55.6 | 23.3 |
| Queue Length 50th (ft) | 97 | ~252 | 0 | 152 | 197 | 0 | ~167 | 411 | 15 | 82 |
| Queue Length 95th (ft) | #178 | #420 | 54 | #280 | #367 | 28 | #320 | #684 | 41 | 109 |
| Internal Link Dist (ft) | | 431 | | | 703 | | | 305 | | 418 |
| Turn Bay Length (ft) | 225 | | 350 | 325 | | | 275 | | 175 | |
| Base Capacity (vph) | 209 | 220 | 520 | 256 | 269 | 363 | 207 | 2550 | 164 | 1972 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 1.25 | 0.37 | 0.82 | 0.99 | 0.34 | 1.03 | 0.84 | 0.13 | 0.24 |

Intersection Summary

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

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 130 | 261 | 184 | 200 | 253 | 118 | 202 | 1625 | 418 | 20 | 427 | 24 |
| Future Volume (vph) | 130 | 261 | 184 | 200 | 253 | 118 | 202 | 1625 | 418 | 20 | 427 | 24 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.8 | | 6.5 | 6.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.91 | | 1.00 | 0.91 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1863 | 1573 | 1770 | 1863 | 1561 | 1752 | 4905 | | 1787 | 5041 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1863 | 1573 | 1770 | 1863 | 1561 | 1752 | 4905 | | 1787 | 5041 | |
| 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) | 137 | 275 | 194 | 211 | 266 | 124 | 213 | 1711 | 440 | 21 | 449 | 25 |
| RTOR Reduction (vph) | 0 | 0 | 148 | 0 | 0 | 106 | 0 | 35 | 0 | 0 | 5 | 0 |
| Lane Group Flow (vph) | 137 | 275 | 46 | 211 | 266 | 18 | 213 | 2116 | 0 | 21 | 469 | 0 |
| Confl. Peds. (#/hr) | 1 | | 1 | 1 | | 1 | 2 | | 1 | 1 | | 2 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 3% | 2% | 3% | 1% | 2% | 1% |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | 1 | 3 | 3 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | | | 4 | | | 3 | | | | | | |
| Actuated Green, G (s) | 13.5 | 13.5 | 27.0 | 16.5 | 16.5 | 16.5 | 13.5 | 54.6 | | 3.1 | 44.5 | |
| Effective Green, g (s) | 13.5 | 13.5 | 27.0 | 16.5 | 16.5 | 16.5 | 13.5 | 54.6 | | 3.1 | 44.5 | |
| Actuated g/C Ratio | 0.12 | 0.12 | 0.24 | 0.14 | 0.14 | 0.14 | 0.12 | 0.48 | | 0.03 | 0.39 | |
| Clearance Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.8 | | 6.5 | 6.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 2.5 | 3.0 | 3.0 | 3.0 | 2.5 | 4.0 | | 2.5 | 4.0 | |
| Lane Grp Cap (vph) | 209 | 220 | 462 | 256 | 269 | 225 | 207 | 2349 | | 48 | 1967 | |
| v/s Ratio Prot | 0.08 | c0.15 | 0.01 | 0.12 | c0.14 | | c0.12 | c0.43 | | 0.01 | 0.09 | |
| v/s Ratio Perm | | | 0.02 | | | 0.01 | | | | | | |
| v/c Ratio | 0.66 | 1.25 | 0.10 | 0.82 | 0.99 | 0.08 | 1.03 | 0.90 | | 0.44 | 0.24 | |
| Uniform Delay, d1 | 48.0 | 50.2 | 34.0 | 47.3 | 48.7 | 42.2 | 50.2 | 27.2 | | 54.6 | 23.4 | |
| 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 | 7.2 | 144.4 | 0.1 | 18.9 | 51.2 | 0.2 | 70.3 | 6.1 | | 4.6 | 0.3 | |
| Delay (s) | 55.2 | 194.6 | 34.1 | 66.3 | 99.9 | 42.3 | 120.6 | 33.3 | | 59.2 | 23.6 | |
| Level of Service | E | F | C | E | F | D | F | C | | E | C | |
| Approach Delay (s) | | 111.7 | | | 76.2 | | | 41.2 | | | 25.2 | |
| Approach LOS | | F | | | E | | | D | | | C | |

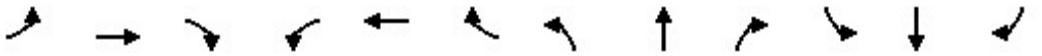
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 54.9 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 1.02 | | |
| Actuated Cycle Length (s) | 114.0 | Sum of lost time (s) | 26.3 |
| Intersection Capacity Utilization | 91.6% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 11 | 101 | 169 | 5 | 2279 | 181 | 2069 |
| v/c Ratio | 0.12 | 0.81 | 0.60 | 0.06 | 0.71 | 0.80 | 0.53 |
| Control Delay | 49.2 | 94.4 | 19.2 | 53.2 | 15.5 | 73.3 | 5.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 49.2 | 94.4 | 19.2 | 53.2 | 15.5 | 73.3 | 5.2 |
| Queue Length 50th (ft) | 7 | 74 | 10 | 4 | 391 | 129 | 141 |
| Queue Length 95th (ft) | 26 | #168 | 78 | 17 | 448 | #230 | 279 |
| Internal Link Dist (ft) | 239 | 270 | | | 271 | | 254 |
| Turn Bay Length (ft) | | | 95 | 200 | | 175 | |
| Base Capacity (vph) | 152 | 129 | 290 | 162 | 3201 | 248 | 3931 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.07 | 0.78 | 0.58 | 0.03 | 0.71 | 0.73 | 0.53 |

Intersection Summary

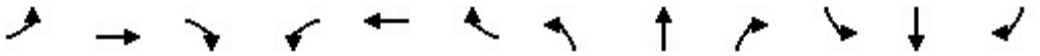
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 4 | 1 | 94 | 1 | 159 | 5 | 2047 | 95 | 170 | 1775 | 170 |
| Future Volume (veh/h) | 6 | 4 | 1 | 94 | 1 | 159 | 5 | 2047 | 95 | 170 | 1775 | 170 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1900 | 1900 | 1900 | 1900 | 1900 | 1856 | 1796 | 1856 | 1856 | 1870 | 1856 | 1856 |
| Adj Flow Rate, veh/h | 6 | 4 | 1 | 100 | 1 | 169 | 5 | 2178 | 101 | 181 | 1888 | 181 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 0 | 0 | 0 | 0 | 0 | 3 | 7 | 3 | 3 | 2 | 3 | 3 |
| Cap, veh/h | 58 | 31 | 4 | 179 | 1 | 152 | 11 | 3203 | 148 | 210 | 3559 | 339 |
| Arrive On Green | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.01 | 0.65 | 0.65 | 0.12 | 0.76 | 0.76 |
| Sat Flow, veh/h | 99 | 320 | 42 | 1201 | 12 | 1572 | 1711 | 4962 | 229 | 1781 | 4703 | 448 |
| Grp Volume(v), veh/h | 11 | 0 | 0 | 101 | 0 | 169 | 5 | 1479 | 800 | 181 | 1353 | 716 |
| Grp Sat Flow(s),veh/h/ln | 461 | 0 | 0 | 1213 | 0 | 1572 | 1711 | 1689 | 1814 | 1781 | 1689 | 1774 |
| Q Serve(g_s), s | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 11.0 | 0.3 | 31.5 | 31.9 | 11.4 | 18.5 | 18.8 |
| Cycle Q Clear(g_c), s | 9.7 | 0.0 | 0.0 | 9.6 | 0.0 | 11.0 | 0.3 | 31.5 | 31.9 | 11.4 | 18.5 | 18.8 |
| Prop In Lane | 0.55 | | 0.09 | 0.99 | | 1.00 | 1.00 | | 0.13 | 1.00 | | 0.25 |
| Lane Grp Cap(c), veh/h | 93 | 0 | 0 | 180 | 0 | 152 | 11 | 2180 | 1171 | 210 | 2556 | 1343 |
| V/C Ratio(X) | 0.12 | 0.00 | 0.00 | 0.56 | 0.00 | 1.11 | 0.46 | 0.68 | 0.68 | 0.86 | 0.53 | 0.53 |
| Avail Cap(c_a), veh/h | 93 | 0 | 0 | 180 | 0 | 152 | 165 | 2180 | 1171 | 250 | 2556 | 1343 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.1 | 0.0 | 0.0 | 50.9 | 0.0 | 51.5 | 56.4 | 12.8 | 12.8 | 49.4 | 5.6 | 5.7 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 0.0 | 3.3 | 0.0 | 106.9 | 20.3 | 1.7 | 3.2 | 21.5 | 0.8 | 1.5 |
| 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 BackOfQ(50%),veh/ln | 0.3 | 0.0 | 0.0 | 3.0 | 0.0 | 8.8 | 0.2 | 11.5 | 13.0 | 6.3 | 5.7 | 6.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 47.5 | 0.0 | 0.0 | 54.2 | 0.0 | 158.4 | 76.7 | 14.5 | 16.1 | 70.9 | 6.4 | 7.2 |
| LnGrp LOS | D | A | A | D | A | F | E | B | B | E | A | A |
| Approach Vol, veh/h | | 11 | | | 270 | | | 2284 | | | 2250 | |
| Approach Delay, s/veh | | 47.5 | | | 119.4 | | | 15.2 | | | 11.8 | |
| Approach LOS | | D | | | F | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.7 | 92.3 | | 16.0 | 18.4 | 79.6 | | 16.0 | | | | |
| Change Period (Y+Rc), s | 5.0 | 6.0 | | 5.0 | 5.0 | 6.0 | | 5.0 | | | | |
| Max Green Setting (Gmax), s | 11.0 | 76.0 | | 11.0 | 16.0 | 71.0 | | 11.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.3 | 20.8 | | 13.0 | 13.4 | 33.9 | | 11.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 38.6 | | 0.0 | 0.1 | 31.0 | | 0.0 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 19.5 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |

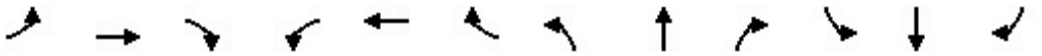


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 348 | 729 | 200 | 192 | 665 | 240 | 60 | 1731 | 422 | 318 | 1139 | 1001 |
| v/c Ratio | 1.25 | 1.24 | 0.13 | 0.73 | 1.27 | 0.40 | 0.47 | 1.03 | 0.51 | 1.23 | 0.75 | 1.01 |
| Control Delay | 177.5 | 163.6 | 0.2 | 63.5 | 177.7 | 20.8 | 62.3 | 68.2 | 9.6 | 174.9 | 32.4 | 47.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 177.5 | 163.6 | 0.2 | 63.5 | 177.7 | 20.8 | 62.3 | 68.2 | 9.6 | 174.9 | 32.4 | 47.6 |
| Queue Length 50th (ft) | ~349 | ~365 | 0 | 136 | ~324 | 87 | 43 | ~499 | 66 | ~288 | 378 | ~527 |
| Queue Length 95th (ft) | #550 | #493 | 0 | #238 | #443 | 158 | 87 | #595 | 109 | #467 | 476 | #785 |
| Internal Link Dist (ft) | | 738 | | | 586 | | | 849 | | | 590 | |
| Turn Bay Length (ft) | 650 | | 410 | | | 230 | 775 | | 425 | 485 | | |
| Base Capacity (vph) | 279 | 586 | 1568 | 263 | 522 | 605 | 155 | 1678 | 823 | 258 | 1514 | 989 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.25 | 1.24 | 0.13 | 0.73 | 1.27 | 0.40 | 0.39 | 1.03 | 0.51 | 1.23 | 0.75 | 1.01 |

Intersection Summary

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

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 398 | 647 | 194 | 186 | 645 | 233 | 58 | 1679 | 409 | 308 | 1105 | 971 |
| Future Volume (vph) | 398 | 647 | 194 | 186 | 645 | 233 | 58 | 1679 | 409 | 308 | 1105 | 971 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.0 | 5.0 | 4.0 | 6.0 | 6.0 | 5.0 | 5.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Lane Util. Factor | 0.91 | 0.91 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.91 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 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 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1595 | 3343 | 1568 | 1770 | 3505 | 1583 | 1770 | 5036 | 1583 | 1736 | 3539 | 1563 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1595 | 3343 | 1568 | 1770 | 3505 | 1583 | 1770 | 5036 | 1583 | 1736 | 3539 | 1563 |
| 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) | 410 | 667 | 200 | 192 | 665 | 240 | 60 | 1731 | 422 | 318 | 1139 | 1001 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 54 | 0 | 0 | 60 | 0 | 0 | 326 |
| Lane Group Flow (vph) | 348 | 729 | 200 | 192 | 665 | 186 | 60 | 1731 | 362 | 318 | 1139 | 675 |
| Confl. Peds. (#/hr) | | | | | | | 1 | | | | | 1 |
| Heavy Vehicles (%) | 3% | 3% | 3% | 2% | 3% | 2% | 2% | 3% | 2% | 4% | 2% | 2% |
| Turn Type | Split | NA | Free | Split | NA | pm+ov | Prot | NA | pm+ov | Prot | NA | Perm |
| Protected Phases | 3 | 3 | | 4 | 4 | 5 | 1 | 6 | 4 | 5 | 2 | |
| Permitted Phases | | | Free | | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 20.0 | 20.0 | 114.0 | 17.0 | 17.0 | 34.0 | 7.2 | 38.0 | 55.0 | 17.0 | 47.8 | 47.8 |
| Effective Green, g (s) | 20.0 | 20.0 | 114.0 | 17.0 | 17.0 | 34.0 | 7.2 | 38.0 | 55.0 | 17.0 | 47.8 | 47.8 |
| Actuated g/C Ratio | 0.18 | 0.18 | 1.00 | 0.15 | 0.15 | 0.30 | 0.06 | 0.33 | 0.48 | 0.15 | 0.42 | 0.42 |
| Clearance Time (s) | 5.0 | 5.0 | | 6.0 | 6.0 | 5.0 | 5.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 2.5 | 2.5 | | 2.5 | 2.5 | 2.5 | 2.5 | 5.0 | 2.5 | 2.5 | 5.0 | 5.0 |
| Lane Grp Cap (vph) | 279 | 586 | 1568 | 263 | 522 | 472 | 111 | 1678 | 763 | 258 | 1483 | 655 |
| v/s Ratio Prot | c0.22 | 0.22 | | 0.11 | c0.19 | 0.06 | 0.03 | 0.34 | 0.07 | c0.18 | 0.32 | |
| v/s Ratio Perm | | | 0.13 | | | 0.06 | | | 0.16 | | | c0.43 |
| v/c Ratio | 1.25 | 1.24 | 0.13 | 0.73 | 1.27 | 0.39 | 0.54 | 1.03 | 0.48 | 1.23 | 0.77 | 1.03 |
| Uniform Delay, d1 | 47.0 | 47.0 | 0.0 | 46.3 | 48.5 | 31.8 | 51.8 | 38.0 | 19.8 | 48.5 | 28.4 | 33.1 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 137.6 | 123.7 | 0.2 | 9.4 | 137.6 | 0.4 | 4.2 | 30.5 | 0.3 | 133.6 | 3.9 | 43.3 |
| Delay (s) | 184.6 | 170.7 | 0.2 | 55.7 | 186.1 | 32.2 | 56.0 | 68.5 | 20.1 | 182.1 | 32.2 | 76.4 |
| Level of Service | F | F | A | E | F | C | E | E | C | F | C | E |
| Approach Delay (s) | | 147.8 | | | 129.6 | | | 59.0 | | | 69.6 | |
| Approach LOS | | F | | | F | | | E | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 89.8 | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | 1.19 | | |
| Actuated Cycle Length (s) | 114.0 | Sum of lost time (s) | 22.0 |
| Intersection Capacity Utilization | 105.3% | ICU Level of Service | G |
| Analysis Period (min) | 15 | | |

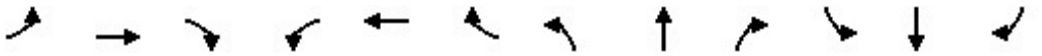
c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 237 | 747 | 617 | 22 | 726 | 641 | 1369 | 13 | 105 | 722 | 248 |
| v/c Ratio | 0.86 | 0.60 | 0.59 | 0.26 | 0.99 | 0.91 | 0.93 | 0.02 | 0.67 | 0.71 | 0.39 |
| Control Delay | 85.9 | 42.8 | 14.1 | 73.0 | 86.4 | 73.5 | 53.4 | 0.1 | 84.3 | 51.1 | 7.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 85.9 | 42.8 | 14.1 | 73.0 | 86.4 | 73.5 | 53.4 | 0.1 | 84.3 | 51.1 | 7.3 |
| Queue Length 50th (ft) | 216 | 319 | 227 | 20 | ~387 | 303 | 646 | 0 | 97 | 324 | 6 |
| Queue Length 95th (ft) | #336 | 401 | 362 | 51 | #527 | #402 | #823 | 0 | 160 | 399 | 75 |
| Internal Link Dist (ft) | | 434 | | | 495 | | 535 | | | 418 | |
| Turn Bay Length (ft) | 275 | | 230 | 200 | | 315 | | 115 | 340 | | 240 |
| Base Capacity (vph) | 310 | 1236 | 1053 | 175 | 733 | 724 | 1467 | 733 | 188 | 1013 | 629 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.76 | 0.60 | 0.59 | 0.13 | 0.99 | 0.89 | 0.93 | 0.02 | 0.56 | 0.71 | 0.39 |

Intersection Summary

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

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 220 | 695 | 574 | 20 | 578 | 97 | 596 | 1273 | 12 | 98 | 671 | 231 |
| Future Volume (veh/h) | 220 | 695 | 574 | 20 | 578 | 97 | 596 | 1273 | 12 | 98 | 671 | 231 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1885 | 1900 | 1900 | 1900 | 1900 | 1900 | 1841 | 1900 | 1900 | 1900 | 1885 | 1900 |
| Adj Flow Rate, veh/h | 237 | 747 | 617 | 22 | 622 | 104 | 641 | 1369 | 0 | 105 | 722 | 0 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 0 |
| Cap, veh/h | 261 | 1078 | 807 | 37 | 537 | 90 | 690 | 1678 | | 128 | 1191 | |
| Arrive On Green | 0.15 | 0.30 | 0.30 | 0.02 | 0.17 | 0.17 | 0.20 | 0.46 | 0.00 | 0.07 | 0.33 | 0.00 |
| Sat Flow, veh/h | 1795 | 3610 | 1610 | 1810 | 3095 | 517 | 3401 | 3610 | 1610 | 1810 | 3582 | 1610 |
| Grp Volume(v), veh/h | 237 | 747 | 617 | 22 | 362 | 364 | 641 | 1369 | 0 | 105 | 722 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1795 | 1805 | 1610 | 1810 | 1805 | 1807 | 1700 | 1805 | 1610 | 1810 | 1791 | 1610 |
| Q Serve(g_s), s | 18.7 | 26.4 | 43.0 | 1.7 | 25.0 | 25.0 | 26.7 | 47.1 | 0.0 | 8.2 | 24.3 | 0.0 |
| Cycle Q Clear(g_c), s | 18.7 | 26.4 | 43.0 | 1.7 | 25.0 | 25.0 | 26.7 | 47.1 | 0.0 | 8.2 | 24.3 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.29 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 261 | 1078 | 807 | 37 | 313 | 314 | 690 | 1678 | | 128 | 1191 | |
| V/C Ratio(X) | 0.91 | 0.69 | 0.76 | 0.60 | 1.16 | 1.16 | 0.93 | 0.82 | | 0.82 | 0.61 | |
| Avail Cap(c_a), veh/h | 312 | 1078 | 807 | 176 | 313 | 314 | 732 | 1678 | | 188 | 1191 | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 60.6 | 44.7 | 29.0 | 70.0 | 59.5 | 59.5 | 56.4 | 33.2 | 0.0 | 66.0 | 40.2 | 0.0 |
| Incr Delay (d2), s/veh | 25.4 | 1.9 | 4.4 | 11.0 | 100.0 | 101.3 | 17.5 | 4.5 | 0.0 | 14.2 | 2.3 | 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 BackOfQ(50%),veh/ln | 10.4 | 12.1 | 18.0 | 0.9 | 20.1 | 20.3 | 13.1 | 21.5 | 0.0 | 4.3 | 11.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 86.0 | 46.6 | 33.4 | 81.0 | 159.5 | 160.8 | 73.9 | 37.7 | 0.0 | 80.3 | 42.5 | 0.0 |
| LnGrp LOS | F | D | C | F | F | F | E | D | | F | D | |
| Approach Vol, veh/h | | 1601 | | | 748 | | | 2010 | A | | 827 | A |
| Approach Delay, s/veh | | 47.3 | | | 157.9 | | | 49.3 | | | 47.3 | |
| Approach LOS | | D | | | F | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 15.2 | 72.9 | 7.9 | 48.0 | 34.2 | 53.9 | 25.9 | 30.0 |
| Change Period (Y+Rc), s | 5.0 | 6.0 | 5.0 | 5.0 | 5.0 | 6.0 | 5.0 | 5.0 |
| Max Green Setting (Gmax), s | 15.0 | 54.0 | 14.0 | 38.0 | 31.0 | 40.0 | 25.0 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 10.2 | 49.1 | 3.7 | 45.0 | 28.7 | 26.3 | 20.7 | 27.0 |
| Green Ext Time (p_c), s | 0.1 | 4.3 | 0.0 | 0.0 | 0.6 | 6.6 | 0.2 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 64.0 |
| HCM 6th LOS | E |

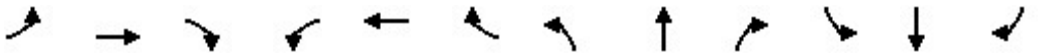
**Notes**

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 539 | 302 | 149 | 278 | 60 | 203 | 1357 | 131 | 49 | 940 | 301 |
| v/c Ratio | 0.90 | 0.49 | 0.26 | 0.78 | 0.21 | 0.83 | 0.79 | 0.16 | 0.39 | 0.67 | 0.37 |
| Control Delay | 66.8 | 46.5 | 10.1 | 67.0 | 1.7 | 75.7 | 30.7 | 3.8 | 59.9 | 32.2 | 4.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 66.8 | 46.5 | 10.1 | 67.0 | 1.7 | 75.7 | 30.7 | 3.8 | 59.9 | 32.2 | 4.6 |
| Queue Length 50th (ft) | 205 | 108 | 22 | 107 | 0 | 148 | 453 | 0 | 36 | 307 | 4 |
| Queue Length 95th (ft) | #301 | 154 | 67 | #168 | 0 | #263 | 582 | 35 | 74 | 383 | 61 |
| Internal Link Dist (ft) | | 599 | | 369 | | | 448 | | | 430 | |
| Turn Bay Length (ft) | 340 | | 340 | | 80 | 210 | | | 280 | | 215 |
| Base Capacity (vph) | 603 | 622 | 591 | 365 | 285 | 264 | 1725 | 840 | 202 | 1409 | 813 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.89 | 0.49 | 0.25 | 0.76 | 0.21 | 0.77 | 0.79 | 0.16 | 0.24 | 0.67 | 0.37 |

Intersection Summary

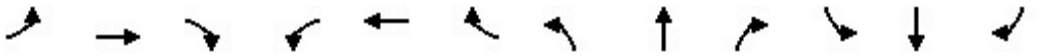
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 512 | 287 | 142 | 88 | 176 | 57 | 193 | 1289 | 124 | 47 | 893 | 286 |
| Future Volume (vph) | 512 | 287 | 142 | 88 | 176 | 57 | 193 | 1289 | 124 | 47 | 893 | 286 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 5.0 | | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 3502 | 3610 | 1601 | | 3527 | 1615 | 1805 | 3610 | 1615 | 1805 | 3574 | 1615 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 3502 | 3610 | 1601 | | 3527 | 1615 | 1805 | 3610 | 1615 | 1805 | 3574 | 1615 |
| 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) | 539 | 302 | 149 | 93 | 185 | 60 | 203 | 1357 | 131 | 49 | 940 | 301 |
| RTOR Reduction (vph) | 0 | 0 | 71 | 0 | 0 | 54 | 0 | 0 | 70 | 0 | 0 | 177 |
| Lane Group Flow (vph) | 539 | 302 | 78 | 0 | 278 | 6 | 203 | 1357 | 61 | 49 | 940 | 124 |
| Confl. Peds. (#/hr) | | | 4 | 4 | | | | | | | | |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 1% | 0% | 0% | 0% | 0% | 0% | 1% | 0% |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 4 | 4 | 5 | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | 2 | | | 6 |
| Actuated Green, G (s) | 19.8 | 19.8 | 35.6 | | 11.7 | 11.7 | 15.8 | 54.4 | 54.4 | 7.1 | 45.7 | 45.7 |
| Effective Green, g (s) | 19.8 | 19.8 | 35.6 | | 11.7 | 11.7 | 15.8 | 54.4 | 54.4 | 7.1 | 45.7 | 45.7 |
| Actuated g/C Ratio | 0.17 | 0.17 | 0.31 | | 0.10 | 0.10 | 0.14 | 0.47 | 0.47 | 0.06 | 0.39 | 0.39 |
| Clearance Time (s) | 6.0 | 6.0 | 5.0 | | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 2.5 | 2.5 | 2.5 | | 2.5 | 2.5 | 2.5 | 6.0 | 6.0 | 2.5 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 597 | 616 | 491 | | 355 | 162 | 245 | 1692 | 757 | 110 | 1408 | 636 |
| v/s Ratio Prot | c0.15 | 0.08 | 0.02 | | c0.08 | | c0.11 | c0.38 | | 0.03 | 0.26 | |
| v/s Ratio Perm | | | 0.03 | | | 0.00 | | | 0.04 | | | 0.08 |
| v/c Ratio | 0.90 | 0.49 | 0.16 | | 0.78 | 0.04 | 0.83 | 0.80 | 0.08 | 0.45 | 0.67 | 0.20 |
| Uniform Delay, d1 | 47.2 | 43.5 | 29.3 | | 50.9 | 47.1 | 48.8 | 26.2 | 17.0 | 52.6 | 28.9 | 23.1 |
| 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 | 17.0 | 0.4 | 0.1 | | 10.4 | 0.1 | 19.7 | 4.1 | 0.2 | 2.1 | 2.5 | 0.7 |
| Delay (s) | 64.1 | 44.0 | 29.4 | | 61.3 | 47.1 | 68.5 | 30.3 | 17.2 | 54.6 | 31.4 | 23.8 |
| Level of Service | E | D | C | | E | D | E | C | B | D | C | C |
| Approach Delay (s) | | 52.7 | | | 58.8 | | | 33.9 | | | 30.5 | |
| Approach LOS | | D | | | E | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 39.2 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.85 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 23.0 |
| Intersection Capacity Utilization | 81.0% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

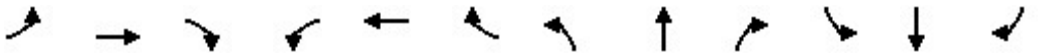


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 76 | 77 | 288 | 80 | 82 | 188 | 312 | 1329 | 183 | 173 | 859 | 171 |
| v/c Ratio | 0.50 | 0.49 | 0.59 | 0.63 | 0.62 | 0.64 | 0.91 | 0.76 | 0.21 | 0.95 | 0.49 | 0.19 |
| Control Delay | 61.9 | 61.3 | 27.6 | 73.5 | 71.5 | 17.8 | 83.6 | 28.1 | 2.8 | 107.1 | 21.3 | 2.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 61.9 | 61.3 | 27.6 | 73.5 | 71.5 | 17.8 | 83.6 | 28.1 | 2.8 | 107.1 | 21.3 | 2.3 |
| Queue Length 50th (ft) | 57 | 57 | 110 | 61 | 63 | 0 | 122 | 415 | 0 | ~146 | 222 | 0 |
| Queue Length 95th (ft) | 110 | 111 | 206 | #117 | 118 | 71 | #216 | 504 | 34 | #289 | 279 | 29 |
| Internal Link Dist (ft) | | 193 | | | 125 | | | 406 | | | 259 | |
| Turn Bay Length (ft) | 250 | | 130 | 175 | | 175 | 350 | | | 215 | | 615 |
| Base Capacity (vph) | 162 | 166 | 478 | 144 | 151 | 308 | 342 | 1745 | 868 | 183 | 1748 | 886 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.47 | 0.46 | 0.60 | 0.56 | 0.54 | 0.61 | 0.91 | 0.76 | 0.21 | 0.95 | 0.49 | 0.19 |

Intersection Summary

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

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 103 | 40 | 271 | 103 | 49 | 177 | 293 | 1249 | 172 | 163 | 807 | 161 |
| Future Volume (vph) | 103 | 40 | 271 | 103 | 49 | 177 | 293 | 1249 | 172 | 163 | 807 | 161 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 7.3 | 7.3 | 7.3 | 8.0 | 8.0 | 8.0 | 7.6 | 5.9 | 5.9 | 7.8 | 5.9 | 5.9 |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 0.85 |
| Flt Protected | 0.95 | 0.98 | 1.00 | 0.95 | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1715 | 1766 | 1583 | 1681 | 1760 | 1589 | 3502 | 3610 | 1595 | 1805 | 3574 | 1615 |
| Flt Permitted | 0.95 | 0.98 | 1.00 | 0.95 | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1715 | 1766 | 1583 | 1681 | 1760 | 1589 | 3502 | 3610 | 1595 | 1805 | 3574 | 1615 |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 110 | 43 | 288 | 110 | 52 | 188 | 312 | 1329 | 183 | 173 | 859 | 171 |
| RTOR Reduction (vph) | 0 | 0 | 89 | 0 | 0 | 174 | 0 | 0 | 94 | 0 | 0 | 87 |
| Lane Group Flow (vph) | 76 | 77 | 199 | 80 | 82 | 14 | 312 | 1329 | 89 | 173 | 859 | 84 |
| Confl. Peds. (#/hr) | 1 | | | | | 1 | | | 1 | 1 | | |
| Heavy Vehicles (%) | 0% | 0% | 2% | 2% | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 0% |
| Turn Type | Split | NA | pt+ov | Split | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 4 | 4 | 4 5 | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 3 | | | 2 | | | 6 |
| Actuated Green, G (s) | 10.3 | 10.3 | 28.9 | 8.8 | 8.8 | 8.8 | 11.3 | 56.1 | 56.1 | 11.8 | 56.8 | 56.8 |
| Effective Green, g (s) | 10.3 | 10.3 | 28.9 | 8.8 | 8.8 | 8.8 | 11.3 | 56.1 | 56.1 | 11.8 | 56.8 | 56.8 |
| Actuated g/C Ratio | 0.09 | 0.09 | 0.25 | 0.08 | 0.08 | 0.08 | 0.10 | 0.48 | 0.48 | 0.10 | 0.49 | 0.49 |
| Clearance Time (s) | 7.3 | 7.3 | | 8.0 | 8.0 | 8.0 | 7.6 | 5.9 | 5.9 | 7.8 | 5.9 | 5.9 |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 | 2.0 | 6.0 | 6.0 | 2.0 | 6.0 | 6.0 |
| Lane Grp Cap (vph) | 152 | 156 | 394 | 127 | 133 | 120 | 341 | 1745 | 771 | 183 | 1750 | 790 |
| v/s Ratio Prot | 0.04 | 0.04 | c0.13 | c0.05 | 0.05 | | 0.09 | c0.37 | | c0.10 | 0.24 | |
| v/s Ratio Perm | | | | | | 0.01 | | | 0.06 | | | 0.05 |
| v/c Ratio | 0.50 | 0.49 | 0.50 | 0.63 | 0.62 | 0.12 | 0.91 | 0.76 | 0.11 | 0.95 | 0.49 | 0.11 |
| Uniform Delay, d1 | 50.4 | 50.4 | 37.4 | 52.0 | 52.0 | 50.0 | 51.9 | 24.5 | 16.4 | 51.8 | 19.9 | 15.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.9 | 0.9 | 0.4 | 6.9 | 5.9 | 0.2 | 27.6 | 3.2 | 0.3 | 50.0 | 1.0 | 0.3 |
| Delay (s) | 51.3 | 51.3 | 37.8 | 58.9 | 57.8 | 50.1 | 79.5 | 27.7 | 16.7 | 101.8 | 20.9 | 16.2 |
| Level of Service | D | D | D | E | E | D | E | C | B | F | C | B |
| Approach Delay (s) | | 42.5 | | | 53.9 | | | 35.4 | | | 31.8 | |
| Approach LOS | | D | | | D | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 36.8 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.77 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 29.0 |
| Intersection Capacity Utilization | 72.4% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

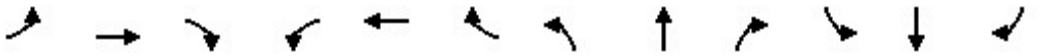
c Critical Lane Group

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 84 | 250 | 88 | 101 | 1679 | 213 | 105 | 1151 | 3 |
| v/c Ratio | 0.48 | 0.79 | 0.21 | 0.58 | 0.92 | 0.23 | 0.69 | 0.66 | 0.00 |
| Control Delay | 33.0 | 63.7 | 1.1 | 62.8 | 38.6 | 3.2 | 74.4 | 27.0 | 0.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 33.0 | 63.7 | 1.1 | 62.8 | 38.6 | 3.2 | 74.4 | 27.0 | 0.0 |
| Queue Length 50th (ft) | 25 | 176 | 0 | 73 | ~703 | 0 | 76 | 353 | 0 |
| Queue Length 95th (ft) | 73 | #303 | 0 | 126 | #852 | 43 | #158 | 486 | 0 |
| Internal Link Dist (ft) | 151 | 218 | | | 318 | | | 355 | |
| Turn Bay Length (ft) | | | 50 | 150 | | 450 | 250 | | 200 |
| Base Capacity (vph) | 254 | 327 | 433 | 241 | 1816 | 918 | 161 | 1747 | 871 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.33 | 0.76 | 0.20 | 0.42 | 0.92 | 0.23 | 0.65 | 0.66 | 0.00 |

Intersection Summary

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

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 31 | 47 | 209 | 26 | 83 | 95 | 1578 | 200 | 99 | 1082 | 3 |
| Future Volume (vph) | 1 | 31 | 47 | 209 | 26 | 83 | 95 | 1578 | 200 | 99 | 1082 | 3 |
| 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 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | | 0.92 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | | 1746 | | | 1793 | 1615 | 1752 | 3610 | 1615 | 1805 | 3574 | 1615 |
| Flt Permitted | | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | | 1746 | | | 1793 | 1615 | 1752 | 3610 | 1615 | 1805 | 3574 | 1615 |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 1 | 33 | 50 | 222 | 28 | 88 | 101 | 1679 | 213 | 105 | 1151 | 3 |
| RTOR Reduction (vph) | 0 | 47 | 0 | 0 | 0 | 72 | 0 | 0 | 108 | 0 | 0 | 2 |
| Lane Group Flow (vph) | 0 | 37 | 0 | 0 | 250 | 16 | 101 | 1679 | 105 | 105 | 1151 | 1 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 1% | 5% | 0% | 3% | 0% | 0% | 0% | 1% | 0% |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 3 | 3 | | 4 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 4 | | | 2 | | | 6 |
| Actuated Green, G (s) | | 7.3 | | | 20.5 | 20.5 | 11.5 | 57.4 | 57.4 | 9.8 | 55.7 | 55.7 |
| Effective Green, g (s) | | 7.3 | | | 20.5 | 20.5 | 11.5 | 57.4 | 57.4 | 9.8 | 55.7 | 55.7 |
| Actuated g/C Ratio | | 0.06 | | | 0.18 | 0.18 | 0.10 | 0.49 | 0.49 | 0.08 | 0.48 | 0.48 |
| Clearance Time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 2.5 | 4.5 | 4.5 | 2.5 | 4.5 | 4.5 |
| Lane Grp Cap (vph) | | 109 | | | 316 | 285 | 173 | 1786 | 799 | 152 | 1716 | 775 |
| v/s Ratio Prot | | c0.02 | | | c0.14 | | 0.06 | c0.47 | | c0.06 | 0.32 | |
| v/s Ratio Perm | | | | | | 0.01 | | | 0.07 | | | 0.00 |
| v/c Ratio | | 0.34 | | | 0.79 | 0.05 | 0.58 | 0.94 | 0.13 | 0.69 | 0.67 | 0.00 |
| Uniform Delay, d1 | | 52.0 | | | 45.7 | 39.7 | 50.0 | 27.7 | 15.8 | 51.6 | 23.1 | 15.7 |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 1.9 | | | 12.7 | 0.1 | 4.1 | 11.2 | 0.3 | 11.8 | 2.1 | 0.0 |
| Delay (s) | | 53.9 | | | 58.4 | 39.8 | 54.1 | 38.9 | 16.2 | 63.4 | 25.2 | 15.7 |
| Level of Service | | D | | | E | D | D | D | B | E | C | B |
| Approach Delay (s) | | 53.9 | | | 53.5 | | | 37.2 | | | 28.4 | |
| Approach LOS | | D | | | D | | | D | | | C | |

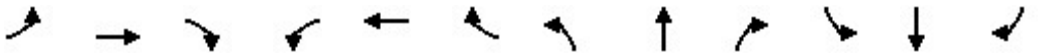
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 36.1 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.84 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 82.4% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 166 | 934 | 304 | 376 | 682 | 246 | 255 | 1463 | 385 | 277 | 1142 |
| v/c Ratio | 0.64 | 1.04 | 0.44 | 1.05 | 0.67 | 0.34 | 0.69 | 1.15 | 0.49 | 0.79 | 0.65 |
| Control Delay | 64.0 | 82.7 | 20.1 | 111.5 | 40.9 | 16.4 | 59.6 | 111.9 | 17.1 | 67.3 | 33.7 |
| 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 | 64.0 | 82.7 | 20.1 | 111.5 | 40.9 | 16.4 | 59.6 | 111.9 | 17.1 | 67.3 | 33.7 |
| Queue Length 50th (ft) | 62 | ~396 | 118 | ~157 | 238 | 81 | 95 | ~681 | 143 | 105 | 261 |
| Queue Length 95th (ft) | 100 | #526 | 193 | #256 | 305 | 144 | 138 | #820 | 223 | #164 | 315 |
| Internal Link Dist (ft) | | 473 | | | 499 | | | 459 | | | 344 |
| Turn Bay Length (ft) | 280 | | 470 | 200 | | 390 | 320 | | | 240 | |
| Base Capacity (vph) | 268 | 900 | 712 | 358 | 1011 | 735 | 414 | 1273 | 779 | 362 | 1761 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.62 | 1.04 | 0.43 | 1.05 | 0.67 | 0.33 | 0.62 | 1.15 | 0.49 | 0.77 | 0.65 |

Intersection Summary

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

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 161 | 906 | 295 | 365 | 662 | 239 | 247 | 1419 | 373 | 269 | 1020 | 87 |
| Future Volume (veh/h) | 161 | 906 | 295 | 365 | 662 | 239 | 247 | 1419 | 373 | 269 | 1020 | 87 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1885 | 1870 | 1870 | 1885 | 1885 | 1885 | 1870 | 1885 | 1885 | 1900 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 166 | 934 | 0 | 376 | 682 | 246 | 255 | 1463 | 0 | 277 | 1052 | 90 |
| 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 |
| Percent Heavy Veh, % | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 0 | 2 | 2 |
| Cap, veh/h | 224 | 904 | | 360 | 1051 | 621 | 317 | 1295 | | 335 | 1750 | 150 |
| Arrive On Green | 0.06 | 0.25 | 0.00 | 0.10 | 0.29 | 0.29 | 0.09 | 0.36 | 0.00 | 0.10 | 0.37 | 0.37 |
| Sat Flow, veh/h | 3483 | 3554 | 1585 | 3483 | 3582 | 1598 | 3456 | 3582 | 1598 | 3510 | 4791 | 409 |
| Grp Volume(v), veh/h | 166 | 934 | 0 | 376 | 682 | 246 | 255 | 1463 | 0 | 277 | 747 | 395 |
| Grp Sat Flow(s),veh/h/ln | 1742 | 1777 | 1585 | 1742 | 1791 | 1598 | 1728 | 1791 | 1598 | 1755 | 1702 | 1796 |
| Q Serve(g_s), s | 5.4 | 29.5 | 0.0 | 12.0 | 19.3 | 12.9 | 8.4 | 41.9 | 0.0 | 9.0 | 20.7 | 20.8 |
| Cycle Q Clear(g_c), s | 5.4 | 29.5 | 0.0 | 12.0 | 19.3 | 12.9 | 8.4 | 41.9 | 0.0 | 9.0 | 20.7 | 20.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.23 |
| Lane Grp Cap(c), veh/h | 224 | 904 | | 360 | 1051 | 621 | 317 | 1295 | | 335 | 1243 | 656 |
| V/C Ratio(X) | 0.74 | 1.03 | | 1.04 | 0.65 | 0.40 | 0.81 | 1.13 | | 0.83 | 0.60 | 0.60 |
| Avail Cap(c_a), veh/h | 270 | 904 | | 360 | 1051 | 621 | 417 | 1295 | | 363 | 1243 | 656 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.3 | 43.3 | 0.0 | 52.0 | 35.8 | 25.6 | 51.7 | 37.0 | 0.0 | 51.5 | 29.9 | 30.0 |
| Incr Delay (d2), s/veh | 7.6 | 38.9 | 0.0 | 59.2 | 3.1 | 1.9 | 7.5 | 68.8 | 0.0 | 13.2 | 2.2 | 4.1 |
| 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 BackOfQ(50%),veh/ln | 2.6 | 17.7 | 0.0 | 8.2 | 8.8 | 5.2 | 4.0 | 30.3 | 0.0 | 4.6 | 8.8 | 9.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.9 | 82.1 | 0.0 | 111.2 | 38.9 | 27.5 | 59.2 | 105.8 | 0.0 | 64.7 | 32.1 | 34.0 |
| LnGrp LOS | E | F | | F | D | C | E | F | | E | C | C |
| Approach Vol, veh/h | | 1100 | A | | 1304 | | | 1718 | A | | 1419 | |
| Approach Delay, s/veh | | 78.9 | | | 57.6 | | | 98.9 | | | 39.0 | |
| Approach LOS | | E | | | E | | | F | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.1 | 47.9 | 12.5 | 39.5 | 15.6 | 48.4 | 17.0 | 35.0 |
| Change Period (Y+Rc), s | 5.0 | 6.0 | 5.0 | 5.5 | 5.0 | 6.0 | 5.0 | 5.5 |
| Max Green Setting (Gmax), s | 12.0 | 41.0 | 9.0 | 32.5 | 14.0 | 39.0 | 12.0 | 29.5 |
| Max Q Clear Time (g_c+I1), s | 11.0 | 43.9 | 7.4 | 21.3 | 10.4 | 22.8 | 14.0 | 31.5 |
| Green Ext Time (p_c), s | 0.1 | 0.0 | 0.1 | 8.3 | 0.2 | 14.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 69.9 |
| HCM 6th LOS | E |

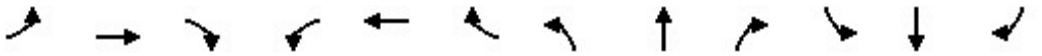
**Notes**

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 33 | 198 | 156 | 39 | 1913 | 174 | 184 | 1681 |
| v/c Ratio | 0.31 | 0.81 | 0.31 | 0.38 | 0.71 | 0.19 | 0.82 | 0.51 |
| Control Delay | 51.6 | 74.0 | 12.8 | 63.2 | 23.3 | 3.0 | 77.6 | 13.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 51.6 | 74.0 | 12.8 | 63.2 | 23.3 | 3.0 | 77.6 | 13.7 |
| Queue Length 50th (ft) | 19 | 144 | 32 | 29 | 426 | 0 | 135 | 292 |
| Queue Length 95th (ft) | 52 | #255 | 76 | 65 | 491 | 37 | #250 | 338 |
| Internal Link Dist (ft) | 192 | 548 | | | 450 | | | 520 |
| Turn Bay Length (ft) | | | 225 | 315 | | 395 | 165 | |
| Base Capacity (vph) | 114 | 260 | 517 | 107 | 2688 | 932 | 234 | 3302 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.29 | 0.76 | 0.30 | 0.36 | 0.71 | 0.19 | 0.79 | 0.51 |

Intersection Summary

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 19 | 6 | 7 | 183 | 9 | 151 | 38 | 1856 | 169 | 178 | 1607 | 23 |
| Future Volume (vph) | 19 | 6 | 7 | 183 | 9 | 151 | 38 | 1856 | 169 | 178 | 1607 | 23 |
| 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 | 6.0 | 6.0 | 5.0 | 6.0 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.97 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | | 0.97 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1791 | | | 1779 | 1615 | 1787 | 4988 | 1581 | 1805 | 5124 | |
| Flt Permitted | | 0.97 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1791 | | | 1779 | 1615 | 1787 | 4988 | 1581 | 1805 | 5124 | |
| 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) | 20 | 6 | 7 | 189 | 9 | 156 | 39 | 1913 | 174 | 184 | 1657 | 24 |
| RTOR Reduction (vph) | 0 | 7 | 0 | 0 | 0 | 61 | 0 | 0 | 83 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 26 | 0 | 0 | 198 | 95 | 39 | 1913 | 91 | 184 | 1680 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | 1 | 1 | | 2 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 2% | 0% | 0% | 1% | 4% | 0% | 0% | 1% | 0% |
| Turn Type | Split | NA | | Split | NA | pm+ov | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 3 | | | 2 | | | |
| Actuated Green, G (s) | | 4.2 | | | 15.9 | 30.3 | 4.2 | 60.5 | 60.5 | 14.4 | 70.7 | |
| Effective Green, g (s) | | 4.2 | | | 15.9 | 30.3 | 4.2 | 60.5 | 60.5 | 14.4 | 70.7 | |
| Actuated g/C Ratio | | 0.04 | | | 0.14 | 0.26 | 0.04 | 0.52 | 0.52 | 0.12 | 0.61 | |
| Clearance Time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 6.0 | 6.0 | 5.0 | 6.0 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | |
| Lane Grp Cap (vph) | | 64 | | | 243 | 421 | 64 | 2601 | 824 | 224 | 3122 | |
| v/s Ratio Prot | | c0.01 | | | c0.11 | 0.03 | 0.02 | c0.38 | | c0.10 | 0.33 | |
| v/s Ratio Perm | | | | | | 0.03 | | | 0.06 | | | |
| v/c Ratio | | 0.41 | | | 0.81 | 0.22 | 0.61 | 0.74 | 0.11 | 0.82 | 0.54 | |
| Uniform Delay, d1 | | 54.7 | | | 48.6 | 33.6 | 55.1 | 21.5 | 14.1 | 49.5 | 13.2 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 4.2 | | | 18.6 | 0.3 | 15.3 | 1.9 | 0.3 | 20.9 | 0.7 | |
| Delay (s) | | 58.9 | | | 67.2 | 33.9 | 70.4 | 23.4 | 14.4 | 70.4 | 13.8 | |
| Level of Service | | E | | | E | C | E | C | B | E | B | |
| Approach Delay (s) | | 58.9 | | | 52.5 | | | 23.6 | | | 19.4 | |
| Approach LOS | | E | | | D | | | C | | | B | |

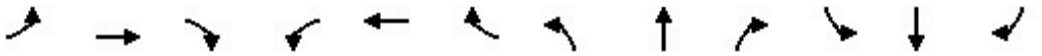
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 24.4 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.75 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 74.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 183 | 204 | 77 | 187 | 1975 | 18 | 1759 | 185 |
| v/c Ratio | 0.87 | 0.53 | 0.45 | 0.82 | 0.56 | 0.17 | 0.61 | 0.19 |
| Control Delay | 83.1 | 17.3 | 41.0 | 77.3 | 10.7 | 54.9 | 18.1 | 2.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 83.1 | 17.3 | 41.0 | 77.3 | 10.7 | 54.9 | 18.1 | 2.3 |
| Queue Length 50th (ft) | 134 | 29 | 37 | 137 | 205 | 13 | 313 | 0 |
| Queue Length 95th (ft) | #257 | 103 | 87 | #252 | 368 | 37 | 361 | 32 |
| Internal Link Dist (ft) | 312 | | 290 | | 483 | | 269 | |
| Turn Bay Length (ft) | | 215 | | 415 | | 275 | | 1000 |
| Base Capacity (vph) | 221 | 394 | 179 | 238 | 3519 | 122 | 2901 | 984 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.83 | 0.52 | 0.43 | 0.79 | 0.56 | 0.15 | 0.61 | 0.19 |

Intersection Summary

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 170 | 8 | 198 | 41 | 6 | 28 | 181 | 1893 | 22 | 17 | 1706 | 179 |
| Future Volume (vph) | 170 | 8 | 198 | 41 | 6 | 28 | 181 | 1893 | 22 | 17 | 1706 | 179 |
| 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 | | 5.5 | 6.0 | | 5.5 | 6.0 | 6.0 |
| Lane Util. Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 0.91 | | 1.00 | 0.91 | 1.00 |
| Frpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Frt | | 1.00 | 0.85 | | 0.95 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 0.95 | 1.00 | | 0.97 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | | 1813 | 1599 | | 1729 | | 1787 | 5076 | | 1671 | 5136 | 1599 |
| Flt Permitted | | 0.71 | 1.00 | | 0.55 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | | 1350 | 1599 | | 981 | | 1787 | 5076 | | 1671 | 5136 | 1599 |
| 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) | 175 | 8 | 204 | 42 | 6 | 29 | 187 | 1952 | 23 | 18 | 1759 | 185 |
| RTOR Reduction (vph) | 0 | 0 | 134 | 0 | 19 | 0 | 0 | 1 | 0 | 0 | 0 | 81 |
| Lane Group Flow (vph) | 0 | 183 | 70 | 0 | 58 | 0 | 187 | 1974 | 0 | 18 | 1759 | 104 |
| Confl. Peds. (#/hr) | | | | | | | | | 1 | 1 | | |
| Heavy Vehicles (%) | 0% | 0% | 1% | 0% | 0% | 4% | 1% | 2% | 0% | 8% | 1% | 1% |
| Turn Type | Perm | NA | Perm | Perm | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | | | | | | | 6 |
| Actuated Green, G (s) | | 18.2 | 18.2 | | 18.2 | | 14.8 | 77.1 | | 3.2 | 65.5 | 65.5 |
| Effective Green, g (s) | | 18.2 | 18.2 | | 18.2 | | 14.8 | 77.1 | | 3.2 | 65.5 | 65.5 |
| Actuated g/C Ratio | | 0.16 | 0.16 | | 0.16 | | 0.13 | 0.66 | | 0.03 | 0.56 | 0.56 |
| Clearance Time (s) | | 6.0 | 6.0 | | 6.0 | | 5.5 | 6.0 | | 5.5 | 6.0 | 6.0 |
| Vehicle Extension (s) | | 3.5 | 3.5 | | 3.5 | | 3.0 | 5.0 | | 3.0 | 5.0 | 5.0 |
| Lane Grp Cap (vph) | | 211 | 250 | | 153 | | 227 | 3373 | | 46 | 2900 | 902 |
| v/s Ratio Prot | | | | | | | c0.10 | c0.39 | | 0.01 | 0.34 | |
| v/s Ratio Perm | | c0.14 | 0.04 | | 0.06 | | | | | | | 0.07 |
| v/c Ratio | | 0.87 | 0.28 | | 0.38 | | 0.82 | 0.59 | | 0.39 | 0.61 | 0.12 |
| Uniform Delay, d1 | | 47.7 | 43.1 | | 43.9 | | 49.3 | 10.7 | | 55.4 | 16.7 | 11.8 |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 29.7 | 0.7 | | 1.9 | | 20.9 | 0.7 | | 5.4 | 1.0 | 0.3 |
| Delay (s) | | 77.4 | 43.8 | | 45.7 | | 70.2 | 11.4 | | 60.9 | 17.7 | 12.0 |
| Level of Service | | E | D | | D | | E | B | | E | B | B |
| Approach Delay (s) | | 59.7 | | | 45.7 | | | 16.5 | | | 17.5 | |
| Approach LOS | | E | | | D | | | B | | | B | |

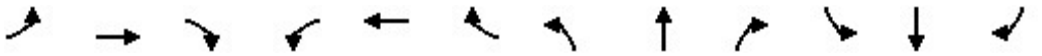
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 21.1 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.69 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 17.5 |
| Intersection Capacity Utilization | 73.2% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 110 | 125 | 64 | 25 | 131 | 2143 | 45 | 1993 |
| v/c Ratio | 0.72 | 0.50 | 0.48 | 0.11 | 0.76 | 0.67 | 0.33 | 0.67 |
| Control Delay | 78.1 | 16.3 | 62.9 | 1.0 | 77.9 | 17.4 | 57.3 | 19.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 78.1 | 16.3 | 62.9 | 1.0 | 77.9 | 17.4 | 57.3 | 19.2 |
| Queue Length 50th (ft) | 81 | 0 | 46 | 0 | 96 | 402 | 33 | 389 |
| Queue Length 95th (ft) | #169 | 58 | 92 | 0 | #186 | 490 | 69 | 447 |
| Internal Link Dist (ft) | 178 | | 254 | | | 316 | | 213 |
| Turn Bay Length (ft) | | 115 | | 100 | 315 | | 320 | |
| Base Capacity (vph) | 157 | 253 | 155 | 244 | 184 | 3198 | 171 | 2959 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.70 | 0.49 | 0.41 | 0.10 | 0.71 | 0.67 | 0.26 | 0.67 |

Intersection Summary

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 92 | 15 | 121 | 48 | 15 | 24 | 127 | 2058 | 20 | 44 | 1848 | 85 |
| Future Volume (vph) | 92 | 15 | 121 | 48 | 15 | 24 | 127 | 2058 | 20 | 44 | 1848 | 85 |
| 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 | 6.0 | | 5.0 | 6.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.91 | | 1.00 | 0.91 | |
| Frpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 0.99 | |
| Flt Protected | | 0.96 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1775 | 1568 | | 1802 | 1538 | 1787 | 5121 | | 1805 | 5095 | |
| Flt Permitted | | 0.96 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1775 | 1568 | | 1802 | 1538 | 1787 | 5121 | | 1805 | 5095 | |
| 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) | 95 | 15 | 125 | 49 | 15 | 25 | 131 | 2122 | 21 | 45 | 1905 | 88 |
| RTOR Reduction (vph) | 0 | 0 | 114 | 0 | 0 | 23 | 0 | 1 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 0 | 110 | 11 | 0 | 64 | 2 | 131 | 2142 | 0 | 45 | 1989 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 1 | | 1 | 1 | | 1 |
| Heavy Vehicles (%) | 3% | 0% | 3% | 2% | 0% | 5% | 1% | 1% | 13% | 0% | 1% | 2% |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | | | | |
| Actuated Green, G (s) | | 9.9 | 9.9 | | 7.5 | 7.5 | 11.2 | 70.4 | | 7.2 | 66.4 | |
| Effective Green, g (s) | | 9.9 | 9.9 | | 7.5 | 7.5 | 11.2 | 70.4 | | 7.2 | 66.4 | |
| Actuated g/C Ratio | | 0.09 | 0.09 | | 0.06 | 0.06 | 0.10 | 0.61 | | 0.06 | 0.57 | |
| Clearance Time (s) | | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 6.0 | | 5.0 | 6.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 | 2.5 | 6.0 | | 2.5 | 6.0 | |
| Lane Grp Cap (vph) | | 151 | 133 | | 116 | 99 | 172 | 3107 | | 112 | 2916 | |
| v/s Ratio Prot | | c0.06 | | | c0.04 | | c0.07 | c0.42 | | 0.02 | 0.39 | |
| v/s Ratio Perm | | | 0.01 | | | 0.00 | | | | | | |
| v/c Ratio | | 0.73 | 0.08 | | 0.55 | 0.02 | 0.76 | 0.69 | | 0.40 | 0.68 | |
| Uniform Delay, d1 | | 51.7 | 48.9 | | 52.6 | 50.8 | 51.1 | 15.4 | | 52.3 | 17.4 | |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 16.1 | 0.3 | | 5.6 | 0.1 | 17.2 | 1.3 | | 1.7 | 1.3 | |
| Delay (s) | | 67.8 | 49.1 | | 58.2 | 50.9 | 68.3 | 16.7 | | 54.0 | 18.7 | |
| Level of Service | | E | D | | E | D | E | B | | D | B | |
| Approach Delay (s) | | 57.9 | | | 56.1 | | | 19.7 | | | 19.5 | |
| Approach LOS | | E | | | E | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 22.2 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.71 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 72.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBL | WBR | NBT | SBL | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 11 | 2 | 2284 | 5 | 2095 |
| v/c Ratio | 0.10 | 0.02 | 0.49 | 0.06 | 0.44 |
| Control Delay | 53.0 | 36.0 | 3.4 | 53.0 | 1.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 53.0 | 36.0 | 3.4 | 53.0 | 1.7 |
| Queue Length 50th (ft) | 8 | 0 | 0 | 4 | 0 |
| Queue Length 95th (ft) | 27 | 9 | 336 | 17 | 147 |
| Internal Link Dist (ft) | 469 | | 187 | | 179 |
| Turn Bay Length (ft) | | | | 170 | |
| Base Capacity (vph) | 290 | 262 | 4650 | 151 | 4783 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.04 | 0.01 | 0.49 | 0.03 | 0.44 |

Intersection Summary

| Movement | WBL | WBR | NBU | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 11 | 2 | 0 | 2206 | 10 | 5 | 2032 |
| Future Volume (vph) | 11 | 2 | 0 | 2206 | 10 | 5 | 2032 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 5.9 | | 6.8 | 5.9 |
| Lane Util. Factor | 1.00 | 1.00 | | 0.91 | | 1.00 | 0.91 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | | 1.00 | | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1805 | 1615 | | 5126 | | 1444 | 5136 |
| Flt Permitted | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1805 | 1615 | | 5126 | | 1444 | 5136 |
| Peak-hour factor, PHF | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Adj. Flow (vph) | 11 | 2 | 0 | 2274 | 10 | 5 | 2095 |
| RTOR Reduction (vph) | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 11 | 0 | 0 | 2284 | 0 | 5 | 2095 |
| Confl. Peds. (#/hr) | | | | | 1 | 1 | |
| Heavy Vehicles (%) | 0% | 0% | 0% | 1% | 25% | 25% | 1% |
| Turn Type | Prot | Perm | Prot | NA | | Prot | NA |
| Protected Phases | 4 | | 5 | 2 | | 1 | 6 |
| Permitted Phases | | 4 | | | | | |
| Actuated Green, G (s) | 3.1 | 3.1 | | 92.5 | | 1.4 | 100.7 |
| Effective Green, g (s) | 3.1 | 3.1 | | 92.5 | | 1.4 | 100.7 |
| Actuated g/C Ratio | 0.03 | 0.03 | | 0.80 | | 0.01 | 0.87 |
| Clearance Time (s) | 6.3 | 6.3 | | 5.9 | | 6.8 | 5.9 |
| Vehicle Extension (s) | 3.5 | 3.5 | | 5.5 | | 3.0 | 5.5 |
| Lane Grp Cap (vph) | 48 | 43 | | 4087 | | 17 | 4458 |
| v/s Ratio Prot | c0.01 | | | c0.45 | | 0.00 | c0.41 |
| v/s Ratio Perm | | 0.00 | | | | | |
| v/c Ratio | 0.23 | 0.00 | | 0.56 | | 0.29 | 0.47 |
| Uniform Delay, d1 | 55.3 | 54.9 | | 4.3 | | 56.8 | 1.7 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 2.9 | 0.0 | | 0.6 | | 9.4 | 0.4 |
| Delay (s) | 58.2 | 55.0 | | 4.8 | | 66.2 | 2.1 |
| Level of Service | E | D | | A | | E | A |
| Approach Delay (s) | 57.7 | | | 4.8 | | | 2.2 |
| Approach LOS | E | | | A | | | A |

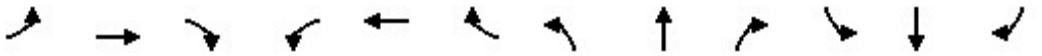
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 3.7 | HCM 2000 Level of Service | A |
| HCM 2000 Volume to Capacity ratio | 0.57 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 19.0 |
| Intersection Capacity Utilization | 58.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 165 | 61 | 60 | 28 | 81 | 2118 | 20 | 39 | 1998 | 76 |
| v/c Ratio | 0.72 | 0.20 | 0.44 | 0.12 | 0.52 | 0.68 | 0.02 | 0.34 | 0.69 | 0.08 |
| Control Delay | 66.3 | 1.4 | 60.6 | 1.1 | 58.2 | 7.6 | 0.0 | 58.9 | 22.7 | 1.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 66.3 | 1.4 | 60.6 | 1.1 | 58.2 | 7.6 | 0.0 | 58.9 | 22.7 | 1.4 |
| Queue Length 50th (ft) | 119 | 0 | 44 | 0 | 63 | 150 | 0 | 28 | 409 | 0 |
| Queue Length 95th (ft) | 190 | 0 | 86 | 0 | m62 | m142 | m0 | 63 | 562 | 11 |
| Internal Link Dist (ft) | 284 | | 261 | | | 193 | | | 145 | |
| Turn Bay Length (ft) | | 115 | | | 190 | | 75 | 295 | | 105 |
| Base Capacity (vph) | 278 | 348 | 203 | 286 | 205 | 3115 | 948 | 233 | 2912 | 964 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.59 | 0.18 | 0.30 | 0.10 | 0.40 | 0.68 | 0.02 | 0.17 | 0.69 | 0.08 |

Intersection Summary

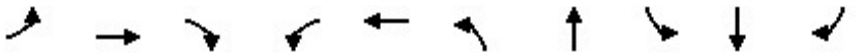
m Volume for 95th percentile queue is metered by upstream signal.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 153 | 7 | 59 | 52 | 6 | 27 | 79 | 2054 | 19 | 38 | 1938 | 74 |
| Future Volume (vph) | 153 | 7 | 59 | 52 | 6 | 27 | 79 | 2054 | 19 | 38 | 1938 | 74 |
| 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 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Lane Util. Factor | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | 1.00 |
| Frpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 0.98 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 0.95 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | | 1796 | 1583 | | 1818 | 1588 | 1805 | 5136 | 1490 | 1805 | 5136 | 1615 |
| Flt Permitted | | 0.95 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | | 1796 | 1583 | | 1818 | 1588 | 1805 | 5136 | 1490 | 1805 | 5136 | 1615 |
| 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) | 158 | 7 | 61 | 54 | 6 | 28 | 81 | 2118 | 20 | 39 | 1998 | 76 |
| RTOR Reduction (vph) | 0 | 0 | 53 | 0 | 0 | 26 | 0 | 0 | 8 | 0 | 0 | 34 |
| Lane Group Flow (vph) | 0 | 165 | 8 | 0 | 60 | 2 | 81 | 2118 | 12 | 39 | 1998 | 42 |
| Confl. Peds. (#/hr) | 1 | | | | | 1 | | | 1 | 1 | | |
| Heavy Vehicles (%) | 1% | 0% | 2% | 0% | 0% | 0% | 0% | 1% | 7% | 0% | 1% | 0% |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 3 | 3 | | 4 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 3 | | | 4 | | | 2 | | | 6 |
| Actuated Green, G (s) | | 14.8 | 14.8 | | 7.6 | 7.6 | 8.8 | 67.4 | 67.4 | 5.2 | 63.8 | 63.8 |
| Effective Green, g (s) | | 14.8 | 14.8 | | 7.6 | 7.6 | 8.8 | 67.4 | 67.4 | 5.2 | 63.8 | 63.8 |
| Actuated g/C Ratio | | 0.13 | 0.13 | | 0.07 | 0.07 | 0.08 | 0.58 | 0.58 | 0.04 | 0.55 | 0.55 |
| Clearance Time (s) | | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | | 2.5 | 2.5 | | 2.5 | 2.5 | 2.5 | 4.0 | 4.0 | 2.5 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | | 229 | 201 | | 119 | 104 | 136 | 2984 | 865 | 80 | 2824 | 888 |
| v/s Ratio Prot | | c0.09 | | | c0.03 | | c0.04 | c0.41 | | 0.02 | 0.39 | |
| v/s Ratio Perm | | | 0.00 | | | 0.00 | | | 0.01 | | | 0.03 |
| v/c Ratio | | 0.72 | 0.04 | | 0.50 | 0.02 | 0.60 | 0.71 | 0.01 | 0.49 | 0.71 | 0.05 |
| Uniform Delay, d1 | | 48.6 | 44.4 | | 52.4 | 50.7 | 51.9 | 17.3 | 10.3 | 54.1 | 19.2 | 12.1 |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.14 | 0.40 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 10.0 | 0.1 | | 2.4 | 0.0 | 0.5 | 0.1 | 0.0 | 3.4 | 1.5 | 0.1 |
| Delay (s) | | 58.6 | 44.4 | | 54.8 | 50.8 | 59.8 | 7.0 | 10.3 | 57.5 | 20.8 | 12.2 |
| Level of Service | | E | D | | D | D | E | A | B | E | C | B |
| Approach Delay (s) | | 54.8 | | | 53.5 | | | 8.9 | | | 21.1 | |
| Approach LOS | | D | | | D | | | A | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 17.6 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.70 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 72.7% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



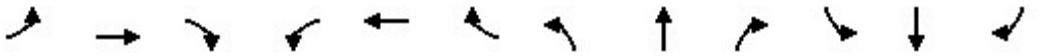
| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 242 | 623 | 132 | 217 | 685 | 164 | 1965 | 324 | 1563 | 214 |
| v/c Ratio | 0.93 | 1.03 | 0.35 | 0.89 | 1.10 | 0.75 | 1.11 | 1.04 | 0.75 | 0.28 |
| Control Delay | 90.5 | 93.6 | 10.0 | 85.6 | 104.4 | 70.1 | 93.9 | 107.8 | 34.5 | 12.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 90.5 | 93.6 | 10.0 | 85.6 | 104.4 | 70.1 | 93.9 | 107.8 | 34.5 | 12.6 |
| Queue Length 50th (ft) | 181 | ~267 | 0 | 161 | ~271 | 118 | ~610 | ~270 | 222 | 25 |
| Queue Length 95th (ft) | #334 | #386 | 54 | #300 | #394 | #206 | #708 | #454 | 371 | m121 |
| Internal Link Dist (ft) | | 762 | | | 867 | | 276 | | 418 | |
| Turn Bay Length (ft) | 200 | | 215 | 725 | | 280 | | 330 | | 245 |
| Base Capacity (vph) | 264 | 602 | 378 | 248 | 624 | 241 | 1770 | 311 | 2075 | 769 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.92 | 1.03 | 0.35 | 0.88 | 1.10 | 0.68 | 1.11 | 1.04 | 0.75 | 0.28 |

Intersection Summary

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

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

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 242 | 623 | 132 | 217 | 417 | 268 | 164 | 1649 | 316 | 324 | 1563 | 214 |
| Future Volume (veh/h) | 242 | 623 | 132 | 217 | 417 | 268 | 164 | 1649 | 316 | 324 | 1563 | 214 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adj Flow Rate, veh/h | 242 | 623 | 132 | 217 | 417 | 268 | 164 | 1649 | 316 | 324 | 1563 | 0 |
| Peak Hour 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 |
| Percent Heavy Veh, % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cap, veh/h | 265 | 591 | 264 | 245 | 322 | 205 | 193 | 1521 | 289 | 312 | 2166 | |
| Arrive On Green | 0.15 | 0.16 | 0.16 | 0.14 | 0.15 | 0.15 | 0.11 | 0.35 | 0.35 | 0.17 | 0.42 | 0.00 |
| Sat Flow, veh/h | 1810 | 3610 | 1610 | 1810 | 2116 | 1347 | 1810 | 4376 | 832 | 1810 | 5187 | 1610 |
| Grp Volume(v), veh/h | 242 | 623 | 132 | 217 | 355 | 330 | 164 | 1300 | 665 | 324 | 1563 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1810 | 1805 | 1610 | 1810 | 1805 | 1658 | 1810 | 1729 | 1750 | 1810 | 1729 | 1610 |
| Q Serve(g_s), s | 15.3 | 19.0 | 8.7 | 13.7 | 17.7 | 17.7 | 10.3 | 40.3 | 40.3 | 20.0 | 29.1 | 0.0 |
| Cycle Q Clear(g_c), s | 15.3 | 19.0 | 8.7 | 13.7 | 17.7 | 17.7 | 10.3 | 40.3 | 40.3 | 20.0 | 29.1 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.81 | 1.00 | | 0.48 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 265 | 591 | 264 | 245 | 275 | 253 | 193 | 1202 | 608 | 312 | 2166 | |
| V/C Ratio(X) | 0.91 | 1.05 | 0.50 | 0.89 | 1.29 | 1.31 | 0.85 | 1.08 | 1.09 | 1.04 | 0.72 | |
| Avail Cap(c_a), veh/h | 265 | 591 | 264 | 250 | 275 | 253 | 242 | 1202 | 608 | 312 | 2166 | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 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 | 0.00 |
| Uniform Delay (d), s/veh | 48.8 | 48.5 | 44.2 | 49.3 | 49.2 | 49.2 | 50.9 | 37.8 | 37.8 | 48.0 | 28.2 | 0.0 |
| Incr Delay (d2), s/veh | 32.5 | 51.9 | 1.5 | 29.2 | 155.5 | 163.2 | 20.0 | 51.1 | 64.2 | 61.3 | 2.1 | 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 BackOfQ(50%),veh/ln | 9.3 | 12.8 | 3.6 | 8.1 | 19.8 | 18.7 | 5.7 | 25.2 | 27.7 | 14.3 | 12.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 81.3 | 100.4 | 45.7 | 78.5 | 204.6 | 212.4 | 70.9 | 89.0 | 102.0 | 109.3 | 30.3 | 0.0 |
| LnGrp LOS | F | F | D | E | F | F | E | F | F | F | C | |
| Approach Vol, veh/h | | 997 | | | 902 | | | 2129 | | | 1887 | A |
| Approach Delay, s/veh | | 88.5 | | | 177.1 | | | 91.6 | | | 43.8 | |
| Approach LOS | | F | | | F | | | F | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 25.0 | 46.3 | 20.7 | 24.0 | 16.9 | 54.4 | 22.0 | 22.7 |
| Change Period (Y+Rc), s | 5.0 | 6.0 | 5.0 | 5.0 | 4.5 | 6.0 | 5.0 | 5.0 |
| Max Green Setting (Gmax), s | 20.0 | 40.0 | 16.0 | 19.0 | 15.5 | 45.0 | 17.0 | 17.0 |
| Max Q Clear Time (g_c+I1), s | 22.0 | 42.3 | 15.7 | 21.0 | 12.3 | 31.1 | 17.3 | 19.7 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 10.6 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 88.9 |
| HCM 6th LOS | F |

**Notes**

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

| Lane Group | EBT | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 112 | 139 | 66 | 2338 | 36 | 2060 |
| v/c Ratio | 0.74 | 0.76 | 0.41 | 0.71 | 0.23 | 0.65 |
| Control Delay | 68.8 | 73.9 | 17.4 | 16.9 | 9.6 | 16.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 68.8 | 73.9 | 17.4 | 16.9 | 9.6 | 16.6 |
| Queue Length 50th (ft) | 64 | 96 | 14 | 451 | 8 | 367 |
| Queue Length 95th (ft) | #151 | #191 | 43 | 524 | 18 | 427 |
| Internal Link Dist (ft) | 218 | 764 | | 385 | | 854 |
| Turn Bay Length (ft) | | | 230 | | 215 | |
| Base Capacity (vph) | 158 | 192 | 174 | 3273 | 174 | 3156 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.71 | 0.72 | 0.38 | 0.71 | 0.21 | 0.65 |

Intersection Summary

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

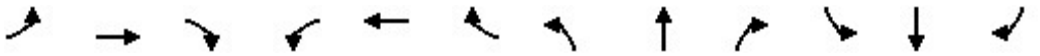
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 49 | 10 | 44 | 91 | 13 | 24 | 61 | 2101 | 50 | 33 | 1837 | 58 |
| Future Volume (vph) | 49 | 10 | 44 | 91 | 13 | 24 | 61 | 2101 | 50 | 33 | 1837 | 58 |
| 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 | 6.0 | | 5.0 | 6.0 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | | 1.00 | 0.91 | | 1.00 | 0.91 | |
| Frt | | 0.94 | | | 0.97 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | 0.98 | | | 0.97 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1749 | | | 1788 | | 1805 | 5169 | | 1805 | 5163 | |
| Flt Permitted | | 0.98 | | | 0.97 | | 0.06 | 1.00 | | 0.06 | 1.00 | |
| Satd. Flow (perm) | | 1749 | | | 1788 | | 106 | 5169 | | 109 | 5163 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 53 | 11 | 48 | 99 | 14 | 26 | 66 | 2284 | 54 | 36 | 1997 | 63 |
| RTOR Reduction (vph) | 0 | 23 | 0 | 0 | 7 | 0 | 0 | 2 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 89 | 0 | 0 | 132 | 0 | 66 | 2336 | 0 | 36 | 2057 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Turn Type | Split | NA | | Split | NA | | pm+pt | NA | | pm+pt | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | 2 | | | 6 | | |
| Actuated Green, G (s) | | 8.5 | | | 11.4 | | 76.6 | 71.4 | | 73.6 | 69.9 | |
| Effective Green, g (s) | | 8.5 | | | 11.4 | | 76.6 | 71.4 | | 73.6 | 69.9 | |
| Actuated g/C Ratio | | 0.07 | | | 0.10 | | 0.66 | 0.62 | | 0.63 | 0.60 | |
| Clearance Time (s) | | 5.0 | | | 5.0 | | 5.0 | 6.0 | | 5.0 | 6.0 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | | 2.5 | 4.0 | | 2.5 | 4.0 | |
| Lane Grp Cap (vph) | | 128 | | | 175 | | 146 | 3181 | | 123 | 3111 | |
| v/s Ratio Prot | | c0.05 | | | c0.07 | | c0.02 | c0.45 | | 0.01 | 0.40 | |
| v/s Ratio Perm | | | | | | | 0.28 | | | 0.18 | | |
| v/c Ratio | | 0.69 | | | 0.75 | | 0.45 | 0.73 | | 0.29 | 0.66 | |
| Uniform Delay, d1 | | 52.5 | | | 50.9 | | 12.6 | 15.6 | | 13.6 | 15.2 | |
| Progression Factor | | 1.00 | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 15.1 | | | 16.6 | | 1.6 | 1.5 | | 1.0 | 1.1 | |
| Delay (s) | | 67.5 | | | 67.6 | | 14.2 | 17.2 | | 14.6 | 16.3 | |
| Level of Service | | E | | | E | | B | B | | B | B | |
| Approach Delay (s) | | 67.5 | | | 67.6 | | | 17.1 | | | 16.3 | |
| Approach LOS | | E | | | E | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 19.4 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 70.1% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 7 | 11 | 441 | 286 | 2147 | 1016 | 380 | 1813 |
| v/c Ratio | 0.09 | 0.06 | 0.82 | 0.39 | 0.94 | 1.00 | 0.90 | 0.49 |
| Control Delay | 56.0 | 0.6 | 61.4 | 18.6 | 40.7 | 43.9 | 69.5 | 7.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 56.0 | 0.6 | 61.4 | 18.6 | 40.7 | 43.9 | 69.5 | 7.9 |
| Queue Length 50th (ft) | 5 | 0 | 160 | 93 | 550 | 456 | 275 | 186 |
| Queue Length 95th (ft) | 21 | 0 | #275 | 188 | #645 | #797 | #492 | 245 |
| Internal Link Dist (ft) | | 123 | | | 241 | | | 150 |
| Turn Bay Length (ft) | | | | 250 | | 230 | 235 | |
| Base Capacity (vph) | 77 | 186 | 538 | 741 | 2282 | 1017 | 421 | 3718 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.06 | 0.82 | 0.39 | 0.94 | 1.00 | 0.90 | 0.49 |

Intersection Summary

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



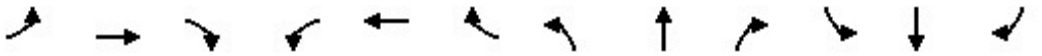
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 0 | 10 | 406 | 0 | 263 | 0 | 1975 | 935 | 350 | 1668 | 0 |
| Future Volume (vph) | 6 | 0 | 10 | 406 | 0 | 263 | 0 | 1975 | 935 | 350 | 1668 | 0 |
| 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 | | 6.0 | 6.0 | 5.0 | 6.0 | |
| Lane Util. Factor | 1.00 | 1.00 | | 0.97 | | 1.00 | | 0.91 | 1.00 | 1.00 | 0.91 | |
| Frt | 1.00 | 0.85 | | 1.00 | | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1805 | 1615 | | 3502 | | 1615 | | 5187 | 1615 | 1805 | 5187 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1805 | 1615 | | 3502 | | 1615 | | 5187 | 1615 | 1805 | 5187 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 7 | 0 | 11 | 441 | 0 | 286 | 0 | 2147 | 1016 | 380 | 1813 | 0 |
| RTOR Reduction (vph) | 0 | 11 | 0 | 0 | 0 | 49 | 0 | 0 | 321 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 7 | 0 | 0 | 441 | 0 | 237 | 0 | 2147 | 695 | 380 | 1813 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Turn Type | Split | NA | | Prot | | pm+ov | | NA | Perm | Prot | NA | |
| Protected Phases | 3 | 3 | | 4 | | 1 | | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 2.0 | 2.0 | | 17.8 | | 44.9 | | 48.1 | 48.1 | 27.1 | 80.2 | |
| Effective Green, g (s) | 2.0 | 2.0 | | 17.8 | | 44.9 | | 48.1 | 48.1 | 27.1 | 80.2 | |
| Actuated g/C Ratio | 0.02 | 0.02 | | 0.15 | | 0.39 | | 0.41 | 0.41 | 0.23 | 0.69 | |
| Clearance Time (s) | 5.0 | 5.0 | | 5.0 | | 5.0 | | 6.0 | 6.0 | 5.0 | 6.0 | |
| Vehicle Extension (s) | 2.5 | 2.5 | | 2.5 | | 2.5 | | 6.0 | 6.0 | 2.5 | 6.0 | |
| Lane Grp Cap (vph) | 31 | 27 | | 537 | | 694 | | 2150 | 669 | 421 | 3586 | |
| v/s Ratio Prot | c0.00 | 0.00 | | c0.13 | | 0.08 | | 0.41 | | c0.21 | 0.35 | |
| v/s Ratio Perm | | | | | | 0.07 | | | c0.43 | | | |
| v/c Ratio | 0.23 | 0.01 | | 0.82 | | 0.34 | | 1.00 | 1.04 | 0.90 | 0.51 | |
| Uniform Delay, d1 | 56.2 | 56.0 | | 47.6 | | 25.1 | | 33.9 | 34.0 | 43.2 | 8.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 2.7 | 0.1 | | 9.6 | | 0.2 | | 19.1 | 45.4 | 22.1 | 0.5 | |
| Delay (s) | 58.9 | 56.1 | | 57.1 | | 25.3 | | 53.0 | 79.3 | 65.3 | 9.0 | |
| Level of Service | E | E | | E | | C | | D | E | E | A | |
| Approach Delay (s) | | 57.2 | | | 44.6 | | | 61.5 | | | 18.8 | |
| Approach LOS | | E | | | D | | | E | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 44.1 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.94 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 94.8% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 331 | 331 | 368 | 34 | 30 | 12 | 2381 | 14 | 2267 |
| v/c Ratio | 0.87 | 0.87 | 0.81 | 0.43 | 0.16 | 0.16 | 0.79 | 0.18 | 0.74 |
| Control Delay | 67.2 | 67.2 | 43.5 | 70.9 | 1.9 | 58.1 | 23.3 | 59.1 | 20.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 67.2 | 67.2 | 43.5 | 70.9 | 1.9 | 58.1 | 23.3 | 59.1 | 20.1 |
| Queue Length 50th (ft) | 248 | 248 | 177 | 25 | 0 | 9 | 470 | 10 | 430 |
| Queue Length 95th (ft) | #407 | #407 | #322 | 59 | 0 | 30 | 661 | 32 | 608 |
| Internal Link Dist (ft) | | 91 | | 125 | | | 466 | | 240 |
| Turn Bay Length (ft) | | | 105 | | 50 | 450 | | 180 | |
| Base Capacity (vph) | 399 | 399 | 469 | 79 | 186 | 77 | 3009 | 77 | 3066 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.83 | 0.83 | 0.78 | 0.43 | 0.16 | 0.16 | 0.79 | 0.18 | 0.74 |

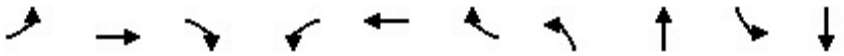
Intersection Summary

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 609 | 0 | 339 | 23 | 8 | 28 | 11 | 2174 | 17 | 13 | 1892 | 193 |
| Future Volume (vph) | 609 | 0 | 339 | 23 | 8 | 28 | 11 | 2174 | 17 | 13 | 1892 | 193 |
| 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 | 6.0 | | 5.0 | 6.0 | |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.91 | | 1.00 | 0.91 | |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 0.95 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1715 | 1715 | 1615 | | 1833 | 1615 | 1805 | 5181 | | 1805 | 5115 | |
| Flt Permitted | 0.95 | 0.95 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1715 | 1715 | 1615 | | 1833 | 1615 | 1805 | 5181 | | 1805 | 5115 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 662 | 0 | 368 | 25 | 9 | 30 | 12 | 2363 | 18 | 14 | 2057 | 210 |
| RTOR Reduction (vph) | 0 | 0 | 95 | 0 | 0 | 29 | 0 | 0 | 0 | 0 | 9 | 0 |
| Lane Group Flow (vph) | 331 | 331 | 273 | 0 | 34 | 1 | 12 | 2381 | 0 | 14 | 2258 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | | | | |
| Actuated Green, G (s) | 25.6 | 25.6 | 25.6 | | 4.0 | 4.0 | 1.0 | 63.4 | | 2.0 | 64.4 | |
| Effective Green, g (s) | 25.6 | 25.6 | 25.6 | | 4.0 | 4.0 | 1.0 | 63.4 | | 2.0 | 64.4 | |
| Actuated g/C Ratio | 0.22 | 0.22 | 0.22 | | 0.03 | 0.03 | 0.01 | 0.55 | | 0.02 | 0.56 | |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 6.0 | | 5.0 | 6.0 | |
| Vehicle Extension (s) | 2.5 | 2.5 | 2.5 | | 2.5 | 2.5 | 2.5 | 6.0 | | 2.5 | 6.0 | |
| Lane Grp Cap (vph) | 378 | 378 | 356 | | 63 | 55 | 15 | 2831 | | 31 | 2839 | |
| v/s Ratio Prot | c0.19 | 0.19 | | | c0.02 | | 0.01 | c0.46 | | c0.01 | 0.44 | |
| v/s Ratio Perm | | | 0.17 | | | 0.00 | | | | | | |
| v/c Ratio | 0.88 | 0.88 | 0.77 | | 0.54 | 0.02 | 0.80 | 0.84 | | 0.45 | 0.80 | |
| Uniform Delay, d1 | 43.7 | 43.7 | 42.4 | | 55.1 | 54.1 | 57.4 | 22.1 | | 56.5 | 20.5 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 19.5 | 19.5 | 9.1 | | 6.7 | 0.1 | 129.7 | 3.2 | | 7.4 | 2.4 | |
| Delay (s) | 63.2 | 63.2 | 51.5 | | 61.8 | 54.2 | 187.1 | 25.3 | | 63.9 | 22.9 | |
| Level of Service | E | E | D | | E | D | F | C | | E | C | |
| Approach Delay (s) | | 59.0 | | | 58.3 | | | 26.1 | | | 23.2 | |
| Approach LOS | | E | | | E | | | C | | | C | |

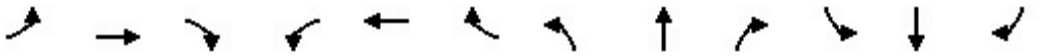
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 31.2 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.83 | | |
| Actuated Cycle Length (s) | 116.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 79.3% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 265 | 943 | 142 | 141 | 728 | 358 | 272 | 1039 | 448 | 985 |
| v/c Ratio | 0.68 | 0.61 | 0.18 | 0.52 | 0.78 | 0.42 | 0.70 | 0.88 | 0.87 | 0.70 |
| Control Delay | 58.9 | 36.9 | 5.9 | 58.9 | 46.4 | 12.3 | 60.5 | 52.3 | 67.7 | 40.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 58.9 | 36.9 | 5.9 | 58.9 | 46.4 | 12.3 | 60.5 | 52.3 | 67.7 | 40.0 |
| Queue Length 50th (ft) | 101 | 217 | 16 | 54 | 262 | 86 | 104 | 279 | 173 | 238 |
| Queue Length 95th (ft) | 141 | 266 | 49 | 85 | 341 | 170 | 147 | #374 | #284 | #310 |
| Internal Link Dist (ft) | | 437 | | | 433 | | | 569 | | 731 |
| Turn Bay Length (ft) | 415 | | 350 | 300 | | | 400 | | 550 | |
| Base Capacity (vph) | 596 | 1625 | 831 | 360 | 952 | 844 | 455 | 1179 | 515 | 1407 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.44 | 0.58 | 0.17 | 0.39 | 0.76 | 0.42 | 0.60 | 0.88 | 0.87 | 0.70 |

Intersection Summary

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 246 | 877 | 132 | 131 | 677 | 333 | 253 | 797 | 169 | 417 | 675 | 241 |
| Future Volume (veh/h) | 246 | 877 | 132 | 131 | 677 | 333 | 253 | 797 | 169 | 417 | 675 | 241 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1856 | 1870 | 1885 | 1885 | 1870 | 1870 | 1885 | 1885 | 1885 |
| Adj Flow Rate, veh/h | 265 | 943 | 142 | 141 | 728 | 358 | 272 | 857 | 182 | 448 | 726 | 259 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 3 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 1 |
| Cap, veh/h | 329 | 1386 | 582 | 201 | 836 | 585 | 333 | 1285 | 271 | 458 | 1278 | 450 |
| Arrive On Green | 0.10 | 0.27 | 0.27 | 0.06 | 0.24 | 0.24 | 0.10 | 0.30 | 0.30 | 0.13 | 0.34 | 0.34 |
| Sat Flow, veh/h | 3456 | 5106 | 1585 | 3428 | 3554 | 1598 | 3483 | 4221 | 891 | 3483 | 3753 | 1322 |
| Grp Volume(v), veh/h | 265 | 943 | 142 | 141 | 728 | 358 | 272 | 690 | 349 | 448 | 663 | 322 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1585 | 1714 | 1777 | 1598 | 1742 | 1702 | 1708 | 1742 | 1716 | 1644 |
| Q Serve(g_s), s | 8.9 | 19.5 | 7.4 | 4.8 | 23.3 | 21.6 | 9.0 | 20.9 | 21.1 | 15.1 | 18.6 | 19.0 |
| Cycle Q Clear(g_c), s | 8.9 | 19.5 | 7.4 | 4.8 | 23.3 | 21.6 | 9.0 | 20.9 | 21.1 | 15.1 | 18.6 | 19.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.52 | 1.00 | | 0.80 |
| Lane Grp Cap(c), veh/h | 329 | 1386 | 582 | 201 | 836 | 585 | 333 | 1037 | 520 | 458 | 1168 | 560 |
| V/C Ratio(X) | 0.81 | 0.68 | 0.24 | 0.70 | 0.87 | 0.61 | 0.82 | 0.67 | 0.67 | 0.98 | 0.57 | 0.58 |
| Avail Cap(c_a), veh/h | 600 | 1601 | 648 | 363 | 864 | 598 | 458 | 1037 | 520 | 458 | 1168 | 560 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 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 | 52.3 | 38.4 | 26.0 | 54.5 | 43.4 | 30.5 | 52.4 | 35.8 | 35.9 | 51.1 | 31.8 | 31.9 |
| Incr Delay (d2), s/veh | 1.8 | 1.3 | 0.4 | 1.7 | 10.0 | 2.4 | 5.8 | 3.4 | 6.7 | 36.4 | 2.0 | 4.3 |
| 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 BackOfQ(50%),veh/ln | 3.9 | 8.3 | 2.8 | 2.1 | 11.3 | 8.6 | 4.2 | 9.1 | 9.7 | 8.9 | 8.0 | 8.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 54.1 | 39.7 | 26.3 | 56.2 | 53.4 | 32.9 | 58.1 | 39.2 | 42.6 | 87.5 | 33.8 | 36.2 |
| LnGrp LOS | D | D | C | E | D | C | E | D | D | F | C | D |
| Approach Vol, veh/h | | 1350 | | | 1227 | | | 1311 | | | 1433 | |
| Approach Delay, s/veh | | 41.1 | | | 47.7 | | | 44.0 | | | 51.1 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.0 | 43.2 | 13.4 | 39.3 | 17.8 | 47.5 | 17.7 | 35.0 |
| Change Period (Y+Rc), s | 6.5 | * 7.3 | 6.5 | * 7.3 | 6.5 | * 7.3 | 6.5 | 7.3 |
| Max Green Setting (Gmax), s | 15.5 | * 26 | 12.5 | * 37 | 15.5 | * 26 | 20.5 | 28.7 |
| Max Q Clear Time (g_c+I1), s | 17.1 | 23.1 | 6.8 | 21.5 | 11.0 | 21.0 | 10.9 | 25.3 |
| Green Ext Time (p_c), s | 0.0 | 2.3 | 0.1 | 9.0 | 0.2 | 3.3 | 0.4 | 2.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 46.1 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBR | WBL | WBT | WBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 369 | 285 | 81 | 5 | 33 | 227 | 1128 | 1005 | 76 |
| v/c Ratio | 0.74 | 0.49 | 0.49 | no cap | 0.13 | 0.81 | 0.50 | 0.79 | 0.07 |
| Control Delay | 57.5 | 13.4 | 60.8 | | 1.1 | 70.6 | 13.2 | 36.6 | 2.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 57.5 | 13.4 | 60.8 | Error | 1.1 | 70.6 | 13.2 | 36.6 | 2.8 |
| Queue Length 50th (ft) | 138 | 61 | 59 | 0 | 0 | 165 | 243 | 376 | 1 |
| Queue Length 95th (ft) | 190 | 114 | 110 | 0 | 0 | #286 | 316 | #521 | 21 |
| Internal Link Dist (ft) | | | | 482 | | | 335 | 653 | |
| Turn Bay Length (ft) | | 275 | | | 50 | 210 | | | 115 |
| Base Capacity (vph) | 543 | 607 | 206 | 1 | 280 | 301 | 2275 | 1267 | 1069 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.68 | 0.47 | 0.39 | 5.00 | 0.12 | 0.75 | 0.50 | 0.79 | 0.07 |

Intersection Summary

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 351 | 0 | 271 | 82 | 0 | 31 | 216 | 1010 | 62 | 48 | 906 | 72 |
| Future Volume (vph) | 351 | 0 | 271 | 82 | 0 | 31 | 216 | 1010 | 62 | 48 | 906 | 72 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.5 | | 5.5 | 5.5 | | 5.5 | 5.5 | 6.0 | | | 6.0 | 5.5 |
| Lane Util. Factor | 0.97 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.95 | | | 0.95 | 1.00 |
| Frt | 1.00 | | 0.85 | 1.00 | | 0.85 | 1.00 | 0.99 | | | 1.00 | 0.85 |
| Flt Protected | 0.95 | | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (prot) | 3467 | | 1599 | 1805 | | 1455 | 1787 | 3545 | | | 3601 | 1615 |
| Flt Permitted | 0.95 | | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | | | 0.80 | 1.00 |
| Satd. Flow (perm) | 3467 | | 1599 | 1805 | | 1455 | 1787 | 3545 | | | 2891 | 1615 |
| 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) | 369 | 0 | 285 | 86 | 0 | 33 | 227 | 1063 | 65 | 51 | 954 | 76 |
| RTOR Reduction (vph) | 0 | 0 | 86 | 0 | 0 | 30 | 0 | 3 | 0 | 0 | 0 | 32 |
| Lane Group Flow (vph) | 369 | 0 | 199 | 86 | 0 | 3 | 227 | 1125 | 0 | 0 | 1005 | 44 |
| Heavy Vehicles (%) | 1% | 0% | 1% | 0% | 0% | 11% | 1% | 1% | 0% | 0% | 0% | 0% |
| Turn Type | Prot | | pt+ov | Prot | | Prot | Prot | NA | | Perm | NA | pt+ov |
| Protected Phases | 3 | | 3 5 | 4 | | 4 | 5 | 2 | | | 6 | 3 6 |
| Permitted Phases | | | | | | | | | | 6 | | |
| Actuated Green, G (s) | 17.1 | | 35.5 | 9.5 | | 9.5 | 18.4 | 74.4 | | | 50.5 | 73.6 |
| Effective Green, g (s) | 17.1 | | 35.5 | 9.5 | | 9.5 | 18.4 | 74.4 | | | 50.5 | 67.6 |
| Actuated g/C Ratio | 0.14 | | 0.30 | 0.08 | | 0.08 | 0.16 | 0.63 | | | 0.43 | 0.57 |
| Clearance Time (s) | 5.5 | | | 5.5 | | 5.5 | 5.5 | 6.0 | | | 6.0 | |
| Vehicle Extension (s) | 3.5 | | | 3.5 | | 3.5 | 3.0 | 7.0 | | | 7.0 | |
| Lane Grp Cap (vph) | 502 | | 481 | 145 | | 117 | 278 | 2235 | | | 1237 | 925 |
| v/s Ratio Prot | c0.11 | | 0.12 | c0.05 | | 0.00 | c0.13 | 0.32 | | | | 0.03 |
| v/s Ratio Perm | | | | | | | | | | | c0.35 | |
| v/c Ratio | 0.74 | | 0.41 | 0.59 | | 0.02 | 0.82 | 0.50 | | | 0.81 | 0.05 |
| Uniform Delay, d1 | 48.3 | | 32.9 | 52.4 | | 50.0 | 48.2 | 11.8 | | | 29.6 | 11.1 |
| Progression Factor | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Incremental Delay, d2 | 5.7 | | 0.7 | 6.7 | | 0.1 | 16.7 | 0.8 | | | 5.9 | 0.0 |
| Delay (s) | 54.0 | | 33.6 | 59.1 | | 50.1 | 64.9 | 12.6 | | | 35.5 | 11.1 |
| Level of Service | D | | C | E | | D | E | B | | | D | B |
| Approach Delay (s) | | 45.1 | | | 56.6 | | | 21.4 | | | 33.8 | |
| Approach LOS | | D | | | E | | | C | | | C | |

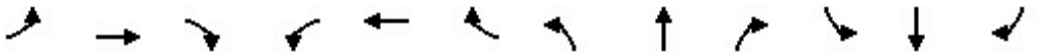
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 31.7 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.78 | | |
| Actuated Cycle Length (s) | 118.0 | Sum of lost time (s) | 22.5 |
| Intersection Capacity Utilization | 80.9% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 153 | 893 | 107 | 447 | 435 | 610 | 214 | 534 | 468 | 112 |
| v/c Ratio | 0.89 | 0.96 | 0.72 | 0.51 | 0.61 | 0.83 | 0.45 | 1.19 | 0.51 | 0.23 |
| Control Delay | 103.5 | 68.3 | 84.8 | 44.6 | 7.7 | 59.9 | 11.2 | 148.8 | 44.0 | 6.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 103.5 | 68.3 | 84.8 | 44.6 | 7.7 | 59.9 | 11.2 | 148.8 | 44.0 | 6.0 |
| Queue Length 50th (ft) | 129 | 391 | 89 | 172 | 0 | 261 | 14 | ~542 | 178 | 0 |
| Queue Length 95th (ft) | #256 | #527 | #179 | 227 | 91 | #335 | 85 | #765 | 234 | 39 |
| Internal Link Dist (ft) | | 442 | | 279 | | 310 | | | 329 | |
| Turn Bay Length (ft) | 210 | | 80 | | | | | 150 | | 150 |
| Base Capacity (vph) | 176 | 931 | 149 | 879 | 710 | 738 | 477 | 448 | 915 | 496 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.87 | 0.96 | 0.72 | 0.51 | 0.61 | 0.83 | 0.45 | 1.19 | 0.51 | 0.23 |

Intersection Summary

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

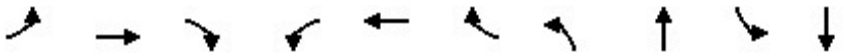
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 150 | 822 | 53 | 105 | 438 | 426 | 67 | 531 | 210 | 523 | 459 | 110 |
| Future Volume (vph) | 150 | 822 | 53 | 105 | 438 | 426 | 67 | 531 | 210 | 523 | 459 | 110 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 5.0 | | 5.8 | 5.0 | 5.0 | | 7.1 | 7.1 | 7.0 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 0.98 | | 1.00 | 0.99 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1805 | 3541 | | 1736 | 3539 | 1544 | | 3558 | 1560 | 1770 | 3610 | 1589 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1805 | 3541 | | 1736 | 3539 | 1544 | | 3558 | 1560 | 1770 | 3610 | 1589 |
| 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 | 0.98 |
| Adj. Flow (vph) | 153 | 839 | 54 | 107 | 447 | 435 | 68 | 542 | 214 | 534 | 468 | 112 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 0 | 327 | 0 | 0 | 154 | 0 | 0 | 84 |
| Lane Group Flow (vph) | 153 | 889 | 0 | 107 | 447 | 108 | 0 | 610 | 60 | 534 | 468 | 28 |
| Confl. Peds. (#/hr) | 2 | | 1 | 1 | | 2 | 3 | | 2 | 2 | | 3 |
| Heavy Vehicles (%) | 0% | 1% | 0% | 4% | 2% | 3% | 0% | 1% | 2% | 2% | 0% | 0% |
| Turn Type | Prot | NA | | Prot | NA | Perm | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 1 | | 2 | 2 | |
| Permitted Phases | | | | | | 4 | | | 1 | | | 2 |
| Actuated Green, G (s) | 12.4 | 34.1 | | 11.1 | 32.3 | 32.3 | | 27.0 | 27.0 | 33.0 | 33.0 | 33.0 |
| Effective Green, g (s) | 12.4 | 34.1 | | 11.1 | 32.3 | 32.3 | | 27.0 | 27.0 | 33.0 | 33.0 | 33.0 |
| Actuated g/C Ratio | 0.10 | 0.26 | | 0.09 | 0.25 | 0.25 | | 0.21 | 0.21 | 0.25 | 0.25 | 0.25 |
| Clearance Time (s) | 6.3 | 5.0 | | 5.8 | 5.0 | 5.0 | | 7.1 | 7.1 | 7.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 0.2 | 0.2 | | 0.2 | 0.2 | 0.2 | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Lane Grp Cap (vph) | 172 | 928 | | 148 | 878 | 383 | | 738 | 323 | 448 | 915 | 403 |
| v/s Ratio Prot | c0.08 | c0.25 | | 0.06 | 0.13 | | | c0.17 | | c0.30 | 0.13 | |
| v/s Ratio Perm | | | | | | 0.07 | | | 0.04 | | | 0.02 |
| v/c Ratio | 0.89 | 0.96 | | 0.72 | 0.51 | 0.28 | | 0.83 | 0.19 | 1.19 | 0.51 | 0.07 |
| Uniform Delay, d1 | 58.2 | 47.3 | | 58.0 | 42.1 | 39.5 | | 49.3 | 42.5 | 48.5 | 41.6 | 36.9 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 37.6 | 21.0 | | 13.7 | 2.1 | 1.8 | | 10.3 | 1.3 | 106.6 | 2.0 | 0.3 |
| Delay (s) | 95.8 | 68.3 | | 71.7 | 44.2 | 41.4 | | 59.6 | 43.8 | 155.2 | 43.7 | 37.2 |
| Level of Service | F | E | | E | D | D | | E | D | F | D | D |
| Approach Delay (s) | | 72.3 | | | 45.9 | | | 55.5 | | | 96.5 | |
| Approach LOS | | E | | | D | | | E | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 69.0 | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | 1.01 | | |
| Actuated Cycle Length (s) | 130.1 | Sum of lost time (s) | 25.4 |
| Intersection Capacity Utilization | 105.8% | ICU Level of Service | G |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

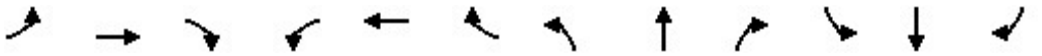


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 306 | 995 | 138 | 350 | 843 | 215 | 98 | 1229 | 265 | 871 |
| v/c Ratio | 0.98 | 1.50 | 0.31 | 1.01 | 1.21 | 0.36 | 0.66 | 1.19 | 0.91 | 0.71 |
| Control Delay | 92.1 | 265.0 | 4.7 | 96.2 | 148.1 | 16.6 | 70.9 | 130.0 | 82.6 | 35.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 92.1 | 265.0 | 4.7 | 96.2 | 148.1 | 16.6 | 70.9 | 130.0 | 82.6 | 35.2 |
| Queue Length 50th (ft) | 247 | ~556 | 0 | ~261 | ~397 | 65 | 70 | ~534 | 192 | 283 |
| Queue Length 95th (ft) | #443 | #692 | 31 | #454 | #524 | 125 | 127 | #672 | #342 | 361 |
| Internal Link Dist (ft) | | 455 | | | 617 | | | 1015 | | 812 |
| Turn Bay Length (ft) | 225 | | 135 | 285 | | 165 | 210 | | 450 | |
| Base Capacity (vph) | 313 | 665 | 450 | 348 | 696 | 614 | 174 | 1029 | 300 | 1224 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.98 | 1.50 | 0.31 | 1.01 | 1.21 | 0.35 | 0.56 | 1.19 | 0.88 | 0.71 |

Intersection Summary

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

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 313 | 884 | 127 | 322 | 776 | 198 | 90 | 637 | 494 | 244 | 624 | 178 |
| Future Volume (vph) | 313 | 884 | 127 | 322 | 776 | 198 | 90 | 637 | 494 | 244 | 624 | 178 |
| 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 | 6.0 | | 5.0 | 6.0 | |
| Lane Util. Factor | 0.91 | 0.91 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | | 1.00 | 0.97 | |
| 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) | 1626 | 3451 | 1615 | 1805 | 3610 | 1572 | 1805 | 3373 | | 1805 | 3465 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1626 | 3451 | 1615 | 1805 | 3610 | 1572 | 1805 | 3373 | | 1805 | 3465 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 340 | 961 | 138 | 350 | 843 | 215 | 98 | 692 | 537 | 265 | 678 | 193 |
| RTOR Reduction (vph) | 0 | 0 | 111 | 0 | 0 | 50 | 0 | 122 | 0 | 0 | 22 | 0 |
| Lane Group Flow (vph) | 306 | 995 | 27 | 350 | 843 | 165 | 98 | 1107 | 0 | 265 | 849 | 0 |
| Confl. Peds. (#/hr) | 1 | | | | | 1 | 1 | | | | | 1 |
| Heavy Vehicles (%) | 1% | 0% | 0% | 0% | 0% | 2% | 0% | 0% | 0% | 0% | 0% | 2% |
| Turn Type | Split | NA | Perm | Split | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 3 | 3 | | 4 | 4 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 3 | | | 4 | | | | | | |
| Actuated Green, G (s) | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 40.3 | 9.5 | 30.7 | | 18.3 | 39.5 | |
| Effective Green, g (s) | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 40.3 | 9.5 | 30.7 | | 18.3 | 39.5 | |
| Actuated g/C Ratio | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.35 | 0.08 | 0.27 | | 0.16 | 0.35 | |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 6.0 | | 5.0 | 6.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 6.0 | | 2.0 | 6.0 | |
| Lane Grp Cap (vph) | 313 | 665 | 311 | 348 | 696 | 624 | 150 | 908 | | 289 | 1200 | |
| v/s Ratio Prot | 0.19 | c0.29 | | 0.19 | c0.23 | 0.04 | 0.05 | c0.33 | | c0.15 | 0.24 | |
| v/s Ratio Perm | | | 0.02 | | | 0.06 | | | | | | |
| v/c Ratio | 0.98 | 1.50 | 0.09 | 1.01 | 1.21 | 0.26 | 0.65 | 1.22 | | 0.92 | 0.71 | |
| Uniform Delay, d1 | 45.8 | 46.0 | 37.7 | 46.0 | 46.0 | 26.3 | 50.7 | 41.6 | | 47.1 | 32.2 | |
| 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 | 44.3 | 231.2 | 0.1 | 49.7 | 108.1 | 0.1 | 7.5 | 108.6 | | 31.3 | 3.5 | |
| Delay (s) | 90.1 | 277.2 | 37.9 | 95.7 | 154.1 | 26.4 | 58.2 | 150.3 | | 78.4 | 35.8 | |
| Level of Service | F | F | D | F | F | C | E | F | | E | D | |
| Approach Delay (s) | | 214.4 | | | 120.1 | | | 143.5 | | | 45.7 | |
| Approach LOS | | F | | | F | | | F | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 135.6 | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | 1.22 | | |
| Actuated Cycle Length (s) | 114.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 110.4% | ICU Level of Service | H |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 1599 | 327 | 1003 | 463 | 435 |
| v/c Ratio | 1.01 | 1.00 | 0.43 | 0.96 | 0.65 |
| Control Delay | 58.1 | 87.2 | 11.5 | 78.0 | 15.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 58.1 | 87.2 | 11.5 | 78.0 | 15.9 |
| Queue Length 50th (ft) | ~684 | 218 | 195 | 376 | 76 |
| Queue Length 95th (ft) | #859 | #416 | 237 | #589 | 196 |
| Internal Link Dist (ft) | 202 | | 219 | 505 | |
| Turn Bay Length (ft) | | | | 90 | |
| Base Capacity (vph) | 1589 | 328 | 2345 | 483 | 667 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.01 | 1.00 | 0.43 | 0.96 | 0.65 |

Intersection Summary

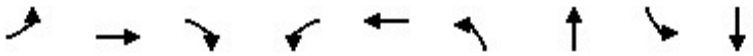
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1191 | 280 | 301 | 923 | 426 | 400 |
| Future Volume (vph) | 1191 | 280 | 301 | 923 | 426 | 400 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.5 | | 5.5 | 5.5 | 5.0 | 5.0 |
| Lane Util. Factor | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.97 | | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 1.00 | | 0.95 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 3451 | | 1805 | 3610 | 1805 | 1615 |
| Flt Permitted | 1.00 | | 0.06 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 3451 | | 119 | 3610 | 1805 | 1615 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1295 | 304 | 327 | 1003 | 463 | 435 |
| RTOR Reduction (vph) | 12 | 0 | 0 | 0 | 0 | 235 |
| Lane Group Flow (vph) | 1587 | 0 | 327 | 1003 | 463 | 200 |
| Confl. Peds. (#/hr) | | | | | 1 | |
| Heavy Vehicles (%) | 2% | 0% | 0% | 0% | 0% | 0% |
| Turn Type | NA | | pm+pt | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 4 | |
| Permitted Phases | | | 6 | | | 4 |
| Actuated Green, G (s) | 58.1 | | 82.5 | 82.5 | 34.0 | 34.0 |
| Effective Green, g (s) | 58.1 | | 82.5 | 82.5 | 34.0 | 34.0 |
| Actuated g/C Ratio | 0.46 | | 0.65 | 0.65 | 0.27 | 0.27 |
| Clearance Time (s) | 5.5 | | 5.5 | 5.5 | 5.0 | 5.0 |
| Vehicle Extension (s) | 6.0 | | 3.0 | 6.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 1578 | | 328 | 2345 | 483 | 432 |
| v/s Ratio Prot | 0.46 | | c0.15 | 0.28 | c0.26 | |
| v/s Ratio Perm | | | c0.50 | | | 0.12 |
| v/c Ratio | 1.01 | | 1.00 | 0.43 | 0.96 | 0.46 |
| Uniform Delay, d1 | 34.5 | | 43.8 | 10.8 | 45.8 | 38.9 |
| Progression Factor | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 24.1 | | 48.5 | 0.4 | 30.3 | 0.8 |
| Delay (s) | 58.5 | | 92.3 | 11.2 | 76.1 | 39.7 |
| Level of Service | E | | F | B | E | D |
| Approach Delay (s) | 58.5 | | | 31.1 | 58.4 | |
| Approach LOS | E | | | C | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 49.0 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 1.04 | | |
| Actuated Cycle Length (s) | 127.0 | Sum of lost time (s) | 19.0 |
| Intersection Capacity Utilization | 95.5% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

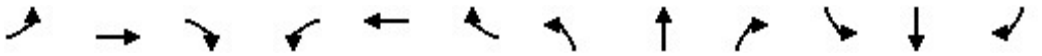


| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 434 | 380 | 243 | 185 | 499 | 224 | 1000 | 77 | 915 |
| v/c Ratio | 1.09 | 0.61 | 0.35 | 0.53 | 1.14 | 0.96 | 0.94 | 0.34 | 0.85 |
| Control Delay | 106.0 | 39.0 | 5.2 | 27.6 | 130.2 | 100.7 | 57.1 | 52.4 | 45.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 106.0 | 39.0 | 5.2 | 27.6 | 130.2 | 100.7 | 57.1 | 52.4 | 45.4 |
| Queue Length 50th (ft) | ~329 | 249 | 0 | 86 | ~452 | 175 | 388 | 55 | 328 |
| Queue Length 95th (ft) | #535 | 356 | 57 | 136 | #667 | #332 | #526 | 104 | 413 |
| Internal Link Dist (ft) | | 244 | | | 266 | | 277 | | 252 |
| Turn Bay Length (ft) | 240 | | | 75 | | 260 | | 200 | |
| Base Capacity (vph) | 397 | 622 | 692 | 362 | 436 | 234 | 1061 | 265 | 1087 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.09 | 0.61 | 0.35 | 0.51 | 1.14 | 0.96 | 0.94 | 0.29 | 0.84 |

Intersection Summary

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

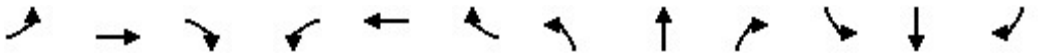
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 404 | 353 | 226 | 172 | 402 | 62 | 208 | 784 | 146 | 72 | 589 | 262 |
| Future Volume (veh/h) | 404 | 353 | 226 | 172 | 402 | 62 | 208 | 784 | 146 | 72 | 589 | 262 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1900 | 1885 | 1885 | 1900 | 1900 | 1900 | 1885 | 1870 | 1870 | 1900 | 1856 | 1856 |
| Adj Flow Rate, veh/h | 434 | 380 | 243 | 185 | 432 | 67 | 224 | 843 | 157 | 77 | 633 | 282 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 2 | 2 | 0 | 3 | 3 |
| Cap, veh/h | 398 | 618 | 523 | 358 | 377 | 58 | 239 | 884 | 165 | 230 | 707 | 315 |
| Arrive On Green | 0.19 | 0.33 | 0.33 | 0.09 | 0.23 | 0.23 | 0.13 | 0.30 | 0.30 | 0.13 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1810 | 1885 | 1598 | 1810 | 1606 | 249 | 1795 | 2990 | 557 | 1810 | 2372 | 1056 |
| Grp Volume(v), veh/h | 434 | 380 | 243 | 185 | 0 | 499 | 224 | 501 | 499 | 77 | 470 | 445 |
| Grp Sat Flow(s),veh/h/ln | 1810 | 1885 | 1598 | 1810 | 0 | 1855 | 1795 | 1777 | 1770 | 1810 | 1763 | 1665 |
| Q Serve(g_s), s | 22.0 | 20.0 | 14.2 | 9.0 | 0.0 | 27.7 | 14.6 | 32.7 | 32.7 | 4.6 | 30.2 | 30.2 |
| Cycle Q Clear(g_c), s | 22.0 | 20.0 | 14.2 | 9.0 | 0.0 | 27.7 | 14.6 | 32.7 | 32.7 | 4.6 | 30.2 | 30.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.13 | 1.00 | | 0.31 | 1.00 | | 0.63 |
| Lane Grp Cap(c), veh/h | 398 | 618 | 523 | 358 | 0 | 435 | 239 | 525 | 523 | 230 | 526 | 497 |
| V/C Ratio(X) | 1.09 | 0.62 | 0.46 | 0.52 | 0.00 | 1.15 | 0.94 | 0.95 | 0.95 | 0.34 | 0.90 | 0.90 |
| Avail Cap(c_a), veh/h | 398 | 618 | 523 | 358 | 0 | 435 | 239 | 525 | 523 | 270 | 554 | 523 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.2 | 33.4 | 31.5 | 30.2 | 0.0 | 45.2 | 50.7 | 40.8 | 40.8 | 47.0 | 39.7 | 39.7 |
| Incr Delay (d2), s/veh | 71.7 | 1.8 | 0.6 | 0.6 | 0.0 | 89.9 | 41.1 | 28.1 | 28.2 | 1.2 | 17.0 | 17.8 |
| 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 BackOfQ(50%),veh/ln | 15.8 | 9.4 | 5.6 | 4.0 | 0.0 | 23.5 | 9.3 | 18.2 | 18.2 | 2.1 | 15.4 | 14.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 107.9 | 35.3 | 32.1 | 30.8 | 0.0 | 135.1 | 91.8 | 68.9 | 69.0 | 48.2 | 56.7 | 57.5 |
| LnGrp LOS | F | D | C | C | A | F | F | E | E | D | E | E |
| Approach Vol, veh/h | | 1057 | | | 684 | | | 1224 | | | 992 | |
| Approach Delay, s/veh | | 64.4 | | | 106.9 | | | 73.2 | | | 56.4 | |
| Approach LOS | | E | | | F | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.0 | 39.9 | 15.0 | 43.2 | 19.7 | 40.2 | 26.0 | 32.2 |
| Change Period (Y+Rc), s | 5.0 | 5.0 | 4.0 | 4.5 | 4.0 | 5.0 | 4.0 | 4.5 |
| Max Green Setting (Gmax), s | 17.6 | 34.2 | 11.0 | 38.7 | 15.7 | 37.1 | 22.0 | 27.7 |
| Max Q Clear Time (g_c+I1), s | 6.6 | 34.7 | 11.0 | 22.0 | 16.6 | 32.2 | 24.0 | 29.7 |
| Green Ext Time (p_c), s | 0.2 | 0.0 | 0.0 | 2.9 | 0.0 | 3.0 | 0.0 | 0.0 |

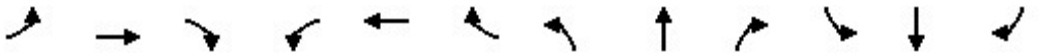
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 72.4 |
| HCM 6th LOS | E |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 279 | 932 | 46 | 202 | 815 | 129 | 87 | 533 | 254 | 70 | 292 | 208 |
| v/c Ratio | 0.82 | 0.75 | 0.07 | 0.68 | 0.68 | 0.20 | 0.22 | 0.60 | 0.44 | 0.24 | 0.33 | 0.38 |
| Control Delay | 35.9 | 26.4 | 0.2 | 26.0 | 24.9 | 4.6 | 16.3 | 27.3 | 5.9 | 16.8 | 23.7 | 5.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 35.9 | 26.4 | 0.2 | 26.0 | 24.9 | 4.6 | 16.3 | 27.3 | 5.9 | 16.8 | 23.7 | 5.8 |
| Queue Length 50th (ft) | 72 | 200 | 0 | 49 | 171 | 0 | 26 | 116 | 0 | 20 | 59 | 0 |
| Queue Length 95th (ft) | #213 | 292 | 0 | #143 | 252 | 33 | 53 | 164 | 52 | 45 | 92 | 47 |
| Internal Link Dist (ft) | | 568 | | | 685 | | | 340 | | | 433 | |
| Turn Bay Length (ft) | 225 | | 200 | 400 | | 305 | 230 | | 190 | 330 | | 275 |
| Base Capacity (vph) | 341 | 1358 | 690 | 299 | 1317 | 681 | 395 | 1200 | 695 | 290 | 1188 | 670 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.82 | 0.69 | 0.07 | 0.68 | 0.62 | 0.19 | 0.22 | 0.44 | 0.37 | 0.24 | 0.25 | 0.31 |

Intersection Summary

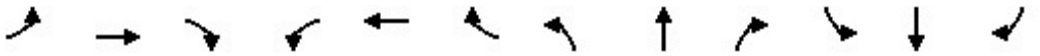
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 271 | 904 | 45 | 196 | 791 | 125 | 84 | 517 | 246 | 68 | 283 | 202 |
| Future Volume (veh/h) | 271 | 904 | 45 | 196 | 791 | 125 | 84 | 517 | 246 | 68 | 283 | 202 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1900 | 1885 | 1900 | 1900 | 1885 | 1900 | 1870 | 1900 | 1870 | 1900 | 1885 | 1885 |
| Adj Flow Rate, veh/h | 279 | 932 | 46 | 202 | 815 | 129 | 87 | 533 | 254 | 70 | 292 | 208 |
| 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 |
| Percent Heavy Veh, % | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 2 | 0 | 1 | 1 |
| Cap, veh/h | 410 | 1254 | 563 | 363 | 1174 | 527 | 342 | 833 | 366 | 257 | 788 | 352 |
| Arrive On Green | 0.12 | 0.35 | 0.35 | 0.10 | 0.33 | 0.33 | 0.05 | 0.23 | 0.23 | 0.04 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1810 | 3582 | 1609 | 1810 | 3582 | 1609 | 1781 | 3610 | 1585 | 1810 | 3582 | 1598 |
| Grp Volume(v), veh/h | 279 | 932 | 46 | 202 | 815 | 129 | 87 | 533 | 254 | 70 | 292 | 208 |
| Grp Sat Flow(s),veh/h/ln | 1810 | 1791 | 1609 | 1810 | 1791 | 1609 | 1781 | 1805 | 1585 | 1810 | 1791 | 1598 |
| Q Serve(g_s), s | 6.5 | 14.9 | 1.3 | 4.7 | 12.9 | 3.8 | 2.4 | 8.7 | 9.6 | 1.9 | 4.5 | 7.6 |
| Cycle Q Clear(g_c), s | 6.5 | 14.9 | 1.3 | 4.7 | 12.9 | 3.8 | 2.4 | 8.7 | 9.6 | 1.9 | 4.5 | 7.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 410 | 1254 | 563 | 363 | 1174 | 527 | 342 | 833 | 366 | 257 | 788 | 352 |
| V/C Ratio(X) | 0.68 | 0.74 | 0.08 | 0.56 | 0.69 | 0.24 | 0.25 | 0.64 | 0.69 | 0.27 | 0.37 | 0.59 |
| Avail Cap(c_a), veh/h | 410 | 1442 | 648 | 381 | 1398 | 628 | 396 | 1271 | 558 | 331 | 1261 | 562 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 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 | 14.0 | 18.7 | 14.2 | 14.2 | 19.1 | 16.0 | 18.3 | 22.7 | 23.0 | 19.0 | 21.6 | 22.8 |
| Incr Delay (d2), s/veh | 4.5 | 2.3 | 0.1 | 1.6 | 1.6 | 0.4 | 0.4 | 0.8 | 2.4 | 0.6 | 0.3 | 1.6 |
| 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 BackOfQ(50%),veh/ln | 2.8 | 6.0 | 0.4 | 1.9 | 5.2 | 1.4 | 1.0 | 3.6 | 3.6 | 0.8 | 1.8 | 2.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 18.5 | 20.9 | 14.3 | 15.8 | 20.7 | 16.5 | 18.7 | 23.5 | 25.4 | 19.5 | 21.9 | 24.4 |
| LnGrp LOS | B | C | B | B | C | B | B | C | C | B | C | C |
| Approach Vol, veh/h | | 1257 | | | 1146 | | | 874 | | | 570 | |
| Approach Delay, s/veh | | 20.1 | | | 19.4 | | | 23.6 | | | 22.5 | |
| Approach LOS | | C | | | B | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.6 | 27.9 | 6.8 | 20.1 | 12.0 | 26.4 | 7.5 | 19.4 |
| Change Period (Y+Rc), s | 4.0 | 5.0 | 4.0 | 5.0 | 4.0 | 5.0 | 4.0 | 5.0 |
| Max Green Setting (Gmax), s | 7.2 | 26.3 | 5.5 | 23.0 | 8.0 | 25.5 | 5.5 | 23.0 |
| Max Q Clear Time (g_c+I1), s | 6.7 | 16.9 | 3.9 | 11.6 | 8.5 | 14.9 | 4.4 | 9.6 |
| Green Ext Time (p_c), s | 0.0 | 5.9 | 0.0 | 3.5 | 0.0 | 6.1 | 0.0 | 2.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 21.1 |
| HCM 6th LOS | C |

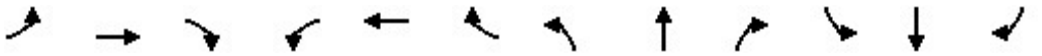


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 563 | 1158 | 79 | 38 | 838 | 185 | 60 | 461 | 38 | 217 | 331 | 465 |
| v/c Ratio | 0.99 | 0.64 | 0.09 | 0.16 | 0.92 | 0.34 | 0.20 | 0.71 | 0.09 | 0.92 | 0.42 | 0.51 |
| Control Delay | 61.0 | 19.0 | 1.5 | 12.7 | 48.9 | 6.2 | 23.2 | 40.2 | 0.4 | 68.9 | 31.9 | 11.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 61.0 | 19.0 | 1.5 | 12.7 | 48.9 | 6.2 | 23.2 | 40.2 | 0.4 | 68.9 | 31.9 | 11.1 |
| Queue Length 50th (ft) | ~274 | 269 | 0 | 9 | 246 | 0 | 24 | 127 | 0 | 94 | 85 | 106 |
| Queue Length 95th (ft) | #491 | 345 | 12 | 21 | #363 | 50 | 52 | 179 | 0 | #191 | 126 | 188 |
| Internal Link Dist (ft) | | 299 | | | 266 | | | 659 | | | 468 | |
| Turn Bay Length (ft) | 430 | | 75 | 230 | | 245 | 264 | | 55 | 346 | | 95 |
| Base Capacity (vph) | 567 | 1822 | 833 | 242 | 912 | 550 | 299 | 730 | 474 | 237 | 820 | 910 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.99 | 0.64 | 0.09 | 0.16 | 0.92 | 0.34 | 0.20 | 0.63 | 0.08 | 0.92 | 0.40 | 0.51 |

Intersection Summary

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

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



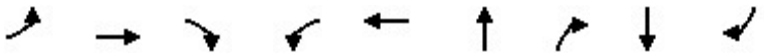
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 535 | 1100 | 75 | 36 | 796 | 176 | 57 | 438 | 36 | 206 | 314 | 442 |
| Future Volume (veh/h) | 535 | 1100 | 75 | 36 | 796 | 176 | 57 | 438 | 36 | 206 | 314 | 442 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1885 | 1811 | 1900 | 1885 | 1900 | 1870 | 1885 | 1900 | 1870 | 1885 | 1856 |
| Adj Flow Rate, veh/h | 563 | 1158 | 0 | 38 | 838 | 0 | 60 | 461 | 0 | 217 | 331 | 465 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 2 | 1 | 6 | 0 | 1 | 0 | 2 | 1 | 0 | 2 | 1 | 3 |
| Cap, veh/h | 587 | 1809 | | 249 | 912 | | 248 | 648 | | 280 | 796 | 780 |
| Arrive On Green | 0.27 | 0.51 | 0.00 | 0.02 | 0.25 | 0.00 | 0.04 | 0.18 | 0.00 | 0.08 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1781 | 3582 | 1535 | 1810 | 3582 | 1610 | 1781 | 3582 | 1610 | 1781 | 3582 | 1572 |
| Grp Volume(v), veh/h | 563 | 1158 | 0 | 38 | 838 | 0 | 60 | 461 | 0 | 217 | 331 | 465 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1791 | 1535 | 1810 | 1791 | 1610 | 1781 | 1791 | 1610 | 1781 | 1791 | 1572 |
| Q Serve(g_s), s | 22.3 | 20.7 | 0.0 | 1.4 | 20.0 | 0.0 | 2.4 | 10.6 | 0.0 | 7.0 | 6.9 | 18.6 |
| Cycle Q Clear(g_c), s | 22.3 | 20.7 | 0.0 | 1.4 | 20.0 | 0.0 | 2.4 | 10.6 | 0.0 | 7.0 | 6.9 | 18.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 587 | 1809 | | 249 | 912 | | 248 | 648 | | 280 | 796 | 780 |
| V/C Ratio(X) | 0.96 | 0.64 | | 0.15 | 0.92 | | 0.24 | 0.71 | | 0.77 | 0.42 | 0.60 |
| Avail Cap(c_a), veh/h | 587 | 1809 | | 321 | 919 | | 291 | 735 | | 280 | 796 | 780 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.2 | 15.9 | 0.0 | 23.4 | 31.8 | 0.0 | 27.7 | 33.8 | 0.0 | 29.4 | 29.2 | 15.8 |
| Incr Delay (d2), s/veh | 27.1 | 0.9 | 0.0 | 0.3 | 14.2 | 0.0 | 0.5 | 2.8 | 0.0 | 12.7 | 0.3 | 1.2 |
| 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 BackOfQ(50%),veh/ln | 13.0 | 8.1 | 0.0 | 0.6 | 10.1 | 0.0 | 1.0 | 4.8 | 0.0 | 2.1 | 3.0 | 6.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 49.3 | 16.8 | 0.0 | 23.6 | 46.0 | 0.0 | 28.2 | 36.5 | 0.0 | 42.1 | 29.6 | 17.1 |
| LnGrp LOS | D | B | | C | D | | C | D | | D | C | B |
| Approach Vol, veh/h | | 1721 | A | | 876 | A | | 521 | A | | 1013 | |
| Approach Delay, s/veh | | 27.4 | | | 45.0 | | | 35.6 | | | 26.5 | |
| Approach LOS | | C | | | D | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 28.0 | 28.3 | 11.0 | 20.4 | 6.0 | 50.3 | 7.4 | 24.0 |
| Change Period (Y+Rc), s | 4.0 | 6.0 | 4.0 | 4.5 | 4.0 | 6.0 | 4.0 | 4.5 |
| Max Green Setting (Gmax), s | 24.0 | 22.5 | 7.0 | 18.0 | 5.5 | 41.0 | 5.5 | 19.5 |
| Max Q Clear Time (g_c+I1), s | 24.3 | 22.0 | 9.0 | 12.6 | 3.4 | 22.7 | 4.4 | 20.6 |
| Green Ext Time (p_c), s | 0.0 | 0.4 | 0.0 | 1.4 | 0.0 | 10.5 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 32.0 |
| HCM 6th LOS | C |

**Notes**

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

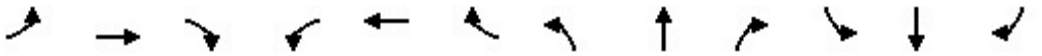


| Lane Group | EBL | EBT | EBR | WBL | WBT | NBT | NBR | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 156 | 1007 | 91 | 106 | 836 | 227 | 127 | 146 | 74 |
| v/c Ratio | 0.67 | 0.99 | 0.16 | 0.48 | 0.64 | 0.75 | 0.30 | 1.90 | 0.15 |
| Control Delay | 33.7 | 57.5 | 2.5 | 24.1 | 27.7 | 45.4 | 6.7 | 474.1 | 1.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 33.7 | 57.5 | 2.5 | 24.1 | 27.7 | 45.4 | 6.7 | 474.1 | 1.4 |
| Queue Length 50th (ft) | 50 | ~295 | 0 | 33 | 130 | 104 | 0 | ~113 | 0 |
| Queue Length 95th (ft) | #106 | #424 | 15 | 67 | 175 | #186 | 37 | #226 | 6 |
| Internal Link Dist (ft) | | 521 | | | 373 | 430 | | 331 | |
| Turn Bay Length (ft) | 275 | | | 250 | | | 130 | | 610 |
| Base Capacity (vph) | 234 | 1015 | 556 | 223 | 1380 | 362 | 477 | 77 | 496 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.67 | 0.99 | 0.16 | 0.48 | 0.61 | 0.63 | 0.27 | 1.90 | 0.15 |

Intersection Summary

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

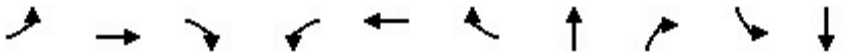
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 147 | 947 | 86 | 100 | 730 | 55 | 83 | 131 | 119 | 79 | 58 | 70 |
| Future Volume (vph) | 147 | 947 | 86 | 100 | 730 | 55 | 83 | 131 | 119 | 79 | 58 | 70 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 4.5 | 4.5 | 4.0 | 4.5 | | | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.91 | | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | | 1.00 | 0.85 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.98 | 1.00 | | 0.97 | 1.00 |
| Satd. Flow (prot) | 1805 | 3574 | 1615 | 1770 | 5079 | | | 1853 | 1575 | | 1823 | 1615 |
| Flt Permitted | 0.20 | 1.00 | 1.00 | 0.20 | 1.00 | | | 0.81 | 1.00 | | 0.17 | 1.00 |
| Satd. Flow (perm) | 381 | 3574 | 1615 | 363 | 5079 | | | 1529 | 1575 | | 318 | 1615 |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 156 | 1007 | 91 | 106 | 777 | 59 | 88 | 139 | 127 | 84 | 62 | 74 |
| RTOR Reduction (vph) | 0 | 0 | 65 | 0 | 10 | 0 | 0 | 0 | 102 | 0 | 0 | 56 |
| Lane Group Flow (vph) | 156 | 1007 | 26 | 106 | 826 | 0 | 0 | 227 | 25 | 0 | 146 | 18 |
| Confl. Peds. (#/hr) | 3 | | | | | 3 | | | 2 | 2 | | |
| Heavy Vehicles (%) | 0% | 1% | 0% | 2% | 1% | 0% | 0% | 1% | 1% | 0% | 3% | 0% |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 1 | 6 | | 5 | 2 | | | 4 | | | 3 | |
| Permitted Phases | 6 | | 6 | 2 | | | 4 | | 4 | 3 | | 3 |
| Actuated Green, G (s) | 27.2 | 21.7 | 21.7 | 24.8 | 20.5 | | | 15.1 | 15.1 | | 18.6 | 18.6 |
| Effective Green, g (s) | 27.2 | 21.7 | 21.7 | 24.8 | 20.5 | | | 15.1 | 15.1 | | 18.6 | 18.6 |
| Actuated g/C Ratio | 0.35 | 0.28 | 0.28 | 0.32 | 0.27 | | | 0.20 | 0.20 | | 0.24 | 0.24 |
| Clearance Time (s) | 4.0 | 4.5 | 4.5 | 4.0 | 4.5 | | | 4.5 | 4.5 | | 4.5 | 4.5 |
| Vehicle Extension (s) | 2.0 | 4.5 | 4.5 | 2.0 | 4.5 | | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 235 | 1004 | 453 | 194 | 1348 | | | 299 | 308 | | 76 | 389 |
| v/s Ratio Prot | c0.05 | c0.28 | | 0.03 | 0.16 | | | | | | | |
| v/s Ratio Perm | 0.19 | | 0.02 | 0.14 | | | | c0.15 | 0.02 | | c0.46 | 0.01 |
| v/c Ratio | 0.66 | 1.00 | 0.06 | 0.55 | 0.61 | | | 0.76 | 0.08 | | 1.92 | 0.05 |
| Uniform Delay, d1 | 18.3 | 27.8 | 20.3 | 20.8 | 24.9 | | | 29.3 | 25.4 | | 29.3 | 22.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 5.4 | 29.1 | 0.1 | 1.7 | 1.1 | | | 10.6 | 0.1 | | 459.1 | 0.0 |
| Delay (s) | 23.7 | 56.9 | 20.4 | 22.5 | 25.9 | | | 39.9 | 25.5 | | 488.4 | 22.5 |
| Level of Service | C | E | C | C | C | | | D | C | | F | C |
| Approach Delay (s) | | 50.1 | | | 25.6 | | | 34.7 | | | 331.7 | |
| Approach LOS | | D | | | C | | | C | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 62.1 | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | 1.21 | | |
| Actuated Cycle Length (s) | 77.2 | Sum of lost time (s) | 17.5 |
| Intersection Capacity Utilization | 65.2% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

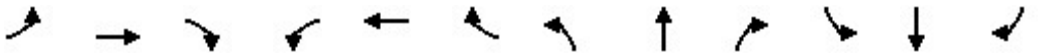


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 140 | 1012 | 56 | 29 | 718 | 434 | 194 | 51 | 411 | 260 |
| v/c Ratio | 0.85 | 0.82 | 0.08 | 0.31 | 0.81 | 0.60 | 0.69 | 0.13 | 1.00 | 0.61 |
| Control Delay | 85.6 | 38.0 | 0.2 | 54.5 | 42.8 | 7.0 | 52.3 | 0.6 | 85.4 | 34.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 85.6 | 38.0 | 0.2 | 54.5 | 42.8 | 7.0 | 52.3 | 0.6 | 85.4 | 34.9 |
| Queue Length 50th (ft) | 87 | 323 | 0 | 18 | 221 | 0 | 114 | 0 | ~261 | 120 |
| Queue Length 95th (ft) | #202 | #477 | 0 | 48 | #318 | 79 | 188 | 0 | #470 | 210 |
| Internal Link Dist (ft) | | 315 | | | 426 | | 221 | | | 272 |
| Turn Bay Length (ft) | | | 35 | 415 | | 415 | | 45 | 215 | |
| Base Capacity (vph) | 164 | 1234 | 671 | 93 | 891 | 728 | 344 | 450 | 409 | 429 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.85 | 0.82 | 0.08 | 0.31 | 0.81 | 0.60 | 0.56 | 0.11 | 1.00 | 0.61 |

Intersection Summary

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

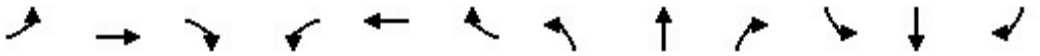
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 132 | 951 | 53 | 27 | 675 | 408 | 59 | 123 | 48 | 386 | 123 | 121 |
| Future Volume (vph) | 132 | 951 | 53 | 27 | 675 | 408 | 59 | 123 | 48 | 386 | 123 | 121 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.5 | 5.5 | 5.5 | 6.2 | 5.6 | 5.6 | | 6.9 | 6.9 | 8.1 | 8.1 | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 0.93 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1787 | 3610 | 1580 | 1805 | 3574 | 1615 | | 1852 | 1615 | 1805 | 1741 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | 0.98 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1787 | 3610 | 1580 | 1805 | 3574 | 1615 | | 1852 | 1615 | 1805 | 1741 | |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 140 | 1012 | 56 | 29 | 718 | 434 | 63 | 131 | 51 | 411 | 131 | 129 |
| RTOR Reduction (vph) | 0 | 0 | 37 | 0 | 0 | 317 | 0 | 0 | 43 | 0 | 35 | 0 |
| Lane Group Flow (vph) | 140 | 1012 | 19 | 29 | 718 | 117 | 0 | 194 | 8 | 411 | 225 | 0 |
| Confl. Peds. (#/hr) | | | 1 | 1 | | | | | | | | |
| Heavy Vehicles (%) | 1% | 0% | 0% | 0% | 1% | 0% | 3% | 0% | 0% | 0% | 0% | 2% |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Split | NA | Perm | Split | NA | |
| Protected Phases | 1 | 6 | | 5 | 2 | | 3 | 3 | | 4 | 4 | |
| Permitted Phases | | | 6 | | | 2 | | | 3 | | | |
| Actuated Green, G (s) | 8.9 | 33.1 | 33.1 | 2.9 | 26.7 | 26.7 | | 14.6 | 14.6 | 21.9 | 21.9 | |
| Effective Green, g (s) | 8.9 | 33.1 | 33.1 | 2.9 | 26.7 | 26.7 | | 14.6 | 14.6 | 21.9 | 21.9 | |
| Actuated g/C Ratio | 0.09 | 0.33 | 0.33 | 0.03 | 0.27 | 0.27 | | 0.15 | 0.15 | 0.22 | 0.22 | |
| Clearance Time (s) | 6.5 | 5.5 | 5.5 | 6.2 | 5.6 | 5.6 | | 6.9 | 6.9 | 8.1 | 8.1 | |
| Vehicle Extension (s) | 3.0 | 6.0 | 6.0 | 3.0 | 6.0 | 6.0 | | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 160 | 1204 | 527 | 52 | 961 | 434 | | 272 | 237 | 398 | 384 | |
| v/s Ratio Prot | c0.08 | c0.28 | | 0.02 | 0.20 | | | c0.10 | | c0.23 | 0.13 | |
| v/s Ratio Perm | | | 0.01 | | | 0.07 | | | 0.00 | | | |
| v/c Ratio | 0.88 | 0.84 | 0.04 | 0.56 | 0.75 | 0.27 | | 0.71 | 0.03 | 1.03 | 0.59 | |
| Uniform Delay, d1 | 44.6 | 30.6 | 22.3 | 47.5 | 33.2 | 28.6 | | 40.3 | 36.2 | 38.7 | 34.6 | |
| 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 | 37.4 | 6.3 | 0.1 | 12.3 | 4.3 | 0.9 | | 8.6 | 0.1 | 53.8 | 2.3 | |
| Delay (s) | 82.0 | 36.9 | 22.4 | 59.8 | 37.5 | 29.5 | | 48.9 | 36.3 | 92.4 | 36.9 | |
| Level of Service | F | D | C | E | D | C | | D | D | F | D | |
| Approach Delay (s) | | 41.5 | | | 35.1 | | | 46.2 | | | 70.9 | |
| Approach LOS | | D | | | D | | | D | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 45.5 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.92 | | |
| Actuated Cycle Length (s) | 99.2 | Sum of lost time (s) | 27.1 |
| Intersection Capacity Utilization | 83.8% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

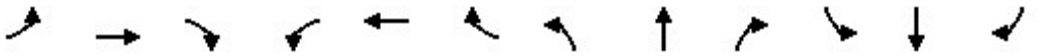
c Critical Lane Group



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 334 | 587 | 500 | 68 | 258 | 13 | 493 | 220 | 89 | 5 | 223 | 400 |
| v/c Ratio | 0.92 | 0.55 | 0.47 | 0.52 | 0.42 | 0.03 | 0.68 | 0.56 | 0.17 | 0.01 | 0.64 | 0.49 |
| Control Delay | 83.2 | 39.5 | 7.5 | 75.1 | 49.3 | 0.2 | 53.4 | 53.6 | 1.7 | 46.4 | 58.7 | 18.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 83.2 | 39.5 | 7.5 | 75.1 | 49.3 | 0.2 | 53.4 | 53.6 | 1.7 | 46.4 | 58.7 | 18.7 |
| Queue Length 50th (ft) | 294 | 227 | 87 | 58 | 105 | 0 | 202 | 170 | 0 | 4 | 179 | 154 |
| Queue Length 95th (ft) | #549 | 299 | 176 | 116 | 152 | 0 | 287 | 279 | 9 | 16 | 285 | 274 |
| Internal Link Dist (ft) | | 216 | | | 777 | | | 626 | | | 561 | |
| Turn Bay Length (ft) | 150 | | 230 | 115 | | 200 | 130 | | 90 | 265 | | |
| Base Capacity (vph) | 362 | 1279 | 1096 | 166 | 920 | 557 | 834 | 452 | 616 | 419 | 437 | 803 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.92 | 0.46 | 0.46 | 0.41 | 0.28 | 0.02 | 0.59 | 0.49 | 0.14 | 0.01 | 0.51 | 0.50 |

Intersection Summary

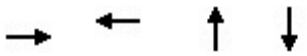
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 324 | 569 | 485 | 66 | 250 | 13 | 478 | 213 | 86 | 5 | 216 | 388 |
| Future Volume (vph) | 324 | 569 | 485 | 66 | 250 | 13 | 478 | 213 | 86 | 5 | 216 | 388 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 8.2 | 5.5 | 5.5 | 7.3 | 6.1 | 6.1 | 8.3 | 8.3 | 8.3 | 5.5 | 5.5 | 5.5 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1752 | 3374 | 1583 | 1719 | 3574 | 1594 | 3467 | 1881 | 1615 | 1805 | 1881 | 1599 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1752 | 3374 | 1583 | 1719 | 3574 | 1594 | 3467 | 1881 | 1615 | 1805 | 1881 | 1599 |
| 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) | 334 | 587 | 500 | 68 | 258 | 13 | 493 | 220 | 89 | 5 | 223 | 400 |
| RTOR Reduction (vph) | 0 | 0 | 126 | 0 | 0 | 11 | 0 | 0 | 63 | 0 | 0 | 80 |
| Lane Group Flow (vph) | 334 | 587 | 374 | 68 | 258 | 2 | 493 | 220 | 26 | 5 | 223 | 320 |
| Confl. Peds. (#/hr) | 1 | | | | | 1 | | | | | | |
| Heavy Vehicles (%) | 3% | 7% | 2% | 5% | 1% | 0% | 1% | 1% | 0% | 0% | 1% | 1% |
| Turn Type | Prot | NA | pt+ov | Prot | NA | Perm | Split | NA | pt+ov | Split | NA | pt+ov |
| Protected Phases | 1 | 6 | 6 3 | 5 | 2 | | 3 | 3 | 3 5 | 4 | 4 | 4 1 |
| Permitted Phases | | | | | | 2 | | | | | | |
| Actuated Green, G (s) | 26.4 | 40.3 | 72.4 | 9.8 | 22.2 | 22.2 | 26.6 | 26.6 | 36.4 | 23.7 | 23.7 | 55.6 |
| Effective Green, g (s) | 26.4 | 40.3 | 72.4 | 9.8 | 22.2 | 22.2 | 26.6 | 26.6 | 36.4 | 23.7 | 23.7 | 55.6 |
| Actuated g/C Ratio | 0.21 | 0.32 | 0.57 | 0.08 | 0.17 | 0.17 | 0.21 | 0.21 | 0.29 | 0.19 | 0.19 | 0.44 |
| Clearance Time (s) | 8.2 | 5.5 | | 7.3 | 6.1 | 6.1 | 8.3 | 8.3 | | 5.5 | 5.5 | |
| Vehicle Extension (s) | 3.0 | 5.0 | | 3.0 | 5.0 | 5.0 | 3.0 | 3.0 | | 5.0 | 5.0 | |
| Lane Grp Cap (vph) | 364 | 1070 | 902 | 132 | 624 | 278 | 726 | 393 | 462 | 336 | 351 | 700 |
| v/s Ratio Prot | c0.19 | c0.17 | 0.24 | 0.04 | 0.07 | | c0.14 | 0.12 | 0.02 | 0.00 | c0.12 | 0.20 |
| v/s Ratio Perm | | | | | | 0.00 | | | | | | |
| v/c Ratio | 0.92 | 0.55 | 0.42 | 0.52 | 0.41 | 0.01 | 0.68 | 0.56 | 0.06 | 0.01 | 0.64 | 0.46 |
| Uniform Delay, d1 | 49.2 | 35.8 | 15.4 | 56.3 | 46.6 | 43.3 | 46.3 | 45.0 | 32.8 | 42.1 | 47.7 | 25.1 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 27.2 | 1.0 | 0.6 | 3.4 | 0.9 | 0.0 | 2.5 | 1.7 | 0.1 | 0.0 | 5.2 | 1.0 |
| Delay (s) | 76.4 | 36.8 | 16.0 | 59.7 | 47.5 | 43.3 | 48.8 | 46.7 | 32.9 | 42.2 | 52.8 | 26.1 |
| Level of Service | E | D | B | E | D | D | D | D | C | D | D | C |
| Approach Delay (s) | | 38.8 | | | 49.8 | | | 46.5 | | | 35.7 | |
| Approach LOS | | D | | | D | | | D | | | D | |

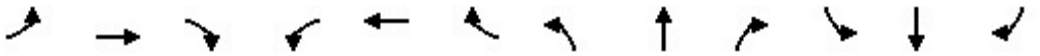
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 41.3 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 127.0 | Sum of lost time (s) | 28.1 |
| Intersection Capacity Utilization | 74.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



| Lane Group | EBT | WBT | NBT | SBT |
|---|---|---|---|---|
| Lane Group Flow (vph) | 1255 | 617 | 85 | 176 |
| v/c Ratio | 0.61 | 0.29 | 0.19 | 0.34 |
| Control Delay | 9.5 | 6.2 | 13.2 | 10.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 9.5 | 6.2 | 13.2 | 10.5 |
| Queue Length 50th (ft) | 137 | 48 | 15 | 20 |
| Queue Length 95th (ft) | 203 | 74 | 43 | 61 |
| Internal Link Dist (ft) | 196 | 212 | 242 | 190 |
| Turn Bay Length (ft) | | | | |
| Base Capacity (vph) | 2048 | 2128 | 614 | 673 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.61 | 0.29 | 0.14 | 0.26 |

Intersection Summary



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 72 | 1098 | 22 | 15 | 543 | 28 | 31 | 28 | 22 | 43 | 34 | 90 |
| Future Volume (vph) | 72 | 1098 | 22 | 15 | 543 | 28 | 31 | 28 | 22 | 43 | 34 | 90 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 4.5 | | | 4.5 | | | 4.5 | | | 4.5 | |
| Lane Util. Factor | | 0.95 | | | 0.95 | | | 1.00 | | | 1.00 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | | | 1.00 | | | 0.99 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | | | 1.00 | | | 1.00 | |
| Frt | | 1.00 | | | 0.99 | | | 0.96 | | | 0.93 | |
| Flt Protected | | 1.00 | | | 1.00 | | | 0.98 | | | 0.99 | |
| Satd. Flow (prot) | | 3555 | | | 3544 | | | 1719 | | | 1722 | |
| Flt Permitted | | 0.88 | | | 0.92 | | | 0.87 | | | 0.90 | |
| Satd. Flow (perm) | | 3133 | | | 3251 | | | 1530 | | | 1568 | |
| 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) | 76 | 1156 | 23 | 16 | 572 | 29 | 33 | 29 | 23 | 45 | 36 | 95 |
| RTOR Reduction (vph) | 0 | 2 | 0 | 0 | 5 | 0 | 0 | 18 | 0 | 0 | 75 | 0 |
| Lane Group Flow (vph) | 0 | 1253 | 0 | 0 | 612 | 0 | 0 | 67 | 0 | 0 | 101 | 0 |
| Confl. Peds. (#/hr) | 1 | | 2 | 2 | | 1 | 8 | | | | | 8 |
| Heavy Vehicles (%) | 0% | 1% | 0% | 0% | 1% | 0% | 11% | 0% | 0% | 0% | 0% | 0% |
| Turn Type | Perm | NA | | Perm | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | | 4 | | | 4 | | | 2 | | | 2 | |
| Permitted Phases | 4 | | | 4 | | | 2 | | | 2 | | |
| Actuated Green, G (s) | | 33.4 | | | 33.4 | | | 11.4 | | | 11.4 | |
| Effective Green, g (s) | | 33.4 | | | 33.4 | | | 11.4 | | | 11.4 | |
| Actuated g/C Ratio | | 0.62 | | | 0.62 | | | 0.21 | | | 0.21 | |
| Clearance Time (s) | | 4.5 | | | 4.5 | | | 4.5 | | | 4.5 | |
| Vehicle Extension (s) | | 4.0 | | | 4.0 | | | 3.0 | | | 3.0 | |
| Lane Grp Cap (vph) | | 1945 | | | 2018 | | | 324 | | | 332 | |
| v/s Ratio Prot | | | | | | | | | | | | |
| v/s Ratio Perm | | c0.40 | | | 0.19 | | | 0.04 | | | c0.06 | |
| v/c Ratio | | 0.64 | | | 0.30 | | | 0.21 | | | 0.30 | |
| Uniform Delay, d1 | | 6.4 | | | 4.8 | | | 17.5 | | | 17.9 | |
| Progression Factor | | 1.00 | | | 1.00 | | | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | | 0.8 | | | 0.1 | | | 0.3 | | | 0.5 | |
| Delay (s) | | 7.3 | | | 4.9 | | | 17.8 | | | 18.4 | |
| Level of Service | | A | | | A | | | B | | | B | |
| Approach Delay (s) | | 7.3 | | | 4.9 | | | 17.8 | | | 18.4 | |
| 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 | 0.56 | | |
| Actuated Cycle Length (s) | 53.8 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 74.2% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

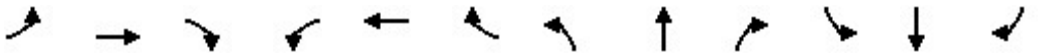
c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 896 | 320 | 480 | 168 | 159 | 622 | 185 | 585 |
| v/c Ratio | 0.98 | 0.53 | 0.70 | 0.38 | 1.34 | 0.71 | 1.34 | 0.65 |
| Control Delay | 64.0 | 10.6 | 42.7 | 7.8 | 236.2 | 37.7 | 229.8 | 36.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 64.0 | 10.6 | 42.7 | 7.8 | 236.2 | 37.7 | 229.8 | 36.0 |
| Queue Length 50th (ft) | 296 | 25 | 150 | 0 | ~132 | 176 | ~153 | 165 |
| Queue Length 95th (ft) | #475 | 110 | 203 | 52 | #276 | 257 | #308 | 242 |
| Internal Link Dist (ft) | 371 | | 350 | | | 338 | | 383 |
| Turn Bay Length (ft) | | 195 | | 300 | 210 | | 265 | |
| Base Capacity (vph) | 911 | 600 | 919 | 539 | 119 | 917 | 138 | 944 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.98 | 0.53 | 0.52 | 0.31 | 1.34 | 0.68 | 1.34 | 0.62 |

Intersection Summary

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

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 100 | 733 | 298 | 73 | 374 | 156 | 148 | 450 | 128 | 172 | 461 | 83 |
| Future Volume (vph) | 100 | 733 | 298 | 73 | 374 | 156 | 148 | 450 | 128 | 172 | 461 | 83 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.5 | 5.5 | | 5.5 | 5.5 | 5.5 | 6.0 | | 5.5 | 6.0 | |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | 0.99 | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.98 | |
| Flt Protected | | 0.99 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 3549 | 1563 | | 3581 | 1615 | 1787 | 3478 | | 1805 | 3489 | |
| Flt Permitted | | 0.99 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 3549 | 1563 | | 3581 | 1615 | 1787 | 3478 | | 1805 | 3489 | |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Adj. Flow (vph) | 108 | 788 | 320 | 78 | 402 | 168 | 159 | 484 | 138 | 185 | 496 | 89 |
| RTOR Reduction (vph) | 0 | 0 | 199 | 0 | 0 | 136 | 0 | 25 | 0 | 0 | 14 | 0 |
| Lane Group Flow (vph) | 0 | 896 | 121 | 0 | 480 | 32 | 159 | 597 | 0 | 185 | 571 | 0 |
| Confl. Peds. (#/hr) | | | 1 | 1 | | | 4 | | 3 | 3 | | 4 |
| Heavy Vehicles (%) | 2% | 1% | 2% | 0% | 0% | 0% | 1% | 0% | 0% | 0% | 1% | 0% |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | | | | |
| Actuated Green, G (s) | | 25.1 | 25.1 | | 18.8 | 18.8 | 6.5 | 23.8 | | 7.5 | 24.8 | |
| Effective Green, g (s) | | 25.1 | 25.1 | | 18.8 | 18.8 | 6.5 | 23.8 | | 7.5 | 24.8 | |
| Actuated g/C Ratio | | 0.26 | 0.26 | | 0.19 | 0.19 | 0.07 | 0.24 | | 0.08 | 0.25 | |
| Clearance Time (s) | | 5.5 | 5.5 | | 5.5 | 5.5 | 5.5 | 6.0 | | 5.5 | 6.0 | |
| Vehicle Extension (s) | | 2.5 | 2.5 | | 2.5 | 2.5 | 3.0 | 6.0 | | 3.0 | 6.0 | |
| Lane Grp Cap (vph) | | 911 | 401 | | 689 | 310 | 118 | 847 | | 138 | 885 | |
| v/s Ratio Prot | | c0.25 | | | c0.13 | | 0.09 | c0.17 | | c0.10 | 0.16 | |
| v/s Ratio Perm | | | 0.08 | | | 0.02 | | | | | | |
| v/c Ratio | | 0.98 | 0.30 | | 0.70 | 0.10 | 1.35 | 0.70 | | 1.34 | 0.64 | |
| Uniform Delay, d1 | | 36.1 | 29.2 | | 36.8 | 32.5 | 45.6 | 33.7 | | 45.1 | 32.5 | |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 25.6 | 0.3 | | 2.8 | 0.1 | 202.1 | 3.9 | | 193.9 | 2.6 | |
| Delay (s) | | 61.7 | 29.5 | | 39.6 | 32.6 | 247.7 | 37.7 | | 239.0 | 35.2 | |
| Level of Service | | E | C | | D | C | F | D | | F | D | |
| Approach Delay (s) | | 53.3 | | | 37.8 | | | 80.4 | | | 84.1 | |
| Approach LOS | | D | | | D | | | F | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 63.5 | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | 0.86 | | |
| Actuated Cycle Length (s) | 97.7 | Sum of lost time (s) | 22.5 |
| Intersection Capacity Utilization | 80.9% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

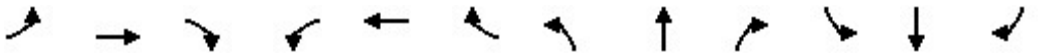
c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 160 | 597 | 167 | 303 | 652 | 262 | 280 | 1117 | 265 | 278 | 1256 |
| v/c Ratio | 0.45 | 0.82 | 0.25 | 0.74 | 0.83 | 0.37 | 0.68 | 1.05 | 0.36 | 0.68 | 0.83 |
| Control Delay | 38.3 | 42.0 | 7.9 | 47.3 | 42.4 | 11.7 | 43.7 | 72.0 | 9.4 | 43.6 | 32.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 38.3 | 42.0 | 7.9 | 47.3 | 42.4 | 11.7 | 43.7 | 72.0 | 9.4 | 43.6 | 32.4 |
| Queue Length 50th (ft) | 40 | 155 | 19 | 78 | 170 | 51 | 72 | ~338 | 46 | 71 | 218 |
| Queue Length 95th (ft) | 68 | #238 | 59 | #130 | #274 | 111 | 111 | #462 | 94 | 110 | 272 |
| Internal Link Dist (ft) | | 473 | | | 499 | | | 459 | | | 344 |
| Turn Bay Length (ft) | 280 | | 470 | 200 | | 390 | 320 | | | 240 | |
| Base Capacity (vph) | 427 | 730 | 687 | 418 | 781 | 724 | 427 | 1063 | 733 | 427 | 1520 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.37 | 0.82 | 0.24 | 0.72 | 0.83 | 0.36 | 0.66 | 1.05 | 0.36 | 0.65 | 0.83 |

Intersection Summary

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

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 150 | 561 | 157 | 285 | 613 | 246 | 263 | 1050 | 249 | 261 | 1099 | 82 |
| Future Volume (veh/h) | 150 | 561 | 157 | 285 | 613 | 246 | 263 | 1050 | 249 | 261 | 1099 | 82 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1900 | 1885 | 1870 | 1870 | 1870 | 1900 | 1900 | 1885 | 1870 | 1900 | 1885 | 1885 |
| Adj Flow Rate, veh/h | 160 | 597 | 0 | 303 | 652 | 262 | 280 | 1117 | 0 | 278 | 1169 | 87 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 0 | 1 | 2 | 2 | 2 | 0 | 0 | 1 | 2 | 0 | 1 | 1 |
| Cap, veh/h | 250 | 702 | | 383 | 838 | 545 | 363 | 1174 | | 362 | 1599 | 119 |
| Arrive On Green | 0.07 | 0.20 | 0.00 | 0.11 | 0.24 | 0.24 | 0.10 | 0.33 | 0.00 | 0.10 | 0.33 | 0.33 |
| Sat Flow, veh/h | 3510 | 3582 | 1585 | 3456 | 3554 | 1610 | 3510 | 3582 | 1585 | 3510 | 4887 | 364 |
| Grp Volume(v), veh/h | 160 | 597 | 0 | 303 | 652 | 262 | 280 | 1117 | 0 | 278 | 821 | 435 |
| Grp Sat Flow(s),veh/h/ln | 1755 | 1791 | 1585 | 1728 | 1777 | 1610 | 1755 | 1791 | 1585 | 1755 | 1716 | 1819 |
| Q Serve(g_s), s | 3.6 | 13.2 | 0.0 | 7.0 | 14.1 | 10.5 | 6.4 | 25.0 | 0.0 | 6.3 | 17.3 | 17.4 |
| Cycle Q Clear(g_c), s | 3.6 | 13.2 | 0.0 | 7.0 | 14.1 | 10.5 | 6.4 | 25.0 | 0.0 | 6.3 | 17.3 | 17.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.20 |
| Lane Grp Cap(c), veh/h | 250 | 702 | | 383 | 838 | 545 | 363 | 1174 | | 362 | 1123 | 595 |
| V/C Ratio(X) | 0.64 | 0.85 | | 0.79 | 0.78 | 0.48 | 0.77 | 0.95 | | 0.77 | 0.73 | 0.73 |
| Avail Cap(c_a), veh/h | 428 | 721 | | 421 | 838 | 545 | 428 | 1174 | | 428 | 1123 | 595 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.1 | 31.8 | 0.0 | 35.5 | 29.3 | 21.4 | 35.8 | 26.9 | 0.0 | 35.8 | 24.4 | 24.4 |
| Incr Delay (d2), s/veh | 2.0 | 12.3 | 0.0 | 8.6 | 7.0 | 3.0 | 6.5 | 16.9 | 0.0 | 6.4 | 4.2 | 7.7 |
| 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 BackOfQ(50%),veh/ln | 1.6 | 6.7 | 0.0 | 3.3 | 6.6 | 4.3 | 3.0 | 12.9 | 0.0 | 3.0 | 7.4 | 8.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 39.1 | 44.1 | 0.0 | 44.1 | 36.4 | 24.4 | 42.3 | 43.8 | 0.0 | 42.2 | 28.6 | 32.1 |
| LnGrp LOS | D | D | | D | D | C | D | D | | D | C | C |
| Approach Vol, veh/h | | 757 | A | | 1217 | | | 1397 | A | | 1534 | |
| Approach Delay, s/veh | | 43.0 | | | 35.7 | | | 43.5 | | | 32.1 | |
| Approach LOS | | D | | | D | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.4 | 32.9 | 10.8 | 24.8 | 13.5 | 32.8 | 14.1 | 21.6 |
| Change Period (Y+Rc), s | 5.0 | 6.0 | 5.0 | 5.5 | 5.0 | 6.0 | 5.0 | 5.5 |
| Max Green Setting (Gmax), s | 10.0 | 24.0 | 10.0 | 16.5 | 10.0 | 24.0 | 10.0 | 16.5 |
| Max Q Clear Time (g_c+I1), s | 8.3 | 27.0 | 5.6 | 16.1 | 8.4 | 19.4 | 9.0 | 15.2 |
| Green Ext Time (p_c), s | 0.1 | 0.0 | 0.1 | 0.4 | 0.1 | 4.4 | 0.1 | 0.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 37.9 |
| HCM 6th LOS | D |

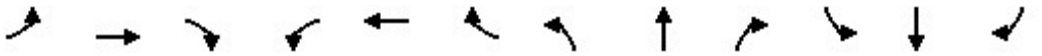
**Notes**

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

| Lane Group | EBT | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 24 | 116 | 166 | 20 | 1477 | 113 | 151 | 1641 |
| v/c Ratio | 0.15 | 0.56 | 0.28 | 0.14 | 0.57 | 0.13 | 0.69 | 0.51 |
| Control Delay | 30.6 | 45.8 | 5.3 | 37.3 | 16.4 | 1.4 | 52.7 | 11.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 30.6 | 45.8 | 5.3 | 37.3 | 16.4 | 1.4 | 52.7 | 11.6 |
| Queue Length 50th (ft) | 9 | 56 | 0 | 10 | 182 | 0 | 72 | 101 |
| Queue Length 95th (ft) | 31 | #123 | 43 | 31 | 266 | 14 | #172 | 293 |
| Internal Link Dist (ft) | 192 | 548 | | | 450 | | | 520 |
| Turn Bay Length (ft) | | | 225 | 315 | | 395 | 165 | |
| Base Capacity (vph) | 221 | 206 | 599 | 154 | 2588 | 860 | 222 | 3229 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.11 | 0.56 | 0.28 | 0.13 | 0.57 | 0.13 | 0.68 | 0.51 |

Intersection Summary

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 16 | 1 | 6 | 108 | 1 | 156 | 19 | 1388 | 106 | 142 | 1529 | 13 |
| Future Volume (vph) | 16 | 1 | 6 | 108 | 1 | 156 | 19 | 1388 | 106 | 142 | 1529 | 13 |
| 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 | 6.0 | 6.0 | 5.0 | 6.0 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.97 | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | | 0.97 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1773 | | | 1775 | 1599 | 1805 | 5136 | 1550 | 1787 | 5129 | |
| Flt Permitted | | 0.97 | | | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1773 | | | 1775 | 1599 | 1805 | 5136 | 1550 | 1787 | 5129 | |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 17 | 1 | 6 | 115 | 1 | 166 | 20 | 1477 | 113 | 151 | 1627 | 14 |
| RTOR Reduction (vph) | 0 | 6 | 0 | 0 | 0 | 126 | 0 | 0 | 60 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 18 | 0 | 0 | 116 | 40 | 20 | 1477 | 53 | 151 | 1640 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | 1 | 1 | | 2 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 2% | 0% | 1% | 0% | 1% | 2% | 1% | 1% | 0% |
| Turn Type | Split | NA | | Split | NA | pm+ov | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 3 | 3 | | 4 | 4 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | | 3.0 | | | 9.6 | 19.7 | 2.8 | 38.3 | 38.3 | 10.1 | 45.6 | |
| Effective Green, g (s) | | 3.0 | | | 9.6 | 19.7 | 2.8 | 38.3 | 38.3 | 10.1 | 45.6 | |
| Actuated g/C Ratio | | 0.04 | | | 0.12 | 0.24 | 0.03 | 0.47 | 0.47 | 0.12 | 0.56 | |
| Clearance Time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 6.0 | 6.0 | 5.0 | 6.0 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | 3.0 | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | |
| Lane Grp Cap (vph) | | 64 | | | 207 | 481 | 61 | 2398 | 723 | 220 | 2852 | |
| v/s Ratio Prot | | c0.01 | | | c0.07 | 0.01 | 0.01 | c0.29 | | c0.08 | 0.32 | |
| v/s Ratio Perm | | | | | | 0.01 | | | 0.03 | | | |
| v/c Ratio | | 0.28 | | | 0.56 | 0.08 | 0.33 | 0.62 | 0.07 | 0.69 | 0.58 | |
| Uniform Delay, d1 | | 38.5 | | | 34.2 | 24.1 | 38.7 | 16.3 | 12.1 | 34.4 | 11.9 | |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 2.4 | | | 3.4 | 0.1 | 3.1 | 1.2 | 0.2 | 8.6 | 0.9 | |
| Delay (s) | | 40.9 | | | 37.6 | 24.2 | 41.8 | 17.5 | 12.3 | 43.0 | 12.7 | |
| Level of Service | | D | | | D | C | D | B | B | D | B | |
| Approach Delay (s) | | 40.9 | | | 29.7 | | | 17.5 | | | 15.3 | |
| Approach LOS | | D | | | C | | | B | | | B | |

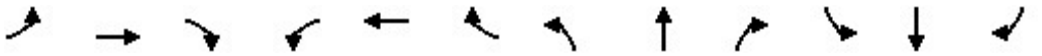
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 17.5 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.60 | | |
| Actuated Cycle Length (s) | 82.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 56.1% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 129 | 164 | 28 | 133 | 1405 | 13 | 1459 | 128 |
| v/c Ratio | 0.71 | 0.46 | 0.13 | 0.64 | 0.40 | 0.08 | 0.53 | 0.14 |
| Control Delay | 55.7 | 10.1 | 21.1 | 48.7 | 6.8 | 35.8 | 13.7 | 2.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 55.7 | 10.1 | 21.1 | 48.7 | 6.8 | 35.8 | 13.7 | 2.5 |
| Queue Length 50th (ft) | 64 | 0 | 6 | 65 | 88 | 6 | 176 | 0 |
| Queue Length 95th (ft) | #141 | 53 | 29 | #124 | 189 | 23 | 217 | 25 |
| Internal Link Dist (ft) | 312 | | 290 | | 483 | | 269 | |
| Turn Bay Length (ft) | | 215 | | 415 | | 275 | | 1000 |
| Base Capacity (vph) | 196 | 374 | 238 | 228 | 3485 | 187 | 2737 | 911 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.44 | 0.12 | 0.58 | 0.40 | 0.07 | 0.53 | 0.14 |

Intersection Summary

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

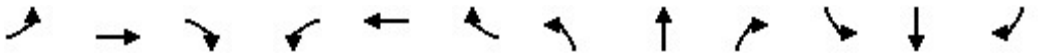


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 127 | 1 | 162 | 9 | 4 | 15 | 132 | 1379 | 12 | 13 | 1444 | 127 |
| Future Volume (vph) | 127 | 1 | 162 | 9 | 4 | 15 | 132 | 1379 | 12 | 13 | 1444 | 127 |
| 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 | | 5.5 | 6.0 | | 5.5 | 6.0 | 6.0 |
| Lane Util. Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 0.91 | | 1.00 | 0.91 | 1.00 |
| Frt | | 1.00 | 0.85 | | 0.93 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 0.95 | 1.00 | | 0.98 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | | 1810 | 1599 | | 1735 | | 1787 | 5080 | | 1805 | 5136 | 1599 |
| Flt Permitted | | 0.71 | 1.00 | | 0.87 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | | 1344 | 1599 | | 1540 | | 1787 | 5080 | | 1805 | 5136 | 1599 |
| 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) | 128 | 1 | 164 | 9 | 4 | 15 | 133 | 1393 | 12 | 13 | 1459 | 128 |
| RTOR Reduction (vph) | 0 | 0 | 142 | 0 | 13 | 0 | 0 | 1 | 0 | 0 | 0 | 60 |
| Lane Group Flow (vph) | 0 | 129 | 22 | 0 | 15 | 0 | 133 | 1404 | 0 | 13 | 1459 | 68 |
| Heavy Vehicles (%) | 0% | 0% | 1% | 0% | 0% | 0% | 1% | 2% | 0% | 0% | 1% | 1% |
| Turn Type | Perm | NA | Perm | Perm | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | | 4 | | | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 4 | | | | | | | | 6 |
| Actuated Green, G (s) | | 11.2 | 11.2 | | 11.2 | | 9.6 | 51.8 | | 1.5 | 43.7 | 43.7 |
| Effective Green, g (s) | | 11.2 | 11.2 | | 11.2 | | 9.6 | 51.8 | | 1.5 | 43.7 | 43.7 |
| Actuated g/C Ratio | | 0.14 | 0.14 | | 0.14 | | 0.12 | 0.63 | | 0.02 | 0.53 | 0.53 |
| Clearance Time (s) | | 6.0 | 6.0 | | 6.0 | | 5.5 | 6.0 | | 5.5 | 6.0 | 6.0 |
| Vehicle Extension (s) | | 3.5 | 3.5 | | 3.5 | | 3.0 | 5.0 | | 3.0 | 5.0 | 5.0 |
| Lane Grp Cap (vph) | | 183 | 218 | | 210 | | 209 | 3209 | | 33 | 2737 | 852 |
| v/s Ratio Prot | | | | | | | c0.07 | 0.28 | | 0.01 | c0.28 | |
| v/s Ratio Perm | | c0.10 | 0.01 | | 0.01 | | | | | | | 0.04 |
| v/c Ratio | | 0.70 | 0.10 | | 0.07 | | 0.64 | 0.44 | | 0.39 | 0.53 | 0.08 |
| Uniform Delay, d1 | | 33.8 | 31.0 | | 30.9 | | 34.5 | 7.7 | | 39.8 | 12.5 | 9.3 |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 12.1 | 0.2 | | 0.2 | | 6.2 | 0.4 | | 7.6 | 0.7 | 0.2 |
| Delay (s) | | 45.9 | 31.2 | | 31.0 | | 40.7 | 8.1 | | 47.4 | 13.2 | 9.5 |
| Level of Service | | D | C | | C | | D | A | | D | B | A |
| Approach Delay (s) | | 37.7 | | | 31.0 | | | 10.9 | | | 13.2 | |
| Approach LOS | | D | | | C | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 14.4 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.58 | | |
| Actuated Cycle Length (s) | 82.0 | Sum of lost time (s) | 17.5 |
| Intersection Capacity Utilization | 63.6% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Lane Group | EBT | EBR | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 86 | 105 | 65 | 16 | 85 | 1557 | 56 | 1551 |
| v/c Ratio | 0.53 | 0.35 | 0.44 | 0.06 | 0.47 | 0.51 | 0.30 | 0.54 |
| Control Delay | 47.7 | 4.4 | 45.2 | 0.4 | 42.9 | 14.4 | 38.2 | 16.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 47.7 | 4.4 | 45.2 | 0.4 | 42.9 | 14.4 | 38.2 | 16.2 |
| Queue Length 50th (ft) | 43 | 0 | 32 | 0 | 42 | 216 | 27 | 217 |
| Queue Length 95th (ft) | 88 | 11 | 72 | 0 | 84 | 279 | 61 | 277 |
| Internal Link Dist (ft) | 178 | | 254 | | | 316 | | 213 |
| Turn Bay Length (ft) | | 115 | | 100 | 315 | | 320 | |
| Base Capacity (vph) | 172 | 310 | 156 | 285 | 220 | 3059 | 220 | 2863 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.50 | 0.34 | 0.42 | 0.06 | 0.39 | 0.51 | 0.25 | 0.54 |

Intersection Summary



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 68 | 17 | 103 | 49 | 15 | 16 | 83 | 1518 | 8 | 55 | 1459 | 61 |
| Future Volume (vph) | 68 | 17 | 103 | 49 | 15 | 16 | 83 | 1518 | 8 | 55 | 1459 | 61 |
| 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 | 6.0 | | 5.0 | 6.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.91 | | 1.00 | 0.91 | |
| Frpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 0.99 | |
| Flt Protected | | 0.96 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1770 | 1583 | | 1830 | 1495 | 1805 | 5131 | | 1805 | 5095 | |
| Flt Permitted | | 0.96 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1770 | 1583 | | 1830 | 1495 | 1805 | 5131 | | 1805 | 5095 | |
| 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 | 0.98 |
| Adj. Flow (vph) | 69 | 17 | 105 | 50 | 15 | 16 | 85 | 1549 | 8 | 56 | 1489 | 62 |
| RTOR Reduction (vph) | 0 | 0 | 97 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 5 | 0 |
| Lane Group Flow (vph) | 0 | 86 | 8 | 0 | 65 | 1 | 85 | 1557 | 0 | 56 | 1546 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 1 | | 1 | 1 | | 1 |
| Heavy Vehicles (%) | 4% | 0% | 2% | 0% | 0% | 8% | 0% | 1% | 0% | 0% | 1% | 4% |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | | | | |
| Actuated Green, G (s) | | 6.4 | 6.4 | | 5.6 | 5.6 | 7.2 | 43.7 | | 5.3 | 41.8 | |
| Effective Green, g (s) | | 6.4 | 6.4 | | 5.6 | 5.6 | 7.2 | 43.7 | | 5.3 | 41.8 | |
| Actuated g/C Ratio | | 0.08 | 0.08 | | 0.07 | 0.07 | 0.09 | 0.53 | | 0.06 | 0.51 | |
| Clearance Time (s) | | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 6.0 | | 5.0 | 6.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 | 2.5 | 6.0 | | 2.5 | 6.0 | |
| Lane Grp Cap (vph) | | 138 | 123 | | 124 | 102 | 158 | 2734 | | 116 | 2597 | |
| v/s Ratio Prot | | c0.05 | | | c0.04 | | c0.05 | 0.30 | | 0.03 | c0.30 | |
| v/s Ratio Perm | | | 0.01 | | | 0.00 | | | | | | |
| v/c Ratio | | 0.62 | 0.07 | | 0.52 | 0.01 | 0.54 | 0.57 | | 0.48 | 0.60 | |
| Uniform Delay, d1 | | 36.6 | 35.0 | | 36.9 | 35.6 | 35.8 | 12.8 | | 37.0 | 14.1 | |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 8.5 | 0.2 | | 4.0 | 0.0 | 2.7 | 0.9 | | 2.3 | 1.0 | |
| Delay (s) | | 45.1 | 35.3 | | 40.9 | 35.7 | 38.5 | 13.7 | | 39.3 | 15.2 | |
| Level of Service | | D | D | | D | D | D | B | | D | B | |
| Approach Delay (s) | | 39.7 | | | 39.8 | | | 15.0 | | | 16.0 | |
| Approach LOS | | D | | | D | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 17.4 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.58 | | |
| Actuated Cycle Length (s) | 82.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 60.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | WBL | WBR | NBT | SBL | SBT |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 27 | 10 | 1765 | 10 | 1734 |
| v/c Ratio | 0.16 | 0.06 | 0.42 | 0.06 | 0.40 |
| Control Delay | 36.2 | 19.3 | 4.9 | 35.6 | 2.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 36.2 | 19.3 | 4.9 | 35.6 | 2.9 |
| Queue Length 50th (ft) | 13 | 0 | 91 | 5 | 89 |
| Queue Length 95th (ft) | 37 | 14 | 243 | 20 | 124 |
| Internal Link Dist (ft) | 469 | | 187 | | 179 |
| Turn Bay Length (ft) | | | | 170 | |
| Base Capacity (vph) | 398 | 364 | 4188 | 158 | 4375 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.07 | 0.03 | 0.42 | 0.06 | 0.40 |

Intersection Summary

| Movement | WBL | WBR | NBU | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 25 | 9 | 0 | 1610 | 32 | 9 | 1613 |
| Future Volume (vph) | 25 | 9 | 0 | 1610 | 32 | 9 | 1613 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 5.9 | | 6.8 | 5.9 |
| Lane Util. Factor | 1.00 | 1.00 | | 0.91 | | 1.00 | 0.91 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 0.85 | | 1.00 | | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1805 | 1615 | | 5120 | | 1805 | 5136 |
| Flt Permitted | 0.95 | 1.00 | | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1805 | 1615 | | 5120 | | 1805 | 5136 |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Adj. Flow (vph) | 27 | 10 | 0 | 1731 | 34 | 10 | 1734 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 2 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 27 | 1 | 0 | 1763 | 0 | 10 | 1734 |
| Confl. Peds. (#/hr) | | | | | 1 | 1 | |
| Heavy Vehicles (%) | 0% | 0% | 2% | 1% | 0% | 0% | 1% |
| Turn Type | Prot | Perm | Prot | NA | | Prot | NA |
| Protected Phases | 4 | | 5 | 2 | | 1 | 6 |
| Permitted Phases | | 4 | | | | | |
| Actuated Green, G (s) | 4.8 | 4.8 | | 56.8 | | 1.4 | 65.0 |
| Effective Green, g (s) | 4.8 | 4.8 | | 56.8 | | 1.4 | 65.0 |
| Actuated g/C Ratio | 0.06 | 0.06 | | 0.69 | | 0.02 | 0.79 |
| Clearance Time (s) | 6.3 | 6.3 | | 5.9 | | 6.8 | 5.9 |
| Vehicle Extension (s) | 3.5 | 3.5 | | 5.5 | | 3.0 | 5.5 |
| Lane Grp Cap (vph) | 105 | 94 | | 3546 | | 30 | 4071 |
| v/s Ratio Prot | c0.01 | | | c0.34 | | 0.01 | c0.34 |
| v/s Ratio Perm | | 0.00 | | | | | |
| v/c Ratio | 0.26 | 0.01 | | 0.50 | | 0.33 | 0.43 |
| Uniform Delay, d1 | 36.9 | 36.4 | | 5.9 | | 39.8 | 2.7 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.5 | 0.0 | | 0.5 | | 6.5 | 0.3 |
| Delay (s) | 38.4 | 36.4 | | 6.4 | | 46.3 | 3.0 |
| Level of Service | D | D | | A | | D | A |
| Approach Delay (s) | 37.9 | | | 6.4 | | | 3.2 |
| Approach LOS | D | | | A | | | A |

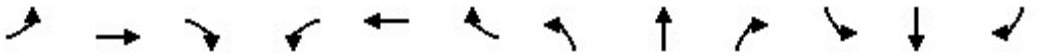
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 5.2 | HCM 2000 Level of Service | A |
| HCM 2000 Volume to Capacity ratio | 0.51 | | |
| Actuated Cycle Length (s) | 82.0 | Sum of lost time (s) | 19.0 |
| Intersection Capacity Utilization | 47.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBT | EBR | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 139 | 70 | 62 | 43 | 121 | 1599 | 24 | 50 | 1613 | 88 |
| v/c Ratio | 0.66 | 0.21 | 0.39 | 0.14 | 0.60 | 0.59 | 0.03 | 0.32 | 0.66 | 0.11 |
| Control Delay | 50.3 | 1.5 | 41.9 | 1.0 | 48.1 | 18.1 | 0.0 | 40.9 | 21.5 | 0.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.3 | 1.5 | 41.9 | 1.0 | 48.1 | 18.1 | 0.0 | 40.9 | 21.5 | 0.7 |
| Queue Length 50th (ft) | 70 | 0 | 31 | 0 | 61 | 243 | 0 | 25 | 265 | 0 |
| Queue Length 95th (ft) | #129 | 0 | 67 | 0 | #117 | 339 | 0 | 57 | 343 | 5 |
| Internal Link Dist (ft) | 284 | | 261 | | | 193 | | | 145 | |
| Turn Bay Length (ft) | | 115 | | | 190 | | 75 | 295 | | 105 |
| Base Capacity (vph) | 237 | 350 | 223 | 354 | 222 | 2695 | 910 | 208 | 2445 | 834 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.59 | 0.20 | 0.28 | 0.12 | 0.55 | 0.59 | 0.03 | 0.24 | 0.66 | 0.11 |

Intersection Summary

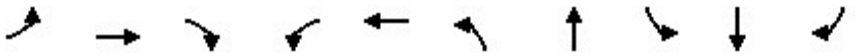
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 124 | 7 | 66 | 53 | 6 | 40 | 114 | 1503 | 23 | 47 | 1516 | 83 |
| Future Volume (vph) | 124 | 7 | 66 | 53 | 6 | 40 | 114 | 1503 | 23 | 47 | 1516 | 83 |
| 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 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Lane Util. Factor | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 1.00 | 0.91 | 1.00 |
| Frpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 0.98 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 0.95 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | | 1814 | 1553 | | 1710 | 1584 | 1787 | 5136 | 1595 | 1752 | 5136 | 1581 |
| Flt Permitted | | 0.95 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | | 1814 | 1553 | | 1710 | 1584 | 1787 | 5136 | 1595 | 1752 | 5136 | 1581 |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 132 | 7 | 70 | 56 | 6 | 43 | 121 | 1599 | 24 | 50 | 1613 | 88 |
| RTOR Reduction (vph) | 0 | 0 | 62 | 0 | 0 | 39 | 0 | 0 | 12 | 0 | 0 | 48 |
| Lane Group Flow (vph) | 0 | 139 | 8 | 0 | 62 | 4 | 121 | 1599 | 12 | 50 | 1613 | 40 |
| Confl. Peds. (#/hr) | 2 | | | | | 2 | 1 | | 1 | 1 | | 1 |
| Heavy Vehicles (%) | 0% | 0% | 4% | 7% | 0% | 0% | 1% | 1% | 0% | 3% | 1% | 0% |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 3 | 3 | | 4 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 3 | | | 4 | | | 2 | | | 6 |
| Actuated Green, G (s) | | 9.8 | 9.8 | | 6.9 | 6.9 | 8.2 | 41.2 | 41.2 | 5.1 | 38.1 | 38.1 |
| Effective Green, g (s) | | 9.8 | 9.8 | | 6.9 | 6.9 | 8.2 | 41.2 | 41.2 | 5.1 | 38.1 | 38.1 |
| Actuated g/C Ratio | | 0.12 | 0.12 | | 0.08 | 0.08 | 0.10 | 0.49 | 0.49 | 0.06 | 0.45 | 0.45 |
| Clearance Time (s) | | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | | 2.5 | 2.5 | | 2.5 | 2.5 | 2.5 | 4.0 | 4.0 | 2.5 | 4.0 | 4.0 |
| Lane Grp Cap (vph) | | 211 | 181 | | 140 | 130 | 174 | 2519 | 782 | 106 | 2329 | 717 |
| v/s Ratio Prot | | c0.08 | | | c0.04 | | c0.07 | c0.31 | | 0.03 | c0.31 | |
| v/s Ratio Perm | | | 0.01 | | | 0.00 | | | 0.01 | | | 0.03 |
| v/c Ratio | | 0.66 | 0.05 | | 0.44 | 0.03 | 0.70 | 0.63 | 0.02 | 0.47 | 0.69 | 0.06 |
| Uniform Delay, d1 | | 35.5 | 32.9 | | 36.7 | 35.5 | 36.7 | 15.8 | 11.0 | 38.1 | 18.3 | 12.9 |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 6.5 | 0.1 | | 1.6 | 0.1 | 10.6 | 1.2 | 0.0 | 2.4 | 1.7 | 0.1 |
| Delay (s) | | 42.0 | 33.0 | | 38.3 | 35.5 | 47.3 | 17.1 | 11.0 | 40.5 | 20.0 | 13.0 |
| Level of Service | | D | C | | D | D | D | B | B | D | C | B |
| Approach Delay (s) | | 39.0 | | | 37.2 | | | 19.1 | | | 20.2 | |
| Approach LOS | | D | | | D | | | B | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 21.2 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.66 | | |
| Actuated Cycle Length (s) | 84.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 62.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

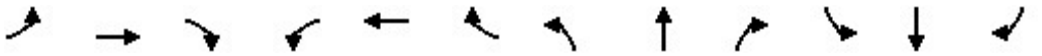


| Lane Group | EBL | EBT | EBR | WBL | WBT | NBL | NBT | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 183 | 331 | 120 | 135 | 602 | 156 | 1434 | 324 | 1185 | 238 |
| v/c Ratio | 0.93 | 0.63 | 0.32 | 0.77 | 1.06 | 0.67 | 0.89 | 0.98 | 0.62 | 0.33 |
| Control Delay | 88.5 | 39.0 | 4.3 | 65.5 | 84.3 | 48.6 | 34.3 | 81.4 | 23.3 | 4.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 88.5 | 39.0 | 4.3 | 65.5 | 84.3 | 48.6 | 34.3 | 81.4 | 23.3 | 4.1 |
| Queue Length 50th (ft) | 95 | 85 | 0 | 69 | ~148 | 76 | 247 | 167 | 183 | 0 |
| Queue Length 95th (ft) | #216 | 128 | 19 | #160 | #254 | #142 | #334 | #328 | 230 | 45 |
| Internal Link Dist (ft) | | 762 | | | 867 | | 276 | | 418 | |
| Turn Bay Length (ft) | 200 | | 215 | 725 | | 280 | | 330 | | 245 |
| Base Capacity (vph) | 196 | 524 | 376 | 176 | 567 | 256 | 1611 | 330 | 1905 | 724 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.93 | 0.63 | 0.32 | 0.77 | 1.06 | 0.61 | 0.89 | 0.98 | 0.62 | 0.33 |

Intersection Summary

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

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



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 176 | 318 | 115 | 130 | 360 | 218 | 150 | 1177 | 200 | 311 | 1138 | 228 |
| Future Volume (veh/h) | 176 | 318 | 115 | 130 | 360 | 218 | 150 | 1177 | 200 | 311 | 1138 | 228 |
| 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 | | 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 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1885 | 1885 | 1870 | 1900 | 1900 | 1900 | 1856 | 1885 | 1885 | 1900 | 1900 | 1870 |
| Adj Flow Rate, veh/h | 183 | 331 | 120 | 135 | 375 | 227 | 156 | 1226 | 208 | 324 | 1185 | 0 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, % | 1 | 1 | 2 | 0 | 0 | 0 | 3 | 1 | 1 | 0 | 0 | 2 |
| Cap, veh/h | 197 | 540 | 239 | 168 | 291 | 174 | 192 | 1404 | 238 | 331 | 2029 | |
| Arrive On Green | 0.11 | 0.15 | 0.15 | 0.09 | 0.13 | 0.13 | 0.11 | 0.32 | 0.32 | 0.18 | 0.39 | 0.00 |
| Sat Flow, veh/h | 1795 | 3582 | 1582 | 1810 | 2173 | 1296 | 1767 | 4428 | 751 | 1810 | 5187 | 1585 |
| Grp Volume(v), veh/h | 183 | 331 | 120 | 135 | 311 | 291 | 156 | 950 | 484 | 324 | 1185 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1795 | 1791 | 1582 | 1810 | 1805 | 1663 | 1767 | 1716 | 1748 | 1810 | 1729 | 1585 |
| Q Serve(g_s), s | 8.3 | 7.1 | 5.7 | 6.0 | 11.0 | 11.0 | 7.1 | 21.4 | 21.4 | 14.6 | 14.8 | 0.0 |
| Cycle Q Clear(g_c), s | 8.3 | 7.1 | 5.7 | 6.0 | 11.0 | 11.0 | 7.1 | 21.4 | 21.4 | 14.6 | 14.8 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.78 | 1.00 | | 0.43 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 197 | 540 | 239 | 168 | 242 | 223 | 192 | 1088 | 554 | 331 | 2029 | |
| V/C Ratio(X) | 0.93 | 0.61 | 0.50 | 0.80 | 1.28 | 1.31 | 0.81 | 0.87 | 0.87 | 0.98 | 0.58 | |
| Avail Cap(c_a), veh/h | 197 | 540 | 239 | 177 | 242 | 223 | 259 | 1088 | 554 | 331 | 2029 | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 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 | 0.00 |
| Uniform Delay (d), s/veh | 36.2 | 32.6 | 32.0 | 36.4 | 35.5 | 35.5 | 35.7 | 26.4 | 26.4 | 33.3 | 19.7 | 0.0 |
| Incr Delay (d2), s/veh | 43.7 | 2.0 | 1.7 | 21.9 | 154.8 | 166.3 | 13.2 | 9.7 | 17.2 | 43.6 | 1.2 | 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 BackOfQ(50%),veh/ln | 5.9 | 3.2 | 2.2 | 3.6 | 15.1 | 14.6 | 3.7 | 9.8 | 11.1 | 10.2 | 5.9 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 79.9 | 34.6 | 33.7 | 58.4 | 190.3 | 201.8 | 48.9 | 36.2 | 43.6 | 76.9 | 20.9 | 0.0 |
| LnGrp LOS | E | C | C | E | F | F | D | D | D | E | C | |
| Approach Vol, veh/h | | 634 | | | 737 | | | 1590 | | | 1509 | A |
| Approach Delay, s/veh | | 47.5 | | | 170.7 | | | 39.7 | | | 33.0 | |
| Approach LOS | | D | | | F | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.0 | 32.0 | 12.6 | 17.4 | 13.9 | 38.1 | 14.0 | 16.0 |
| Change Period (Y+Rc), s | 5.0 | 6.0 | 5.0 | 5.0 | 5.0 | 6.0 | 5.0 | 5.0 |
| Max Green Setting (Gmax), s | 15.0 | 26.0 | 8.0 | 12.0 | 12.0 | 29.0 | 9.0 | 11.0 |
| Max Q Clear Time (g_c+I1), s | 16.6 | 23.4 | 8.0 | 9.1 | 9.1 | 16.8 | 10.3 | 13.0 |
| Green Ext Time (p_c), s | 0.0 | 2.2 | 0.0 | 0.7 | 0.1 | 7.9 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 60.1 |
| HCM 6th LOS | E |

**Notes**

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

| Lane Group | EBT | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 123 | 53 | 51 | 1520 | 21 | 1416 |
| v/c Ratio | 0.60 | 0.35 | 0.17 | 0.44 | 0.08 | 0.42 |
| Control Delay | 29.3 | 36.8 | 6.4 | 9.5 | 5.8 | 10.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.3 | 36.8 | 6.4 | 9.5 | 5.8 | 10.8 |
| Queue Length 50th (ft) | 23 | 21 | 8 | 132 | 3 | 172 |
| Queue Length 95th (ft) | #78 | 56 | 20 | 236 | 11 | 220 |
| Internal Link Dist (ft) | 218 | 764 | | 385 | | 854 |
| Turn Bay Length (ft) | | | 230 | | 215 | |
| Base Capacity (vph) | 215 | 162 | 316 | 3482 | 312 | 3358 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.57 | 0.33 | 0.16 | 0.44 | 0.07 | 0.42 |

Intersection Summary

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 40 | 5 | 73 | 32 | 10 | 10 | 49 | 1428 | 31 | 20 | 1319 | 40 |
| Future Volume (vph) | 40 | 5 | 73 | 32 | 10 | 10 | 49 | 1428 | 31 | 20 | 1319 | 40 |
| 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 | 6.0 | | 5.0 | 6.0 | |
| Lane Util. Factor | | 1.00 | | | 1.00 | | 1.00 | 0.91 | | 1.00 | 0.91 | |
| Frpb, ped/bikes | | 1.00 | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.92 | | | 0.97 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | 0.98 | | | 0.97 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1712 | | | 1796 | | 1752 | 5067 | | 1805 | 5111 | |
| Flt Permitted | | 0.98 | | | 0.97 | | 0.14 | 1.00 | | 0.13 | 1.00 | |
| Satd. Flow (perm) | | 1712 | | | 1796 | | 264 | 5067 | | 256 | 5111 | |
| 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 |
| Adj. Flow (vph) | 42 | 5 | 76 | 33 | 10 | 10 | 51 | 1488 | 32 | 21 | 1374 | 42 |
| RTOR Reduction (vph) | 0 | 71 | 0 | 0 | 9 | 0 | 0 | 2 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 52 | 0 | 0 | 44 | 0 | 51 | 1518 | 0 | 21 | 1413 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 5 | | | | | 5 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 3% | 2% | 4% | 0% | 1% | 0% |
| Turn Type | Split | NA | | Split | NA | | pm+pt | NA | | pm+pt | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | 2 | | | 6 | | |
| Actuated Green, G (s) | | 5.4 | | | 4.2 | | 52.9 | 49.1 | | 49.9 | 47.6 | |
| Effective Green, g (s) | | 5.4 | | | 4.2 | | 52.9 | 49.1 | | 49.9 | 47.6 | |
| Actuated g/C Ratio | | 0.07 | | | 0.05 | | 0.65 | 0.60 | | 0.61 | 0.58 | |
| Clearance Time (s) | | 5.0 | | | 5.0 | | 5.0 | 6.0 | | 5.0 | 6.0 | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | | 2.5 | 4.0 | | 2.5 | 4.0 | |
| Lane Grp Cap (vph) | | 112 | | | 91 | | 239 | 3034 | | 199 | 2966 | |
| v/s Ratio Prot | | c0.03 | | | c0.02 | | c0.01 | c0.30 | | 0.00 | 0.28 | |
| v/s Ratio Perm | | | | | | | 0.13 | | | 0.06 | | |
| v/c Ratio | | 0.46 | | | 0.48 | | 0.21 | 0.50 | | 0.11 | 0.48 | |
| Uniform Delay, d1 | | 36.9 | | | 37.8 | | 6.0 | 9.4 | | 6.7 | 10.0 | |
| Progression Factor | | 1.00 | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 3.0 | | | 3.9 | | 0.3 | 0.6 | | 0.2 | 0.6 | |
| Delay (s) | | 39.9 | | | 41.8 | | 6.3 | 10.0 | | 6.9 | 10.5 | |
| Level of Service | | D | | | D | | A | B | | A | B | |
| Approach Delay (s) | | 39.9 | | | 41.8 | | | 9.9 | | | 10.5 | |
| Approach LOS | | D | | | D | | | A | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 11.8 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.49 | | |
| Actuated Cycle Length (s) | 82.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 53.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 5 | 9 | 366 | 200 | 1345 | 448 | 197 | 1281 |
| v/c Ratio | 0.05 | 0.08 | 0.71 | 0.29 | 0.58 | 0.46 | 0.71 | 0.37 |
| Control Delay | 37.2 | 25.7 | 41.6 | 6.1 | 19.7 | 3.9 | 46.6 | 7.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 37.2 | 25.7 | 41.6 | 6.1 | 19.7 | 3.9 | 46.6 | 7.1 |
| Queue Length 50th (ft) | 3 | 1 | 91 | 15 | 171 | 0 | 96 | 79 |
| Queue Length 95th (ft) | 13 | 16 | 137 | 55 | 278 | 61 | 162 | 151 |
| Internal Link Dist (ft) | | 123 | | | 241 | | | 150 |
| Turn Bay Length (ft) | | | | 250 | | 230 | 235 | |
| Base Capacity (vph) | 110 | 108 | 552 | 725 | 2304 | 969 | 330 | 3435 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.05 | 0.08 | 0.66 | 0.28 | 0.58 | 0.46 | 0.60 | 0.37 |

Intersection Summary

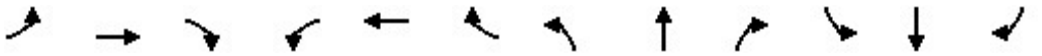
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 2 | 7 | 359 | 0 | 196 | 0 | 1318 | 439 | 193 | 1255 | 0 |
| Future Volume (vph) | 5 | 2 | 7 | 359 | 0 | 196 | 0 | 1318 | 439 | 193 | 1255 | 0 |
| 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 | | 6.0 | 6.0 | 5.0 | 6.0 | |
| Lane Util. Factor | 1.00 | 1.00 | | 0.97 | | 1.00 | | 0.91 | 1.00 | 1.00 | 0.91 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.88 | | 1.00 | | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1805 | 1678 | | 3467 | | 1615 | | 5085 | 1599 | 1805 | 5136 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1805 | 1678 | | 3467 | | 1615 | | 5085 | 1599 | 1805 | 5136 | |
| 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 | 0.98 |
| Adj. Flow (vph) | 5 | 2 | 7 | 366 | 0 | 200 | 0 | 1345 | 448 | 197 | 1281 | 0 |
| RTOR Reduction (vph) | 0 | 7 | 0 | 0 | 0 | 107 | 0 | 0 | 261 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 5 | 2 | 0 | 366 | 0 | 93 | 0 | 1345 | 187 | 197 | 1281 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 3 | | | | | 3 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 1% | 0% | 0% | 0% | 2% | 1% | 0% | 1% | 0% |
| Turn Type | Split | NA | | Prot | | pm+ov | | NA | Perm | Prot | NA | |
| Protected Phases | 3 | 3 | | 4 | | 1 | | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 4 | | | 2 | | | |
| Actuated Green, G (s) | 2.0 | 2.0 | | 12.1 | | 24.8 | | 34.2 | 34.2 | 12.7 | 51.9 | |
| Effective Green, g (s) | 2.0 | 2.0 | | 12.1 | | 24.8 | | 34.2 | 34.2 | 12.7 | 51.9 | |
| Actuated g/C Ratio | 0.02 | 0.02 | | 0.15 | | 0.30 | | 0.42 | 0.42 | 0.15 | 0.63 | |
| Clearance Time (s) | 5.0 | 5.0 | | 5.0 | | 5.0 | | 6.0 | 6.0 | 5.0 | 6.0 | |
| Vehicle Extension (s) | 2.5 | 2.5 | | 2.5 | | 2.5 | | 6.0 | 6.0 | 2.5 | 6.0 | |
| Lane Grp Cap (vph) | 44 | 40 | | 511 | | 586 | | 2120 | 666 | 279 | 3250 | |
| v/s Ratio Prot | c0.00 | 0.00 | | c0.11 | | 0.02 | | c0.26 | | c0.11 | 0.25 | |
| v/s Ratio Perm | | | | | | 0.03 | | | 0.12 | | | |
| v/c Ratio | 0.11 | 0.05 | | 0.72 | | 0.16 | | 0.63 | 0.28 | 0.71 | 0.39 | |
| Uniform Delay, d1 | 39.1 | 39.1 | | 33.3 | | 21.0 | | 18.9 | 15.8 | 32.9 | 7.4 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.8 | 0.4 | | 4.4 | | 0.1 | | 1.5 | 1.1 | 7.3 | 0.4 | |
| Delay (s) | 40.0 | 39.5 | | 37.7 | | 21.1 | | 20.4 | 16.8 | 40.2 | 7.7 | |
| Level of Service | D | D | | D | | C | | C | B | D | A | |
| Approach Delay (s) | | 39.7 | | | 31.8 | | | 19.5 | | | 12.1 | |
| Approach LOS | | D | | | C | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 18.5 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.65 | | |
| Actuated Cycle Length (s) | 82.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 65.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBT | WBR | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 116 | 116 | 55 | 11 | 2 | 6 | 1577 | 5 | 1679 |
| v/c Ratio | 0.59 | 0.59 | 0.16 | 0.09 | 0.01 | 0.05 | 0.45 | 0.04 | 0.48 |
| Control Delay | 46.7 | 46.7 | 1.0 | 36.9 | 0.0 | 36.5 | 7.9 | 36.4 | 8.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 46.7 | 46.7 | 1.0 | 36.9 | 0.0 | 36.5 | 7.9 | 36.4 | 8.1 |
| Queue Length 50th (ft) | 60 | 60 | 0 | 5 | 0 | 3 | 90 | 3 | 97 |
| Queue Length 95th (ft) | 115 | 115 | 0 | 21 | 0 | 15 | 271 | 13 | 293 |
| Internal Link Dist (ft) | | 91 | | 125 | | | 466 | | 240 |
| Turn Bay Length (ft) | | | 105 | | 50 | 450 | | 180 | |
| Base Capacity (vph) | 217 | 217 | 359 | 155 | 296 | 176 | 3524 | 176 | 3527 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.53 | 0.53 | 0.15 | 0.07 | 0.01 | 0.03 | 0.45 | 0.03 | 0.48 |

Intersection Summary



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 225 | 0 | 53 | 9 | 2 | 2 | 6 | 1522 | 8 | 5 | 1502 | 127 |
| Future Volume (vph) | 225 | 0 | 53 | 9 | 2 | 2 | 6 | 1522 | 8 | 5 | 1502 | 127 |
| 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 | 6.0 | | 5.0 | 6.0 | |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.91 | | 1.00 | 0.91 | |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 0.95 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1681 | 1681 | 1615 | | 1825 | 1615 | 1805 | 5082 | | 1805 | 5079 | |
| Flt Permitted | 0.95 | 0.95 | 1.00 | | 0.96 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1681 | 1681 | 1615 | | 1825 | 1615 | 1805 | 5082 | | 1805 | 5079 | |
| 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) | 232 | 0 | 55 | 9 | 2 | 2 | 6 | 1569 | 8 | 5 | 1548 | 131 |
| RTOR Reduction (vph) | 0 | 0 | 49 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 8 | 0 |
| Lane Group Flow (vph) | 116 | 116 | 6 | 0 | 11 | 0 | 6 | 1577 | 0 | 5 | 1671 | 0 |
| Heavy Vehicles (%) | 2% | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 0% | 0% | 1% | 0% |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | | | | |
| Actuated Green, G (s) | 9.6 | 9.6 | 9.6 | | 1.3 | 1.3 | 1.2 | 48.9 | | 1.2 | 48.9 | |
| Effective Green, g (s) | 9.6 | 9.6 | 9.6 | | 1.3 | 1.3 | 1.2 | 48.9 | | 1.2 | 48.9 | |
| Actuated g/C Ratio | 0.12 | 0.12 | 0.12 | | 0.02 | 0.02 | 0.01 | 0.60 | | 0.01 | 0.60 | |
| Clearance Time (s) | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 6.0 | | 5.0 | 6.0 | |
| Vehicle Extension (s) | 2.5 | 2.5 | 2.5 | | 2.5 | 2.5 | 2.5 | 6.0 | | 2.5 | 6.0 | |
| Lane Grp Cap (vph) | 196 | 196 | 189 | | 28 | 25 | 26 | 3030 | | 26 | 3028 | |
| v/s Ratio Prot | c0.07 | 0.07 | | | c0.01 | | c0.00 | 0.31 | | 0.00 | c0.33 | |
| v/s Ratio Perm | | | 0.00 | | | 0.00 | | | | | | |
| v/c Ratio | 0.59 | 0.59 | 0.03 | | 0.39 | 0.00 | 0.23 | 0.52 | | 0.19 | 0.55 | |
| Uniform Delay, d1 | 34.3 | 34.3 | 32.1 | | 40.0 | 39.7 | 39.9 | 9.7 | | 39.9 | 10.0 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 4.0 | 4.0 | 0.1 | | 6.5 | 0.0 | 3.3 | 0.6 | | 2.6 | 0.7 | |
| Delay (s) | 38.3 | 38.3 | 32.1 | | 46.5 | 39.7 | 43.2 | 10.3 | | 42.5 | 10.7 | |
| Level of Service | D | D | C | | D | D | D | B | | D | B | |
| Approach Delay (s) | | 37.1 | | | 45.4 | | | 10.5 | | | 10.8 | |
| Approach LOS | | D | | | D | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 12.9 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.55 | | |
| Actuated Cycle Length (s) | 82.0 | Sum of lost time (s) | 21.0 |
| Intersection Capacity Utilization | 53.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |