

























Appendix 10

2040 Build Capacity Analysis

HCM 2010 Signalized Intersection Summary
 1: Kenwood Road & Galbraith Road

2040 AM Build
 Kenwood Road Development

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 98 | 344 | 252 | 132 | 265 | 128 | 271 | 628 | 172 | 502 | 1074 | 194 |
| Future Volume (veh/h) | 98 | 344 | 252 | 132 | 265 | 128 | 271 | 628 | 172 | 502 | 1074 | 194 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 0.99 | | 0.98 | 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 107 | 374 | 274 | 143 | 288 | 139 | 295 | 683 | 187 | 546 | 1167 | 211 |
| Adj No. of Lanes | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 2 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 281 | 483 | 544 | 216 | 471 | 689 | 264 | 980 | 268 | 488 | 1364 | 245 |
| Arrive On Green | 0.06 | 0.26 | 0.26 | 0.05 | 0.25 | 0.25 | 0.09 | 0.36 | 0.36 | 0.19 | 0.46 | 0.46 |
| Sat Flow, veh/h | 1774 | 1863 | 1552 | 1774 | 1863 | 1551 | 1774 | 2745 | 751 | 1774 | 2996 | 539 |
| Grp Volume(v), veh/h | 107 | 374 | 274 | 143 | 288 | 139 | 295 | 440 | 430 | 546 | 687 | 691 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1863 | 1552 | 1774 | 1863 | 1551 | 1774 | 1770 | 1726 | 1774 | 1770 | 1766 |
| Q Serve(g_s), s | 4.9 | 20.9 | 15.6 | 6.0 | 15.3 | 6.2 | 10.0 | 23.9 | 23.9 | 21.0 | 38.7 | 39.3 |
| Cycle Q Clear(g_c), s | 4.9 | 20.9 | 15.6 | 6.0 | 15.3 | 6.2 | 10.0 | 23.9 | 23.9 | 21.0 | 38.7 | 39.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.44 | 1.00 | | 0.31 |
| Lane Grp Cap(c), veh/h | 281 | 483 | 544 | 216 | 471 | 689 | 264 | 632 | 616 | 488 | 806 | 804 |
| V/C Ratio(X) | 0.38 | 0.77 | 0.50 | 0.66 | 0.61 | 0.20 | 1.12 | 0.70 | 0.70 | 1.12 | 0.85 | 0.86 |
| Avail Cap(c_a), veh/h | 348 | 632 | 668 | 216 | 549 | 754 | 264 | 774 | 755 | 488 | 948 | 945 |
| 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 | 29.3 | 38.5 | 28.9 | 33.6 | 37.0 | 19.3 | 28.1 | 30.8 | 30.8 | 25.0 | 27.2 | 27.3 |
| Incr Delay (d2), s/veh | 0.3 | 5.3 | 1.0 | 5.9 | 2.0 | 0.2 | 91.3 | 1.3 | 1.4 | 77.5 | 5.9 | 6.3 |
| 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(95%),veh/ln | 4.4 | 17.0 | 11.1 | 3.2 | 12.8 | 4.8 | 12.0 | 17.5 | 17.2 | 46.0 | 27.6 | 27.8 |
| LnGrp Delay(d),s/veh | 29.7 | 43.8 | 29.9 | 39.6 | 39.1 | 19.5 | 119.4 | 32.2 | 32.2 | 102.5 | 33.0 | 33.7 |
| LnGrp LOS | C | D | C | D | D | B | F | C | C | F | C | C |
| Approach Vol, veh/h | | 755 | | | 570 | | | 1165 | | | 1924 | |
| Approach Delay, s/veh | | 36.7 | | | 34.4 | | | 54.3 | | | 53.0 | |
| Approach LOS | | D | | | C | | | D | | | D | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 25.0 | 44.0 | 10.0 | 33.0 | 14.0 | 55.0 | 10.7 | 32.3 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 21.0 | 49.0 | 6.0 | 38.0 | 10.0 | 60.0 | 11.0 | 33.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 23.0 | 25.9 | 8.0 | 22.9 | 12.0 | 41.3 | 6.9 | 17.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.9 | 0.0 | 4.1 | 0.0 | 1.5 | 0.0 | 2.7 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 48.1 | | | | | | | | | |
| HCM 2010 LOS | | | D | | | | | | | | | |
| Notes | | | | | | | | | | | | |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 5.1 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | ↕ | ↕ | ↕ | | ↕ | ↕ | |
| Traffic Vol, veh/h | 5 | 2 | 11 | 0 | 11 | 9 | 80 | 1056 | 16 | 26 | 1500 | 78 |
| Future Vol, veh/h | 5 | 2 | 11 | 0 | 11 | 9 | 80 | 1056 | 16 | 26 | 1500 | 78 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | 0 | 95 | - | - | 90 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 2 | 12 | 0 | 12 | 10 | 87 | 1148 | 17 | 28 | 1630 | 85 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|------|--------|------|--------|------|--------|---|---|------|---|---|
| Conflicting Flow All | 2483 | 3068 | 858 | 2203 | 3102 | 583 | 1715 | 0 | 0 | 1165 | 0 | 0 |
| Stage 1 | 1729 | 1729 | - | 1331 | 1331 | - | - | - | - | - | - | - |
| Stage 2 | 754 | 1339 | - | 872 | 1771 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 15 | 12 | 300 | 25 | ~ 11 | 456 | 366 | - | - | 595 | - | - |
| Stage 1 | 92 | 141 | - | 163 | 222 | - | - | - | - | - | - | - |
| Stage 2 | 367 | 220 | - | 312 | 135 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | 9 | 300 | 16 | ~ 8 | 456 | 366 | - | - | 595 | - | - |
| Mov Cap-2 Maneuver | - | 9 | - | 16 | ~ 8 | - | - | - | - | - | - | - |
| Stage 1 | 70 | 134 | - | 124 | 169 | - | - | - | - | - | - | - |
| Stage 2 | 254 | 168 | - | 281 | 129 | - | - | - | - | - | - | - |












| Approach | EB | WB | NB | SB |
|----------------------|----|----------|-----|-----|
| HCM Control Delay, s | | \$ 626.1 | 1.2 | 0.2 |
| HCM LOS | - | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-----------------|-----------|-------|-------|
| Capacity (veh/h) | 366 | - | - | - | 8 | 456 | 595 |
| HCM Lane V/C Ratio | 0.238 | - | - | - | 1.495 | 0.021 | 0.047 |
| HCM Control Delay (s) | 17.9 | - | - | - | \$ 1127.6 | 13.1 | 11.4 |
| HCM Lane LOS | C | - | - | - | F | B | B |
| HCM 95th %tile Q(veh) | 0.9 | - | - | - | 2.4 | 0.1 | 0.1 |

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

HCM 2010 Signalized Intersection Summary
3: Kenwood Road & Happiness Way

2040 AM Build
Kenwood Road Development

| |  |  |  |  |  |  | | |
|------------------------------|---|---|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR | | |
| Lane Configurations |  | |  |  |  |  | | |
| Traffic Volume (veh/h) | 61 | 74 | 86 | 1100 | 1424 | 69 | | |
| Future Volume (veh/h) | 61 | 74 | 86 | 1100 | 1424 | 69 | | |
| Number | 7 | 14 | 5 | 2 | 6 | 16 | | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Adj Sat Flow, veh/h/ln | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | | |
| Adj Flow Rate, veh/h | 66 | 80 | 93 | 1196 | 1548 | 75 | | |
| Adj No. of Lanes | 0 | 0 | 1 | 2 | 2 | 0 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 0 | 0 | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 85 | 103 | 263 | 2564 | 2490 | 120 | | |
| Arrive On Green | 0.11 | 0.11 | 0.72 | 0.72 | 0.72 | 0.72 | | |
| Sat Flow, veh/h | 748 | 906 | 310 | 3632 | 3530 | 166 | | |
| Grp Volume(v), veh/h | 147 | 0 | 93 | 1196 | 794 | 829 | | |
| Grp Sat Flow(s),veh/h/ln | 1665 | 0 | 310 | 1770 | 1770 | 1833 | | |
| Q Serve(g_s), s | 5.7 | 0.0 | 14.3 | 9.3 | 14.8 | 15.0 | | |
| Cycle Q Clear(g_c), s | 5.7 | 0.0 | 29.3 | 9.3 | 14.8 | 15.0 | | |
| Prop In Lane | 0.45 | 0.54 | 1.00 | | | 0.09 | | |
| Lane Grp Cap(c), veh/h | 189 | 0 | 263 | 2564 | 1282 | 1328 | | |
| V/C Ratio(X) | 0.78 | 0.00 | 0.35 | 0.47 | 0.62 | 0.62 | | |
| Avail Cap(c_a), veh/h | 631 | 0 | 481 | 5055 | 2528 | 2619 | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Uniform Delay (d), s/veh | 28.5 | 0.0 | 11.9 | 3.8 | 4.5 | 4.6 | | |
| Incr Delay (d2), s/veh | 6.7 | 0.0 | 0.8 | 0.1 | 0.5 | 0.5 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(95%),veh/ln | 5.3 | 0.0 | 2.3 | 7.8 | 11.6 | 12.1 | | |
| LnGrp Delay(d),s/veh | 35.2 | 0.0 | 12.7 | 3.9 | 5.0 | 5.1 | | |
| LnGrp LOS | D | | B | A | A | A | | |
| Approach Vol, veh/h | 147 | | | 1289 | 1623 | | | |
| Approach Delay, s/veh | 35.2 | | | 4.6 | 5.1 | | | |
| Approach LOS | D | | | A | A | | | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Assigned Phs | | 2 | | 4 | | 6 | | |
| Phs Duration (G+Y+Rc), s | | 54.5 | | 11.5 | | 54.5 | | |
| Change Period (Y+Rc), s | | * 6.7 | | 4.0 | | * 6.7 | | |
| Max Green Setting (Gmax), s | | * 94 | | 25.0 | | * 94 | | |
| Max Q Clear Time (g_c+I1), s | | 31.3 | | 7.7 | | 17.0 | | |
| Green Ext Time (p_c), s | | 16.6 | | 0.4 | | 20.0 | | |
| Intersection Summary | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 6.3 | | | | | |
| HCM 2010 LOS | | | A | | | | | |
| Notes | | | | | | | | |

HCM 2010 Signalized Intersection Summary
 4: Kenwood Road & Kenwood Place/Towne Center

2040 AM Build
 Kenwood Road Development



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------------|------|-------|------|------|-------|-------|------|------|------|------|------|------|
| Lane Configurations | ↔ | ↔ | | ↔ | ↔ | | ↔ | ↕ | | ↔ | ↕ | |
| Traffic Volume (veh/h) | 18 | 0 | 25 | 30 | 0 | 5 | 74 | 1194 | 38 | 22 | 1444 | 27 |
| Future Volume (veh/h) | 18 | 0 | 25 | 30 | 0 | 5 | 74 | 1194 | 38 | 22 | 1444 | 27 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 1.00 | 0.99 | | 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1788 | 1863 | 1900 | 1788 | 1863 | 1900 | 1788 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 20 | 0 | 27 | 33 | 0 | 5 | 80 | 1298 | 41 | 24 | 1570 | 29 |
| Adj No. of Lanes | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 2 | 0 | 1 | 2 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 275 | 0 | 149 | 268 | 0 | 171 | 234 | 1832 | 58 | 244 | 1734 | 32 |
| Arrive On Green | 0.03 | 0.00 | 0.09 | 0.05 | 0.00 | 0.11 | 0.07 | 0.52 | 0.52 | 0.04 | 0.49 | 0.49 |
| Sat Flow, veh/h | 1774 | 0 | 1576 | 1703 | 0 | 1576 | 1703 | 3502 | 111 | 1703 | 3555 | 66 |
| Grp Volume(v), veh/h | 20 | 0 | 27 | 33 | 0 | 5 | 80 | 655 | 684 | 24 | 780 | 819 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 0 | 1576 | 1703 | 0 | 1576 | 1703 | 1770 | 1843 | 1703 | 1770 | 1851 |
| Q Serve(g_s), s | 0.8 | 0.0 | 1.3 | 1.4 | 0.0 | 0.2 | 1.8 | 23.0 | 23.1 | 0.6 | 33.2 | 33.3 |
| Cycle Q Clear(g_c), s | 0.8 | 0.0 | 1.3 | 1.4 | 0.0 | 0.2 | 1.8 | 23.0 | 23.1 | 0.6 | 33.2 | 33.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.06 | 1.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 275 | 0 | 149 | 268 | 0 | 171 | 234 | 926 | 964 | 244 | 863 | 903 |
| V/C Ratio(X) | 0.07 | 0.00 | 0.18 | 0.12 | 0.00 | 0.03 | 0.34 | 0.71 | 0.71 | 0.10 | 0.90 | 0.91 |
| Avail Cap(c_a), veh/h | 393 | 0 | 494 | 420 | 0 | 551 | 264 | 1322 | 1377 | 334 | 1322 | 1383 |
| 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 | 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 | 31.7 | 0.0 | 34.2 | 31.0 | 0.0 | 32.7 | 17.1 | 14.8 | 14.8 | 12.1 | 19.3 | 19.3 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 1.2 | 0.1 | 0.0 | 0.0 | 0.3 | 0.4 | 0.4 | 0.1 | 4.4 | 4.4 |
| 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(95%),veh/ln | 0.8 | 0.0 | 1.1 | 1.2 | 0.0 | 0.2 | 1.6 | 16.7 | 17.3 | 0.5 | 23.9 | 24.9 |
| LnGrp Delay(d),s/veh | 31.9 | 0.0 | 35.4 | 31.0 | 0.0 | 32.7 | 17.4 | 15.2 | 15.2 | 12.1 | 23.7 | 23.7 |
| LnGrp LOS | C | | D | C | | C | B | B | B | B | C | C |
| Approach Vol, veh/h | | 47 | | | 38 | | | 1419 | | | 1623 | |
| Approach Delay, s/veh | | 33.9 | | | 31.3 | | | 15.3 | | | 23.5 | |
| Approach LOS | | C | | | C | | | B | | | C | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 9.6 | 49.6 | 7.7 | 15.1 | 12.6 | 46.7 | 6.6 | 16.2 | | | | |
| Change Period (Y+Rc), s | 6.7 | * 6.7 | 4.0 | 7.3 | * 6.7 | * 6.7 | 4.0 | 7.3 | | | | |
| Max Green Setting (Gmax), s | 3 | * 61 | 11.0 | 25.7 | * 7.3 | * 61 | 8.0 | 28.7 | | | | |
| Max Q Clear Time (g_c+1/2C), s | 12.6 | 25.1 | 3.4 | 3.3 | 3.8 | 35.3 | 2.8 | 2.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.5 | 0.0 | 0.1 | 0.0 | 4.5 | 0.0 | 0.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 20.0 | | | | | | | | | |
| HCM 2010 LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |

HCM 2010 Signalized Intersection Summary
5: Kenwood Road & Orchard Lane

2040 AM Build
Kenwood Road Development



| Movement | EBL | EBR | NBL | NBT | SBT | SBR | | |
|------------------------------|------|-------|------|------|------|-------|---|---|
| Lane Configurations | | | | | | | | |
| Traffic Volume (veh/h) | 26 | 120 | 38 | 1346 | 1435 | 16 | | |
| Future Volume (veh/h) | 26 | 120 | 38 | 1346 | 1435 | 16 | | |
| Number | 7 | 14 | 5 | 2 | 6 | 16 | | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | 0.95 | 1.00 | | | 1.00 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Adj Sat Flow, veh/h/ln | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | | |
| Adj Flow Rate, veh/h | 28 | 130 | 41 | 1463 | 1560 | 17 | | |
| Adj No. of Lanes | 0 | 0 | 1 | 2 | 2 | 0 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 0 | 0 | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 42 | 193 | 251 | 2746 | 2791 | 30 | | |
| Arrive On Green | 0.15 | 0.14 | 1.00 | 1.00 | 0.78 | 0.77 | | |
| Sat Flow, veh/h | 273 | 1269 | 324 | 3632 | 3679 | 39 | | |
| Grp Volume(v), veh/h | 159 | 0 | 41 | 1463 | 769 | 808 | | |
| Grp Sat Flow(s),veh/h/ln | 1552 | 0 | 324 | 1770 | 1770 | 1856 | | |
| Q Serve(g_s), s | 12.6 | 0.0 | 4.3 | 0.0 | 22.2 | 22.2 | | |
| Cycle Q Clear(g_c), s | 12.6 | 0.0 | 26.6 | 0.0 | 22.2 | 22.2 | | |
| Prop In Lane | 0.18 | 0.82 | 1.00 | | | 0.02 | | |
| Lane Grp Cap(c), veh/h | 236 | 0 | 251 | 2746 | 1377 | 1444 | | |
| V/C Ratio(X) | 0.67 | 0.00 | 0.16 | 0.53 | 0.56 | 0.56 | | |
| Avail Cap(c_a), veh/h | 392 | 0 | 251 | 2746 | 1377 | 1444 | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | | |
| Upstream Filter(I) | 1.00 | 0.00 | 0.84 | 0.84 | 0.63 | 0.63 | | |
| Uniform Delay (d), s/veh | 52.6 | 0.0 | 2.9 | 0.0 | 5.7 | 5.7 | | |
| Incr Delay (d2), s/veh | 3.3 | 0.0 | 1.2 | 0.6 | 1.0 | 1.0 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(95%),veh/ln | 9.5 | 0.0 | 0.8 | 0.4 | 15.4 | 16.1 | | |
| LnGrp Delay(d),s/veh | 56.0 | 0.0 | 4.1 | 0.6 | 6.7 | 6.7 | | |
| LnGrp LOS | E | | A | A | A | A | | |
| Approach Vol, veh/h | 159 | | | 1504 | 1577 | | | |
| Approach Delay, s/veh | 56.0 | | | 0.7 | 6.7 | | | |
| Approach LOS | E | | | A | A | | | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Assigned Phs | | 2 | | 4 | | 6 | | |
| Phs Duration (G+Y+Rc), s | | 106.1 | | 23.9 | | 106.1 | | |
| Change Period (Y+Rc), s | | 6.0 | | 5.5 | | 6.0 | | |
| Max Green Setting (Gmax), s | | 87.0 | | 31.5 | | 87.0 | | |
| Max Q Clear Time (g_c+I1), s | | 28.6 | | 14.6 | | 24.2 | | |
| Green Ext Time (p_c), s | | 12.1 | | 0.6 | | 10.2 | | |
| Intersection Summary | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 6.3 | | | | | |
| HCM 2010 LOS | | | A | | | | | |
| Notes | | | | | | | | |

HCM 2010 Signalized Intersection Summary
 6: Kenwood Road & Montgomery Road (US 22/SR 3)

2040 AM Build
 Kenwood Road Development



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↔↔ | ↑↑ | ↗ | ↔↔ | ↑↑ | ↗ | ↔↔ | ↑↑↑ | ↗ | ↔↔ | ↑↑↑ | ↗ |
| Traffic Volume (veh/h) | 252 | 661 | 102 | 202 | 499 | 209 | 200 | 956 | 320 | 216 | 1037 | 312 |
| Future Volume (veh/h) | 252 | 661 | 102 | 202 | 499 | 209 | 200 | 956 | 320 | 216 | 1037 | 312 |
| Number | 5 | 2 | 12 | 1 | 6 | 16 | 3 | 8 | 18 | 7 | 4 | 14 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1788 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 274 | 718 | 111 | 220 | 542 | 227 | 217 | 1039 | 348 | 235 | 1127 | 339 |
| Adj No. of Lanes | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 3 | 1 | 2 | 3 | 1 |
| 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 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 382 | 850 | 472 | 338 | 804 | 506 | 315 | 2176 | 772 | 333 | 2224 | 813 |
| Arrive On Green | 0.11 | 0.24 | 0.22 | 0.10 | 0.23 | 0.22 | 0.09 | 0.43 | 0.41 | 0.03 | 0.14 | 0.14 |
| Sat Flow, veh/h | 3442 | 3539 | 1575 | 3442 | 3539 | 1575 | 3442 | 5085 | 1572 | 3304 | 5085 | 1572 |
| Grp Volume(v), veh/h | 274 | 718 | 111 | 220 | 542 | 227 | 217 | 1039 | 348 | 235 | 1127 | 339 |
| Grp Sat Flow(s),veh/h/ln | 1721 | 1770 | 1575 | 1721 | 1770 | 1575 | 1721 | 1695 | 1572 | 1652 | 1695 | 1572 |
| Q Serve(g_s), s | 10.0 | 25.1 | 6.9 | 8.0 | 18.2 | 14.9 | 7.9 | 19.1 | 18.8 | 9.2 | 26.6 | 21.8 |
| Cycle Q Clear(g_c), s | 10.0 | 25.1 | 6.9 | 8.0 | 18.2 | 14.9 | 7.9 | 19.1 | 18.8 | 9.2 | 26.6 | 21.8 |
| 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 | 382 | 850 | 472 | 338 | 804 | 506 | 315 | 2176 | 772 | 333 | 2224 | 813 |
| V/C Ratio(X) | 0.72 | 0.84 | 0.24 | 0.65 | 0.67 | 0.45 | 0.69 | 0.48 | 0.45 | 0.71 | 0.51 | 0.42 |
| Avail Cap(c_a), veh/h | 408 | 907 | 497 | 349 | 847 | 525 | 328 | 2176 | 772 | 369 | 2224 | 813 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.77 | 0.77 | 0.77 |
| Uniform Delay (d), s/veh | 55.8 | 47.1 | 34.3 | 56.5 | 45.8 | 35.0 | 57.3 | 26.7 | 21.7 | 60.9 | 42.7 | 30.5 |
| Incr Delay (d2), s/veh | 5.6 | 7.1 | 0.3 | 4.1 | 2.0 | 0.6 | 5.7 | 0.8 | 1.9 | 4.2 | 0.6 | 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(95%),veh/ln | 8.7 | 19.0 | 5.4 | 7.2 | 14.1 | 10.7 | 7.3 | 14.0 | 13.3 | 7.4 | 17.8 | 14.3 |
| LnGrp Delay(d),s/veh | 61.4 | 54.1 | 34.6 | 60.6 | 47.8 | 35.6 | 63.0 | 27.5 | 23.6 | 65.1 | 43.3 | 31.7 |
| LnGrp LOS | E | D | C | E | D | D | E | C | C | E | D | C |
| Approach Vol, veh/h | | 1103 | | | 989 | | | 1604 | | | 1701 | |
| Approach Delay, s/veh | | 54.0 | | | 47.9 | | | 31.4 | | | 44.0 | |
| Approach LOS | | D | | | D | | | C | | | D | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 6.5 | 35.4 | 16.5 | 61.5 | 18.6 | 33.3 | 17.8 | 60.2 | | | | |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | | | | |
| Max Green Setting (Gmax), s | 10.5 | 31.0 | 10.5 | 52.0 | 13.1 | 28.4 | 12.7 | 49.8 | | | | |
| Max Q Clear Time (g_c+110), s | 11.0 | 27.1 | 9.9 | 28.6 | 12.0 | 20.2 | 11.2 | 21.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.4 | 0.1 | 7.5 | 0.1 | 2.3 | 0.2 | 7.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 43.0 | | | | | | | | | |
| HCM 2010 LOS | | | D | | | | | | | | | |
| Notes | | | | | | | | | | | | |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 5.6 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 3 | 52 | 2 | 116 | 48 | 3 | 0 | 0 | 90 | 5 | 0 | 3 |
| Future Vol, veh/h | 3 | 52 | 2 | 116 | 48 | 3 | 0 | 0 | 90 | 5 | 0 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 57 | 2 | 126 | 52 | 3 | 0 | 0 | 98 | 5 | 0 | 3 |

| Major/Minor | Major1 | | Major2 | | Minor1 | | Minor2 | | | | | |
|----------------------|--------|---|--------|-------|--------|---|--------|-------|-------|-------|-------|-------|
| Conflicting Flow All | 55 | 0 | 0 | 59 | 0 | 0 | 371 | 371 | 58 | 419 | 371 | 54 |
| Stage 1 | - | - | - | - | - | - | 64 | 64 | - | 306 | 306 | - |
| Stage 2 | - | - | - | - | - | - | 307 | 307 | - | 113 | 65 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1550 | - | - | 1545 | - | - | 586 | 559 | 1008 | 544 | 559 | 1013 |
| Stage 1 | - | - | - | - | - | - | 947 | 842 | - | 704 | 662 | - |
| Stage 2 | - | - | - | - | - | - | 703 | 661 | - | 892 | 841 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1550 | - | - | 1545 | - | - | 546 | 511 | 1008 | 459 | 511 | 1013 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 546 | 511 | - | 459 | 511 | - |
| Stage 1 | - | - | - | - | - | - | 945 | 840 | - | 703 | 606 | - |
| Stage 2 | - | - | - | - | - | - | 642 | 605 | - | 804 | 839 | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|-----|--|-----|--|----|--|------|--|
| HCM Control Delay, s | 0.4 | | 5.2 | | 9 | | 11.3 | |
| HCM LOS | | | | | A | | B | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 1008 | 1550 | - | - | 1545 | - | - | 577 |
| HCM Lane V/C Ratio | 0.097 | 0.002 | - | - | 0.082 | - | - | 0.015 |
| HCM Control Delay (s) | 9 | 7.3 | 0 | - | 7.5 | 0 | - | 11.3 |
| HCM Lane LOS | A | A | A | - | A | A | - | B |
| HCM 95th %tile Q(veh) | 0.3 | 0 | - | - | 0.3 | - | - | 0 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.4 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 34 | 0 | 24 | 27 | 0 | 23 |
| Future Vol, veh/h | 34 | 0 | 24 | 27 | 0 | 23 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 37 | 0 | 26 | 29 | 0 | 25 |

| Major/Minor | Major1 | Major2 | Minor1 | | |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 0 | 0 | 37 | 0 | 118 37 |
| Stage 1 | - | - | - | - | 37 - |
| Stage 2 | - | - | - | - | 81 - |
| Critical Hdwy | - | - | 4.12 | - | 6.42 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 - |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 3.318 |
| Pot Cap-1 Maneuver | - | - | 1574 | - | 878 1035 |
| Stage 1 | - | - | - | - | 985 - |
| Stage 2 | - | - | - | - | 942 - |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1574 | - | 863 1035 |
| Mov Cap-2 Maneuver | - | - | - | - | 863 - |
| Stage 1 | - | - | - | - | 968 - |
| Stage 2 | - | - | - | - | 942 - |

| Approach | EB | WB | NB |
|----------------------|----|-----|-----|
| HCM Control Delay, s | 0 | 3.4 | 8.6 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h) | 1035 | - | - | 1574 | - |
| HCM Lane V/C Ratio | 0.024 | - | - | 0.017 | - |
| HCM Control Delay (s) | 8.6 | - | - | 7.3 | 0 |
| HCM Lane LOS | A | - | - | A | A |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.1 | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.1 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | | ↗ | | ↑↑ | ↑↑ | |
| Traffic Vol, veh/h | 0 | 21 | 0 | 1209 | 1454 | 26 |
| Future Vol, veh/h | 0 | 21 | 0 | 1209 | 1454 | 26 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 23 | 0 | 1314 | 1580 | 28 |

| Major/Minor | Minor2 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|---|
| Conflicting Flow All | - | 804 | - | 0 | 0 |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - |
| Pot Cap-1 Maneuver | 0 | 326 | 0 | - | - |
| Stage 1 | 0 | - | 0 | - | - |
| Stage 2 | 0 | - | 0 | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | - | 326 | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 16.9 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | EBLn1 | SBT | SBR |
|-----------------------|-----|-------|-----|-----|
| Capacity (veh/h) | - | 326 | - | - |
| HCM Lane V/C Ratio | - | 0.07 | - | - |
| HCM Control Delay (s) | - | 16.9 | - | - |
| HCM Lane LOS | - | C | - | - |
| HCM 95th %tile Q(veh) | - | 0.2 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.1 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↕ | ↕ | | ↕ | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 70 | 37 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 70 | 37 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 76 | 40 | 0 |

























| Major/Minor | Major1 | Major2 | Minor2 | | |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 76 | 0 | - | 0 | 38 |
| Stage 1 | - | - | - | - | 38 |
| Stage 2 | - | - | - | - | 0 |
| Critical Hdwy | 4.12 | - | - | - | 6.42 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 |
| Pot Cap-1 Maneuver | 1523 | - | - | - | 974 |
| Stage 1 | - | - | - | - | 984 |
| Stage 2 | - | - | - | - | - |
| Platoon blocked, % | | - | - | - | |
| Mov Cap-1 Maneuver | 1523 | - | - | - | 974 |
| Mov Cap-2 Maneuver | - | - | - | - | 974 |
| Stage 1 | - | - | - | - | 984 |
| Stage 2 | - | - | - | - | - |

| Approach | EB | WB | SB |
|----------------------|----|----|-----|
| HCM Control Delay, s | 0 | 0 | 8.9 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|-----------------------|------|-----|-----|-----|-------|
| Capacity (veh/h) | 1523 | - | - | - | 974 |
| HCM Lane V/C Ratio | - | - | - | - | 0.041 |
| HCM Control Delay (s) | 0 | - | - | - | 8.9 |
| HCM Lane LOS | A | - | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 |

HCM 2010 Signalized Intersection Summary
 1: Kenwood Road & Galbraith Road

2040 Midday Build
 Kenwood Road Development

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 122 | 354 | 391 | 160 | 285 | 260 | 351 | 818 | 211 | 282 | 750 | 139 |
| Future Volume (veh/h) | 122 | 354 | 391 | 160 | 285 | 260 | 351 | 818 | 211 | 282 | 750 | 139 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 1.00 | | 0.98 | 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 133 | 385 | 425 | 174 | 310 | 283 | 382 | 889 | 229 | 307 | 815 | 151 |
| Adj No. of Lanes | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 2 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 301 | 545 | 603 | 238 | 518 | 638 | 341 | 1037 | 267 | 337 | 1220 | 226 |
| Arrive On Green | 0.07 | 0.29 | 0.29 | 0.06 | 0.28 | 0.28 | 0.09 | 0.37 | 0.37 | 0.13 | 0.41 | 0.41 |
| Sat Flow, veh/h | 1774 | 1863 | 1556 | 1774 | 1863 | 1554 | 1774 | 2786 | 717 | 1774 | 2980 | 552 |
| Grp Volume(v), veh/h | 133 | 385 | 425 | 174 | 310 | 283 | 382 | 564 | 554 | 307 | 484 | 482 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1863 | 1556 | 1774 | 1863 | 1554 | 1774 | 1770 | 1733 | 1774 | 1770 | 1763 |
| Q Serve(g_s), s | 5.7 | 19.8 | 24.8 | 6.0 | 15.5 | 14.2 | 10.0 | 31.6 | 31.7 | 11.8 | 23.9 | 23.9 |
| Cycle Q Clear(g_c), s | 5.7 | 19.8 | 24.8 | 6.0 | 15.5 | 14.2 | 10.0 | 31.6 | 31.7 | 11.8 | 23.9 | 23.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.41 | 1.00 | | 0.31 |
| Lane Grp Cap(c), veh/h | 301 | 545 | 603 | 238 | 518 | 638 | 341 | 659 | 645 | 337 | 725 | 722 |
| V/C Ratio(X) | 0.44 | 0.71 | 0.71 | 0.73 | 0.60 | 0.44 | 1.12 | 0.86 | 0.86 | 0.91 | 0.67 | 0.67 |
| Avail Cap(c_a), veh/h | 358 | 659 | 698 | 238 | 572 | 684 | 341 | 857 | 839 | 403 | 988 | 985 |
| 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 | 26.0 | 33.9 | 27.9 | 32.6 | 33.6 | 23.0 | 28.7 | 31.1 | 31.1 | 25.4 | 25.8 | 25.8 |
| Incr Delay (d2), s/veh | 0.4 | 3.3 | 3.2 | 9.5 | 1.9 | 0.7 | 85.8 | 5.6 | 5.8 | 20.3 | 0.4 | 0.4 |
| 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(95%),veh/ln | 5.0 | 16.0 | 16.6 | 5.1 | 12.9 | 10.2 | 14.6 | 23.0 | 22.7 | 16.3 | 17.4 | 17.3 |
| LnGrp Delay(d),s/veh | 26.4 | 37.2 | 31.1 | 42.1 | 35.5 | 23.7 | 114.5 | 36.7 | 36.9 | 45.7 | 26.2 | 26.2 |
| LnGrp LOS | C | D | C | D | D | C | F | D | D | D | C | C |
| Approach Vol, veh/h | | 943 | | | 767 | | | 1500 | | | 1273 | |
| Approach Delay, s/veh | | 32.9 | | | 32.6 | | | 56.6 | | | 30.9 | |
| Approach LOS | | C | | | C | | | E | | | C | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 18.0 | 44.0 | 10.0 | 35.4 | 14.0 | 48.0 | 11.6 | 33.9 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 18.0 | 52.0 | 6.0 | 38.0 | 10.0 | 60.0 | 11.0 | 33.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 13.8 | 33.7 | 8.0 | 26.8 | 12.0 | 25.9 | 7.7 | 17.5 | | | | |
| Green Ext Time (p_c), s | 0.2 | 1.1 | 0.0 | 4.3 | 0.0 | 1.0 | 0.0 | 3.6 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 40.2 | | | | | | | | | |
| HCM 2010 LOS | | | D | | | | | | | | | |
| Notes | | | | | | | | | | | | |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 25.7 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | ↕ | ↕ | ↕ | | ↕ | ↕ | |
| Traffic Vol, veh/h | 6 | 2 | 19 | 35 | 0 | 171 | 45 | 1212 | 28 | 107 | 1228 | 30 |
| Future Vol, veh/h | 6 | 2 | 19 | 35 | 0 | 171 | 45 | 1212 | 28 | 107 | 1228 | 30 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | 0 | 95 | - | - | 90 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 7 | 2 | 21 | 38 | 0 | 186 | 49 | 1317 | 30 | 116 | 1335 | 33 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|------|--------|------|--------|------|--------|---|---|------|---|---|
| Conflicting Flow All | 2341 | 3029 | 684 | 2331 | 3030 | 674 | 1368 | 0 | 0 | 1347 | 0 | 0 |
| Stage 1 | 1584 | 1584 | - | 1430 | 1430 | - | - | - | - | - | - | - |
| Stage 2 | 757 | 1445 | - | 901 | 1600 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 19 | 13 | 391 | ~20 | 13 | 397 | 498 | - | - | 507 | - | - |
| Stage 1 | 113 | 167 | - | 141 | 199 | - | - | - | - | - | - | - |
| Stage 2 | 366 | 195 | - | 299 | 164 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 8 | 9 | 391 | ~12 | 9 | 397 | 498 | - | - | 507 | - | - |
| Mov Cap-2 Maneuver | 8 | 9 | - | ~12 | 9 | - | - | - | - | - | - | - |
| Stage 1 | 102 | 129 | - | 127 | 179 | - | - | - | - | - | - | - |
| Stage 2 | 175 | 176 | - | 215 | 126 | - | - | - | - | - | - | - |












| Approach | EB | WB | NB | SB |
|----------------------|-------|-------|-----|-----|
| HCM Control Delay, s | 439.2 | 291.6 | 0.5 | 1.1 |
| HCM LOS | F | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|--------|-------|-------|-----|-----|
| Capacity (veh/h) | 498 | - | - | 26 | 12 | 397 | 507 | - | - |
| HCM Lane V/C Ratio | 0.098 | - | - | 1.129 | 3.17 | 0.468 | 0.229 | - | - |
| HCM Control Delay (s) | 13 | - | - | 439.2 | 1609.7 | 21.8 | 14.2 | - | - |
| HCM Lane LOS | B | - | - | F | F | C | B | - | - |
| HCM 95th %tile Q(veh) | 0.3 | - | - | 3.5 | 5.7 | 2.4 | 0.9 | - | - |

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

HCM 2010 Signalized Intersection Summary
3: Kenwood Road & Happiness Way

2040 Midday Build
Kenwood Road Development

| |  |  |  |  |  |  | | |
|------------------------------|---|---|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR | | |
| Lane Configurations |  | |  |  |  |  | | |
| Traffic Volume (veh/h) | 87 | 75 | 94 | 1048 | 1385 | 82 | | |
| Future Volume (veh/h) | 87 | 75 | 94 | 1048 | 1385 | 82 | | |
| Number | 7 | 14 | 5 | 2 | 6 | 16 | | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Adj Sat Flow, veh/h/ln | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | | |
| Adj Flow Rate, veh/h | 95 | 82 | 102 | 1139 | 1505 | 89 | | |
| Adj No. of Lanes | 0 | 0 | 1 | 2 | 2 | 0 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 0 | 0 | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 119 | 103 | 257 | 2535 | 2433 | 143 | | |
| Arrive On Green | 0.13 | 0.13 | 0.72 | 0.72 | 0.72 | 0.72 | | |
| Sat Flow, veh/h | 897 | 774 | 318 | 3632 | 3490 | 200 | | |
| Grp Volume(v), veh/h | 178 | 0 | 102 | 1139 | 781 | 813 | | |
| Grp Sat Flow(s),veh/h/ln | 1681 | 0 | 318 | 1770 | 1770 | 1827 | | |
| Q Serve(g_s), s | 7.3 | 0.0 | 17.1 | 9.6 | 15.9 | 16.1 | | |
| Cycle Q Clear(g_c), s | 7.3 | 0.0 | 33.3 | 9.6 | 15.9 | 16.1 | | |
| Prop In Lane | 0.53 | 0.46 | 1.00 | | | 0.11 | | |
| Lane Grp Cap(c), veh/h | 224 | 0 | 257 | 2535 | 1268 | 1309 | | |
| V/C Ratio(X) | 0.80 | 0.00 | 0.40 | 0.45 | 0.62 | 0.62 | | |
| Avail Cap(c_a), veh/h | 592 | 0 | 452 | 4699 | 2350 | 2426 | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Uniform Delay (d), s/veh | 29.9 | 0.0 | 13.6 | 4.2 | 5.1 | 5.1 | | |
| Incr Delay (d2), s/veh | 6.3 | 0.0 | 1.0 | 0.1 | 0.5 | 0.5 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(95%),veh/ln | 6.8 | 0.0 | 2.8 | 8.2 | 12.3 | 12.7 | | |
| LnGrp Delay(d),s/veh | 36.2 | 0.0 | 14.6 | 4.3 | 5.6 | 5.6 | | |
| LnGrp LOS | D | | B | A | A | A | | |
| Approach Vol, veh/h | 178 | | | 1241 | 1594 | | | |
| Approach Delay, s/veh | 36.2 | | | 5.2 | 5.6 | | | |
| Approach LOS | D | | | A | A | | | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Assigned Phs | | 2 | | 4 | | 6 | | |
| Phs Duration (G+Y+Rc), s | | 57.6 | | 13.4 | | 57.6 | | |
| Change Period (Y+Rc), s | | * 6.7 | | 4.0 | | * 6.7 | | |
| Max Green Setting (Gmax), s | | * 94 | | 25.0 | | * 94 | | |
| Max Q Clear Time (g_c+I1), s | | 35.3 | | 9.3 | | 18.1 | | |
| Green Ext Time (p_c), s | | 15.6 | | 0.4 | | 19.2 | | |
| Intersection Summary | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 7.2 | | | | | |
| HCM 2010 LOS | | | A | | | | | |
| Notes | | | | | | | | |

HCM 2010 Signalized Intersection Summary
 4: Kenwood Road & Kenwood Place/Towne Center

2040 Midday Build
 Kenwood Road Development



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|-------|------|------|-------|-------|------|------|------|------|------|------|
| Lane Configurations | ↔ | ↔ | | ↔ | ↔ | | ↔ | ↕ | | ↔ | ↕ | |
| Traffic Volume (veh/h) | 58 | 16 | 56 | 270 | 6 | 66 | 83 | 1193 | 254 | 75 | 1132 | 69 |
| Future Volume (veh/h) | 58 | 16 | 56 | 270 | 6 | 66 | 83 | 1193 | 254 | 75 | 1132 | 69 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.99 | 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1788 | 1863 | 1900 | 1788 | 1863 | 1900 | 1788 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 63 | 17 | 61 | 293 | 7 | 72 | 90 | 1297 | 276 | 82 | 1230 | 75 |
| Adj No. of Lanes | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 2 | 0 | 1 | 2 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 309 | 38 | 135 | 329 | 22 | 227 | 253 | 1411 | 296 | 194 | 1637 | 100 |
| Arrive On Green | 0.06 | 0.11 | 0.11 | 0.11 | 0.16 | 0.16 | 0.06 | 0.48 | 0.48 | 0.06 | 0.48 | 0.48 |
| Sat Flow, veh/h | 1774 | 355 | 1274 | 1703 | 142 | 1457 | 1703 | 2913 | 611 | 1703 | 3389 | 206 |
| Grp Volume(v), veh/h | 63 | 0 | 78 | 293 | 0 | 79 | 90 | 781 | 792 | 82 | 642 | 663 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 0 | 1629 | 1703 | 0 | 1599 | 1703 | 1770 | 1754 | 1703 | 1770 | 1826 |
| Q Serve(g_s), s | 3.2 | 0.0 | 4.6 | 11.0 | 0.0 | 4.5 | 2.6 | 41.8 | 43.5 | 2.4 | 30.1 | 30.2 |
| Cycle Q Clear(g_c), s | 3.2 | 0.0 | 4.6 | 11.0 | 0.0 | 4.5 | 2.6 | 41.8 | 43.5 | 2.4 | 30.1 | 30.2 |
| Prop In Lane | 1.00 | | 0.78 | 1.00 | | 0.91 | 1.00 | | 0.35 | 1.00 | | 0.11 |
| Lane Grp Cap(c), veh/h | 309 | 0 | 172 | 329 | 0 | 249 | 253 | 857 | 850 | 194 | 855 | 882 |
| V/C Ratio(X) | 0.20 | 0.00 | 0.45 | 0.89 | 0.00 | 0.32 | 0.36 | 0.91 | 0.93 | 0.42 | 0.75 | 0.75 |
| Avail Cap(c_a), veh/h | 347 | 0 | 408 | 329 | 0 | 448 | 267 | 1058 | 1049 | 210 | 1058 | 1092 |
| 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 | 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 | 37.3 | 0.0 | 43.1 | 39.0 | 0.0 | 38.4 | 16.9 | 24.4 | 24.8 | 22.4 | 21.5 | 21.5 |
| Incr Delay (d2), s/veh | 0.7 | 0.0 | 3.9 | 23.7 | 0.0 | 0.3 | 0.3 | 9.1 | 11.5 | 0.5 | 1.7 | 1.7 |
| 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(95%),veh/ln | 2.9 | 0.0 | 4.1 | 9.0 | 0.0 | 3.6 | 2.2 | 30.1 | 31.6 | 2.1 | 21.4 | 22.0 |
| LnGrp Delay(d),s/veh | 38.0 | 0.0 | 47.0 | 62.8 | 0.0 | 38.7 | 17.2 | 33.5 | 36.4 | 23.0 | 23.2 | 23.2 |
| LnGrp LOS | D | | D | E | | D | B | C | D | C | C | C |
| Approach Vol, veh/h | | 141 | | | 372 | | | 1663 | | | 1387 | |
| Approach Delay, s/veh | | 43.0 | | | 57.6 | | | 34.0 | | | 23.2 | |
| Approach LOS | | D | | | E | | | C | | | C | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 3.0 | 56.4 | 15.0 | 18.1 | 13.2 | 56.2 | 9.8 | 23.3 | | | | |
| Change Period (Y+Rc), s | 6.7 | * 6.7 | 4.0 | 7.3 | * 6.7 | * 6.7 | 4.0 | 7.3 | | | | |
| Max Green Setting (Gmax), s | 3.0 | * 61 | 11.0 | 25.7 | * 7.3 | * 61 | 8.0 | 28.7 | | | | |
| Max Q Clear Time (g_c+14), s | 4.4 | 45.5 | 13.0 | 6.6 | 4.6 | 32.2 | 5.2 | 6.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.2 | 0.0 | 0.5 | 0.0 | 3.4 | 0.1 | 0.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | | 32.6 | | | | | | | | |
| HCM 2010 LOS | | | | C | | | | | | | | |
| Notes | | | | | | | | | | | | |

HCM 2010 Signalized Intersection Summary
5: Kenwood Road & Orchard Lane

2040 Midday Build
Kenwood Road Development



| Movement | EBL | EBR | NBL | NBT | SBT | SBR | | |
|------------------------------|------|-------|------|------|------|-------|---|---|
| Lane Configurations | | | | | | | | |
| Traffic Volume (veh/h) | 58 | 110 | 122 | 1690 | 1439 | 53 | | |
| Future Volume (veh/h) | 58 | 110 | 122 | 1690 | 1439 | 53 | | |
| Number | 7 | 14 | 5 | 2 | 6 | 16 | | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | 0.96 | 1.00 | | | 1.00 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Adj Sat Flow, veh/h/ln | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | | |
| Adj Flow Rate, veh/h | 63 | 120 | 133 | 1837 | 1564 | 58 | | |
| Adj No. of Lanes | 0 | 0 | 1 | 2 | 2 | 0 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 0 | 0 | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 88 | 167 | 234 | 2715 | 2678 | 99 | | |
| Arrive On Green | 0.16 | 0.15 | 1.00 | 1.00 | 0.77 | 0.76 | | |
| Sat Flow, veh/h | 546 | 1041 | 310 | 3632 | 3574 | 129 | | |
| Grp Volume(v), veh/h | 184 | 0 | 133 | 1837 | 793 | 829 | | |
| Grp Sat Flow(s),veh/h/ln | 1596 | 0 | 310 | 1770 | 1770 | 1840 | | |
| Q Serve(g_s), s | 14.3 | 0.0 | 31.3 | 0.0 | 24.4 | 24.6 | | |
| Cycle Q Clear(g_c), s | 14.3 | 0.0 | 56.0 | 0.0 | 24.4 | 24.6 | | |
| Prop In Lane | 0.34 | 0.65 | 1.00 | | | 0.07 | | |
| Lane Grp Cap(c), veh/h | 256 | 0 | 234 | 2715 | 1361 | 1415 | | |
| V/C Ratio(X) | 0.72 | 0.00 | 0.57 | 0.68 | 0.58 | 0.59 | | |
| Avail Cap(c_a), veh/h | 403 | 0 | 234 | 2715 | 1361 | 1415 | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | | |
| Upstream Filter(I) | 1.00 | 0.00 | 0.52 | 0.52 | 0.54 | 0.54 | | |
| Uniform Delay (d), s/veh | 52.2 | 0.0 | 6.9 | 0.0 | 6.3 | 6.3 | | |
| Incr Delay (d2), s/veh | 3.7 | 0.0 | 5.1 | 0.7 | 1.0 | 1.0 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(95%),veh/ln | 0.8 | 0.0 | 5.0 | 0.5 | 16.2 | 16.9 | | |
| LnGrp Delay(d),s/veh | 55.9 | 0.0 | 12.0 | 0.7 | 7.3 | 7.3 | | |
| LnGrp LOS | E | | B | A | A | A | | |
| Approach Vol, veh/h | 184 | | | 1970 | 1622 | | | |
| Approach Delay, s/veh | 55.9 | | | 1.5 | 7.3 | | | |
| Approach LOS | E | | | A | A | | | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Assigned Phs | | 2 | | 4 | | 6 | | |
| Phs Duration (G+Y+Rc), s | | 104.9 | | 25.1 | | 104.9 | | |
| Change Period (Y+Rc), s | | 6.0 | | 5.5 | | 6.0 | | |
| Max Green Setting (Gmax), s | | 87.0 | | 31.5 | | 87.0 | | |
| Max Q Clear Time (g_c+I1), s | | 58.0 | | 16.3 | | 26.6 | | |
| Green Ext Time (p_c), s | | 17.1 | | 0.7 | | 10.9 | | |
| Intersection Summary | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 6.6 | | | | | |
| HCM 2010 LOS | | | A | | | | | |
| Notes | | | | | | | | |

HCM 2010 Signalized Intersection Summary
 6: Kenwood Road & Montgomery Road (US 22/SR 3)

2040 Midday Build
 Kenwood Road Development



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↔↔ | ↑↑ | ↗ | ↔↔ | ↑↑ | ↗ | ↔↔ | ↑↑↑ | ↗ | ↔↔ | ↑↑↑ | ↗ |
| Traffic Volume (veh/h) | 389 | 848 | 290 | 440 | 811 | 489 | 370 | 960 | 493 | 375 | 841 | 305 |
| Future Volume (veh/h) | 389 | 848 | 290 | 440 | 811 | 489 | 370 | 960 | 493 | 375 | 841 | 305 |
| Number | 5 | 2 | 12 | 1 | 6 | 16 | 3 | 8 | 18 | 7 | 4 | 14 |
| 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 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1788 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 423 | 922 | 315 | 478 | 882 | 532 | 402 | 1043 | 536 | 408 | 914 | 332 |
| Adj No. of Lanes | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 3 | 1 | 2 | 3 | 1 |
| 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 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 524 | 1024 | 617 | 561 | 1062 | 704 | 461 | 1333 | 612 | 504 | 1428 | 631 |
| Arrive On Green | 0.15 | 0.29 | 0.27 | 0.16 | 0.30 | 0.29 | 0.13 | 0.26 | 0.25 | 0.05 | 0.09 | 0.09 |
| Sat Flow, veh/h | 3442 | 3539 | 1576 | 3442 | 3539 | 1577 | 3442 | 5085 | 1564 | 3304 | 5085 | 1566 |
| Grp Volume(v), veh/h | 423 | 922 | 315 | 478 | 882 | 532 | 402 | 1043 | 536 | 408 | 914 | 332 |
| Grp Sat Flow(s),veh/h/ln | 1721 | 1770 | 1576 | 1721 | 1770 | 1577 | 1721 | 1695 | 1564 | 1652 | 1695 | 1566 |
| Q Serve(g_s), s | 15.4 | 32.6 | 19.8 | 17.5 | 30.2 | 36.7 | 14.9 | 24.8 | 32.2 | 15.9 | 22.5 | 22.1 |
| Cycle Q Clear(g_c), s | 15.4 | 32.6 | 19.8 | 17.5 | 30.2 | 36.7 | 14.9 | 24.8 | 32.2 | 15.9 | 22.5 | 22.1 |
| 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 | 524 | 1024 | 617 | 561 | 1062 | 704 | 461 | 1333 | 612 | 504 | 1428 | 631 |
| V/C Ratio(X) | 0.81 | 0.90 | 0.51 | 0.85 | 0.83 | 0.76 | 0.87 | 0.78 | 0.88 | 0.81 | 0.64 | 0.53 |
| Avail Cap(c_a), veh/h | 529 | 1029 | 619 | 561 | 1062 | 704 | 461 | 1333 | 612 | 516 | 1428 | 631 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.74 | 0.74 | 0.74 |
| Uniform Delay (d), s/veh | 53.3 | 44.4 | 30.2 | 52.9 | 42.4 | 30.2 | 55.2 | 44.5 | 36.8 | 59.9 | 52.6 | 37.2 |
| Incr Delay (d2), s/veh | 8.9 | 10.8 | 0.7 | 12.0 | 5.7 | 4.7 | 16.6 | 4.6 | 16.0 | 7.0 | 1.6 | 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(95%),veh/ln | 2.6 | 24.3 | 13.6 | 14.3 | 22.0 | 23.6 | 12.8 | 17.9 | 27.9 | 11.7 | 15.5 | 14.4 |
| LnGrp Delay(d),s/veh | 62.2 | 55.2 | 30.8 | 64.9 | 48.1 | 34.9 | 71.8 | 49.2 | 52.8 | 66.9 | 54.3 | 39.5 |
| LnGrp LOS | E | E | C | E | D | C | E | D | D | E | D | D |
| Approach Vol, veh/h | | 1660 | | | 1892 | | | 1981 | | | 1654 | |
| Approach Delay, s/veh | | 52.3 | | | 48.6 | | | 54.8 | | | 54.4 | |
| Approach LOS | | D | | | D | | | D | | | D | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 35.0 | 41.8 | 22.0 | 41.2 | 24.0 | 42.8 | 24.5 | 38.7 | | | | |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | | | | |
| Max Green Setting (Gmax), s | 38.5 | 35.5 | 15.5 | 34.5 | 17.7 | 36.3 | 18.5 | 31.5 | | | | |
| Max Q Clear Time (g_c+1), s | 19.5 | 34.6 | 16.9 | 24.5 | 17.4 | 38.7 | 17.9 | 34.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.6 | 0.0 | 4.2 | 0.1 | 0.0 | 0.1 | 0.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 52.5 | | | | | | | | | |
| HCM 2010 LOS | | | D | | | | | | | | | |
| Notes | | | | | | | | | | | | |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 6.8 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 5 | 25 | 3 | 148 | 37 | 8 | 5 | 0 | 125 | 8 | 0 | 2 |
| Future Vol, veh/h | 5 | 25 | 3 | 148 | 37 | 8 | 5 | 0 | 125 | 8 | 0 | 2 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 27 | 3 | 161 | 40 | 9 | 5 | 0 | 136 | 9 | 0 | 2 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 49 | 0 | 0 | 30 | 0 | 0 | 407 | 410 | 29 | 474 | 407 | 45 |
| Stage 1 | - | - | - | - | - | - | 39 | 39 | - | 367 | 367 | - |
| Stage 2 | - | - | - | - | - | - | 368 | 371 | - | 107 | 40 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1558 | - | - | 1583 | - | - | 555 | 531 | 1046 | 501 | 533 | 1025 |
| Stage 1 | - | - | - | - | - | - | 976 | 862 | - | 653 | 622 | - |
| Stage 2 | - | - | - | - | - | - | 652 | 620 | - | 898 | 862 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1558 | - | - | 1583 | - | - | 508 | 474 | 1046 | 400 | 475 | 1025 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 508 | 474 | - | 400 | 475 | - |
| Stage 1 | - | - | - | - | - | - | 973 | 859 | - | 651 | 557 | - |
| Stage 2 | - | - | - | - | - | - | 582 | 555 | - | 779 | 859 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|-----|--|--|------|--|--|
| HCM Control Delay, s | 1.1 | | | 5.8 | | | 9.2 | | | 13.1 | | |
| HCM LOS | | | | | | | A | | | B | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 1005 | 1558 | - | - | 1583 | - | - | 456 |
| HCM Lane V/C Ratio | 0.141 | 0.003 | - | - | 0.102 | - | - | 0.024 |
| HCM Control Delay (s) | 9.2 | 7.3 | 0 | - | 7.5 | 0 | - | 13.1 |
| HCM Lane LOS | A | A | A | - | A | A | - | B |
| HCM 95th %tile Q(veh) | 0.5 | 0 | - | - | 0.3 | - | - | 0.1 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.5 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 26 | 0 | 7 | 37 | 0 | 7 |
| Future Vol, veh/h | 26 | 0 | 7 | 37 | 0 | 7 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 28 | 0 | 8 | 40 | 0 | 8 |

| Major/Minor | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0 | 0 | 28 | 0 | 84 |
| Stage 1 | - | - | - | - | 28 |
| Stage 2 | - | - | - | - | 56 |
| Critical Hdwy | - | - | 4.12 | - | 6.42 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 |
| Pot Cap-1 Maneuver | - | - | 1585 | - | 918 |
| Stage 1 | - | - | - | - | 995 |
| Stage 2 | - | - | - | - | 967 |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1585 | - | 913 |
| Mov Cap-2 Maneuver | - | - | - | - | 913 |
| Stage 1 | - | - | - | - | 990 |
| Stage 2 | - | - | - | - | 967 |

| Approach | EB | WB | NB |
|----------------------|----|-----|-----|
| HCM Control Delay, s | 0 | 1.2 | 8.5 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h) | 1047 | - | - | 1585 | - |
| HCM Lane V/C Ratio | 0.007 | - | - | 0.005 | - |
| HCM Control Delay (s) | 8.5 | - | - | 7.3 | 0 |
| HCM Lane LOS | A | - | - | A | A |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.2 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | | ↗ | | ↑↑ | ↑↑ | |
| Traffic Vol, veh/h | 0 | 31 | 0 | 1206 | 1409 | 30 |
| Future Vol, veh/h | 0 | 31 | 0 | 1206 | 1409 | 30 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 34 | 0 | 1311 | 1532 | 33 |

| Major/Minor | Minor2 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|---|
| Conflicting Flow All | - | 783 | - | 0 | 0 |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - |
| Pot Cap-1 Maneuver | 0 | 337 | 0 | - | - |
| Stage 1 | 0 | - | 0 | - | - |
| Stage 2 | 0 | - | 0 | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | - | 337 | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 16.9 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | EBLn1 | SBT | SBR |
|-----------------------|-----|-------|-----|-----|
| Capacity (veh/h) | - | 337 | - | - |
| HCM Lane V/C Ratio | - | 0.1 | - | - |
| HCM Control Delay (s) | - | 16.9 | - | - |
| HCM Lane LOS | - | C | - | - |
| HCM 95th %tile Q(veh) | - | 0.3 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.4 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↕ | ↕ | | ↕ | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 52 | 32 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 52 | 32 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 57 | 35 | 0 |

























| Major/Minor | Major1 | Major2 | Minor2 | | |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 57 | 0 | - | 0 | 29 |
| Stage 1 | - | - | - | - | 29 |
| Stage 2 | - | - | - | - | 0 |
| Critical Hdwy | 4.12 | - | - | - | 6.42 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 |
| Pot Cap-1 Maneuver | 1547 | - | - | - | 986 |
| Stage 1 | - | - | - | - | 994 |
| Stage 2 | - | - | - | - | - |
| Platoon blocked, % | | - | - | - | |
| Mov Cap-1 Maneuver | 1547 | - | - | - | 986 |
| Mov Cap-2 Maneuver | - | - | - | - | 986 |
| Stage 1 | - | - | - | - | 994 |
| Stage 2 | - | - | - | - | - |

| Approach | EB | WB | SB |
|----------------------|----|----|-----|
| HCM Control Delay, s | 0 | 0 | 8.8 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|-----------------------|------|-----|-----|-----|-------|
| Capacity (veh/h) | 1547 | - | - | - | 986 |
| HCM Lane V/C Ratio | - | - | - | - | 0.035 |
| HCM Control Delay (s) | 0 | - | - | - | 8.8 |
| HCM Lane LOS | A | - | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 |

HCM 2010 Signalized Intersection Summary
 1: Kenwood Road & Galbraith Road

2040 PM Build
 Kenwood Road Development

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 222 | 433 | 329 | 151 | 372 | 413 | 251 | 1013 | 130 | 336 | 1070 | 106 |
| Future Volume (veh/h) | 222 | 433 | 329 | 151 | 372 | 413 | 251 | 1013 | 130 | 336 | 1070 | 106 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 241 | 471 | 358 | 164 | 404 | 449 | 273 | 1101 | 141 | 365 | 1163 | 115 |
| Adj No. of Lanes | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 2 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 258 | 569 | 605 | 193 | 492 | 644 | 254 | 1156 | 148 | 333 | 1405 | 139 |
| Arrive On Green | 0.09 | 0.31 | 0.31 | 0.05 | 0.26 | 0.26 | 0.08 | 0.37 | 0.37 | 0.15 | 0.43 | 0.43 |
| Sat Flow, veh/h | 1774 | 1863 | 1557 | 1774 | 1863 | 1553 | 1774 | 3156 | 403 | 1774 | 3253 | 321 |
| Grp Volume(v), veh/h | 241 | 471 | 358 | 164 | 404 | 449 | 273 | 617 | 625 | 365 | 632 | 646 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1863 | 1557 | 1774 | 1863 | 1553 | 1774 | 1770 | 1790 | 1774 | 1770 | 1805 |
| Q Serve(g_s), s | 11.0 | 28.6 | 22.3 | 6.0 | 24.8 | 29.1 | 10.0 | 41.3 | 41.5 | 18.0 | 38.4 | 38.6 |
| Cycle Q Clear(g_c), s | 11.0 | 28.6 | 22.3 | 6.0 | 24.8 | 29.1 | 10.0 | 41.3 | 41.5 | 18.0 | 38.4 | 38.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.23 | 1.00 | | 0.18 |
| Lane Grp Cap(c), veh/h | 258 | 569 | 605 | 193 | 492 | 644 | 254 | 648 | 655 | 333 | 764 | 779 |
| V/C Ratio(X) | 0.93 | 0.83 | 0.59 | 0.85 | 0.82 | 0.70 | 1.07 | 0.95 | 0.95 | 1.10 | 0.83 | 0.83 |
| Avail Cap(c_a), veh/h | 258 | 581 | 616 | 193 | 505 | 655 | 254 | 756 | 764 | 333 | 872 | 889 |
| 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 | 33.9 | 39.3 | 29.7 | 40.9 | 42.1 | 29.6 | 31.1 | 37.5 | 37.6 | 37.8 | 30.6 | 30.6 |
| Incr Delay (d2), s/veh | 37.7 | 10.0 | 1.8 | 27.5 | 10.7 | 3.5 | 77.2 | 19.2 | 19.6 | 77.8 | 5.2 | 5.2 |
| 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(95%),veh/ln | 9.2 | 22.8 | 14.9 | 7.3 | 20.4 | 19.0 | 16.4 | 31.4 | 32.1 | 32.9 | 27.2 | 27.7 |
| LnGrp Delay(d),s/veh | 71.6 | 49.3 | 31.5 | 68.5 | 52.8 | 33.1 | 108.3 | 56.7 | 57.2 | 115.6 | 35.8 | 35.8 |
| LnGrp LOS | E | D | C | E | D | C | F | E | E | F | D | D |
| Approach Vol, veh/h | | 1070 | | | 1017 | | | 1515 | | | 1643 | |
| Approach Delay, s/veh | | 48.4 | | | 46.6 | | | 66.2 | | | 53.5 | |
| Approach LOS | | D | | | D | | | E | | | D | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 22.0 | 48.6 | 10.0 | 41.2 | 14.0 | 56.6 | 15.0 | 36.2 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 18.0 | 52.0 | 6.0 | 38.0 | 10.0 | 60.0 | 11.0 | 33.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 20.0 | 43.5 | 8.0 | 30.6 | 12.0 | 40.6 | 13.0 | 31.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.1 | 0.0 | 3.4 | 0.0 | 1.3 | 0.0 | 1.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 54.8 | | | | | | | | | |
| HCM 2010 LOS | | | D | | | | | | | | | |
| Notes | | | | | | | | | | | | |

| Intersection | | | | | | | | | | | | |
|--------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 127.3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | ↕ | ↕ | ↕ | | ↕ | ↕ | |
| Traffic Vol, veh/h | 8 | 2 | 34 | 56 | 0 | 159 | 18 | 1372 | 41 | 109 | 1521 | 6 |
| Future Vol, veh/h | 8 | 2 | 34 | 56 | 0 | 159 | 18 | 1372 | 41 | 109 | 1521 | 6 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | 0 | 95 | - | - | 90 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 9 | 2 | 37 | 61 | 0 | 173 | 20 | 1491 | 45 | 118 | 1653 | 7 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | | Major2 | | | | |
|----------------------|--------|------|--------|------|--------|------|------|--------|---|------|---|---|
| Conflicting Flow All | 2679 | 3469 | 830 | 2618 | 3450 | 768 | 1660 | 0 | 0 | 1536 | 0 | 0 |
| Stage 1 | 1893 | 1893 | - | 1554 | 1554 | - | - | - | - | - | - | - |
| Stage 2 | 786 | 1576 | - | 1064 | 1896 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 11 | 6 | 313 | ~ 12 | 7 | 344 | 384 | - | - | 429 | - | - |
| Stage 1 | 72 | 117 | - | 118 | 173 | - | - | - | - | - | - | - |
| Stage 2 | 351 | 168 | - | 238 | 117 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | ~ 4 | 4 | 313 | ~ 5 | 5 | 344 | 384 | - | - | 429 | - | - |
| Mov Cap-2 Maneuver | ~ 4 | 4 | - | ~ 5 | 5 | - | - | - | - | - | - | - |
| Stage 1 | 68 | 85 | - | 112 | 164 | - | - | - | - | - | - | - |
| Stage 2 | 166 | 159 | - | 148 | 85 | - | - | - | - | - | - | - |












| Approach | EB | WB | NB | SB |
|------------------------------|----|-----------|-----|-----|
| HCM Control Delay, s \$ 1284 | | \$ 1697.1 | 0.2 | 1.1 |
| HCM LOS | F | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|--------------------------|-----|-----|-----|
| Capacity (veh/h) | 384 | - | - | 17 5 344 | 429 | - | - |
| HCM Lane V/C Ratio | 0.051 | - | - | 2.813 12.174 0.502 0.276 | - | - | - |
| HCM Control Delay (s) | 14.9 | - | - | \$ 1284 6443.1 25.6 16.6 | - | - | - |
| HCM Lane LOS | B | - | - | F F D C | - | - | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 6.6 9.4 2.7 1.1 | - | - | - |

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

HCM 2010 Signalized Intersection Summary
3: Kenwood Road & Happiness Way

2040 PM Build
Kenwood Road Development

| |  |  |  |  |  |  | | |
|------------------------------|---|---|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR | | |
| Lane Configurations |  | |  |  |  |  | | |
| Traffic Volume (veh/h) | 89 | 85 | 101 | 1338 | 1514 | 92 | | |
| Future Volume (veh/h) | 89 | 85 | 101 | 1338 | 1514 | 92 | | |
| Number | 7 | 14 | 5 | 2 | 6 | 16 | | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Adj Sat Flow, veh/h/ln | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | | |
| Adj Flow Rate, veh/h | 97 | 92 | 110 | 1454 | 1646 | 100 | | |
| Adj No. of Lanes | 0 | 0 | 1 | 2 | 2 | 0 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 0 | 0 | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 115 | 109 | 217 | 2687 | 2574 | 155 | | |
| Arrive On Green | 0.13 | 0.13 | 0.76 | 0.76 | 0.76 | 0.76 | | |
| Sat Flow, veh/h | 856 | 812 | 275 | 3632 | 3485 | 205 | | |
| Grp Volume(v), veh/h | 190 | 0 | 110 | 1454 | 854 | 892 | | |
| Grp Sat Flow(s),veh/h/ln | 1677 | 0 | 275 | 1770 | 1770 | 1827 | | |
| Q Serve(g_s), s | 11.1 | 0.0 | 31.5 | 16.8 | 22.5 | 23.1 | | |
| Cycle Q Clear(g_c), s | 11.1 | 0.0 | 54.6 | 16.8 | 22.5 | 23.1 | | |
| Prop In Lane | 0.51 | 0.48 | 1.00 | | | 0.11 | | |
| Lane Grp Cap(c), veh/h | 225 | 0 | 217 | 2687 | 1343 | 1387 | | |
| V/C Ratio(X) | 0.84 | 0.00 | 0.51 | 0.54 | 0.64 | 0.64 | | |
| Avail Cap(c_a), veh/h | 418 | 0 | 267 | 3329 | 1664 | 1718 | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Uniform Delay (d), s/veh | 42.4 | 0.0 | 18.5 | 4.9 | 5.6 | 5.7 | | |
| Incr Delay (d2), s/veh | 8.4 | 0.0 | 1.8 | 0.2 | 0.6 | 0.6 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(95%),veh/ln | 9.5 | 0.0 | 4.5 | 12.8 | 16.3 | 17.2 | | |
| LnGrp Delay(d),s/veh | 50.8 | 0.0 | 20.4 | 5.1 | 6.2 | 6.3 | | |
| LnGrp LOS | D | | C | A | A | A | | |
| Approach Vol, veh/h | 190 | | | 1564 | 1746 | | | |
| Approach Delay, s/veh | 50.8 | | | 6.2 | 6.2 | | | |
| Approach LOS | D | | | A | A | | | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Assigned Phs | | 2 | | 4 | | 6 | | |
| Phs Duration (G+Y+Rc), s | | 82.8 | | 17.5 | | 82.8 | | |
| Change Period (Y+Rc), s | | * 6.7 | | 4.0 | | * 6.7 | | |
| Max Green Setting (Gmax), s | | * 94 | | 25.0 | | * 94 | | |
| Max Q Clear Time (g_c+I1), s | | 56.6 | | 13.1 | | 25.1 | | |
| Green Ext Time (p_c), s | | 19.5 | | 0.4 | | 23.4 | | |
| Intersection Summary | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 8.6 | | | | | |
| HCM 2010 LOS | | | A | | | | | |
| Notes | | | | | | | | |

HCM 2010 Signalized Intersection Summary
 4: Kenwood Road & Kenwood Place/Towne Center

2040 PM Build
 Kenwood Road Development



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|-------|------|------|-------|-------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 81 | 5 | 70 | 261 | 2 | 54 | 76 | 1332 | 232 | 91 | 1430 | 59 |
| Future Volume (veh/h) | 81 | 5 | 70 | 261 | 2 | 54 | 76 | 1332 | 232 | 91 | 1430 | 59 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.99 | 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1788 | 1863 | 1900 | 1788 | 1863 | 1900 | 1788 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 88 | 5 | 76 | 284 | 2 | 59 | 83 | 1448 | 252 | 99 | 1554 | 64 |
| Adj No. of Lanes | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 2 | 0 | 1 | 2 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 304 | 10 | 148 | 301 | 7 | 215 | 201 | 1551 | 266 | 184 | 1785 | 73 |
| Arrive On Green | 0.06 | 0.10 | 0.10 | 0.10 | 0.14 | 0.14 | 0.06 | 0.51 | 0.51 | 0.06 | 0.52 | 0.52 |
| Sat Flow, veh/h | 1774 | 98 | 1491 | 1703 | 52 | 1533 | 1703 | 3023 | 518 | 1703 | 3465 | 142 |
| Grp Volume(v), veh/h | 88 | 0 | 81 | 284 | 0 | 61 | 83 | 838 | 862 | 99 | 791 | 827 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 0 | 1589 | 1703 | 0 | 1585 | 1703 | 1770 | 1771 | 1703 | 1770 | 1837 |
| Q Serve(g_s), s | 4.8 | 0.0 | 5.3 | 11.0 | 0.0 | 3.8 | 2.4 | 47.9 | 50.5 | 2.9 | 42.9 | 43.4 |
| Cycle Q Clear(g_c), s | 4.8 | 0.0 | 5.3 | 11.0 | 0.0 | 3.8 | 2.4 | 47.9 | 50.5 | 2.9 | 42.9 | 43.4 |
| Prop In Lane | 1.00 | | 0.94 | 1.00 | | 0.97 | 1.00 | | 0.29 | 1.00 | | 0.08 |
| Lane Grp Cap(c), veh/h | 304 | 0 | 158 | 301 | 0 | 223 | 201 | 908 | 909 | 184 | 912 | 947 |
| V/C Ratio(X) | 0.29 | 0.00 | 0.51 | 0.94 | 0.00 | 0.27 | 0.41 | 0.92 | 0.95 | 0.54 | 0.87 | 0.87 |
| Avail Cap(c_a), veh/h | 328 | 0 | 373 | 301 | 0 | 416 | 215 | 992 | 993 | 194 | 992 | 1030 |
| 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 | 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 | 40.7 | 0.0 | 46.7 | 43.0 | 0.0 | 42.0 | 22.2 | 24.6 | 25.3 | 24.5 | 23.3 | 23.4 |
| Incr Delay (d2), s/veh | 1.1 | 0.0 | 5.4 | 36.3 | 0.0 | 0.2 | 0.5 | 12.4 | 16.3 | 1.2 | 7.3 | 7.4 |
| 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(95%),veh/ln | 4.4 | 0.0 | 4.6 | 10.5 | 0.0 | 3.0 | 2.4 | 34.8 | 37.3 | 2.9 | 30.5 | 31.8 |
| LnGrp Delay(d),s/veh | 41.8 | 0.0 | 52.1 | 79.2 | 0.0 | 42.3 | 22.7 | 37.1 | 41.5 | 25.7 | 30.5 | 30.8 |
| LnGrp LOS | D | | D | E | | D | C | D | D | C | C | C |
| Approach Vol, veh/h | | 169 | | | 345 | | | 1783 | | | 1717 | |
| Approach Delay, s/veh | | 46.7 | | | 72.7 | | | 38.6 | | | 30.4 | |
| Approach LOS | | D | | | E | | | D | | | C | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 3.4 | 62.8 | 15.0 | 18.2 | 13.1 | 63.0 | 10.5 | 22.7 | | | | |
| Change Period (Y+Rc), s | 6.7 | * 6.7 | 4.0 | 7.3 | * 6.7 | * 6.7 | 4.0 | 7.3 | | | | |
| Max Green Setting (Gmax), s | 61 | * 61 | 11.0 | 25.7 | * 7.3 | * 61 | 8.0 | 28.7 | | | | |
| Max Q Clear Time (g_c+14), s | 52.5 | 13.0 | 7.3 | 4.4 | 45.4 | 6.8 | 5.8 | | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.6 | 0.0 | 0.5 | 0.0 | 4.2 | 0.0 | 0.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 38.3 | | | | | | | | | |
| HCM 2010 LOS | | | D | | | | | | | | | |
| Notes | | | | | | | | | | | | |

HCM 2010 Signalized Intersection Summary
5: Kenwood Road & Orchard Lane

2040 PM Build
Kenwood Road Development



| Movement | EBL | EBR | NBL | NBT | SBT | SBR | | |
|------------------------------|------|-------|-------|------|------|-------|---|---|
| Lane Configurations | | | | | | | | |
| Traffic Volume (veh/h) | 58 | 82 | 146 | 1640 | 1689 | 74 | | |
| Future Volume (veh/h) | 58 | 82 | 146 | 1640 | 1689 | 74 | | |
| Number | 7 | 14 | 5 | 2 | 6 | 16 | | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | 0.95 | 1.00 | | | 1.00 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Adj Sat Flow, veh/h/ln | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | | |
| Adj Flow Rate, veh/h | 63 | 89 | 159 | 1783 | 1836 | 80 | | |
| Adj No. of Lanes | 0 | 0 | 1 | 2 | 2 | 0 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 0 | 0 | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 97 | 137 | 179 | 2764 | 2707 | 117 | | |
| Arrive On Green | 0.15 | 0.14 | 0.78 | 0.78 | 0.78 | 0.77 | | |
| Sat Flow, veh/h | 662 | 936 | 233 | 3632 | 3549 | 150 | | |
| Grp Volume(v), veh/h | 153 | 0 | 159 | 1783 | 934 | 982 | | |
| Grp Sat Flow(s),veh/h/ln | 1609 | 0 | 233 | 1770 | 1770 | 1836 | | |
| Q Serve(g_s), s | 11.7 | 0.0 | 69.0 | 28.9 | 31.5 | 32.5 | | |
| Cycle Q Clear(g_c), s | 11.7 | 0.0 | 101.5 | 28.9 | 31.5 | 32.5 | | |
| Prop In Lane | 0.41 | 0.58 | 1.00 | | | 0.08 | | |
| Lane Grp Cap(c), veh/h | 236 | 0 | 179 | 2764 | 1386 | 1438 | | |
| V/C Ratio(X) | 0.65 | 0.00 | 0.89 | 0.65 | 0.67 | 0.68 | | |
| Avail Cap(c_a), veh/h | 406 | 0 | 179 | 2764 | 1386 | 1438 | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Upstream Filter(I) | 1.00 | 0.00 | 0.49 | 0.49 | 0.34 | 0.34 | | |
| Uniform Delay (d), s/veh | 52.7 | 0.0 | 38.2 | 6.3 | 6.5 | 6.6 | | |
| Incr Delay (d2), s/veh | 3.0 | 0.0 | 26.0 | 0.6 | 0.9 | 0.9 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(95%),veh/ln | 9.2 | 0.0 | 10.0 | 18.4 | 19.1 | 20.3 | | |
| LnGrp Delay(d),s/veh | 55.6 | 0.0 | 64.1 | 6.9 | 7.4 | 7.5 | | |
| LnGrp LOS | E | | E | A | A | A | | |
| Approach Vol, veh/h | 153 | | | 1942 | 1916 | | | |
| Approach Delay, s/veh | 55.6 | | | 11.6 | 7.4 | | | |
| Approach LOS | E | | | B | A | | | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Assigned Phs | | 2 | | 4 | | 6 | | |
| Phs Duration (G+Y+Rc), s | | 106.7 | | 23.3 | | 106.7 | | |
| Change Period (Y+Rc), s | | 6.0 | | 5.5 | | 6.0 | | |
| Max Green Setting (Gmax), s | | 87.0 | | 31.5 | | 87.0 | | |
| Max Q Clear Time (g_c+I1), s | | 103.5 | | 13.7 | | 34.5 | | |
| Green Ext Time (p_c), s | | 0.0 | | 0.6 | | 15.6 | | |
| Intersection Summary | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 11.3 | | | | | |
| HCM 2010 LOS | | | B | | | | | |
| Notes | | | | | | | | |

HCM 2010 Signalized Intersection Summary
 6: Kenwood Road & Montgomery Road (US 22/SR 3)

2040 PM Build
 Kenwood Road Development



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↔↔ | ↑↑ | ↗ | ↔↔ | ↑↑ | ↗ | ↔↔ | ↑↑↑ | ↗ | ↔↔ | ↑↑↑ | ↗ |
| Traffic Volume (veh/h) | 498 | 1046 | 294 | 467 | 795 | 349 | 250 | 977 | 411 | 326 | 1182 | 279 |
| Future Volume (veh/h) | 498 | 1046 | 294 | 467 | 795 | 349 | 250 | 977 | 411 | 326 | 1182 | 279 |
| Number | 5 | 2 | 12 | 1 | 6 | 16 | 3 | 8 | 18 | 7 | 4 | 14 |
| 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 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1788 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 541 | 1137 | 320 | 508 | 864 | 379 | 272 | 1062 | 447 | 354 | 1285 | 303 |
| Adj No. of Lanes | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 3 | 1 | 2 | 3 | 1 |
| 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 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 602 | 1144 | 594 | 528 | 1068 | 659 | 304 | 1301 | 582 | 407 | 1479 | 679 |
| Arrive On Green | 0.18 | 0.32 | 0.30 | 0.15 | 0.30 | 0.29 | 0.09 | 0.26 | 0.24 | 0.12 | 0.29 | 0.28 |
| Sat Flow, veh/h | 3442 | 3539 | 1577 | 3442 | 3539 | 1577 | 3442 | 5085 | 1564 | 3304 | 5085 | 1566 |
| Grp Volume(v), veh/h | 541 | 1137 | 320 | 508 | 864 | 379 | 272 | 1062 | 447 | 354 | 1285 | 303 |
| Grp Sat Flow(s),veh/h/ln | 1721 | 1770 | 1577 | 1721 | 1770 | 1577 | 1721 | 1695 | 1564 | 1652 | 1695 | 1566 |
| Q Serve(g_s), s | 18.5 | 38.4 | 19.0 | 17.6 | 27.1 | 22.1 | 9.4 | 23.6 | 28.8 | 12.6 | 28.8 | 16.4 |
| Cycle Q Clear(g_c), s | 18.5 | 38.4 | 19.0 | 17.6 | 27.1 | 22.1 | 9.4 | 23.6 | 28.8 | 12.6 | 28.8 | 16.4 |
| 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 | 602 | 1144 | 594 | 528 | 1068 | 659 | 304 | 1301 | 582 | 407 | 1479 | 679 |
| V/C Ratio(X) | 0.90 | 0.99 | 0.54 | 0.96 | 0.81 | 0.57 | 0.89 | 0.82 | 0.77 | 0.87 | 0.87 | 0.45 |
| Avail Cap(c_a), veh/h | 602 | 1144 | 594 | 528 | 1068 | 659 | 304 | 1301 | 582 | 407 | 1479 | 679 |
| 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 | 0.61 | 0.61 | 0.61 |
| Uniform Delay (d), s/veh | 48.5 | 40.5 | 29.2 | 50.5 | 38.7 | 26.8 | 54.1 | 42.0 | 33.3 | 51.6 | 40.4 | 24.0 |
| Incr Delay (d2), s/veh | 16.3 | 25.0 | 1.0 | 29.8 | 4.8 | 1.2 | 26.8 | 5.7 | 9.4 | 11.7 | 4.5 | 1.3 |
| 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(95%),veh/ln | 6.4 | 30.6 | 13.2 | 15.9 | 20.0 | 14.9 | 9.5 | 17.3 | 20.7 | 9.6 | 18.8 | 10.8 |
| LnGrp Delay(d),s/veh | 64.8 | 65.5 | 30.2 | 80.3 | 43.5 | 28.0 | 81.0 | 47.7 | 42.6 | 63.4 | 44.9 | 25.3 |
| LnGrp LOS | E | E | C | F | D | C | F | D | D | E | D | C |
| Approach Vol, veh/h | | 1998 | | | 1751 | | | 1781 | | | 1942 | |
| Approach Delay, s/veh | | 59.6 | | | 50.8 | | | 51.5 | | | 45.2 | |
| Approach LOS | | E | | | D | | | D | | | D | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 32.2 | 43.0 | 15.2 | 39.6 | 25.2 | 40.0 | 19.5 | 35.3 | | | | |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | | | | |
| Max Green Setting (Gmax), s | 45.3 | 36.5 | 8.7 | 33.1 | 18.7 | 33.5 | 13.0 | 28.8 | | | | |
| Max Q Clear Time (g_c+1), s | 19.6 | 40.4 | 11.4 | 30.8 | 20.5 | 29.1 | 14.6 | 30.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 1.6 | 0.0 | 2.4 | 0.0 | 0.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 51.9 | | | | | | | | | |
| HCM 2010 LOS | | | D | | | | | | | | | |
| Notes | | | | | | | | | | | | |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 6.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 30 | 3 | 118 | 74 | 0 | 3 | 0 | 129 | 18 | 0 | 0 |
| Future Vol, veh/h | 0 | 30 | 3 | 118 | 74 | 0 | 3 | 0 | 129 | 18 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 33 | 3 | 128 | 80 | 0 | 3 | 0 | 140 | 20 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 80 | 0 | 0 | 36 | 0 | 0 | 371 | 371 | 35 | 441 | 372 | 80 |
| Stage 1 | - | - | - | - | - | - | 35 | 35 | - | 336 | 336 | - |
| Stage 2 | - | - | - | - | - | - | 336 | 336 | - | 105 | 36 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1518 | - | - | 1575 | - | - | 586 | 559 | 1038 | 527 | 558 | 980 |
| Stage 1 | - | - | - | - | - | - | 981 | 866 | - | 678 | 642 | - |
| Stage 2 | - | - | - | - | - | - | 678 | 642 | - | 901 | 865 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1518 | - | - | 1575 | - | - | 548 | 511 | 1038 | 426 | 511 | 980 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 548 | 511 | - | 426 | 511 | - |
| Stage 1 | - | - | - | - | - | - | 981 | 866 | - | 678 | 587 | - |
| Stage 2 | - | - | - | - | - | - | 620 | 587 | - | 779 | 865 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|----|--|--|-----|--|--|-----|--|--|------|--|--|
| HCM Control Delay, s | 0 | | | 4.6 | | | 9.1 | | | 13.9 | | |
| HCM LOS | | | | | | | A | | | B | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 1017 | 1518 | - | - | 1575 | - | - | 426 |
| HCM Lane V/C Ratio | 0.141 | - | - | - | 0.081 | - | - | 0.046 |
| HCM Control Delay (s) | 9.1 | 0 | - | - | 7.5 | 0 | - | 13.9 |
| HCM Lane LOS | A | A | - | - | A | A | - | B |
| HCM 95th %tile Q(veh) | 0.5 | 0 | - | - | 0.3 | - | - | 0.1 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.1 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 19 | 0 | 15 | 62 | 0 | 14 |
| Future Vol, veh/h | 19 | 0 | 15 | 62 | 0 | 14 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 21 | 0 | 16 | 67 | 0 | 15 |

| Major/Minor | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0 | 0 | 21 | 0 | 120 |
| Stage 1 | - | - | - | - | 21 |
| Stage 2 | - | - | - | - | 99 |
| Critical Hdwy | - | - | 4.12 | - | 6.42 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 |
| Pot Cap-1 Maneuver | - | - | 1595 | - | 876 |
| Stage 1 | - | - | - | - | 1002 |
| Stage 2 | - | - | - | - | 925 |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1595 | - | 867 |
| Mov Cap-2 Maneuver | - | - | - | - | 867 |
| Stage 1 | - | - | - | - | 992 |
| Stage 2 | - | - | - | - | 925 |

| Approach | EB | WB | NB |
|----------------------|----|-----|-----|
| HCM Control Delay, s | 0 | 1.4 | 8.5 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|------|-----|
| Capacity (veh/h) | 1056 | - | - | 1595 | - |
| HCM Lane V/C Ratio | 0.014 | - | - | 0.01 | - |
| HCM Control Delay (s) | 8.5 | - | - | 7.3 | 0 |
| HCM Lane LOS | A | - | - | A | A |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.2 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | | ↗ | | ↑↑ | ↑↑ | |
| Traffic Vol, veh/h | 0 | 31 | 0 | 1349 | 1551 | 26 |
| Future Vol, veh/h | 0 | 31 | 0 | 1349 | 1551 | 26 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 34 | 0 | 1466 | 1686 | 28 |

| Major/Minor | Minor2 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|---|
| Conflicting Flow All | - | 857 | - | 0 | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - |
| Pot Cap-1 Maneuver | 0 | 301 | 0 | - | - |
| Stage 1 | 0 | - | 0 | - | - |
| Stage 2 | 0 | - | 0 | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | - | 301 | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 18.5 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | EBLn1 | SBT | SBR |
|-----------------------|-----|-------|-----|-----|
| Capacity (veh/h) | - | 301 | - | - |
| HCM Lane V/C Ratio | - | 0.112 | - | - |
| HCM Control Delay (s) | - | 18.5 | - | - |
| HCM Lane LOS | - | C | - | - |
| HCM 95th %tile Q(veh) | - | 0.4 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.9 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↕ | ↕ | | ↕ | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 48 | 39 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 48 | 39 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 52 | 42 | 0 |

























| Major/Minor | Major1 | Major2 | Minor2 | | |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 52 | 0 | - | 0 | 26 |
| Stage 1 | - | - | - | - | 26 |
| Stage 2 | - | - | - | - | 0 |
| Critical Hdwy | 4.12 | - | - | - | 6.42 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 |
| Pot Cap-1 Maneuver | 1554 | - | - | - | 989 |
| Stage 1 | - | - | - | - | 997 |
| Stage 2 | - | - | - | - | - |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1554 | - | - | - | 989 |
| Mov Cap-2 Maneuver | - | - | - | - | 989 |
| Stage 1 | - | - | - | - | 997 |
| Stage 2 | - | - | - | - | - |

| Approach | EB | WB | SB |
|----------------------|----|----|-----|
| HCM Control Delay, s | 0 | 0 | 8.8 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|-----------------------|------|-----|-----|-----|-------|
| Capacity (veh/h) | 1554 | - | - | - | 989 |
| HCM Lane V/C Ratio | - | - | - | - | 0.043 |
| HCM Control Delay (s) | 0 | - | - | - | 8.8 |
| HCM Lane LOS | A | - | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 |

HCM 2010 Signalized Intersection Summary
1: Kenwood Road & Galbraith Road

2040 SAT Build
Kenwood Road Development

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 72 | 200 | 188 | 119 | 170 | 208 | 195 | 723 | 148 | 221 | 650 | 75 |
| Future Volume (veh/h) | 72 | 200 | 188 | 119 | 170 | 208 | 195 | 723 | 148 | 221 | 650 | 75 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 0.99 | | 0.98 | 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 78 | 217 | 204 | 129 | 185 | 226 | 212 | 786 | 161 | 240 | 707 | 82 |
| Adj No. of Lanes | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 2 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 324 | 422 | 488 | 313 | 438 | 518 | 430 | 1277 | 262 | 386 | 1427 | 165 |
| Arrive On Green | 0.06 | 0.23 | 0.23 | 0.07 | 0.24 | 0.24 | 0.09 | 0.44 | 0.44 | 0.10 | 0.45 | 0.45 |
| Sat Flow, veh/h | 1774 | 1863 | 1548 | 1774 | 1863 | 1549 | 1774 | 2925 | 599 | 1774 | 3195 | 370 |
| Grp Volume(v), veh/h | 78 | 217 | 204 | 129 | 185 | 226 | 212 | 476 | 471 | 240 | 391 | 398 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1863 | 1548 | 1774 | 1863 | 1549 | 1774 | 1770 | 1755 | 1774 | 1770 | 1796 |
| Q Serve(g_s), s | 3.0 | 9.3 | 9.6 | 5.1 | 7.7 | 10.5 | 5.9 | 19.0 | 19.0 | 6.7 | 14.4 | 14.4 |
| Cycle Q Clear(g_c), s | 3.0 | 9.3 | 9.6 | 5.1 | 7.7 | 10.5 | 5.9 | 19.0 | 19.0 | 6.7 | 14.4 | 14.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.34 | 1.00 | | 0.21 |
| Lane Grp Cap(c), veh/h | 324 | 422 | 488 | 313 | 438 | 518 | 430 | 772 | 766 | 386 | 791 | 802 |
| V/C Ratio(X) | 0.24 | 0.51 | 0.42 | 0.41 | 0.42 | 0.44 | 0.49 | 0.62 | 0.62 | 0.62 | 0.49 | 0.50 |
| Avail Cap(c_a), veh/h | 437 | 772 | 779 | 313 | 671 | 712 | 470 | 1004 | 996 | 562 | 1159 | 1176 |
| 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 | 24.9 | 31.0 | 24.9 | 25.3 | 29.7 | 23.9 | 13.3 | 19.9 | 19.9 | 14.8 | 18.0 | 18.0 |
| Incr Delay (d2), s/veh | 0.1 | 1.4 | 0.8 | 0.3 | 0.9 | 0.8 | 0.3 | 0.3 | 0.3 | 0.6 | 0.2 | 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(95%),veh/ln | 2.7 | 8.6 | 7.5 | 4.5 | 7.3 | 8.1 | 5.2 | 14.3 | 14.2 | 5.9 | 11.3 | 11.5 |
| LnGrp Delay(d),s/veh | 25.1 | 32.4 | 25.7 | 25.7 | 30.7 | 24.7 | 13.6 | 20.2 | 20.2 | 15.5 | 18.2 | 18.2 |
| LnGrp LOS | C | C | C | C | C | C | B | C | C | B | B | B |
| Approach Vol, veh/h | | 499 | | | 540 | | | 1159 | | | 1029 | |
| Approach Delay, s/veh | | 28.5 | | | 27.0 | | | 19.0 | | | 17.6 | |
| Approach LOS | | C | | | C | | | B | | | B | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 12.9 | 44.0 | 10.0 | 24.7 | 12.0 | 44.9 | 9.2 | 25.6 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 18.0 | 52.0 | 6.0 | 38.0 | 10.0 | 60.0 | 11.0 | 33.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.7 | 21.0 | 7.1 | 11.6 | 7.9 | 16.4 | 5.0 | 12.5 | | | | |
| Green Ext Time (p_c), s | 0.2 | 0.9 | 0.0 | 2.9 | 0.1 | 0.7 | 0.0 | 2.6 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 21.3 | | | | | | | | | |
| HCM 2010 LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 38.8 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | ↕ | ↕ | ↕ | | ↕ | ↕ | |
| Traffic Vol, veh/h | 8 | 0 | 22 | 104 | 2 | 238 | 18 | 820 | 62 | 110 | 845 | 16 |
| Future Vol, veh/h | 8 | 0 | 22 | 104 | 2 | 238 | 18 | 820 | 62 | 110 | 845 | 16 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | 0 | 95 | - | - | 90 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 9 | 0 | 24 | 113 | 2 | 259 | 20 | 891 | 67 | 120 | 918 | 17 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | | Major2 | | | | |
|----------------------|--------|------|--------|------|--------|------|------|--------|---|------|---|---|
| Conflicting Flow All | 1654 | 2165 | 468 | 1664 | 2140 | 479 | 935 | 0 | 0 | 958 | 0 | 0 |
| Stage 1 | 1167 | 1167 | - | 965 | 965 | - | - | - | - | - | - | - |
| Stage 2 | 487 | 998 | - | 699 | 1175 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | 65 | 47 | 542 | ~ 63 | 48 | 533 | 728 | - | - | 714 | - | - |
| Stage 1 | 206 | 266 | - | 274 | 331 | - | - | - | - | - | - | - |
| Stage 2 | 531 | 320 | - | 397 | 264 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 27 | 38 | 542 | ~ 51 | 39 | 533 | 728 | - | - | 714 | - | - |
| Mov Cap-2 Maneuver | 27 | 38 | - | ~ 51 | 39 | - | - | - | - | - | - | - |
| Stage 1 | 200 | 221 | - | 267 | 322 | - | - | - | - | - | - | - |
| Stage 2 | 264 | 311 | - | 316 | 220 | - | - | - | - | - | - | - |












| Approach | EB | WB | NB | SB |
|----------------------|------|-------|-----|-----|
| HCM Control Delay, s | 67.2 | 243.2 | 0.2 | 1.3 |
| HCM LOS | F | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 728 | - | - | 89 | 51 | 533 | 714 | - | - |
| HCM Lane V/C Ratio | 0.027 | - | - | 0.366 | 2.259 | 0.485 | 0.167 | - | - |
| HCM Control Delay (s) | 10.1 | - | - | 67.2 | 748.8 | 18 | 11.1 | - | - |
| HCM Lane LOS | B | - | - | F | F | C | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 1.4 | 11.7 | 2.6 | 0.6 | - | - |

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

HCM 2010 Signalized Intersection Summary
3: Kenwood Road & Happiness Way

2040 SAT Build
Kenwood Road Development

| |  |  |  |  |  |  | | |
|------------------------------|---|---|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR | | |
| Lane Configurations |  | |  |  |  |  | | |
| Traffic Volume (veh/h) | 75 | 65 | 102 | 870 | 844 | 69 | | |
| Future Volume (veh/h) | 75 | 65 | 102 | 870 | 844 | 69 | | |
| Number | 7 | 14 | 5 | 2 | 6 | 16 | | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Adj Sat Flow, veh/h/ln | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | | |
| Adj Flow Rate, veh/h | 82 | 71 | 111 | 946 | 917 | 75 | | |
| Adj No. of Lanes | 0 | 0 | 1 | 2 | 2 | 0 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 0 | 0 | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 110 | 95 | 440 | 2139 | 2003 | 164 | | |
| Arrive On Green | 0.12 | 0.12 | 0.60 | 0.60 | 0.60 | 0.60 | | |
| Sat Flow, veh/h | 895 | 775 | 565 | 3632 | 3407 | 271 | | |
| Grp Volume(v), veh/h | 154 | 0 | 111 | 946 | 490 | 502 | | |
| Grp Sat Flow(s),veh/h/ln | 1681 | 0 | 565 | 1770 | 1770 | 1815 | | |
| Q Serve(g_s), s | 3.5 | 0.0 | 5.2 | 5.7 | 5.9 | 5.9 | | |
| Cycle Q Clear(g_c), s | 3.5 | 0.0 | 11.2 | 5.7 | 5.9 | 5.9 | | |
| Prop In Lane | 0.53 | 0.46 | 1.00 | | | 0.15 | | |
| Lane Grp Cap(c), veh/h | 206 | 0 | 440 | 2139 | 1070 | 1097 | | |
| V/C Ratio(X) | 0.75 | 0.00 | 0.25 | 0.44 | 0.46 | 0.46 | | |
| Avail Cap(c_a), veh/h | 1372 | 0 | 1356 | 7879 | 3939 | 4040 | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Uniform Delay (d), s/veh | 16.6 | 0.0 | 7.3 | 4.2 | 4.2 | 4.2 | | |
| Incr Delay (d2), s/veh | 5.3 | 0.0 | 0.3 | 0.1 | 0.3 | 0.3 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(95%),veh/ln | 3.4 | 0.0 | 1.5 | 4.8 | 5.3 | 5.4 | | |
| LnGrp Delay(d),s/veh | 21.9 | 0.0 | 7.6 | 4.3 | 4.6 | 4.5 | | |
| LnGrp LOS | C | | A | A | A | A | | |
| Approach Vol, veh/h | 154 | | | 1057 | 992 | | | |
| Approach Delay, s/veh | 21.9 | | | 4.7 | 4.5 | | | |
| Approach LOS | C | | | A | A | | | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Assigned Phs | | 2 | | 4 | | 6 | | |
| Phs Duration (G+Y+Rc), s | | 30.4 | | 8.8 | | 30.4 | | |
| Change Period (Y+Rc), s | | * 6.7 | | 4.0 | | * 6.7 | | |
| Max Green Setting (Gmax), s | | * 87 | | 32.0 | | * 87 | | |
| Max Q Clear Time (g_c+I1), s | | 13.2 | | 5.5 | | 7.9 | | |
| Green Ext Time (p_c), s | | 10.5 | | 0.5 | | 7.9 | | |
| Intersection Summary | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 5.8 | | | | | |
| HCM 2010 LOS | | | A | | | | | |
| Notes | | | | | | | | |

HCM 2010 Signalized Intersection Summary
 4: Kenwood Road & Kenwood Place/Towne Center

2040 SAT Build
 Kenwood Road Development



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------|------|-------|------|-------|-------|-------|------|------|------|------|------|------|
| Lane Configurations | ↖ | ↗ | | ↖ | ↗ | | ↖ | ↗ | | ↖ | ↗ | |
| Traffic Volume (veh/h) | 62 | 8 | 65 | 384 | 8 | 88 | 78 | 741 | 323 | 104 | 756 | 80 |
| Future Volume (veh/h) | 62 | 8 | 65 | 384 | 8 | 88 | 78 | 741 | 323 | 104 | 756 | 80 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1788 | 1863 | 1900 | 1788 | 1863 | 1900 | 1788 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 67 | 9 | 71 | 417 | 9 | 96 | 85 | 805 | 351 | 113 | 822 | 87 |
| Adj No. of Lanes | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 2 | 0 | 1 | 2 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 332 | 21 | 164 | 365 | 24 | 251 | 332 | 1032 | 449 | 264 | 1402 | 148 |
| Arrive On Green | 0.06 | 0.12 | 0.12 | 0.12 | 0.17 | 0.17 | 0.07 | 0.43 | 0.43 | 0.07 | 0.43 | 0.43 |
| Sat Flow, veh/h | 1774 | 180 | 1423 | 1703 | 137 | 1462 | 1703 | 2402 | 1045 | 1703 | 3230 | 342 |
| Grp Volume(v), veh/h | 67 | 0 | 80 | 417 | 0 | 105 | 85 | 592 | 564 | 113 | 450 | 459 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 0 | 1603 | 1703 | 0 | 1599 | 1703 | 1770 | 1678 | 1703 | 1770 | 1802 |
| Q Serve(g_s), s | 3.0 | 0.0 | 4.3 | 11.0 | 0.0 | 5.4 | 2.5 | 26.7 | 26.9 | 3.3 | 18.0 | 18.0 |
| Cycle Q Clear(g_c), s | 3.0 | 0.0 | 4.3 | 11.0 | 0.0 | 5.4 | 2.5 | 26.7 | 26.9 | 3.3 | 18.0 | 18.0 |
| Prop In Lane | 1.00 | | 0.89 | 1.00 | | 0.91 | 1.00 | | 0.62 | 1.00 | | 0.19 |
| Lane Grp Cap(c), veh/h | 332 | 0 | 185 | 365 | 0 | 275 | 332 | 760 | 721 | 264 | 768 | 782 |
| V/C Ratio(X) | 0.20 | 0.00 | 0.43 | 1.14 | 0.00 | 0.38 | 0.26 | 0.78 | 0.78 | 0.43 | 0.59 | 0.59 |
| Avail Cap(c_a), veh/h | 375 | 0 | 443 | 365 | 0 | 493 | 352 | 1165 | 1105 | 277 | 1165 | 1187 |
| 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 | 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 | 32.7 | 0.0 | 38.3 | 35.7 | 0.0 | 34.2 | 14.4 | 22.8 | 22.8 | 17.5 | 20.0 | 20.0 |
| Incr Delay (d2), s/veh | 0.6 | 0.0 | 3.4 | 91.2 | 0.0 | 0.3 | 0.1 | 0.8 | 0.9 | 0.4 | 0.3 | 0.3 |
| 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(95%),veh/ln | 2.8 | 0.0 | 3.8 | 31.1 | 0.0 | 4.3 | 2.1 | 19.1 | 18.4 | 2.8 | 13.7 | 13.9 |
| LnGrp Delay(d),s/veh | 33.4 | 0.0 | 41.7 | 126.9 | 0.0 | 34.5 | 14.5 | 23.5 | 23.7 | 17.9 | 20.3 | 20.3 |
| LnGrp LOS | C | | D | F | | C | B | C | C | B | C | C |
| Approach Vol, veh/h | | 147 | | | 522 | | | 1241 | | | 1022 | |
| Approach Delay, s/veh | | 37.9 | | | 108.3 | | | 23.0 | | | 20.0 | |
| Approach LOS | | D | | | F | | | C | | | C | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 3.3 | 46.7 | 15.0 | 18.1 | 12.9 | 47.1 | 9.8 | 23.3 | | | | |
| Change Period (Y+Rc), s | 6.7 | * 6.7 | 4.0 | 7.3 | * 6.7 | * 6.7 | 4.0 | 7.3 | | | | |
| Max Green Setting (Gmax), s | 61 | * 61 | 11.0 | 25.7 | * 7.3 | * 61 | 8.0 | 28.7 | | | | |
| Max Q Clear Time (g_c+1), s | 28.9 | 28.9 | 13.0 | 6.3 | 4.5 | 20.0 | 5.0 | 7.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.0 | 0.0 | 0.5 | 0.0 | 2.1 | 0.1 | 0.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | | 37.9 | | | | | | | | |
| HCM 2010 LOS | | | | D | | | | | | | | |
| Notes | | | | | | | | | | | | |

HCM 2010 Signalized Intersection Summary
5: Kenwood Road & Orchard Lane

2040 SAT Build
Kenwood Road Development



| Movement | EBL | EBR | NBL | NBT | SBT | SBR | | |
|------------------------------|------|-------|------|------|------|-------|---|---|
| Lane Configurations | | | | | | | | |
| Traffic Volume (veh/h) | 67 | 90 | 85 | 1506 | 1086 | 38 | | |
| Future Volume (veh/h) | 67 | 90 | 85 | 1506 | 1086 | 38 | | |
| Number | 7 | 14 | 5 | 2 | 6 | 16 | | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | 0.95 | 1.00 | | | 1.00 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Adj Sat Flow, veh/h/ln | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | | |
| Adj Flow Rate, veh/h | 73 | 98 | 92 | 1637 | 1180 | 41 | | |
| Adj No. of Lanes | 0 | 0 | 1 | 2 | 2 | 0 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 0 | 0 | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 106 | 142 | 355 | 2736 | 2706 | 94 | | |
| Arrive On Green | 0.15 | 0.14 | 1.00 | 1.00 | 0.78 | 0.77 | | |
| Sat Flow, veh/h | 685 | 920 | 455 | 3632 | 3583 | 121 | | |
| Grp Volume(v), veh/h | 172 | 0 | 92 | 1637 | 598 | 623 | | |
| Grp Sat Flow(s),veh/h/ln | 1614 | 0 | 455 | 1770 | 1770 | 1841 | | |
| Q Serve(g_s), s | 13.1 | 0.0 | 5.3 | 0.0 | 14.9 | 15.0 | | |
| Cycle Q Clear(g_c), s | 13.1 | 0.0 | 20.3 | 0.0 | 14.9 | 15.0 | | |
| Prop In Lane | 0.42 | 0.57 | 1.00 | | | 0.07 | | |
| Lane Grp Cap(c), veh/h | 250 | 0 | 355 | 2736 | 1372 | 1428 | | |
| V/C Ratio(X) | 0.69 | 0.00 | 0.26 | 0.60 | 0.44 | 0.44 | | |
| Avail Cap(c_a), veh/h | 407 | 0 | 355 | 2736 | 1372 | 1428 | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | | |
| Upstream Filter(I) | 1.00 | 0.00 | 0.74 | 0.74 | 0.49 | 0.49 | | |
| Uniform Delay (d), s/veh | 52.3 | 0.0 | 1.5 | 0.0 | 5.0 | 5.0 | | |
| Incr Delay (d2), s/veh | 3.4 | 0.0 | 1.3 | 0.7 | 0.5 | 0.5 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(95%),veh/ln | 0.1 | 0.0 | 1.4 | 0.5 | 10.4 | 10.8 | | |
| LnGrp Delay(d),s/veh | 55.7 | 0.0 | 2.8 | 0.7 | 5.5 | 5.5 | | |
| LnGrp LOS | E | | A | A | A | A | | |
| Approach Vol, veh/h | 172 | | | 1729 | 1221 | | | |
| Approach Delay, s/veh | 55.7 | | | 0.8 | 5.5 | | | |
| Approach LOS | E | | | A | A | | | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Assigned Phs | | 2 | | 4 | | 6 | | |
| Phs Duration (G+Y+Rc), s | | 105.7 | | 24.3 | | 105.7 | | |
| Change Period (Y+Rc), s | | 6.0 | | 5.5 | | 6.0 | | |
| Max Green Setting (Gmax), s | | 87.0 | | 31.5 | | 87.0 | | |
| Max Q Clear Time (g_c+I1), s | | 22.3 | | 15.1 | | 17.0 | | |
| Green Ext Time (p_c), s | | 16.2 | | 0.6 | | 6.4 | | |
| Intersection Summary | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 5.7 | | | | | |
| HCM 2010 LOS | | | A | | | | | |
| Notes | | | | | | | | |

HCM 2010 Signalized Intersection Summary
 6: Kenwood Road & Montgomery Road (US 22/SR 3)

2040 SAT Build
 Kenwood Road Development



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------------|------|------|------|------|------|------|-------|------|------|------|------|------|
| Lane Configurations | ↔↔ | ↑↑ | ↗ | ↔↔ | ↑↑ | ↗ | ↔↔ | ↑↑↑ | ↗ | ↔↔ | ↑↑↑ | ↗ |
| Traffic Volume (veh/h) | 338 | 667 | 190 | 334 | 571 | 405 | 259 | 865 | 426 | 341 | 655 | 210 |
| Future Volume (veh/h) | 338 | 667 | 190 | 334 | 571 | 405 | 259 | 865 | 426 | 341 | 655 | 210 |
| Number | 5 | 2 | 12 | 1 | 6 | 16 | 3 | 8 | 18 | 7 | 4 | 14 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1788 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 367 | 725 | 207 | 363 | 621 | 440 | 282 | 940 | 463 | 371 | 712 | 228 |
| Adj No. of Lanes | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 3 | 1 | 2 | 3 | 1 |
| 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 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 484 | 877 | 470 | 483 | 877 | 602 | 283 | 1718 | 696 | 466 | 2016 | 795 |
| Arrive On Green | 0.14 | 0.25 | 0.23 | 0.14 | 0.25 | 0.24 | 0.08 | 0.34 | 0.32 | 0.05 | 0.13 | 0.13 |
| Sat Flow, veh/h | 3442 | 3539 | 1575 | 3442 | 3539 | 1575 | 3442 | 5085 | 1569 | 3304 | 5085 | 1571 |
| Grp Volume(v), veh/h | 367 | 725 | 207 | 363 | 621 | 440 | 282 | 940 | 463 | 371 | 712 | 228 |
| Grp Sat Flow(s),veh/h/ln | 1721 | 1770 | 1575 | 1721 | 1770 | 1575 | 1721 | 1695 | 1569 | 1652 | 1695 | 1571 |
| Q Serve(g_s), s | 13.3 | 25.2 | 13.8 | 13.2 | 20.8 | 31.1 | 10.6 | 19.5 | 30.3 | 14.5 | 16.6 | 13.9 |
| Cycle Q Clear(g_c), s | 13.3 | 25.2 | 13.8 | 13.2 | 20.8 | 31.1 | 10.6 | 19.5 | 30.3 | 14.5 | 16.6 | 13.9 |
| 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 | 484 | 877 | 470 | 483 | 877 | 602 | 283 | 1718 | 696 | 466 | 2016 | 795 |
| V/C Ratio(X) | 0.76 | 0.83 | 0.44 | 0.75 | 0.71 | 0.73 | 1.00 | 0.55 | 0.66 | 0.80 | 0.35 | 0.29 |
| Avail Cap(c_a), veh/h | 577 | 920 | 489 | 535 | 877 | 602 | 283 | 1718 | 696 | 473 | 2016 | 795 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.88 | 0.88 | 0.88 |
| Uniform Delay (d), s/veh | 53.7 | 46.3 | 36.9 | 53.7 | 44.6 | 34.5 | 59.6 | 35.0 | 28.6 | 60.1 | 41.3 | 27.4 |
| Incr Delay (d2), s/veh | 4.8 | 6.1 | 0.7 | 5.3 | 2.7 | 4.5 | 52.2 | 1.3 | 5.0 | 8.1 | 0.4 | 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(95%),veh/ln | 0.9 | 18.9 | 10.1 | 10.8 | 15.8 | 20.4 | 11.5 | 14.4 | 20.1 | 11.3 | 12.2 | 10.1 |
| LnGrp Delay(d),s/veh | 58.6 | 52.3 | 37.6 | 59.0 | 47.3 | 39.0 | 111.8 | 36.2 | 33.6 | 68.3 | 41.7 | 28.2 |
| LnGrp LOS | E | D | D | E | D | D | F | D | C | E | D | C |
| Approach Vol, veh/h | | 1299 | | | 1424 | | | 1685 | | | 1311 | |
| Approach Delay, s/veh | | 51.7 | | | 47.7 | | | 48.2 | | | 46.9 | |
| Approach LOS | | D | | | D | | | D | | | D | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 32.1 | 36.4 | 15.3 | 56.2 | 22.5 | 36.0 | 23.0 | 48.5 | | | | |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | | | | |
| Max Green Setting (Gmax), s | 7.5 | 31.5 | 8.8 | 46.2 | 19.5 | 29.5 | 16.8 | 38.2 | | | | |
| Max Q Clear Time (g_c+11.5), s | 11.5 | 27.2 | 12.6 | 18.6 | 15.3 | 33.1 | 16.5 | 32.3 | | | | |
| Green Ext Time (p_c), s | 0.4 | 1.7 | 0.0 | 4.5 | 0.6 | 0.0 | 0.1 | 3.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 48.6 | | | | | | | | | |
| HCM 2010 LOS | | | D | | | | | | | | | |
| Notes | | | | | | | | | | | | |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 7.1 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 2 | 13 | 2 | 144 | 27 | 0 | 2 | 0 | 126 | 0 | 0 | 0 |
| Future Vol, veh/h | 2 | 13 | 2 | 144 | 27 | 0 | 2 | 0 | 126 | 0 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 14 | 2 | 157 | 29 | 0 | 2 | 0 | 137 | 0 | 0 | 0 |

| Major/Minor | Major1 | | Major2 | | Minor1 | | Minor2 | | | | | |
|----------------------|--------|---|--------|-------|--------|---|--------|-------|-------|-------|-------|-------|
| Conflicting Flow All | 29 | 0 | 0 | 16 | 0 | 0 | 362 | 362 | 15 | 431 | 363 | 29 |
| Stage 1 | - | - | - | - | - | - | 19 | 19 | - | 343 | 343 | - |
| Stage 2 | - | - | - | - | - | - | 343 | 343 | - | 88 | 20 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1584 | - | - | 1602 | - | - | 594 | 565 | 1065 | 535 | 565 | 1046 |
| Stage 1 | - | - | - | - | - | - | 1000 | 880 | - | 672 | 637 | - |
| Stage 2 | - | - | - | - | - | - | 672 | 637 | - | 920 | 879 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1584 | - | - | 1602 | - | - | 548 | 508 | 1065 | 430 | 508 | 1046 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 548 | 508 | - | 430 | 508 | - |
| Stage 1 | - | - | - | - | - | - | 999 | 879 | - | 671 | 573 | - |
| Stage 2 | - | - | - | - | - | - | 605 | 573 | - | 801 | 878 | - |

| Approach | EB | WB | NB | SB |
|----------------------|-----|-----|----|----|
| HCM Control Delay, s | 0.9 | 6.3 | 9 | 0 |
| HCM LOS | | | A | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 1050 | 1584 | - | - | 1602 | - | - | - |
| HCM Lane V/C Ratio | 0.133 | 0.001 | - | - | 0.098 | - | - | - |
| HCM Control Delay (s) | 9 | 7.3 | 0 | - | 7.5 | 0 | - | 0 |
| HCM Lane LOS | A | A | A | - | A | A | - | A |
| HCM 95th %tile Q(veh) | 0.5 | 0 | - | - | 0.3 | - | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 18 | 0 | 0 | 29 | 0 | 0 |
| Future Vol, veh/h | 18 | 0 | 0 | 29 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 20 | 0 | 0 | 32 | 0 | 0 |

| Major/Minor | Major1 | Major2 | Minor1 | | |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 0 | 0 | 20 | 0 | 52 |
| Stage 1 | - | - | - | - | 20 |
| Stage 2 | - | - | - | - | 32 |
| Critical Hdwy | - | - | 4.12 | - | 6.42 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 |
| Pot Cap-1 Maneuver | - | - | 1596 | - | 957 |
| Stage 1 | - | - | - | - | 1003 |
| Stage 2 | - | - | - | - | 991 |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1596 | - | 957 |
| Mov Cap-2 Maneuver | - | - | - | - | 957 |
| Stage 1 | - | - | - | - | 1003 |
| Stage 2 | - | - | - | - | 991 |

| Approach | EB | WB | NB |
|----------------------|----|----|----|
| HCM Control Delay, s | 0 | 0 | 0 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|------|-----|
| Capacity (veh/h) | - | - | - | 1596 | - |
| HCM Lane V/C Ratio | - | - | - | - | - |
| HCM Control Delay (s) | 0 | - | - | 0 | - |
| HCM Lane LOS | A | - | - | A | - |
| HCM 95th %tile Q(veh) | - | - | - | 0 | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.2 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | | ↗ | | ↑↑ | ↑↑ | |
| Traffic Vol, veh/h | 0 | 29 | 0 | 755 | 863 | 30 |
| Future Vol, veh/h | 0 | 29 | 0 | 755 | 863 | 30 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 32 | 0 | 821 | 938 | 33 |

| Major/Minor | Minor2 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|---|
| Conflicting Flow All | - | 486 | - | 0 | 0 |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - |
| Pot Cap-1 Maneuver | 0 | 527 | 0 | - | - |
| Stage 1 | 0 | - | 0 | - | - |
| Stage 2 | 0 | - | 0 | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | - | 527 | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 12.3 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | EBLn1 | SBT | SBR |
|-----------------------|-----|-------|-----|-----|
| Capacity (veh/h) | - | 527 | - | - |
| HCM Lane V/C Ratio | - | 0.06 | - | - |
| HCM Control Delay (s) | - | 12.3 | - | - |
| HCM Lane LOS | - | B | - | - |
| HCM 95th %tile Q(veh) | - | 0.2 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.1 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↕ | ↕ | | ↕ | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 60 | 33 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 60 | 33 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 65 | 36 | 0 |

























| Major/Minor | Major1 | Major2 | Minor2 | | |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 65 | 0 | - | 0 | 33 |
| Stage 1 | - | - | - | - | 33 |
| Stage 2 | - | - | - | - | 0 |
| Critical Hdwy | 4.12 | - | - | - | 6.42 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 |
| Pot Cap-1 Maneuver | 1537 | - | - | - | 980 |
| Stage 1 | - | - | - | - | 989 |
| Stage 2 | - | - | - | - | - |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1537 | - | - | - | 980 |
| Mov Cap-2 Maneuver | - | - | - | - | 980 |
| Stage 1 | - | - | - | - | 989 |
| Stage 2 | - | - | - | - | - |

| Approach | EB | WB | SB |
|----------------------|----|----|-----|
| HCM Control Delay, s | 0 | 0 | 8.8 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|-----------------------|------|-----|-----|-----|-------|
| Capacity (veh/h) | 1537 | - | - | - | 980 |
| HCM Lane V/C Ratio | - | - | - | - | 0.037 |
| HCM Control Delay (s) | 0 | - | - | - | 8.8 |
| HCM Lane LOS | A | - | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 |

HCM 2010 Signalized Intersection Summary
 1: Kenwood Road & Galbraith Road

2040 BF Mid Build
 Kenwood Road Development

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 160 | 558 | 393 | 201 | 430 | 207 | 420 | 1001 | 268 | 813 | 1706 | 312 |
| Future Volume (veh/h) | 160 | 558 | 393 | 201 | 430 | 207 | 420 | 1001 | 268 | 813 | 1706 | 312 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 174 | 607 | 427 | 218 | 467 | 225 | 457 | 1088 | 291 | 884 | 1854 | 339 |
| Adj No. of Lanes | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 3 | 1 | 2 | 3 | 1 |
| 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 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 227 | 877 | 616 | 240 | 891 | 1379 | 504 | 1577 | 600 | 854 | 2095 | 755 |
| Arrive On Green | 0.07 | 0.25 | 0.25 | 0.07 | 0.25 | 0.25 | 0.15 | 0.31 | 0.31 | 0.25 | 0.41 | 0.41 |
| Sat Flow, veh/h | 3442 | 3539 | 1551 | 3442 | 3539 | 2730 | 3442 | 5085 | 1579 | 3442 | 5085 | 1580 |
| Grp Volume(v), veh/h | 174 | 607 | 427 | 218 | 467 | 225 | 457 | 1088 | 291 | 884 | 1854 | 339 |
| Grp Sat Flow(s),veh/h/ln | 1721 | 1770 | 1551 | 1721 | 1770 | 1365 | 1721 | 1695 | 1579 | 1721 | 1695 | 1580 |
| Q Serve(g_s), s | 6.4 | 20.1 | 29.7 | 8.1 | 14.7 | 5.8 | 16.9 | 24.2 | 18.1 | 32.0 | 43.5 | 18.4 |
| Cycle Q Clear(g_c), s | 6.4 | 20.1 | 29.7 | 8.1 | 14.7 | 5.8 | 16.9 | 24.2 | 18.1 | 32.0 | 43.5 | 18.4 |
| 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 | 227 | 877 | 616 | 240 | 891 | 1379 | 504 | 1577 | 600 | 854 | 2095 | 755 |
| V/C Ratio(X) | 0.77 | 0.69 | 0.69 | 0.91 | 0.52 | 0.16 | 0.91 | 0.69 | 0.48 | 1.04 | 0.88 | 0.45 |
| Avail Cap(c_a), veh/h | 320 | 878 | 617 | 240 | 891 | 1379 | 507 | 1617 | 612 | 854 | 2130 | 766 |
| 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 | 59.3 | 44.0 | 32.7 | 59.6 | 41.6 | 17.6 | 54.2 | 39.0 | 30.4 | 48.5 | 35.1 | 22.4 |
| Incr Delay (d2), s/veh | 4.0 | 2.6 | 3.7 | 33.7 | 0.8 | 0.1 | 19.5 | 1.0 | 0.2 | 40.2 | 4.6 | 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(95%),veh/ln | 5.7 | 15.3 | 19.3 | 8.7 | 11.7 | 3.9 | 14.4 | 17.0 | 12.5 | 35.9 | 28.7 | 12.7 |
| LnGrp Delay(d),s/veh | 63.3 | 46.6 | 36.4 | 93.3 | 42.4 | 17.7 | 73.7 | 40.0 | 30.6 | 88.7 | 39.7 | 22.5 |
| LnGrp LOS | E | D | D | F | D | B | E | D | C | F | D | C |
| Approach Vol, veh/h | | 1208 | | | 910 | | | 1836 | | | 3077 | |
| Approach Delay, s/veh | | 45.4 | | | 48.4 | | | 46.9 | | | 51.9 | |
| Approach LOS | | D | | | D | | | D | | | D | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 36.0 | 44.0 | 13.0 | 36.0 | 22.9 | 57.1 | 12.5 | 36.5 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 32.0 | 41.0 | 9.0 | 32.0 | 19.0 | 54.0 | 12.0 | 29.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 34.0 | 26.2 | 10.1 | 31.7 | 18.9 | 45.5 | 8.4 | 16.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.5 | 0.0 | 0.2 | 0.0 | 2.5 | 0.1 | 4.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 49.0 | | | | | | | | | |
| HCM 2010 LOS | | | D | | | | | | | | | |
| Notes | | | | | | | | | | | | |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | ↕ | ↕ | ↕ | | ↕ | ↕ | |
| Traffic Vol, veh/h | 8 | 2 | 19 | 0 | 19 | 17 | 130 | 1659 | 36 | 43 | 2367 | 125 |
| Future Vol, veh/h | 8 | 2 | 19 | 0 | 19 | 17 | 130 | 1659 | 36 | 43 | 2367 | 125 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | 0 | 95 | - | - | 90 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 9 | 2 | 21 | 0 | 21 | 18 | 141 | 1803 | 39 | 47 | 2573 | 136 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|------|--------|------|--------|------|--------|---|---|------|---|---|
| Conflicting Flow All | 3929 | 4859 | 1355 | 3487 | 4908 | 921 | 2709 | 0 | 0 | 1842 | 0 | 0 |
| Stage 1 | 2735 | 2735 | - | 2105 | 2105 | - | - | - | - | - | - | - |
| Stage 2 | 1194 | 2124 | - | 1382 | 2803 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | ~ 1 | ~ 1 | 139 | 2 | ~ 1 | 273 | 148 | - | - | 326 | - | - |
| Stage 1 | 20 | 43 | - | 53 | 91 | - | - | - | - | - | - | - |
| Stage 2 | 198 | 89 | - | 151 | 39 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 0 | 0 | 139 | 0 | 0 | 273 | 148 | - | - | 326 | - | - |
| Mov Cap-2 Maneuver | 0 | 0 | - | 0 | 0 | - | - | - | - | - | - | - |
| Stage 1 | ~ 1 | 37 | - | 2 | ~ 4 | - | - | - | - | - | - | - |
| Stage 2 | - | 4 | - | 104 | 33 | - | - | - | - | - | - | - |












| Approach | EB | WB | NB | SB |
|----------------------|------|----|-----|-----|
| HCM Control Delay, s | 38.3 | | 8.7 | 0.3 |
| HCM LOS | E | - | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 148 | - | - | 139 | - | 273 | 326 | - | - |
| HCM Lane V/C Ratio | 0.955 | - | - | 0.227 | - | 0.068 | 0.143 | - | - |
| HCM Control Delay (s) | 121.9 | - | - | 38.3 | - | 19.1 | 17.9 | - | - |
| HCM Lane LOS | F | - | - | E | - | C | C | - | - |
| HCM 95th %tile Q(veh) | 6.9 | - | - | 0.8 | - | 0.2 | 0.5 | - | - |

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

HCM 2010 Signalized Intersection Summary
 3: Kenwood Road & Happiness Way

2040 BF Mid Build
 Kenwood Road Development

| |  |  |  |  |  |  | | |
|------------------------------|---|---|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR | | |
| Lane Configurations |  | |  |  |  |  | | |
| Traffic Volume (veh/h) | 65 | 83 | 94 | 1777 | 2285 | 73 | | |
| Future Volume (veh/h) | 65 | 83 | 94 | 1777 | 2285 | 73 | | |
| Number | 7 | 14 | 5 | 2 | 6 | 16 | | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Adj Sat Flow, veh/h/ln | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | | |
| Adj Flow Rate, veh/h | 71 | 90 | 102 | 1932 | 2484 | 79 | | |
| Adj No. of Lanes | 0 | 0 | 1 | 2 | 2 | 0 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 0 | 0 | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 84 | 107 | 96 | 2802 | 2772 | 88 | | |
| Arrive On Green | 0.12 | 0.12 | 0.79 | 0.79 | 0.79 | 0.79 | | |
| Sat Flow, veh/h | 729 | 924 | 123 | 3632 | 3595 | 111 | | |
| Grp Volume(v), veh/h | 162 | 0 | 102 | 1932 | 1249 | 1314 | | |
| Grp Sat Flow(s),veh/h/ln | 1663 | 0 | 123 | 1770 | 1770 | 1843 | | |
| Q Serve(g_s), s | 11.0 | 0.0 | 31.6 | 28.9 | 57.6 | 59.7 | | |
| Cycle Q Clear(g_c), s | 11.0 | 0.0 | 91.3 | 28.9 | 57.6 | 59.7 | | |
| Prop In Lane | 0.44 | 0.56 | 1.00 | | | 0.06 | | |
| Lane Grp Cap(c), veh/h | 192 | 0 | 96 | 2802 | 1401 | 1459 | | |
| V/C Ratio(X) | 0.84 | 0.00 | 1.06 | 0.69 | 0.89 | 0.90 | | |
| Avail Cap(c_a), veh/h | 404 | 0 | 96 | 2802 | 1401 | 1459 | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Uniform Delay (d), s/veh | 50.0 | 0.0 | 52.1 | 5.5 | 8.5 | 8.7 | | |
| Incr Delay (d2), s/veh | 9.6 | 0.0 | 109.6 | 0.7 | 7.6 | 8.0 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(95%),veh/ln | 9.4 | 0.0 | 10.7 | 20.1 | 39.4 | 42.2 | | |
| LnGrp Delay(d),s/veh | 59.5 | 0.0 | 162.4 | 6.2 | 16.1 | 16.7 | | |
| LnGrp LOS | E | | F | A | B | B | | |
| Approach Vol, veh/h | 162 | | | 2034 | 2563 | | | |
| Approach Delay, s/veh | 59.5 | | | 14.1 | 16.4 | | | |
| Approach LOS | E | | | B | B | | | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Assigned Phs | | 2 | | 4 | | 6 | | |
| Phs Duration (G+Y+Rc), s | | 98.0 | | 17.3 | | 98.0 | | |
| Change Period (Y+Rc), s | | * 6.7 | | 4.0 | | * 6.7 | | |
| Max Green Setting (Gmax), s | | * 91 | | 28.0 | | * 91 | | |
| Max Q Clear Time (g_c+I1), s | | 93.3 | | 13.0 | | 61.7 | | |
| Green Ext Time (p_c), s | | 0.0 | | 0.4 | | 26.4 | | |
| Intersection Summary | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 16.9 | | | | | |
| HCM 2010 LOS | | | B | | | | | |
| Notes | | | | | | | | |

HCM 2010 Signalized Intersection Summary
 4: Kenwood Road & Kenwood Place/Towne Center

2040 BF Mid Build
 Kenwood Road Development



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------------|------|-------|------|------|-------|-------|------|------|------|-------|------|------|
| Lane Configurations | ↖ | ↗ | | ↖↗ | ↖ | | ↖ | ↑↑ | ↖ | ↖ | ↑↑↑ | ↖ |
| Traffic Volume (veh/h) | 89 | 16 | 91 | 538 | 72 | 187 | 117 | 1258 | 707 | 245 | 1489 | 182 |
| Future Volume (veh/h) | 89 | 16 | 91 | 538 | 72 | 187 | 117 | 1258 | 707 | 245 | 1489 | 182 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1788 | 1863 | 1900 | 1788 | 1863 | 1863 | 1788 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 97 | 17 | 99 | 585 | 78 | 203 | 127 | 1367 | 768 | 266 | 1618 | 198 |
| Adj No. of Lanes | 1 | 1 | 0 | 2 | 1 | 0 | 1 | 2 | 1 | 1 | 3 | 1 |
| 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 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 195 | 37 | 213 | 651 | 87 | 226 | 221 | 1670 | 898 | 196 | 2419 | 848 |
| Arrive On Green | 0.06 | 0.15 | 0.15 | 0.10 | 0.19 | 0.19 | 0.06 | 0.47 | 0.47 | 0.06 | 0.48 | 0.48 |
| Sat Flow, veh/h | 1774 | 236 | 1377 | 3304 | 458 | 1191 | 1703 | 3539 | 1582 | 1703 | 5085 | 1582 |
| Grp Volume(v), veh/h | 97 | 0 | 116 | 585 | 0 | 281 | 127 | 1367 | 768 | 266 | 1618 | 198 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 0 | 1613 | 1652 | 0 | 1648 | 1703 | 1770 | 1582 | 1703 | 1695 | 1582 |
| Q Serve(g_s), s | 5.2 | 0.0 | 7.5 | 11.0 | 0.0 | 19.2 | 4.3 | 38.2 | 46.9 | 7.3 | 28.2 | 7.6 |
| Cycle Q Clear(g_c), s | 5.2 | 0.0 | 7.5 | 11.0 | 0.0 | 19.2 | 4.3 | 38.2 | 46.9 | 7.3 | 28.2 | 7.6 |
| Prop In Lane | 1.00 | | 0.85 | 1.00 | | 0.72 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 195 | 0 | 249 | 651 | 0 | 313 | 221 | 1670 | 898 | 196 | 2419 | 848 |
| V/C Ratio(X) | 0.50 | 0.00 | 0.47 | 0.90 | 0.00 | 0.90 | 0.57 | 0.82 | 0.86 | 1.36 | 0.67 | 0.23 |
| Avail Cap(c_a), veh/h | 211 | 0 | 360 | 651 | 0 | 411 | 227 | 1885 | 994 | 196 | 2709 | 938 |
| 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 | 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 | 38.6 | 0.0 | 44.3 | 42.1 | 0.0 | 45.5 | 20.5 | 26.1 | 20.9 | 27.3 | 23.2 | 14.2 |
| Incr Delay (d2), s/veh | 4.2 | 0.0 | 2.9 | 15.0 | 0.0 | 15.8 | 2.0 | 2.3 | 6.3 | 190.9 | 0.4 | 0.1 |
| 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(95%),veh/ln | 6.0 | 0.0 | 6.4 | 9.5 | 0.0 | 15.3 | 3.8 | 26.3 | 29.4 | 29.8 | 19.2 | 6.0 |
| LnGrp Delay(d),s/veh | 42.8 | 0.0 | 47.2 | 57.1 | 0.0 | 61.4 | 22.5 | 28.5 | 27.2 | 218.2 | 23.6 | 14.2 |
| LnGrp LOS | D | | D | E | | E | C | C | C | F | C | B |
| Approach Vol, veh/h | | 213 | | | 866 | | | 2262 | | | 2082 | |
| Approach Delay, s/veh | | 45.2 | | | 58.5 | | | 27.7 | | | 47.6 | |
| Approach LOS | | D | | | E | | | C | | | D | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 4.0 | 61.0 | 15.0 | 25.1 | 13.6 | 61.4 | 10.9 | 29.1 | | | | |
| Change Period (Y+Rc), s | 6.7 | * 6.7 | 4.0 | 7.3 | * 6.7 | * 6.7 | 4.0 | 7.3 | | | | |
| Max Green Setting (Gmax), s | 61 | * 61 | 11.0 | 25.7 | * 7.3 | * 61 | 8.0 | 28.7 | | | | |
| Max Q Clear Time (g_c+119), s | 48.9 | 48.9 | 13.0 | 9.5 | 6.3 | 30.2 | 7.2 | 21.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 5.4 | 0.0 | 0.7 | 0.0 | 6.3 | 0.0 | 0.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | 40.9 | | | | | | | | | | | |
| HCM 2010 LOS | D | | | | | | | | | | | |
| Notes | | | | | | | | | | | | |

HCM 2010 Signalized Intersection Summary
5: Kenwood Road & Orchard Lane

2040 BF Mid Build
Kenwood Road Development



| Movement | EBL | EBR | NBL | NBT | SBT | SBR | | |
|------------------------------|------|------|-------|------|------|------|---|---|
| Lane Configurations | | | | | | | | |
| Traffic Volume (veh/h) | 130 | 142 | 195 | 2485 | 1787 | 134 | | |
| Future Volume (veh/h) | 130 | 142 | 195 | 2485 | 1787 | 134 | | |
| Number | 7 | 14 | 5 | 2 | 6 | 16 | | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | 0.97 | 1.00 | | | 1.00 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Adj Sat Flow, veh/h/ln | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | | |
| Adj Flow Rate, veh/h | 141 | 154 | 212 | 2701 | 1942 | 146 | | |
| Adj No. of Lanes | 0 | 0 | 1 | 2 | 3 | 0 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 0 | 0 | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 161 | 176 | 160 | 2554 | 3494 | 262 | | |
| Arrive On Green | 0.21 | 0.20 | 0.72 | 0.72 | 0.72 | 0.72 | | |
| Sat Flow, veh/h | 780 | 852 | 197 | 3632 | 4995 | 361 | | |
| Grp Volume(v), veh/h | 296 | 0 | 212 | 2701 | 1361 | 727 | | |
| Grp Sat Flow(s),veh/h/ln | 1638 | 0 | 197 | 1770 | 1695 | 1798 | | |
| Q Serve(g_s), s | 22.8 | 0.0 | 69.3 | 93.8 | 24.1 | 24.5 | | |
| Cycle Q Clear(g_c), s | 22.8 | 0.0 | 93.8 | 93.8 | 24.1 | 24.5 | | |
| Prop In Lane | 0.48 | 0.52 | 1.00 | | | 0.20 | | |
| Lane Grp Cap(c), veh/h | 338 | 0 | 160 | 2554 | 2454 | 1302 | | |
| V/C Ratio(X) | 0.88 | 0.00 | 1.32 | 1.06 | 0.55 | 0.56 | | |
| Avail Cap(c_a), veh/h | 413 | 0 | 160 | 2554 | 2454 | 1302 | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Upstream Filter(I) | 1.00 | 0.00 | 0.30 | 0.30 | 0.56 | 0.56 | | |
| Uniform Delay (d), s/veh | 50.3 | 0.0 | 42.3 | 18.1 | 8.3 | 8.4 | | |
| Incr Delay (d2), s/veh | 16.2 | 0.0 | 157.9 | 29.4 | 0.5 | 1.0 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(95%),veh/ln | 7.4 | 0.0 | 23.0 | 99.6 | 15.5 | 16.6 | | |
| LnGrp Delay(d),s/veh | 66.5 | 0.0 | 200.2 | 47.5 | 8.8 | 9.4 | | |
| LnGrp LOS | E | | F | F | A | A | | |
| Approach Vol, veh/h | 296 | | | 2913 | 2088 | | | |
| Approach Delay, s/veh | 66.5 | | | 58.6 | 9.0 | | | |
| Approach LOS | E | | | E | A | | | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Assigned Phs | | 2 | | 4 | | 6 | | |
| Phs Duration (G+Y+Rc), s | | 99.0 | | 31.0 | | 99.0 | | |
| Change Period (Y+Rc), s | | 6.0 | | 5.5 | | 6.0 | | |
| Max Green Setting (Gmax), s | | 87.0 | | 31.5 | | 87.0 | | |
| Max Q Clear Time (g_c+I1), s | | 95.8 | | 24.8 | | 26.5 | | |
| Green Ext Time (p_c), s | | 0.0 | | 0.7 | | 17.2 | | |
| Intersection Summary | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 39.5 | | | | | |
| HCM 2010 LOS | | | D | | | | | |
| Notes | | | | | | | | |

HCM 2010 Signalized Intersection Summary
 6: Kenwood Road & Montgomery Road (US 22/SR 3)

2040 BF Mid Build
 Kenwood Road Development



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↔↔ | ↑↑↑ | ↔ | ↔↔ | ↑↑↑ | ↔↔ | ↔↔ | ↑↑↑ | ↔ | ↔↔ | ↑↑↑ | ↔ |
| Traffic Volume (veh/h) | 544 | 883 | 352 | 429 | 656 | 814 | 352 | 1288 | 474 | 445 | 1034 | 412 |
| Future Volume (veh/h) | 544 | 883 | 352 | 429 | 656 | 814 | 352 | 1288 | 474 | 445 | 1034 | 412 |
| Number | 5 | 2 | 12 | 1 | 6 | 16 | 3 | 8 | 18 | 7 | 4 | 14 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1788 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 591 | 960 | 383 | 466 | 713 | 885 | 383 | 1400 | 515 | 484 | 1124 | 448 |
| Adj No. of Lanes | 2 | 3 | 1 | 2 | 3 | 2 | 2 | 3 | 1 | 2 | 3 | 1 |
| 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 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 688 | 1411 | 602 | 490 | 1119 | 1021 | 479 | 1428 | 605 | 512 | 1509 | 728 |
| Arrive On Green | 0.20 | 0.28 | 0.26 | 0.14 | 0.22 | 0.21 | 0.14 | 0.28 | 0.26 | 0.15 | 0.30 | 0.28 |
| Sat Flow, veh/h | 3442 | 5085 | 1576 | 3442 | 5085 | 2771 | 3442 | 5085 | 1565 | 3304 | 5085 | 1566 |
| Grp Volume(v), veh/h | 591 | 960 | 383 | 466 | 713 | 885 | 383 | 1400 | 515 | 484 | 1124 | 448 |
| Grp Sat Flow(s),veh/h/ln | 1721 | 1695 | 1576 | 1721 | 1695 | 1385 | 1721 | 1695 | 1565 | 1652 | 1695 | 1566 |
| Q Serve(g_s), s | 19.9 | 20.2 | 23.8 | 16.1 | 15.3 | 25.5 | 12.9 | 32.8 | 31.8 | 17.4 | 23.9 | 25.8 |
| Cycle Q Clear(g_c), s | 19.9 | 20.2 | 23.8 | 16.1 | 15.3 | 25.5 | 12.9 | 32.8 | 31.8 | 17.4 | 23.9 | 25.8 |
| 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 | 688 | 1411 | 602 | 490 | 1119 | 1021 | 479 | 1428 | 605 | 512 | 1509 | 728 |
| V/C Ratio(X) | 0.86 | 0.68 | 0.64 | 0.95 | 0.64 | 0.87 | 0.80 | 0.98 | 0.85 | 0.95 | 0.75 | 0.62 |
| Avail Cap(c_a), veh/h | 688 | 1411 | 602 | 490 | 1119 | 1021 | 479 | 1428 | 605 | 512 | 1509 | 728 |
| 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 | 0.75 | 0.75 | 0.75 |
| Uniform Delay (d), s/veh | 46.4 | 38.6 | 30.3 | 51.0 | 42.5 | 35.3 | 50.0 | 42.8 | 33.8 | 50.2 | 38.1 | 24.3 |
| Incr Delay (d2), s/veh | 10.6 | 1.3 | 2.2 | 28.4 | 1.2 | 8.0 | 9.3 | 19.6 | 14.1 | 21.9 | 2.5 | 2.9 |
| 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(95%),veh/ln | 5.8 | 14.7 | 16.1 | 14.6 | 11.7 | 21.1 | 11.1 | 24.8 | 24.9 | 13.9 | 16.4 | 16.6 |
| LnGrp Delay(d),s/veh | 57.0 | 40.0 | 32.5 | 79.5 | 43.7 | 43.3 | 59.4 | 62.4 | 47.9 | 72.1 | 40.6 | 27.2 |
| LnGrp LOS | E | D | C | E | D | D | E | E | D | E | D | C |
| Approach Vol, veh/h | | 1934 | | | 2064 | | | 2298 | | | 2056 | |
| Approach Delay, s/veh | | 43.7 | | | 51.6 | | | 58.6 | | | 45.1 | |
| Approach LOS | | D | | | D | | | E | | | D | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 30.9 | 37.5 | 21.3 | 40.3 | 28.2 | 30.2 | 23.3 | 38.3 | | | | |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | | | | |
| Max Green Setting (Gmax), s | 31.0 | 31.0 | 14.8 | 33.8 | 21.7 | 23.7 | 16.8 | 31.8 | | | | |
| Max Q Clear Time (g_c+11g), s | 25.8 | 25.8 | 14.9 | 27.8 | 21.9 | 27.5 | 19.4 | 34.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.8 | 0.0 | 3.6 | 0.0 | 0.0 | 0.0 | 0.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 50.1 | | | | | | | | | |
| HCM 2010 LOS | | | D | | | | | | | | | |
| Notes | | | | | | | | | | | | |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 5.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 6 | 69 | 2 | 116 | 61 | 6 | 0 | 0 | 90 | 8 | 0 | 6 |
| Future Vol, veh/h | 6 | 69 | 2 | 116 | 61 | 6 | 0 | 0 | 90 | 8 | 0 | 6 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 7 | 75 | 2 | 126 | 66 | 7 | 0 | 0 | 98 | 9 | 0 | 7 |

| Major/Minor | Major1 | | Major2 | | Minor1 | | Minor2 | | | | | |
|----------------------|--------|---|--------|-------|--------|---|--------|-------|-------|-------|-------|-------|
| Conflicting Flow All | 73 | 0 | 0 | 77 | 0 | 0 | 415 | 415 | 76 | 461 | 413 | 70 |
| Stage 1 | - | - | - | - | - | - | 90 | 90 | - | 322 | 322 | - |
| Stage 2 | - | - | - | - | - | - | 325 | 325 | - | 139 | 91 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1527 | - | - | 1522 | - | - | 548 | 528 | 985 | 511 | 529 | 993 |
| Stage 1 | - | - | - | - | - | - | 917 | 820 | - | 690 | 651 | - |
| Stage 2 | - | - | - | - | - | - | 687 | 649 | - | 864 | 820 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1527 | - | - | 1522 | - | - | 507 | 480 | 985 | 428 | 481 | 993 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 507 | 480 | - | 428 | 481 | - |
| Stage 1 | - | - | - | - | - | - | 912 | 816 | - | 687 | 595 | - |
| Stage 2 | - | - | - | - | - | - | 624 | 593 | - | 774 | 816 | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|-----|--|-----|--|-----|--|------|--|
| HCM Control Delay, s | 0.6 | | 4.8 | | 9.1 | | 11.5 | |
| HCM LOS | | | | | A | | B | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 985 | 1527 | - | - | 1522 | - | - | 566 |
| HCM Lane V/C Ratio | 0.099 | 0.004 | - | - | 0.083 | - | - | 0.027 |
| HCM Control Delay (s) | 9.1 | 7.4 | 0 | - | 7.6 | 0 | - | 11.5 |
| HCM Lane LOS | A | A | A | - | A | A | - | B |
| HCM 95th %tile Q(veh) | 0.3 | 0 | - | - | 0.3 | - | - | 0.1 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.6 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 54 | 0 | 24 | 45 | 0 | 23 |
| Future Vol, veh/h | 54 | 0 | 24 | 45 | 0 | 23 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 59 | 0 | 26 | 49 | 0 | 25 |

| Major/Minor | Major1 | Major2 | Minor1 | | |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 0 | 0 | 59 | 0 | 160 59 |
| Stage 1 | - | - | - | - | 59 - |
| Stage 2 | - | - | - | - | 101 - |
| Critical Hdwy | - | - | 4.12 | - | 6.42 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 - |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 3.318 |
| Pot Cap-1 Maneuver | - | - | 1545 | - | 831 1007 |
| Stage 1 | - | - | - | - | 964 - |
| Stage 2 | - | - | - | - | 923 - |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1545 | - | 817 1007 |
| Mov Cap-2 Maneuver | - | - | - | - | 817 - |
| Stage 1 | - | - | - | - | 948 - |
| Stage 2 | - | - | - | - | 923 - |

| Approach | EB | WB | NB |
|----------------------|----|-----|-----|
| HCM Control Delay, s | 0 | 2.6 | 8.7 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h) | 1007 | - | - | 1545 | - |
| HCM Lane V/C Ratio | 0.025 | - | - | 0.017 | - |
| HCM Control Delay (s) | 8.7 | - | - | 7.4 | 0 |
| HCM Lane LOS | A | - | - | A | A |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.1 | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.2 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | | ↗ | | ↑↑ | ↑↑ | |
| Traffic Vol, veh/h | 0 | 21 | 0 | 1273 | 2315 | 26 |
| Future Vol, veh/h | 0 | 21 | 0 | 1273 | 2315 | 26 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 23 | 0 | 1384 | 2516 | 28 |

| Major/Minor | Minor2 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|---|
| Conflicting Flow All | - | 1272 | - | 0 | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - |
| Pot Cap-1 Maneuver | 0 | 159 | 0 | - | - |
| Stage 1 | 0 | - | 0 | - | - |
| Stage 2 | 0 | - | 0 | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | - | 159 | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 31.4 | 0 | 0 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBT EBLn1 | SBT | SBR |
|-----------------------|-----------|-----|-----|
| Capacity (veh/h) | - 159 | - | - |
| HCM Lane V/C Ratio | - 0.144 | - | - |
| HCM Control Delay (s) | - 31.4 | - | - |
| HCM Lane LOS | - D | - | - |
| HCM 95th %tile Q(veh) | - 0.5 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.1 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↕ | ↕ | | ↕ | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 70 | 37 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 70 | 37 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 76 | 40 | 0 |

| Major/Minor | Major1 | Major2 | Minor2 | | |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 76 | 0 | - | 0 | 38 |
| Stage 1 | - | - | - | - | 38 |
| Stage 2 | - | - | - | - | 0 |
| Critical Hdwy | 4.12 | - | - | - | 6.42 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 |
| Pot Cap-1 Maneuver | 1523 | - | - | - | 974 |
| Stage 1 | - | - | - | - | 984 |
| Stage 2 | - | - | - | - | - |
| Platoon blocked, % | | - | - | - | |
| Mov Cap-1 Maneuver | 1523 | - | - | - | 974 |
| Mov Cap-2 Maneuver | - | - | - | - | 974 |
| Stage 1 | - | - | - | - | 984 |
| Stage 2 | - | - | - | - | - |

| Approach | EB | WB | SB |
|----------------------|----|----|-----|
| HCM Control Delay, s | 0 | 0 | 8.9 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|-----------------------|------|-----|-----|-----|-------|
| Capacity (veh/h) | 1523 | - | - | - | 974 |
| HCM Lane V/C Ratio | - | - | - | - | 0.041 |
| HCM Control Delay (s) | 0 | - | - | - | 8.9 |
| HCM Lane LOS | A | - | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 |

HCM 2010 Signalized Intersection Summary
 1: Kenwood Road & Galbraith Road

2040 BF PM Build
 Kenwood Road Development

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 245 | 700 | 522 | 234 | 601 | 668 | 389 | 1619 | 198 | 543 | 1707 | 170 |
| Future Volume (veh/h) | 245 | 700 | 522 | 234 | 601 | 668 | 389 | 1619 | 198 | 543 | 1707 | 170 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 266 | 761 | 567 | 254 | 653 | 726 | 423 | 1760 | 215 | 590 | 1855 | 185 |
| Adj No. of Lanes | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 3 | 1 | 2 | 3 | 1 |
| 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 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 298 | 893 | 612 | 271 | 865 | 1191 | 480 | 1804 | 685 | 647 | 2050 | 774 |
| Arrive On Green | 0.09 | 0.25 | 0.25 | 0.08 | 0.24 | 0.24 | 0.14 | 0.35 | 0.35 | 0.19 | 0.40 | 0.40 |
| Sat Flow, veh/h | 3442 | 3539 | 1551 | 3442 | 3539 | 2729 | 3442 | 5085 | 1579 | 3442 | 5085 | 1580 |
| Grp Volume(v), veh/h | 266 | 761 | 567 | 254 | 653 | 726 | 423 | 1760 | 215 | 590 | 1855 | 185 |
| Grp Sat Flow(s),veh/h/ln | 1721 | 1770 | 1551 | 1721 | 1770 | 1364 | 1721 | 1695 | 1579 | 1721 | 1695 | 1580 |
| Q Serve(g_s), s | 9.7 | 26.0 | 32.0 | 9.3 | 21.7 | 26.1 | 15.3 | 43.3 | 11.3 | 21.3 | 43.5 | 8.6 |
| Cycle Q Clear(g_c), s | 9.7 | 26.0 | 32.0 | 9.3 | 21.7 | 26.1 | 15.3 | 43.3 | 11.3 | 21.3 | 43.5 | 8.6 |
| 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 | 298 | 893 | 612 | 271 | 865 | 1191 | 480 | 1804 | 685 | 647 | 2050 | 774 |
| V/C Ratio(X) | 0.89 | 0.85 | 0.93 | 0.94 | 0.75 | 0.61 | 0.88 | 0.98 | 0.31 | 0.91 | 0.90 | 0.24 |
| Avail Cap(c_a), veh/h | 298 | 893 | 612 | 271 | 865 | 1191 | 597 | 1804 | 685 | 733 | 2050 | 774 |
| 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 | 57.3 | 45.2 | 36.9 | 58.1 | 44.4 | 27.8 | 53.5 | 40.4 | 23.6 | 50.5 | 35.6 | 18.7 |
| Incr Delay (d2), s/veh | 25.9 | 8.2 | 20.4 | 37.3 | 4.1 | 1.1 | 10.7 | 15.7 | 0.1 | 13.7 | 6.0 | 0.1 |
| 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(95%),veh/ln | 9.6 | 19.8 | 30.2 | 9.8 | 16.6 | 15.1 | 12.6 | 30.7 | 8.6 | 16.9 | 29.0 | 6.7 |
| LnGrp Delay(d),s/veh | 83.2 | 53.4 | 57.4 | 95.4 | 48.5 | 28.9 | 64.2 | 56.1 | 23.7 | 64.2 | 41.6 | 18.8 |
| LnGrp LOS | F | D | E | F | D | C | E | E | C | E | D | B |
| Approach Vol, veh/h | | 1594 | | | 1633 | | | 2398 | | | 2630 | |
| Approach Delay, s/veh | | 59.8 | | | 47.1 | | | 54.6 | | | 45.1 | |
| Approach LOS | | E | | | D | | | D | | | D | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 27.8 | 49.0 | 14.0 | 36.0 | 21.7 | 55.1 | 15.0 | 35.0 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 27.0 | 45.0 | 10.0 | 32.0 | 22.0 | 50.0 | 11.0 | 31.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 23.3 | 45.3 | 11.3 | 34.0 | 17.3 | 45.5 | 11.7 | 28.1 | | | | |
| Green Ext Time (p_c), s | 0.5 | 0.0 | 0.0 | 0.0 | 0.4 | 1.8 | 0.0 | 2.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 51.1 | | | | | | | | | |
| HCM 2010 LOS | | | D | | | | | | | | | |
| Notes | | | | | | | | | | | | |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | ↕ | ↕ | ↕ | | ↕ | ↕ | |
| Traffic Vol, veh/h | 16 | 2 | 54 | 93 | 0 | 255 | 27 | 2172 | 71 | 174 | 2417 | 10 |
| Future Vol, veh/h | 16 | 2 | 54 | 93 | 0 | 255 | 27 | 2172 | 71 | 174 | 2417 | 10 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | 0 | 95 | - | - | 90 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 17 | 2 | 59 | 101 | 0 | 277 | 29 | 2361 | 77 | 189 | 2627 | 11 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|------|--------|------|--------|-------|--------|---|---|------|---|---|
| Conflicting Flow All | 4250 | 5507 | 1319 | 4151 | 5474 | 1219 | 2638 | 0 | 0 | 2438 | 0 | 0 |
| Stage 1 | 3011 | 3011 | - | 2458 | 2458 | - | - | - | - | - | - | - |
| Stage 2 | 1239 | 2496 | - | 1693 | 3016 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 | 4.14 | - | - | 4.14 | - | - |
| Critical Hdwy Stg 1 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.54 | 5.54 | - | 6.54 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 | 2.22 | - | - | 2.22 | - | - |
| Pot Cap-1 Maneuver | ~ 1 | 0 | 147 | ~ 1 | 0 | ~ 172 | 158 | - | - | 190 | - | - |
| Stage 1 | ~ 13 | 30 | - | ~ 31 | 60 | - | - | - | - | - | - | - |
| Stage 2 | 186 | 57 | - | ~ 97 | 30 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | 0 | 147 | 0 | 0 | ~ 172 | 158 | - | - | 190 | - | - |
| Mov Cap-2 Maneuver | - | 0 | - | 0 | 0 | - | - | - | - | - | - | - |
| Stage 1 | ~ 11 | 0 | - | ~ 25 | 49 | - | - | - | - | - | - | - |
| Stage 2 | - | 47 | - | 0 | 0 | - | - | - | - | - | - | - |












| Approach | EB | WB | NB | SB |
|----------------------|----|----|-----|-----|
| HCM Control Delay, s | | | 0.4 | 7.7 |
| HCM LOS | - | - | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|----------|-------|-----|
| Capacity (veh/h) | 158 | - | - | - | - | - | 172 | 190 | - |
| HCM Lane V/C Ratio | 0.186 | - | - | - | - | - | 1.611 | 0.995 | - |
| HCM Control Delay (s) | 32.9 | - | - | - | - | - | \$ 348.2 | 115 | - |
| HCM Lane LOS | D | - | - | - | - | - | F | F | - |
| HCM 95th %tile Q(veh) | 0.7 | - | - | - | - | - | 18.7 | 8.4 | - |

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

HCM 2010 Signalized Intersection Summary
3: Kenwood Road & Happiness Way

2040 BF PM Build
Kenwood Road Development

| |  |  |  |  |  |  | | |
|------------------------------|---|---|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR | | |
| Lane Configurations |  | |  |  |  |  | | |
| Traffic Volume (veh/h) | 97 | 98 | 118 | 2179 | 2442 | 116 | | |
| Future Volume (veh/h) | 97 | 98 | 118 | 2179 | 2442 | 116 | | |
| Number | 7 | 14 | 5 | 2 | 6 | 16 | | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Adj Sat Flow, veh/h/ln | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | | |
| Adj Flow Rate, veh/h | 105 | 107 | 128 | 2368 | 2654 | 126 | | |
| Adj No. of Lanes | 0 | 0 | 1 | 2 | 2 | 0 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 0 | 0 | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 123 | 125 | 68 | 2654 | 2581 | 122 | | |
| Arrive On Green | 0.15 | 0.15 | 0.75 | 0.75 | 0.75 | 0.75 | | |
| Sat Flow, veh/h | 825 | 841 | 99 | 3632 | 3535 | 162 | | |
| Grp Volume(v), veh/h | 213 | 0 | 128 | 2368 | 1354 | 1426 | | |
| Grp Sat Flow(s),veh/h/ln | 1673 | 0 | 99 | 1770 | 1770 | 1834 | | |
| Q Serve(g_s), s | 13.1 | 0.0 | 0.0 | 53.5 | 79.3 | 79.3 | | |
| Cycle Q Clear(g_c), s | 13.1 | 0.0 | 79.3 | 53.5 | 79.3 | 79.3 | | |
| Prop In Lane | 0.49 | 0.50 | 1.00 | | | 0.09 | | |
| Lane Grp Cap(c), veh/h | 249 | 0 | 68 | 2654 | 1327 | 1375 | | |
| V/C Ratio(X) | 0.85 | 0.00 | 1.88 | 0.89 | 1.02 | 1.04 | | |
| Avail Cap(c_a), veh/h | 633 | 0 | 68 | 2654 | 1327 | 1375 | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Uniform Delay (d), s/veh | 43.9 | 0.0 | 52.9 | 10.0 | 13.2 | 13.2 | | |
| Incr Delay (d2), s/veh | 8.2 | 0.0 | 446.2 | 5.1 | 30.0 | 34.3 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(95%),veh/ln | 10.8 | 0.0 | 18.7 | 36.1 | 87.6 | 93.7 | | |
| LnGrp Delay(d),s/veh | 52.0 | 0.0 | 499.0 | 15.1 | 43.3 | 47.5 | | |
| LnGrp LOS | D | | F | B | F | F | | |
| Approach Vol, veh/h | 213 | | | 2496 | 2780 | | | |
| Approach Delay, s/veh | 52.0 | | | 39.9 | 45.4 | | | |
| Approach LOS | D | | | D | D | | | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Assigned Phs | | 2 | | 4 | | 6 | | |
| Phs Duration (G+Y+Rc), s | | 86.0 | | 19.8 | | 86.0 | | |
| Change Period (Y+Rc), s | | * 6.7 | | 4.0 | | * 6.7 | | |
| Max Green Setting (Gmax), s | | * 79 | | 40.0 | | * 79 | | |
| Max Q Clear Time (g_c+I1), s | | 81.3 | | 15.1 | | 81.3 | | |
| Green Ext Time (p_c), s | | 0.0 | | 0.7 | | 0.0 | | |
| Intersection Summary | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 43.2 | | | | | |
| HCM 2010 LOS | | | D | | | | | |
| Notes | | | | | | | | |

HCM 2010 Signalized Intersection Summary
 4: Kenwood Road & Kenwood Place/Towne Center

2040 BF PM Build
 Kenwood Road Development



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------------|------|-------|------|-------|-------|-------|------|------|------|-------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 129 | 24 | 104 | 656 | 11 | 154 | 93 | 1331 | 440 | 227 | 1521 | 140 |
| Future Volume (veh/h) | 129 | 24 | 104 | 656 | 11 | 154 | 93 | 1331 | 440 | 227 | 1521 | 140 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1788 | 1863 | 1900 | 1788 | 1863 | 1863 | 1788 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 140 | 26 | 113 | 713 | 12 | 167 | 101 | 1447 | 478 | 247 | 1653 | 152 |
| Adj No. of Lanes | 1 | 1 | 0 | 2 | 1 | 0 | 1 | 2 | 1 | 1 | 3 | 1 |
| 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 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 260 | 36 | 157 | 586 | 16 | 221 | 233 | 1612 | 893 | 212 | 2353 | 857 |
| Arrive On Green | 0.08 | 0.12 | 0.12 | 0.11 | 0.15 | 0.15 | 0.07 | 0.46 | 0.46 | 0.07 | 0.46 | 0.46 |
| Sat Flow, veh/h | 1774 | 303 | 1319 | 3304 | 107 | 1487 | 1703 | 3539 | 1582 | 1703 | 5085 | 1582 |
| Grp Volume(v), veh/h | 140 | 0 | 139 | 713 | 0 | 179 | 101 | 1447 | 478 | 247 | 1653 | 152 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 0 | 1622 | 1652 | 0 | 1593 | 1703 | 1770 | 1582 | 1703 | 1695 | 1582 |
| Q Serve(g_s), s | 6.9 | 0.0 | 8.3 | 11.0 | 0.0 | 10.9 | 3.1 | 38.0 | 19.0 | 7.3 | 26.1 | 4.9 |
| Cycle Q Clear(g_c), s | 6.9 | 0.0 | 8.3 | 11.0 | 0.0 | 10.9 | 3.1 | 38.0 | 19.0 | 7.3 | 26.1 | 4.9 |
| Prop In Lane | 1.00 | | 0.81 | 1.00 | | 0.93 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 260 | 0 | 193 | 586 | 0 | 237 | 233 | 1612 | 893 | 212 | 2353 | 857 |
| V/C Ratio(X) | 0.54 | 0.00 | 0.72 | 1.22 | 0.00 | 0.76 | 0.43 | 0.90 | 0.54 | 1.17 | 0.70 | 0.18 |
| Avail Cap(c_a), veh/h | 260 | 0 | 413 | 586 | 0 | 453 | 245 | 2148 | 1133 | 212 | 3086 | 1085 |
| 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 | 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 | 35.6 | 0.0 | 42.9 | 38.9 | 0.0 | 41.3 | 17.7 | 25.3 | 13.7 | 25.0 | 21.6 | 11.7 |
| Incr Delay (d2), s/veh | 4.0 | 0.0 | 10.3 | 112.5 | 0.0 | 1.9 | 0.5 | 3.6 | 0.2 | 113.8 | 0.3 | 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(95%),veh/ln | 6.5 | 0.0 | 7.7 | 16.5 | 0.0 | 8.5 | 2.6 | 26.5 | 13.0 | 22.6 | 17.9 | 3.8 |
| LnGrp Delay(d),s/veh | 39.6 | 0.0 | 53.2 | 151.4 | 0.0 | 43.1 | 18.2 | 28.9 | 13.9 | 138.8 | 21.9 | 11.8 |
| LnGrp LOS | D | | D | F | | D | B | C | B | F | C | B |
| Approach Vol, veh/h | | 279 | | | 892 | | | 2026 | | | 2052 | |
| Approach Delay, s/veh | | 46.4 | | | 129.6 | | | 24.9 | | | 35.2 | |
| Approach LOS | | D | | | F | | | C | | | D | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 4.0 | 52.7 | 15.0 | 19.3 | 13.3 | 53.4 | 12.0 | 22.3 | | | | |
| Change Period (Y+Rc), s | 6.7 | * 6.7 | 4.0 | 7.3 | * 6.7 | * 6.7 | 4.0 | 7.3 | | | | |
| Max Green Setting (Gmax), s | 61 | * 61 | 11.0 | 25.7 | * 7.3 | * 61 | 8.0 | 28.7 | | | | |
| Max Q Clear Time (g_c+119), s | 40.0 | 40.0 | 13.0 | 10.3 | 5.1 | 28.1 | 8.9 | 12.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 6.0 | 0.0 | 0.9 | 0.0 | 6.4 | 0.0 | 0.4 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | | 47.9 | | | | | | | | |
| HCM 2010 LOS | | | | D | | | | | | | | |
| Notes | | | | | | | | | | | | |

HCM 2010 Signalized Intersection Summary
5: Kenwood Road & Orchard Lane

2040 BF PM Build
Kenwood Road Development



| Movement | EBL | EBR | NBL | NBT | SBT | SBR | | |
|------------------------------|------|-------|-------|------|------|-------|---|---|
| Lane Configurations | | | | | | | | |
| Traffic Volume (veh/h) | 120 | 112 | 160 | 1997 | 2059 | 98 | | |
| Future Volume (veh/h) | 120 | 112 | 160 | 1997 | 2059 | 98 | | |
| Number | 7 | 14 | 5 | 2 | 6 | 16 | | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | 0.96 | 1.00 | | | 1.00 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Adj Sat Flow, veh/h/ln | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | | |
| Adj Flow Rate, veh/h | 130 | 122 | 174 | 2171 | 2238 | 107 | | |
| Adj No. of Lanes | 0 | 0 | 1 | 2 | 3 | 0 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 0 | 0 | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 158 | 148 | 136 | 2622 | 3696 | 176 | | |
| Arrive On Green | 0.19 | 0.18 | 0.74 | 0.74 | 0.74 | 0.73 | | |
| Sat Flow, veh/h | 845 | 793 | 153 | 3632 | 5142 | 236 | | |
| Grp Volume(v), veh/h | 253 | 0 | 174 | 2171 | 1521 | 824 | | |
| Grp Sat Flow(s),veh/h/ln | 1644 | 0 | 153 | 1770 | 1695 | 1821 | | |
| Q Serve(g_s), s | 19.2 | 0.0 | 68.6 | 53.5 | 27.2 | 27.7 | | |
| Cycle Q Clear(g_c), s | 19.2 | 0.0 | 96.3 | 53.5 | 27.2 | 27.7 | | |
| Prop In Lane | 0.51 | 0.48 | 1.00 | | | 0.13 | | |
| Lane Grp Cap(c), veh/h | 307 | 0 | 136 | 2622 | 2519 | 1353 | | |
| V/C Ratio(X) | 0.82 | 0.00 | 1.28 | 0.83 | 0.60 | 0.61 | | |
| Avail Cap(c_a), veh/h | 415 | 0 | 136 | 2622 | 2519 | 1353 | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Upstream Filter(I) | 1.00 | 0.00 | 0.43 | 0.43 | 0.42 | 0.42 | | |
| Uniform Delay (d), s/veh | 51.1 | 0.0 | 44.7 | 11.3 | 7.8 | 7.9 | | |
| Incr Delay (d2), s/veh | 9.4 | 0.0 | 148.3 | 1.4 | 0.5 | 0.9 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(95%),veh/ln | 4.6 | 0.0 | 18.8 | 31.6 | 16.4 | 18.1 | | |
| LnGrp Delay(d),s/veh | 60.5 | 0.0 | 192.9 | 12.7 | 8.2 | 8.7 | | |
| LnGrp LOS | E | | F | B | A | A | | |
| Approach Vol, veh/h | 253 | | | 2345 | 2345 | | | |
| Approach Delay, s/veh | 60.5 | | | 26.1 | 8.4 | | | |
| Approach LOS | E | | | C | A | | | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Assigned Phs | | 2 | | 4 | | 6 | | |
| Phs Duration (G+Y+Rc), s | | 101.5 | | 28.5 | | 101.5 | | |
| Change Period (Y+Rc), s | | 6.0 | | 5.5 | | 6.0 | | |
| Max Green Setting (Gmax), s | | 87.0 | | 31.5 | | 87.0 | | |
| Max Q Clear Time (g_c+I1), s | | 98.3 | | 21.2 | | 29.7 | | |
| Green Ext Time (p_c), s | | 0.0 | | 0.8 | | 21.6 | | |
| Intersection Summary | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 19.5 | | | | | |
| HCM 2010 LOS | | | B | | | | | |
| Notes | | | | | | | | |

HCM 2010 Signalized Intersection Summary
 6: Kenwood Road & Montgomery Road (US 22/SR 3)

2040 BF PM Build
 Kenwood Road Development



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↔↔ | ↑↑↑ | ↔ | ↔↔ | ↑↑↑ | ↔↔ | ↔↔ | ↑↑↑ | ↔ | ↔↔ | ↑↑↑ | ↔ |
| Traffic Volume (veh/h) | 453 | 901 | 312 | 483 | 709 | 580 | 344 | 1146 | 446 | 546 | 1303 | 319 |
| Future Volume (veh/h) | 453 | 901 | 312 | 483 | 709 | 580 | 344 | 1146 | 446 | 546 | 1303 | 319 |
| Number | 5 | 2 | 12 | 1 | 6 | 16 | 3 | 8 | 18 | 7 | 4 | 14 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1788 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 492 | 979 | 339 | 525 | 771 | 630 | 374 | 1246 | 485 | 593 | 1416 | 347 |
| Adj No. of Lanes | 2 | 3 | 1 | 2 | 3 | 2 | 2 | 3 | 1 | 2 | 3 | 1 |
| 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 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 607 | 1310 | 533 | 522 | 1185 | 1127 | 396 | 1355 | 597 | 595 | 1686 | 745 |
| Arrive On Green | 0.18 | 0.26 | 0.24 | 0.15 | 0.23 | 0.23 | 0.11 | 0.27 | 0.25 | 0.18 | 0.33 | 0.32 |
| Sat Flow, veh/h | 3442 | 5085 | 1575 | 3442 | 5085 | 2772 | 3442 | 5085 | 1564 | 3304 | 5085 | 1568 |
| Grp Volume(v), veh/h | 492 | 979 | 339 | 525 | 771 | 630 | 374 | 1246 | 485 | 593 | 1416 | 347 |
| Grp Sat Flow(s),veh/h/ln | 1721 | 1695 | 1575 | 1721 | 1695 | 1386 | 1721 | 1695 | 1564 | 1652 | 1695 | 1568 |
| Q Serve(g_s), s | 16.5 | 21.2 | 21.8 | 18.2 | 16.4 | 21.0 | 12.9 | 28.6 | 30.1 | 21.5 | 31.0 | 17.9 |
| Cycle Q Clear(g_c), s | 16.5 | 21.2 | 21.8 | 18.2 | 16.4 | 21.0 | 12.9 | 28.6 | 30.1 | 21.5 | 31.0 | 17.9 |
| 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 | 607 | 1310 | 533 | 522 | 1185 | 1127 | 396 | 1355 | 597 | 595 | 1686 | 745 |
| V/C Ratio(X) | 0.81 | 0.75 | 0.64 | 1.01 | 0.65 | 0.56 | 0.94 | 0.92 | 0.81 | 1.00 | 0.84 | 0.47 |
| Avail Cap(c_a), veh/h | 637 | 1411 | 564 | 522 | 1242 | 1158 | 396 | 1355 | 597 | 595 | 1686 | 745 |
| 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 | 0.68 | 0.68 | 0.68 |
| Uniform Delay (d), s/veh | 47.5 | 41.0 | 33.5 | 50.9 | 41.6 | 27.4 | 52.7 | 42.8 | 33.4 | 49.2 | 37.2 | 21.3 |
| Incr Delay (d2), s/veh | 7.5 | 2.1 | 2.2 | 40.8 | 1.1 | 0.6 | 31.4 | 11.5 | 11.5 | 29.6 | 3.6 | 1.4 |
| 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(95%),veh/ln | 8.3 | 15.5 | 14.9 | 20.9 | 12.4 | 12.7 | 12.5 | 21.1 | 22.9 | 17.0 | 20.2 | 11.8 |
| LnGrp Delay(d),s/veh | 55.0 | 43.0 | 35.7 | 91.7 | 42.7 | 28.0 | 84.2 | 54.2 | 45.0 | 78.8 | 40.8 | 22.8 |
| LnGrp LOS | E | D | D | F | D | C | F | D | D | E | D | C |
| Approach Vol, veh/h | | 1810 | | | 1926 | | | 2105 | | | 2356 | |
| Approach Delay, s/veh | | 44.9 | | | 51.3 | | | 57.4 | | | 47.7 | |
| Approach LOS | | D | | | D | | | E | | | D | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 32.0 | 35.1 | 18.4 | 44.5 | 25.3 | 31.8 | 26.3 | 36.6 | | | | |
| Change Period (Y+Rc), s | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | | | | |
| Max Green Setting (Gmax), s | 45.5 | 31.0 | 11.9 | 35.6 | 19.9 | 26.6 | 19.8 | 27.7 | | | | |
| Max Q Clear Time (g_c+20), s | 20.2 | 23.8 | 14.9 | 33.0 | 18.5 | 23.0 | 23.5 | 32.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.5 | 0.0 | 2.0 | 0.4 | 2.3 | 0.0 | 0.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | | 50.4 | | | | | | | | |
| HCM 2010 LOS | | | | D | | | | | | | | |
| Notes | | | | | | | | | | | | |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 5.8 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 40 | 6 | 122 | 111 | 0 | 6 | 0 | 129 | 27 | 0 | 0 |
| Future Vol, veh/h | 0 | 40 | 6 | 122 | 111 | 0 | 6 | 0 | 129 | 27 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 43 | 7 | 133 | 121 | 0 | 7 | 0 | 140 | 29 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 121 | 0 | 0 | 50 | 0 | 0 | 434 | 434 | 47 | 504 | 437 | 121 |
| Stage 1 | - | - | - | - | - | - | 47 | 47 | - | 387 | 387 | - |
| Stage 2 | - | - | - | - | - | - | 387 | 387 | - | 117 | 50 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1467 | - | - | 1557 | - | - | 532 | 515 | 1022 | 478 | 513 | 930 |
| Stage 1 | - | - | - | - | - | - | 967 | 856 | - | 637 | 610 | - |
| Stage 2 | - | - | - | - | - | - | 637 | 610 | - | 888 | 853 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1467 | - | - | 1557 | - | - | 495 | 468 | 1022 | 383 | 466 | 930 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 495 | 468 | - | 383 | 466 | - |
| Stage 1 | - | - | - | - | - | - | 967 | 856 | - | 637 | 554 | - |
| Stage 2 | - | - | - | - | - | - | 578 | 554 | - | 766 | 853 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|----|--|--|-----|--|--|-----|--|--|------|--|--|
| HCM Control Delay, s | 0 | | | 3.9 | | | 9.3 | | | 15.2 | | |
| HCM LOS | | | | | | | A | | | C | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 976 | 1467 | - | - | 1557 | - | - | 383 |
| HCM Lane V/C Ratio | 0.15 | - | - | - | 0.085 | - | - | 0.077 |
| HCM Control Delay (s) | 9.3 | 0 | - | - | 7.5 | 0 | - | 15.2 |
| HCM Lane LOS | A | A | - | - | A | A | - | C |
| HCM 95th %tile Q(veh) | 0.5 | 0 | - | - | 0.3 | - | - | 0.2 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.4 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 29 | 0 | 15 | 102 | 0 | 14 |
| Future Vol, veh/h | 29 | 0 | 15 | 102 | 0 | 14 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 32 | 0 | 16 | 111 | 0 | 15 |

| Major/Minor | Major1 | Major2 | Minor1 | | |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 0 | 0 | 32 | 0 | 175 32 |
| Stage 1 | - | - | - | - | 32 - |
| Stage 2 | - | - | - | - | 143 - |
| Critical Hdwy | - | - | 4.12 | - | 6.42 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 - |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 3.318 |
| Pot Cap-1 Maneuver | - | - | 1580 | - | 815 1042 |
| Stage 1 | - | - | - | - | 991 - |
| Stage 2 | - | - | - | - | 884 - |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1580 | - | 806 1042 |
| Mov Cap-2 Maneuver | - | - | - | - | 806 - |
| Stage 1 | - | - | - | - | 980 - |
| Stage 2 | - | - | - | - | 884 - |

| Approach | EB | WB | NB |
|----------------------|----|-----|-----|
| HCM Control Delay, s | 0 | 0.9 | 8.5 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|------|-----|
| Capacity (veh/h) | 1042 | - | - | 1580 | - |
| HCM Lane V/C Ratio | 0.015 | - | - | 0.01 | - |
| HCM Control Delay (s) | 8.5 | - | - | 7.3 | 0 |
| HCM Lane LOS | A | - | - | A | A |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.3 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | | ↗ | | ↑↑ | ↑↑ | |
| Traffic Vol, veh/h | 0 | 31 | 0 | 1348 | 2479 | 26 |
| Future Vol, veh/h | 0 | 31 | 0 | 1348 | 2479 | 26 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 34 | 0 | 1465 | 2695 | 28 |

| Major/Minor | Minor2 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|---|
| Conflicting Flow All | - | 1362 | - | 0 | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - |
| Pot Cap-1 Maneuver | 0 | 138 | 0 | - | - |
| Stage 1 | 0 | - | 0 | - | - |
| Stage 2 | 0 | - | 0 | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | - | 138 | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 39.3 | 0 | 0 |
| HCM LOS | E | | |

| Minor Lane/Major Mvmt | NBT | EBLn1 | SBT | SBR |
|-----------------------|-----|-------|-----|-----|
| Capacity (veh/h) | - | 138 | - | - |
| HCM Lane V/C Ratio | - | 0.244 | - | - |
| HCM Control Delay (s) | - | 39.3 | - | - |
| HCM Lane LOS | - | E | - | - |
| HCM 95th %tile Q(veh) | - | 0.9 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.9 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↕ | ↕ | | ↕ | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 48 | 39 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 48 | 39 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 52 | 42 | 0 |

| Major/Minor | Major1 | Major2 | Minor2 | | |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 52 | 0 | - | 0 | 26 |
| Stage 1 | - | - | - | - | 26 |
| Stage 2 | - | - | - | - | 0 |
| Critical Hdwy | 4.12 | - | - | - | 6.42 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 |
| Pot Cap-1 Maneuver | 1554 | - | - | - | 989 |
| Stage 1 | - | - | - | - | 997 |
| Stage 2 | - | - | - | - | - |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1554 | - | - | - | 989 |
| Mov Cap-2 Maneuver | - | - | - | - | 989 |
| Stage 1 | - | - | - | - | 997 |
| Stage 2 | - | - | - | - | - |

| Approach | EB | WB | SB |
|----------------------|----|----|-----|
| HCM Control Delay, s | 0 | 0 | 8.8 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|-----------------------|------|-----|-----|-----|-------|
| Capacity (veh/h) | 1554 | - | - | - | 989 |
| HCM Lane V/C Ratio | - | - | - | - | 0.043 |
| HCM Control Delay (s) | 0 | - | - | - | 8.8 |
| HCM Lane LOS | A | - | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 |