
























I-85/I-385 Interchange Improvements

2010 Existing AM























1: Woodruff Road & Roper Mountain Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 101 | 323 | 178 | 183 | 232 | 31 | 221 | 693 | 137 | 139 | 729 | 78 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frt | 1.00 | 0.95 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3255 | | 1719 | 3438 | 1538 | 1719 | 3438 | 1538 | 3335 | 3438 | 1538 |
| Flt Permitted | 0.57 | 1.00 | | 0.25 | 1.00 | 1.00 | 0.35 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1033 | 3255 | | 455 | 3438 | 1538 | 626 | 3438 | 1538 | 3335 | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 112 | 359 | 198 | 203 | 258 | 34 | 246 | 770 | 152 | 154 | 810 | 87 |
| RTOR Reduction (vph) | 0 | 73 | 0 | 0 | 0 | 29 | 0 | 0 | 86 | 0 | 0 | 37 |
| Lane Group Flow (vph) | 112 | 484 | 0 | 203 | 258 | 5 | 246 | 770 | 66 | 154 | 810 | 50 |
| Turn Type | pm+pt | | | pm+pt | | Perm | Perm | | Perm | Prot | | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | 2 | | | 6 |
| Actuated Green, G (s) | 26.1 | 15.6 | | 26.7 | 15.9 | 15.9 | 43.2 | 43.2 | 43.2 | 9.4 | 57.6 | 57.6 |
| Effective Green, g (s) | 26.1 | 15.6 | | 26.7 | 15.9 | 15.9 | 43.2 | 43.2 | 43.2 | 9.4 | 57.6 | 57.6 |
| Actuated g/C Ratio | 0.26 | 0.16 | | 0.27 | 0.16 | 0.16 | 0.43 | 0.43 | 0.43 | 0.09 | 0.58 | 0.58 |
| Clearance Time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 4.3 | 5.5 | | 4.3 | 5.5 | 5.5 | 4.9 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 342 | 508 | | 258 | 547 | 245 | 270 | 1485 | 664 | 313 | 1980 | 886 |
| v/s Ratio Prot | 0.03 | c0.15 | | c0.08 | 0.08 | | | 0.22 | | 0.05 | c0.24 | |
| v/s Ratio Perm | 0.05 | | | 0.13 | | 0.00 | c0.39 | | 0.04 | | | 0.03 |
| v/c Ratio | 0.33 | 0.95 | | 0.79 | 0.47 | 0.02 | 0.91 | 0.52 | 0.10 | 0.49 | 0.41 | 0.06 |
| Uniform Delay, d1 | 29.2 | 41.8 | | 31.1 | 38.2 | 35.5 | 26.6 | 20.8 | 16.9 | 43.0 | 11.8 | 9.3 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.77 | 0.98 | 1.32 |
| Incremental Delay, d2 | 0.9 | 28.9 | | 15.8 | 1.6 | 0.1 | 36.0 | 1.3 | 0.3 | 1.7 | 0.6 | 0.1 |
| Delay (s) | 30.1 | 70.7 | | 47.0 | 39.8 | 35.6 | 62.6 | 22.1 | 17.1 | 35.0 | 12.0 | 12.3 |
| Level of Service | C | E | | D | D | D | E | C | B | C | B | B |
| Approach Delay (s) | | 63.9 | | | 42.5 | | | 30.0 | | | 15.4 | |
| Approach LOS | | E | | | D | | | C | | | B | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 34.0 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.87 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 100.0 | | | Sum of lost time (s) | | | 22.0 | | | |
| Intersection Capacity Utilization | | | 75.5% | | | ICU Level of Service | | | D | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements

2010 Existing AM

2: Woodruff Road & Costco Driveway

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NEL | NET | NER | SWL | SWT | SWR |
| Lane Configurations |  |  | |  |  |  |  |  | |  |  |  |
| Volume (vph) | 15 | 624 | 21 | 47 | 467 | 24 | 21 | 1 | 45 | 6 | 1 | 9 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3422 | | 1719 | 3438 | 1538 | 1719 | 1543 | | 1719 | 1810 | 1538 |
| Flt Permitted | 0.43 | 1.00 | | 0.38 | 1.00 | 1.00 | 0.76 | 1.00 | | 0.72 | 1.00 | 1.00 |
| Satd. Flow (perm) | 774 | 3422 | | 687 | 3438 | 1538 | 1370 | 1543 | | 1310 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 17 | 693 | 23 | 52 | 519 | 27 | 23 | 1 | 50 | 7 | 1 | 10 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 0 | 8 | 0 | 46 | 0 | 0 | 0 | 9 |
| Lane Group Flow (vph) | 17 | 715 | 0 | 52 | 519 | 19 | 23 | 5 | 0 | 7 | 1 | 1 |
| Turn Type | pm+pt | | | Perm | | Perm | Perm | | | Perm | | pm+ov |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | 4 | 5 |
| Permitted Phases | 2 | | | 6 | | 6 | 8 | | | 4 | | 4 |
| Actuated Green, G (s) | 96.9 | 96.9 | | 85.6 | 85.6 | 85.6 | 10.1 | 10.1 | | 10.1 | 10.1 | 14.9 |
| Effective Green, g (s) | 96.9 | 96.9 | | 85.6 | 85.6 | 85.6 | 10.1 | 10.1 | | 10.1 | 10.1 | 14.9 |
| Actuated g/C Ratio | 0.81 | 0.81 | | 0.71 | 0.71 | 0.71 | 0.08 | 0.08 | | 0.08 | 0.08 | 0.12 |
| Clearance Time (s) | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 |
| Vehicle Extension (s) | 4.3 | 5.5 | | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | | 5.5 | 5.5 | 4.3 |
| Lane Grp Cap (vph) | 663 | 2763 | | 490 | 2452 | 1097 | 115 | 130 | | 110 | 152 | 274 |
| v/s Ratio Prot | 0.00 | c0.21 | | | 0.15 | | | 0.00 | | | 0.00 | 0.00 |
| v/s Ratio Perm | 0.02 | | | 0.08 | | 0.01 | c0.02 | | | 0.01 | | 0.00 |
| v/c Ratio | 0.03 | 0.26 | | 0.11 | 0.21 | 0.02 | 0.20 | 0.04 | | 0.06 | 0.01 | 0.00 |
| Uniform Delay, d1 | 2.4 | 2.8 | | 5.3 | 5.8 | 5.0 | 51.2 | 50.5 | | 50.6 | 50.4 | 46.1 |
| Progression Factor | 1.00 | 1.00 | | 0.11 | 0.12 | 0.01 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.0 | 0.2 | | 0.4 | 0.2 | 0.0 | 2.1 | 0.3 | | 0.6 | 0.0 | 0.0 |
| Delay (s) | 2.5 | 3.0 | | 1.0 | 0.9 | 0.1 | 53.3 | 50.8 | | 51.2 | 50.4 | 46.1 |
| Level of Service | A | A | | A | A | A | D | D | | D | D | D |
| Approach Delay (s) | | 3.0 | | | 0.9 | | | 51.6 | | | 48.3 | |
| Approach LOS | | A | | | A | | | D | | | D | |





















Intersection Summary

| | | | |
|-----------------------------------|-------|----------------------|------|
| HCM Average Control Delay | 5.2 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.25 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 57.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

I-85/I-385 Interchange Improvements

2010 Existing AM





















3: Green Heron Road & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | |  | | |  |  |  |  | |  |  |  |
| Volume (vph) | 3 | 1 | 22 | 1 | 1 | 5 | 7 | 492 | 38 | 46 | 726 | 3 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.0 | | | 5.0 | 5.0 | 6.3 | 6.3 | | 6.3 | 6.3 | 6.3 |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 |
| Frt | | 0.88 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 0.99 | | | 0.98 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | | 1592 | | | 1765 | 1538 | 1719 | 3401 | | 1719 | 3438 | 1538 |
| Flt Permitted | | 0.97 | | | 0.87 | 1.00 | 0.35 | 1.00 | | 0.43 | 1.00 | 1.00 |
| Satd. Flow (perm) | | 1548 | | | 1577 | 1538 | 628 | 3401 | | 778 | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 3 | 1 | 24 | 1 | 1 | 6 | 8 | 547 | 42 | 51 | 807 | 3 |
| RTOR Reduction (vph) | 0 | 22 | 0 | 0 | 0 | 6 | 0 | 3 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 6 | 0 | 0 | 2 | 0 | 8 | 586 | 0 | 51 | 807 | 3 |
| Turn Type | Perm | | | Perm | | | Perm | Perm | | Perm | | Perm |
| Protected Phases | | 8 | | | 4 | | | 2 | | | 6 | |
| Permitted Phases | 8 | | | 4 | | 4 | 2 | | | 6 | | 6 |
| Actuated Green, G (s) | | 7.7 | | | 7.7 | 7.7 | 101.0 | 101.0 | | 101.0 | 101.0 | 101.0 |
| Effective Green, g (s) | | 7.7 | | | 7.7 | 7.7 | 101.0 | 101.0 | | 101.0 | 101.0 | 101.0 |
| Actuated g/C Ratio | | 0.06 | | | 0.06 | 0.06 | 0.84 | 0.84 | | 0.84 | 0.84 | 0.84 |
| Clearance Time (s) | | 5.0 | | | 5.0 | 5.0 | 6.3 | 6.3 | | 6.3 | 6.3 | 6.3 |
| Vehicle Extension (s) | | 4.3 | | | 4.3 | 4.3 | 5.5 | 5.5 | | 5.5 | 5.5 | 5.5 |
| Lane Grp Cap (vph) | | 99 | | | 101 | 99 | 529 | 2863 | | 655 | 2894 | 1294 |
| v/s Ratio Prot | | | | | | | | 0.17 | | | c0.23 | |
| v/s Ratio Perm | | c0.00 | | | 0.00 | 0.00 | 0.01 | | | 0.07 | | 0.00 |
| v/c Ratio | | 0.06 | | | 0.02 | 0.00 | 0.02 | 0.20 | | 0.08 | 0.28 | 0.00 |
| Uniform Delay, d1 | | 52.7 | | | 52.6 | 52.6 | 1.5 | 1.8 | | 1.6 | 2.0 | 1.5 |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 0.98 | 0.98 | | 0.34 | 0.43 | 0.27 |
| Incremental Delay, d2 | | 0.4 | | | 0.1 | 0.0 | 0.1 | 0.2 | | 0.2 | 0.2 | 0.0 |
| Delay (s) | | 53.1 | | | 52.7 | 52.6 | 1.5 | 1.9 | | 0.8 | 1.1 | 0.4 |
| Level of Service | | D | | | D | D | A | A | | A | A | A |
| Approach Delay (s) | | 53.1 | | | 52.6 | | | 1.9 | | | 1.1 | |
| Approach LOS | | D | | | D | | | A | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | 2.7 | | | | | HCM Level of Service | | | A | | |
| HCM Volume to Capacity ratio | | 0.26 | | | | | | | | | | |
| Actuated Cycle Length (s) | | 120.0 | | | | | Sum of lost time (s) | | | 11.3 | | |
| Intersection Capacity Utilization | | 68.8% | | | | | ICU Level of Service | | | C | | |
| Analysis Period (min) | | 15 | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements

2010 Existing AM


















4: Woodruff Industrial Lane & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |  | |  |  | |  |  | |  |  | |
| Volume (vph) | 31 | 4 | 49 | 18 | 4 | 2 | 10 | 437 | 68 | 133 | 742 | 30 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 0.86 | | 1.00 | 0.95 | | 1.00 | 0.98 | | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 1557 | | 1719 | 1719 | | 1719 | 3368 | | 1719 | 3418 | |
| Flt Permitted | 0.61 | 1.00 | | 0.72 | 1.00 | | 0.33 | 1.00 | | 0.39 | 1.00 | |
| Satd. Flow (perm) | 1110 | 1557 | | 1301 | 1719 | | 597 | 3368 | | 700 | 3418 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 34 | 4 | 54 | 20 | 4 | 2 | 11 | 486 | 76 | 148 | 824 | 33 |
| RTOR Reduction (vph) | 0 | 49 | 0 | 0 | 2 | 0 | 0 | 7 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 34 | 9 | 0 | 20 | 4 | 0 | 11 | 555 | 0 | 148 | 856 | 0 |
| Turn Type | pm+pt | | | pm+pt | | | pm+pt | | | pm+pt | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 8 | | | 4 | | | 2 | | | 6 | | |
| Actuated Green, G (s) | 17.7 | 11.8 | | 13.3 | 9.6 | | 72.9 | 71.6 | | 86.5 | 79.2 | |
| Effective Green, g (s) | 17.7 | 11.8 | | 13.3 | 9.6 | | 72.9 | 71.6 | | 86.5 | 79.2 | |
| Actuated g/C Ratio | 0.15 | 0.10 | | 0.11 | 0.08 | | 0.61 | 0.60 | | 0.72 | 0.66 | |
| Clearance Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 5.5 | | 4.3 | 5.5 | |
| Lane Grp Cap (vph) | 194 | 153 | | 157 | 138 | | 375 | 2010 | | 580 | 2256 | |
| v/s Ratio Prot | c0.01 | 0.01 | | 0.00 | 0.00 | | 0.00 | 0.16 | | c0.02 | c0.25 | |
| v/s Ratio Perm | c0.02 | | | 0.01 | | | 0.02 | | | 0.16 | | |
| v/c Ratio | 0.18 | 0.06 | | 0.13 | 0.03 | | 0.03 | 0.28 | | 0.26 | 0.38 | |
| Uniform Delay, d1 | 44.5 | 49.1 | | 48.0 | 50.9 | | 9.3 | 11.7 | | 5.6 | 9.3 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.58 | 0.79 | | 0.30 | 0.34 | |
| Incremental Delay, d2 | 0.7 | 0.3 | | 0.6 | 0.1 | | 0.0 | 0.3 | | 0.4 | 0.5 | |
| Delay (s) | 45.2 | 49.3 | | 48.6 | 51.0 | | 5.5 | 9.6 | | 2.0 | 3.6 | |
| Level of Service | D | D | | D | D | | A | A | | A | A | |
| Approach Delay (s) | | 47.8 | | | 49.1 | | | 9.5 | | | 3.4 | |
| Approach LOS | | D | | | D | | | A | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 8.6 | | | HCM Level of Service | | | | A | | |
| HCM Volume to Capacity ratio | | | 0.34 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | | | Sum of lost time (s) | | | | 18.0 | | |
| Intersection Capacity Utilization | | | 59.9% | | | ICU Level of Service | | | | B | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements












2010 Existing AM

5: I-85 SB Ramps & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|--|--|--|--|--|--|--|
| Movement | WBL2 | WBL | WBR | SEL | SET | SER | NWL | NWT | NWR | NEL | NER | | | | | | | |
| Lane Configurations |  | |  | |  |  |  |  | | | | | | | | | | |
| Volume (vph) | 291 | 0 | 203 | 0 | 432 | 72 | 402 | 702 | 0 | 0 | 0 | | | | | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | | | | | | | |
| Total Lost time (s) | 5.0 | | 5.0 | | 6.3 | 6.3 | 6.5 | 6.1 | | | | | | | | | | |
| Lane Util. Factor | 0.97 | | 0.88 | | 0.95 | 1.00 | 1.00 | 0.95 | | | | | | | | | | |
| Frt | 1.00 | | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | | | | | | | | | | |
| Flt Protected | 0.95 | | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | | | | | | |
| Satd. Flow (prot) | 3335 | | 2707 | | 3438 | 1538 | 1719 | 3438 | | | | | | | | | | |
| Flt Permitted | 0.95 | | 1.00 | | 1.00 | 1.00 | 0.42 | 1.00 | | | | | | | | | | |
| Satd. Flow (perm) | 3335 | | 2707 | | 3438 | 1538 | 759 | 3438 | | | | | | | | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | | | | | | | |
| Adj. Flow (vph) | 323 | 0 | 226 | 0 | 480 | 80 | 447 | 780 | 0 | 0 | 0 | | | | | | | |
| RTOR Reduction (vph) | 0 | 0 | 192 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| Lane Group Flow (vph) | 323 | 0 | 34 | 0 | 480 | 44 | 447 | 780 | 0 | 0 | 0 | | | | | | | |
| Turn Type | custom | | custom | | Perm | | pm+pt | | | | | | | | | | | |
| Protected Phases | | | | | 2 | | 1 | | 6 | | | | | | | | | |
| Permitted Phases | 4 | | 4 | | | | 2 | | 6 | | | | | | | | | |
| Actuated Green, G (s) | 18.3 | | 18.3 | | 66.6 | | 66.6 | | 90.6 | | 90.6 | | | | | | | |
| Effective Green, g (s) | 18.3 | | 18.3 | | 66.6 | | 66.6 | | 90.6 | | 90.6 | | | | | | | |
| Actuated g/C Ratio | 0.15 | | 0.15 | | 0.55 | | 0.55 | | 0.76 | | 0.76 | | | | | | | |
| Clearance Time (s) | 5.0 | | 5.0 | | 6.3 | | 6.3 | | 6.5 | | 6.1 | | | | | | | |
| Vehicle Extension (s) | 4.3 | | 4.3 | | 4.3 | | 4.3 | | 4.3 | | 4.3 | | | | | | | |
| Lane Grp Cap (vph) | 509 | | 413 | | 1908 | | 854 | | 711 | | 2596 | | | | | | | |
| v/s Ratio Prot | | | | | 0.14 | | c0.09 | | 0.23 | | | | | | | | | |
| v/s Ratio Perm | c0.10 | | 0.01 | | | | 0.03 | | c0.38 | | | | | | | | | |
| v/c Ratio | 0.63 | | 0.08 | | 0.25 | | 0.05 | | 0.63 | | 0.30 | | | | | | | |
| Uniform Delay, d1 | 47.7 | | 43.7 | | 13.8 | | 12.2 | | 5.6 | | 4.7 | | | | | | | |
| Progression Factor | 1.00 | | 1.00 | | 0.46 | | 0.09 | | 0.78 | | 0.22 | | | | | | | |
| Incremental Delay, d2 | 3.1 | | 0.1 | | 0.3 | | 0.1 | | 1.9 | | 0.3 | | | | | | | |
| Delay (s) | 50.8 | | 43.8 | | 6.7 | | 1.2 | | 6.3 | | 1.3 | | | | | | | |
| Level of Service | D | | D | | A | | A | | A | | A | | | | | | | |
| Approach Delay (s) | | | 47.9 | | | | 5.9 | | | | 3.1 | | | | | | | |
| Approach LOS | | | D | | | | A | | | | A | | | | | | | |
| Intersection Summary | | | | | | | | | | | | | | | | | | |
| HCM Average Control Delay | | | 14.3 | | HCM Level of Service | | B | | | | | | | | | | | |
| HCM Volume to Capacity ratio | | | 0.62 | | | | | | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | | Sum of lost time (s) | | 11.5 | | | | | | | | | | | |
| Intersection Capacity Utilization | | | 69.6% | | ICU Level of Service | | C | | | | | | | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing AM





















6: I-85 NB Ramps & Woodruff Road

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | NBL | NBR | SET | SER | NWL | NWT |
| Lane Configurations |  |  |  |  | |  |
| Volume (vph) | 292 | 524 | 590 | 133 | 0 | 812 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.6 | 5.6 | 6.5 | 6.5 | | 6.5 |
| Lane Util. Factor | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 |
| Frt | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 3335 | 1538 | 3438 | 1538 | | 3438 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 3335 | 1538 | 3438 | 1538 | | 3438 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 324 | 582 | 656 | 148 | 0 | 902 |
| RTOR Reduction (vph) | 0 | 152 | 0 | 98 | 0 | 0 |
| Lane Group Flow (vph) | 324 | 430 | 656 | 50 | 0 | 902 |
| Turn Type | Perm | | Perm | | | |
| Protected Phases | 3 | | 2 | | | 2 4 |
| Permitted Phases | | 3 | | 2 | | |
| Actuated Green, G (s) | 51.4 | 51.4 | 40.5 | 40.5 | | 56.5 |
| Effective Green, g (s) | 51.4 | 51.4 | 40.5 | 40.5 | | 49.5 |
| Actuated g/C Ratio | 0.43 | 0.43 | 0.34 | 0.34 | | 0.41 |
| Clearance Time (s) | 5.6 | 5.6 | 6.5 | 6.5 | | |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | | |
| Lane Grp Cap (vph) | 1428 | 659 | 1160 | 519 | | 1418 |
| v/s Ratio Prot | 0.10 | | 0.19 | | | c0.26 |
| v/s Ratio Perm | | c0.28 | | 0.03 | | |
| v/c Ratio | 0.23 | 0.65 | 0.57 | 0.10 | | 0.64 |
| Uniform Delay, d1 | 21.7 | 27.2 | 32.5 | 27.2 | | 28.1 |
| Progression Factor | 1.00 | 1.00 | 0.80 | 1.66 | | 0.36 |
| Incremental Delay, d2 | 0.1 | 2.7 | 1.9 | 0.4 | | 1.1 |
| Delay (s) | 21.8 | 29.9 | 28.0 | 45.4 | | 11.2 |
| Level of Service | C | C | C | D | | B |
| Approach Delay (s) | 27.0 | | 31.2 | | | 11.2 |
| Approach LOS | C | | C | | | B |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 22.9 | HCM Level of Service | | C |
| HCM Volume to Capacity ratio | | | 0.64 | | | |
| Actuated Cycle Length (s) | | | 120.0 | Sum of lost time (s) | | 18.6 |
| Intersection Capacity Utilization | | | 58.8% | ICU Level of Service | | B |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

I-85/I-385 Interchange Improvements

























2010 Existing AM

7: Carolina Point Pkwy & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |  |  | | | | |  |  |  |  |  |
| Volume (vph) | 61 | 36 | 73 | 0 | 0 | 0 | 0 | 973 | 141 | 105 | 751 | 481 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 7.0 | 7.0 | 7.0 | | | | | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | | | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 1810 | 1538 | | | | | 3438 | 1538 | 1719 | 3438 | 1538 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 0.26 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1719 | 1810 | 1538 | | | | | 3438 | 1538 | 461 | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 68 | 40 | 81 | 0 | 0 | 0 | 0 | 1081 | 157 | 117 | 834 | 534 |
| RTOR Reduction (vph) | 0 | 0 | 75 | 0 | 0 | 0 | 0 | 0 | 28 | 0 | 0 | 96 |
| Lane Group Flow (vph) | 68 | 40 | 6 | 0 | 0 | 0 | 0 | 1081 | 129 | 117 | 834 | 438 |
| Turn Type | custom | | Perm | | | | | | Perm | Perm | | |
| Protected Phases | 4 | 4 | | | | | | 2 3 6 | | | 2 3 6 | |
| Permitted Phases | 4 | | 4 | | | | | | 2 3 6 | 2 3 6 | | 2 3 6 |
| Actuated Green, G (s) | 9.0 | 9.0 | 9.0 | | | | | 98.4 | 98.4 | 98.4 | 98.4 | 98.4 |
| Effective Green, g (s) | 9.0 | 9.0 | 9.0 | | | | | 98.4 | 98.4 | 98.4 | 98.4 | 98.4 |
| Actuated g/C Ratio | 0.08 | 0.08 | 0.08 | | | | | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 |
| Clearance Time (s) | 7.0 | 7.0 | 7.0 | | | | | | | | | |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | | | | | | | | | |
| Lane Grp Cap (vph) | 129 | 136 | 115 | | | | | 2819 | 1261 | 378 | 2819 | 1261 |
| v/s Ratio Prot | c0.04 | 0.02 | | | | | | c0.31 | | | 0.24 | |
| v/s Ratio Perm | | | 0.00 | | | | | | 0.08 | 0.25 | | 0.28 |
| v/c Ratio | 0.53 | 0.29 | 0.05 | | | | | 0.38 | 0.10 | 0.31 | 0.30 | 0.35 |
| Uniform Delay, d1 | 53.5 | 52.5 | 51.5 | | | | | 2.8 | 2.1 | 2.6 | 2.6 | 2.7 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | | | | 0.28 | 0.00 | 2.02 | 1.98 | 9.63 |
| Incremental Delay, d2 | 5.7 | 1.9 | 0.3 | | | | | 0.1 | 0.0 | 0.5 | 0.1 | 0.2 |
| Delay (s) | 59.1 | 54.4 | 51.8 | | | | | 0.9 | 0.0 | 5.8 | 5.2 | 26.4 |
| Level of Service | E | D | D | | | | | A | A | A | A | C |
| Approach Delay (s) | | 55.0 | | | 0.0 | | | 0.8 | | | 12.8 | |
| Approach LOS | | E | | | A | | | A | | | B | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 10.5 | | HCM Level of Service | | | | | B | | |
| HCM Volume to Capacity ratio | | | 0.40 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | | Sum of lost time (s) | | | | | 13.5 | | |
| Intersection Capacity Utilization | | | 56.1% | | ICU Level of Service | | | | | B | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing AM






















8: Woodruff Road & Market Point Drive

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 61 | 954 | 31 | 21 | 1292 | 54 | 16 | 1 | 30 | 24 | 1 | 29 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.1 | 6.1 | 5.8 | 6.1 | 6.1 | 5.8 | 5.8 | 5.8 | 6.1 | 5.8 | 5.8 | 5.8 |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 3335 | 3438 | 1538 | 1719 | 3438 | 1538 | 1719 | 1810 | 1538 | 3335 | 3438 | 1538 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 3335 | 3438 | 1538 | 1719 | 3438 | 1538 | 1719 | 1810 | 1538 | 3335 | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 68 | 1060 | 34 | 23 | 1436 | 60 | 18 | 1 | 33 | 27 | 1 | 32 |
| RTOR Reduction (vph) | 0 | 0 | 17 | 0 | 0 | 18 | 0 | 0 | 23 | 0 | 0 | 30 |
| Lane Group Flow (vph) | 68 | 1060 | 17 | 23 | 1436 | 42 | 18 | 1 | 10 | 27 | 1 | 2 |
| Turn Type | Prot | pm+ov | | Prot | pm+ov | | Prot | pm+ov | | Prot | Perm | |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | 7 | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | 4 |
| Actuated Green, G (s) | 8.0 | 51.4 | 59.1 | 30.3 | 73.7 | 81.1 | 7.7 | 7.1 | 37.4 | 7.4 | 6.8 | 6.8 |
| Effective Green, g (s) | 8.0 | 51.4 | 59.1 | 30.3 | 73.7 | 81.1 | 7.7 | 7.1 | 37.4 | 7.4 | 6.8 | 6.8 |
| Actuated g/C Ratio | 0.07 | 0.43 | 0.49 | 0.25 | 0.61 | 0.68 | 0.06 | 0.06 | 0.31 | 0.06 | 0.06 | 0.06 |
| Clearance Time (s) | 6.1 | 6.1 | 5.8 | 6.1 | 6.1 | 5.8 | 5.8 | 5.8 | 6.1 | 5.8 | 5.8 | 5.8 |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 222 | 1473 | 757 | 434 | 2112 | 1039 | 110 | 107 | 479 | 206 | 195 | 87 |
| v/s Ratio Prot | 0.02 | c0.31 | 0.00 | 0.01 | c0.42 | 0.00 | c0.01 | 0.00 | c0.01 | 0.01 | 0.00 | |
| v/s Ratio Perm | | | 0.01 | | | 0.03 | | | 0.00 | | | 0.00 |
| v/c Ratio | 0.31 | 0.72 | 0.02 | 0.05 | 0.68 | 0.04 | 0.16 | 0.01 | 0.02 | 0.13 | 0.01 | 0.02 |
| Uniform Delay, d1 | 53.4 | 28.3 | 15.6 | 34.0 | 15.3 | 6.5 | 53.1 | 53.1 | 28.6 | 53.3 | 53.4 | 53.5 |
| Progression Factor | 0.82 | 0.79 | 1.16 | 0.74 | 0.58 | 0.77 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.2 | 2.9 | 0.0 | 0.0 | 0.9 | 0.0 | 1.1 | 0.1 | 0.0 | 0.5 | 0.0 | 0.2 |
| Delay (s) | 45.0 | 25.3 | 18.1 | 25.1 | 9.8 | 5.0 | 54.2 | 53.2 | 28.6 | 53.7 | 53.4 | 53.6 |
| Level of Service | D | C | B | C | A | A | D | D | C | D | D | D |
| Approach Delay (s) | | 26.3 | | | 9.9 | | | 38.0 | | | 53.7 | |
| Approach LOS | | C | | | A | | | D | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 18.1 | HCM Level of Service | | | B | | | | | |
| HCM Volume to Capacity ratio | | | 0.56 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | Sum of lost time (s) | | | 11.9 | | | | | |
| Intersection Capacity Utilization | | | 57.1% | ICU Level of Service | | | B | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements

2010 Existing AM


















9: Woodruff Road & Garlington Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  | |  |  |  |
| Volume (vph) | 197 | 707 | 104 | 92 | 890 | 416 | 226 | 217 | 59 | 125 | 100 | 251 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.2 | 6.1 | | 5.2 | 6.1 | | 5.2 | 5.2 | | 5.2 | 5.2 | 5.2 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.98 | | 1.00 | 0.95 | | 1.00 | 0.97 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3372 | | 1719 | 3274 | | 1719 | 1751 | | 1719 | 1810 | 1538 |
| Flt Permitted | 0.07 | 1.00 | | 0.24 | 1.00 | | 0.61 | 1.00 | | 0.19 | 1.00 | 1.00 |
| Satd. Flow (perm) | 126 | 3372 | | 434 | 3274 | | 1111 | 1751 | | 353 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 219 | 786 | 116 | 102 | 989 | 462 | 251 | 241 | 66 | 139 | 111 | 279 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 46 | 0 | 0 | 8 | 0 | 0 | 0 | 180 |
| Lane Group Flow (vph) | 219 | 893 | 0 | 102 | 1405 | 0 | 251 | 299 | 0 | 139 | 111 | 99 |
| Turn Type | pm+pt | | | pm+pt | | | pm+pt | | | pm+pt | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | 4 |
| Actuated Green, G (s) | 69.5 | 57.6 | | 63.3 | 54.5 | | 32.9 | 22.1 | | 30.9 | 21.1 | 21.1 |
| Effective Green, g (s) | 69.5 | 57.6 | | 63.3 | 54.5 | | 32.9 | 22.1 | | 30.9 | 21.1 | 21.1 |
| Actuated g/C Ratio | 0.58 | 0.48 | | 0.53 | 0.45 | | 0.27 | 0.18 | | 0.26 | 0.18 | 0.18 |
| Clearance Time (s) | 5.2 | 6.1 | | 5.2 | 6.1 | | 5.2 | 5.2 | | 5.2 | 5.2 | 5.2 |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 231 | 1619 | | 323 | 1487 | | 359 | 322 | | 202 | 318 | 270 |
| v/s Ratio Prot | c0.09 | 0.26 | | 0.02 | 0.43 | | c0.06 | c0.17 | | 0.06 | 0.06 | |
| v/s Ratio Perm | c0.46 | | | 0.14 | | | 0.13 | | | 0.12 | | 0.06 |
| v/c Ratio | 0.95 | 0.55 | | 0.32 | 0.94 | | 0.70 | 0.93 | | 0.69 | 0.35 | 0.37 |
| Uniform Delay, d1 | 36.5 | 22.1 | | 15.1 | 31.3 | | 37.8 | 48.2 | | 36.9 | 43.4 | 43.6 |
| Progression Factor | 2.23 | 0.08 | | 0.60 | 0.70 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 41.7 | 1.2 | | 0.7 | 11.1 | | 6.6 | 32.4 | | 10.6 | 1.1 | 1.3 |
| Delay (s) | 123.2 | 3.1 | | 9.8 | 33.1 | | 44.4 | 80.5 | | 47.5 | 44.5 | 44.9 |
| Level of Service | F | A | | A | C | | D | F | | D | D | D |
| Approach Delay (s) | | 26.5 | | | 31.5 | | | 64.3 | | | 45.5 | |
| Approach LOS | | C | | | C | | | E | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 36.9 | | | HCM Level of Service | | | | D | | |
| HCM Volume to Capacity ratio | | | 0.89 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | | | Sum of lost time (s) | | | | 15.6 | | |
| Intersection Capacity Utilization | | | 88.8% | | | ICU Level of Service | | | | E | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements



















2010 Existing AM

10: Woodruff Road & I-385 SB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | |  |  | | | | |  | |  |
| Volume (vph) | 0 | 758 | 133 | 57 | 955 | 0 | 0 | 0 | 0 | 744 | 0 | 443 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.6 | | 6.6 | 6.6 | | | | | 5.7 | | 5.7 |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | | | 0.97 | | 1.00 |
| Frt | | 0.98 | | 1.00 | 1.00 | | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 3361 | | 1719 | 3438 | | | | | 3335 | | 1538 |
| Flt Permitted | | 1.00 | | 0.15 | 1.00 | | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 3361 | | 275 | 3438 | | | | | 3335 | | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 842 | 148 | 63 | 1061 | 0 | 0 | 0 | 0 | 827 | 0 | 492 |
| RTOR Reduction (vph) | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| Lane Group Flow (vph) | 0 | 979 | 0 | 63 | 1061 | 0 | 0 | 0 | 0 | 827 | 0 | 452 |
| Turn Type | | | | pm+pt | | | | | | Prot | | custom |
| Protected Phases | | 2 | | 1 | 6 | | | | | 4 | | |
| Permitted Phases | | | | 6 | | | | | | | | 4 |
| Actuated Green, G (s) | | 51.8 | | 64.9 | 64.9 | | | | | 42.8 | | 42.8 |
| Effective Green, g (s) | | 51.8 | | 64.9 | 64.9 | | | | | 42.8 | | 42.8 |
| Actuated g/C Ratio | | 0.43 | | 0.54 | 0.54 | | | | | 0.36 | | 0.36 |
| Clearance Time (s) | | 6.6 | | 6.6 | 6.6 | | | | | 5.7 | | 5.7 |
| Vehicle Extension (s) | | 4.3 | | 4.3 | 4.3 | | | | | 4.3 | | 4.3 |
| Lane Grp Cap (vph) | | 1451 | | 227 | 1859 | | | | | 1189 | | 549 |
| v/s Ratio Prot | | c0.29 | | 0.02 | c0.31 | | | | | 0.25 | | |
| v/s Ratio Perm | | | | 0.14 | | | | | | | | c0.29 |
| v/c Ratio | | 0.67 | | 0.28 | 0.57 | | | | | 0.70 | | 0.82 |
| Uniform Delay, d1 | | 27.3 | | 16.8 | 18.3 | | | | | 33.0 | | 35.2 |
| Progression Factor | | 0.47 | | 0.25 | 0.36 | | | | | 1.01 | | 1.01 |
| Incremental Delay, d2 | | 2.0 | | 0.6 | 0.7 | | | | | 2.0 | | 10.4 |
| Delay (s) | | 14.9 | | 4.8 | 7.3 | | | | | 35.5 | | 46.1 |
| Level of Service | | B | | A | A | | | | | D | | D |
| Approach Delay (s) | | 14.9 | | | 7.2 | | | 0.0 | | | 39.4 | |
| Approach LOS | | B | | | A | | | A | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 21.8 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.75 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | | | Sum of lost time (s) | | | | 18.9 | | |
| Intersection Capacity Utilization | | | 103.8% | | | ICU Level of Service | | | | G | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing AM





















11: Woodruff Road & I-385 NB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | | |  |  |  | |  | | | |
| Volume (vph) | 541 | 961 | 0 | 0 | 544 | 542 | 468 | 0 | 227 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.1 | 6.1 | | | 6.1 | 6.1 | 5.0 | | 5.0 | | | |
| Lane Util. Factor | 1.00 | 0.95 | | | 0.95 | 1.00 | 1.00 | | 1.00 | | | |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | | 0.85 | | | |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | 0.95 | | 1.00 | | | |
| Satd. Flow (prot) | 1719 | 3438 | | | 3438 | 1538 | 1719 | | 1538 | | | |
| Flt Permitted | 0.20 | 1.00 | | | 1.00 | 1.00 | 0.95 | | 1.00 | | | |
| Satd. Flow (perm) | 370 | 3438 | | | 3438 | 1538 | 1719 | | 1538 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 601 | 1068 | 0 | 0 | 604 | 602 | 520 | 0 | 252 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 447 | 0 | 0 | 68 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 601 | 1068 | 0 | 0 | 604 | 155 | 520 | 0 | 184 | 0 | 0 | 0 |
| Turn Type | pm+pt | | | | | Perm | Prot | | custom | | | |
| Protected Phases | 5 | 2 | | | 6 | | 8 | | | | | |
| Permitted Phases | 2 | | | | | 6 | | | 8 | | | |
| Actuated Green, G (s) | 71.2 | 71.2 | | | 30.9 | 30.9 | 37.7 | | 37.7 | | | |
| Effective Green, g (s) | 71.2 | 71.2 | | | 30.9 | 30.9 | 37.7 | | 37.7 | | | |
| Actuated g/C Ratio | 0.59 | 0.59 | | | 0.26 | 0.26 | 0.31 | | 0.31 | | | |
| Clearance Time (s) | 6.1 | 6.1 | | | 6.1 | 6.1 | 5.0 | | 5.0 | | | |
| Vehicle Extension (s) | 4.3 | 4.3 | | | 4.3 | 4.3 | 4.3 | | 4.3 | | | |
| Lane Grp Cap (vph) | 604 | 2040 | | | 885 | 396 | 540 | | 483 | | | |
| v/s Ratio Prot | c0.28 | 0.31 | | | 0.18 | | c0.30 | | | | | |
| v/s Ratio Perm | c0.31 | | | | | 0.10 | | | 0.12 | | | |
| v/c Ratio | 1.00 | 0.52 | | | 0.68 | 0.39 | 0.96 | | 0.38 | | | |
| Uniform Delay, d1 | 28.6 | 14.4 | | | 40.1 | 36.8 | 40.5 | | 32.1 | | | |
| Progression Factor | 0.97 | 0.59 | | | 0.82 | 1.58 | 1.00 | | 1.00 | | | |
| Incremental Delay, d2 | 30.7 | 0.7 | | | 3.7 | 2.5 | 29.6 | | 0.8 | | | |
| Delay (s) | 58.5 | 9.2 | | | 36.5 | 60.6 | 70.1 | | 32.9 | | | |
| Level of Service | E | A | | | D | E | E | | C | | | |
| Approach Delay (s) | | 27.0 | | | 48.6 | | | 57.9 | | | 0.0 | |
| Approach LOS | | C | | | D | | | E | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | 40.7 | | | HCM Level of Service | | D | | | | | |
| HCM Volume to Capacity ratio | | 0.96 | | | | | | | | | | |
| Actuated Cycle Length (s) | | 120.0 | | | Sum of lost time (s) | | 11.1 | | | | | |
| Intersection Capacity Utilization | | 103.8% | | | ICU Level of Service | | G | | | | | |
| Analysis Period (min) | | 15 | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements

2010 Existing AM



















12: Woodruff Road & Commercial Drive

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  | |  |  | |
| Volume (vph) | 104 | 1001 | 83 | 19 | 955 | 39 | 76 | 4 | 6 | 70 | 18 | 55 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.5 | | 5.5 | 5.5 | | 5.3 | 5.4 | | 5.4 | 5.4 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 0.90 | | 1.00 | 0.89 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 3399 | | 1719 | 3418 | | 1719 | 1637 | | 1719 | 1605 | |
| Flt Permitted | 0.17 | 1.00 | | 0.23 | 1.00 | | 0.50 | 1.00 | | 0.75 | 1.00 | |
| Satd. Flow (perm) | 313 | 3399 | | 420 | 3418 | | 909 | 1637 | | 1358 | 1605 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 116 | 1112 | 92 | 21 | 1061 | 43 | 84 | 4 | 7 | 78 | 20 | 61 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 2 | 0 | 0 | 5 | 0 | 0 | 54 | 0 |
| Lane Group Flow (vph) | 116 | 1200 | 0 | 21 | 1102 | 0 | 84 | 6 | 0 | 78 | 27 | 0 |
| Turn Type | pm+pt | | | Perm | | | pm+pt | | | Perm | | |
| Protected Phases | 5 | 2 | | | 6 | | 3 | 8 | | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 82.8 | 82.8 | | 68.5 | 68.5 | | 26.3 | 26.3 | | 13.2 | 13.2 | |
| Effective Green, g (s) | 82.8 | 82.8 | | 68.5 | 68.5 | | 26.3 | 26.3 | | 13.2 | 13.2 | |
| Actuated g/C Ratio | 0.69 | 0.69 | | 0.57 | 0.57 | | 0.22 | 0.22 | | 0.11 | 0.11 | |
| Clearance Time (s) | 5.3 | 5.5 | | 5.5 | 5.5 | | 5.3 | 5.4 | | 5.4 | 5.4 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | 321 | 2345 | | 240 | 1951 | | 252 | 359 | | 149 | 177 | |
| v/s Ratio Prot | 0.03 | c0.35 | | | c0.32 | | c0.02 | 0.00 | | | 0.02 | |
| v/s Ratio Perm | 0.22 | | | 0.05 | | | 0.05 | | | c0.06 | | |
| v/c Ratio | 0.36 | 0.51 | | 0.09 | 0.56 | | 0.33 | 0.02 | | 0.52 | 0.15 | |
| Uniform Delay, d1 | 9.5 | 8.9 | | 11.6 | 16.3 | | 38.6 | 36.7 | | 50.4 | 48.3 | |
| Progression Factor | 0.57 | 0.37 | | 0.35 | 0.36 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.0 | 0.7 | | 0.7 | 1.1 | | 1.2 | 0.0 | | 4.8 | 0.6 | |
| Delay (s) | 6.3 | 4.0 | | 4.8 | 7.0 | | 39.8 | 36.7 | | 55.3 | 49.0 | |
| Level of Service | A | A | | A | A | | D | D | | E | D | |
| Approach Delay (s) | | 4.2 | | | 7.0 | | | 39.5 | | | 52.1 | |
| Approach LOS | | A | | | A | | | D | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 9.4 | | | HCM Level of Service | | | | A | | |
| HCM Volume to Capacity ratio | | | 0.56 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | | | Sum of lost time (s) | | | 21.7 | | | |
| Intersection Capacity Utilization | | | 68.2% | | | ICU Level of Service | | | C | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements




















2010 Existing AM

13: Woodruff Road & Smith Hines Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Volume (vph) | 5 | 925 | 147 | 111 | 945 | 1 | 66 | 1 | 93 | 1 | 1 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 6.0 | 6.0 | | | 5.0 | | | 5.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | | 1.00 | | | 1.00 | |
| Frt | 1.00 | 0.98 | | 1.00 | 1.00 | | | 0.92 | | | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.98 | | | 0.99 | |
| Satd. Flow (prot) | 1719 | 3368 | | 1719 | 3438 | | | 1634 | | | 1667 | |
| Flt Permitted | 0.25 | 1.00 | | 0.21 | 1.00 | | | 0.86 | | | 0.96 | |
| Satd. Flow (perm) | 458 | 3368 | | 387 | 3438 | | | 1441 | | | 1618 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 6 | 1028 | 163 | 123 | 1050 | 1 | 73 | 1 | 103 | 1 | 1 | 2 |
| RTOR Reduction (vph) | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 45 | 0 | 0 | 2 | 0 |
| Lane Group Flow (vph) | 6 | 1183 | 0 | 123 | 1051 | 0 | 0 | 132 | 0 | 0 | 2 | 0 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | |
| Protected Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 91.6 | 91.6 | | 91.9 | 91.9 | | | 17.1 | | | 17.1 | |
| Effective Green, g (s) | 91.6 | 91.6 | | 91.9 | 91.9 | | | 17.1 | | | 17.1 | |
| Actuated g/C Ratio | 0.76 | 0.76 | | 0.77 | 0.77 | | | 0.14 | | | 0.14 | |
| Clearance Time (s) | 6.3 | 6.3 | | 6.0 | 6.0 | | | 5.0 | | | 5.0 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | | 4.3 | | | 4.3 | |
| Lane Grp Cap (vph) | 350 | 2571 | | 296 | 2633 | | | 205 | | | 231 | |
| v/s Ratio Prot | c0.35 | | | 0.31 | | | | | | | | |
| v/s Ratio Perm | 0.01 | | | 0.32 | | | | c0.09 | | | 0.00 | |
| v/c Ratio | 0.02 | 0.46 | | 0.42 | 0.40 | | | 0.64 | | | 0.01 | |
| Uniform Delay, d1 | 3.4 | 5.2 | | 4.8 | 4.7 | | | 48.6 | | | 44.2 | |
| Progression Factor | 0.12 | 0.11 | | 0.29 | 0.31 | | | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 0.1 | 0.5 | | 0.4 | 0.0 | | | 7.9 | | | 0.0 | |
| Delay (s) | 0.5 | 1.1 | | 1.8 | 1.5 | | | 56.5 | | | 44.2 | |
| Level of Service | A | A | | A | A | | | E | | | D | |
| Approach Delay (s) | 1.1 | | | 1.5 | | | | 56.5 | | | 44.2 | |
| Approach LOS | A | | | A | | | | E | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | 5.2 | | | HCM Level of Service | | | A | | | | | |
| HCM Volume to Capacity ratio | 0.49 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 120.0 | | | Sum of lost time (s) | | | 11.3 | | | | | |
| Intersection Capacity Utilization | 85.4% | | | ICU Level of Service | | | E | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing AM























14: Woodruff Road & Walmart Driveway

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  | | |  | |
| Volume (vph) | 20 | 1393 | 122 | 12 | 2907 | 74 | 44 | 2 | 22 | 75 | 1 | 7 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.0 | 5.0 | | | 5.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | | | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 0.86 | | | 0.99 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | |
| Satd. Flow (prot) | 1719 | 3396 | | 1719 | 3425 | | 1719 | 1559 | | | 1711 | |
| Flt Permitted | 0.04 | 1.00 | | 0.13 | 1.00 | | 0.77 | 1.00 | | | 0.73 | |
| Satd. Flow (perm) | 80 | 3396 | | 234 | 3425 | | 1393 | 1559 | | | 1302 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 22 | 1548 | 136 | 13 | 3230 | 82 | 49 | 2 | 24 | 83 | 1 | 8 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 21 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 22 | 1680 | 0 | 13 | 3311 | 0 | 49 | 5 | 0 | 0 | 88 | 0 |
| Turn Type | pm+pt | | | Perm | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 94.1 | 94.1 | | 83.8 | 83.8 | | 14.6 | 14.6 | | | 14.6 | |
| Effective Green, g (s) | 94.1 | 94.1 | | 83.8 | 83.8 | | 14.6 | 14.6 | | | 14.6 | |
| Actuated g/C Ratio | 0.78 | 0.78 | | 0.70 | 0.70 | | 0.12 | 0.12 | | | 0.12 | |
| Clearance Time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.0 | 5.0 | | | 5.0 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | | | 4.3 | |
| Lane Grp Cap (vph) | 117 | 2663 | | 163 | 2392 | | 169 | 190 | | | 158 | |
| v/s Ratio Prot | 0.01 | c0.49 | | | c0.97 | | | 0.00 | | | | |
| v/s Ratio Perm | 0.14 | | | 0.06 | | | 0.04 | | | | c0.07 | |
| v/c Ratio | 0.19 | 0.63 | | 0.08 | 1.38 | | 0.29 | 0.03 | | | 0.56 | |
| Uniform Delay, d1 | 34.1 | 5.5 | | 5.8 | 18.1 | | 48.0 | 46.4 | | | 49.7 | |
| Progression Factor | 1.45 | 1.16 | | 0.55 | 0.57 | | 1.00 | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 1.2 | 1.1 | | 0.5 | 174.4 | | 1.5 | 0.1 | | | 6.0 | |
| Delay (s) | 50.7 | 7.5 | | 3.7 | 184.8 | | 49.5 | 46.5 | | | 55.7 | |
| Level of Service | D | A | | A | F | | D | D | | | E | |
| Approach Delay (s) | | 8.1 | | | 184.1 | | | 48.5 | | | 55.7 | |
| Approach LOS | | A | | | F | | | D | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 122.1 | | | HCM Level of Service | | | | F | | |
| HCM Volume to Capacity ratio | | | 1.26 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | | | Sum of lost time (s) | | | 17.6 | | | |
| Intersection Capacity Utilization | | | 103.4% | | | ICU Level of Service | | | G | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements



















2010 Existing AM

15: Woodruff Road & Verdin Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  |  |  |  |  |
| Volume (vph) | 36 | 667 | 18 | 84 | 1861 | 48 | 301 | 221 | 24 | 42 | 179 | 63 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.2 | 5.0 | 5.0 | 5.2 | 5.2 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 3425 | | 1719 | 3425 | | 1719 | 1810 | 1538 | 1719 | 1739 | |
| Flt Permitted | 0.06 | 1.00 | | 0.32 | 1.00 | | 0.18 | 1.00 | 1.00 | 0.61 | 1.00 | |
| Satd. Flow (perm) | 106 | 3425 | | 576 | 3425 | | 325 | 1810 | 1538 | 1097 | 1739 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 40 | 741 | 20 | 93 | 2068 | 53 | 334 | 246 | 27 | 47 | 199 | 70 |
| RTOR Reduction (vph) | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 18 | 0 | 10 | 0 |
| Lane Group Flow (vph) | 40 | 759 | 0 | 93 | 2120 | 0 | 334 | 246 | 9 | 47 | 259 | 0 |
| Turn Type | Perm | | | Perm | | | pm+pt | | | Perm | Perm | |
| Protected Phases | 2 | | | 6 | | | 3 | | 8 | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 8 | 4 | |
| Actuated Green, G (s) | 68.6 | 68.6 | | 68.6 | 68.6 | | 40.1 | 40.1 | 40.1 | 16.9 | 16.9 | |
| Effective Green, g (s) | 68.6 | 68.6 | | 68.6 | 68.6 | | 40.1 | 40.1 | 40.1 | 16.9 | 16.9 | |
| Actuated g/C Ratio | 0.57 | 0.57 | | 0.57 | 0.57 | | 0.33 | 0.33 | 0.33 | 0.14 | 0.14 | |
| Clearance Time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.2 | 5.0 | 5.0 | 5.2 | 5.2 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | 61 | 1958 | | 329 | 1958 | | 315 | 605 | 514 | 154 | 245 | |
| v/s Ratio Prot | 0.22 | | | c0.62 | | | c0.16 | | 0.14 | | 0.15 | |
| v/s Ratio Perm | 0.38 | | | 0.16 | | | c0.20 | | | 0.01 | 0.04 | |
| v/c Ratio | 0.66 | 0.39 | | 0.28 | 1.08 | | 1.06 | 0.41 | 0.02 | 0.31 | 1.06 | |
| Uniform Delay, d1 | 17.6 | 14.1 | | 13.1 | 25.7 | | 34.3 | 30.8 | 26.8 | 46.3 | 51.6 | |
| Progression Factor | 0.84 | 0.94 | | 0.91 | 0.85 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 36.3 | 0.5 | | 1.5 | 44.3 | | 67.5 | 0.7 | 0.0 | 1.8 | 73.0 | |
| Delay (s) | 51.1 | 13.7 | | 13.5 | 66.2 | | 101.9 | 31.5 | 26.8 | 48.1 | 124.5 | |
| Level of Service | D | B | | B | E | | F | C | C | D | F | |
| Approach Delay (s) | 15.6 | | | 64.0 | | | 70.0 | | | 113.2 | | |
| Approach LOS | B | | | E | | | E | | | F | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 59.0 | HCM Level of Service | | | E | | | | | |
| HCM Volume to Capacity ratio | | | 1.05 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | Sum of lost time (s) | | | 11.5 | | | | | |
| Intersection Capacity Utilization | | | 113.5% | ICU Level of Service | | | H | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing AM



















16: Woodruff Road & Butler Road

| |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | |  |  | | |  |  |  |  | |
| Volume (vph) | 4 | 633 | 46 | 477 | 1693 | 1 | 145 | 25 | 349 | 20 | 26 | 7 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.3 | | 6.3 | 6.3 | | | 5.0 | 6.3 | 5.0 | 5.0 | |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.99 | | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 3402 | | 1719 | 3438 | | | 1736 | 1538 | 1719 | 1751 | |
| Flt Permitted | | 0.94 | | 0.25 | 1.00 | | | 0.73 | 1.00 | 0.45 | 1.00 | |
| Satd. Flow (perm) | | 3203 | | 445 | 3438 | | | 1324 | 1538 | 814 | 1751 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 4 | 703 | 51 | 530 | 1881 | 1 | 161 | 28 | 388 | 22 | 29 | 8 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 52 | 0 | 7 | 0 |
| Lane Group Flow (vph) | 0 | 754 | 0 | 530 | 1882 | 0 | 0 | 189 | 336 | 22 | 30 | 0 |
| Turn Type | Perm | | | pm+pt | | | Perm | | pm+ov | Perm | | |
| Protected Phases | | 2 | | 1 | 6 | | | 8 | 1 | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | | 52.7 | | 86.7 | 86.7 | | | 22.0 | 49.7 | 22.0 | 22.0 | |
| Effective Green, g (s) | | 52.7 | | 86.7 | 86.7 | | | 22.0 | 49.7 | 22.0 | 22.0 | |
| Actuated g/C Ratio | | 0.44 | | 0.72 | 0.72 | | | 0.18 | 0.41 | 0.18 | 0.18 | |
| Clearance Time (s) | | 6.3 | | 6.3 | 6.3 | | | 5.0 | 6.3 | 5.0 | 5.0 | |
| Vehicle Extension (s) | | 4.3 | | 4.3 | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | | 1407 | | 616 | 2484 | | | 243 | 637 | 149 | 321 | |
| v/s Ratio Prot | | | | c0.20 | 0.55 | | | | 0.12 | | 0.02 | |
| v/s Ratio Perm | | 0.24 | | c0.42 | | | | c0.14 | 0.10 | 0.03 | | |
| v/c Ratio | | 0.54 | | 0.86 | 0.76 | | | 0.78 | 0.53 | 0.15 | 0.09 | |
| Uniform Delay, d1 | | 24.7 | | 16.9 | 10.2 | | | 46.7 | 26.3 | 41.1 | 40.7 | |
| Progression Factor | | 0.75 | | 1.50 | 0.81 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.4 | | 3.3 | 0.5 | | | 15.7 | 1.2 | 0.7 | 0.2 | |
| Delay (s) | | 19.8 | | 28.6 | 8.8 | | | 62.4 | 27.5 | 41.9 | 40.9 | |
| Level of Service | | B | | C | A | | | E | C | D | D | |
| Approach Delay (s) | | 19.8 | | | 13.1 | | | 38.9 | | | 41.3 | |
| Approach LOS | | B | | | B | | | D | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | 18.8 | | | HCM Level of Service | | | | B | | | | |
| HCM Volume to Capacity ratio | 0.82 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 120.0 | | | Sum of lost time (s) | | | | 11.3 | | | | |
| Intersection Capacity Utilization | 102.5% | | | ICU Level of Service | | | | G | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
























2010 Existing AM

17: Woodruff Road & Bell Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Volume (vph) | 22 | 988 | 80 | 25 | 2390 | 15 | 124 | 1 | 30 | 12 | 1 | 53 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.2 | 6.2 | | 6.2 | 6.2 | | | 5.4 | | | 5.4 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | | 1.00 | | | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | | | 0.97 | | | 0.89 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | | | 0.99 | |
| Satd. Flow (prot) | 1719 | 3399 | | 1719 | 3435 | | | 1695 | | | 1598 | |
| Flt Permitted | 0.04 | 1.00 | | 0.22 | 1.00 | | | 0.72 | | | 0.95 | |
| Satd. Flow (perm) | 78 | 3399 | | 391 | 3435 | | | 1278 | | | 1530 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 24 | 1098 | 89 | 28 | 2656 | 17 | 138 | 1 | 33 | 13 | 1 | 59 |
| RTOR Reduction (vph) | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 8 | 0 |
| Lane Group Flow (vph) | 24 | 1182 | 0 | 28 | 2673 | 0 | 0 | 165 | 0 | 0 | 65 | 0 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | |
| Protected Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 92.4 | 92.4 | | 92.4 | 92.4 | | | 16.0 | | | 16.0 | |
| Effective Green, g (s) | 92.4 | 92.4 | | 92.4 | 92.4 | | | 16.0 | | | 16.0 | |
| Actuated g/C Ratio | 0.77 | 0.77 | | 0.77 | 0.77 | | | 0.13 | | | 0.13 | |
| Clearance Time (s) | 6.2 | 6.2 | | 6.2 | 6.2 | | | 5.4 | | | 5.4 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | | 4.3 | | | 4.3 | |
| Lane Grp Cap (vph) | 60 | 2617 | | 301 | 2645 | | | 170 | | | 204 | |
| v/s Ratio Prot | 0.35 | | | c0.78 | | | | | | | | |
| v/s Ratio Perm | 0.31 | | | 0.07 | | | | c0.13 | | | 0.04 | |
| v/c Ratio | 0.40 | 0.45 | | 0.09 | 1.01 | | | 0.97 | | | 0.32 | |
| Uniform Delay, d1 | 4.6 | 4.9 | | 3.4 | 13.8 | | | 51.8 | | | 47.1 | |
| Progression Factor | 1.72 | 0.92 | | 0.75 | 0.55 | | | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 16.9 | 0.5 | | 0.3 | 15.4 | | | 60.5 | | | 1.4 | |
| Delay (s) | 24.8 | 5.0 | | 2.9 | 23.0 | | | 112.3 | | | 48.5 | |
| Level of Service | C | A | | A | C | | | F | | | D | |
| Approach Delay (s) | 5.4 | | | 22.8 | | | | 112.3 | | | 48.5 | |
| Approach LOS | A | | | C | | | | F | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 21.9 | HCM Level of Service | | | C | | | | | |
| HCM Volume to Capacity ratio | | | 1.00 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | Sum of lost time (s) | | | 11.6 | | | | | |
| Intersection Capacity Utilization | | | 91.6% | ICU Level of Service | | | F | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing AM

18: Woodruff Road & SC 14

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |  |  |  |  |  |  |
| Volume (vph) | 135 | 535 | 82 | 45 | 1321 | 178 | 330 | 343 | 118 | 118 | 205 | 285 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | 5.0 | 6.3 | 6.3 | | 5.0 | 5.0 | 6.3 | 5.0 | 5.0 | 6.3 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3438 | 1538 | 1719 | 3377 | | 1719 | 1810 | 1538 | 1719 | 1810 | 1538 |
| Flt Permitted | 0.07 | 1.00 | 1.00 | 0.38 | 1.00 | | 0.20 | 1.00 | 1.00 | 0.27 | 1.00 | 1.00 |
| Satd. Flow (perm) | 127 | 3438 | 1538 | 694 | 3377 | | 362 | 1810 | 1538 | 483 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 150 | 594 | 91 | 50 | 1468 | 198 | 367 | 381 | 131 | 131 | 228 | 317 |
| RTOR Reduction (vph) | 0 | 0 | 34 | 0 | 9 | 0 | 0 | 0 | 89 | 0 | 0 | 21 |
| Lane Group Flow (vph) | 150 | 594 | 57 | 50 | 1657 | 0 | 367 | 381 | 42 | 131 | 228 | 296 |
| Turn Type | pm+pt | | pm+ov | pm+pt | | | pm+pt | | pm+ov | pm+pt | | pm+ov |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | 5 |
| Permitted Phases | 2 | | 2 | 6 | | | 8 | | 8 | 4 | | 4 |
| Actuated Green, G (s) | 65.6 | 56.9 | 74.9 | 63.2 | 55.7 | | 38.0 | 23.1 | 30.6 | 24.9 | 15.0 | 23.7 |
| Effective Green, g (s) | 65.6 | 56.9 | 74.9 | 63.2 | 55.7 | | 38.0 | 23.1 | 30.6 | 24.9 | 15.0 | 23.7 |
| Actuated g/C Ratio | 0.55 | 0.47 | 0.62 | 0.53 | 0.46 | | 0.32 | 0.19 | 0.26 | 0.21 | 0.12 | 0.20 |
| Clearance Time (s) | 6.3 | 6.3 | 5.0 | 6.3 | 6.3 | | 5.0 | 5.0 | 6.3 | 5.0 | 5.0 | 6.3 |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 185 | 1630 | 960 | 430 | 1567 | | 318 | 348 | 392 | 202 | 226 | 304 |
| v/s Ratio Prot | 0.06 | 0.17 | 0.01 | 0.01 | c0.49 | | c0.17 | 0.21 | 0.01 | 0.05 | 0.13 | c0.07 |
| v/s Ratio Perm | 0.38 | | 0.03 | 0.05 | | | c0.19 | | 0.02 | 0.08 | | 0.12 |
| v/c Ratio | 0.81 | 0.36 | 0.06 | 0.12 | 1.06 | | 1.15 | 1.09 | 0.11 | 0.65 | 1.01 | 0.97 |
| Uniform Delay, d1 | 30.5 | 20.1 | 8.8 | 14.0 | 32.2 | | 36.0 | 48.4 | 34.2 | 41.3 | 52.5 | 47.8 |
| Progression Factor | 1.45 | 0.65 | 0.56 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 22.5 | 0.6 | 0.0 | 0.2 | 39.7 | | 99.0 | 76.1 | 0.2 | 8.2 | 62.2 | 44.5 |
| Delay (s) | 66.7 | 13.6 | 5.0 | 14.2 | 71.9 | | 135.1 | 124.6 | 34.4 | 49.6 | 114.7 | 92.3 |
| Level of Service | E | B | A | B | E | | F | F | C | D | F | F |
| Approach Delay (s) | | 22.2 | | | 70.2 | | | 115.5 | | | 91.6 | |
| Approach LOS | | C | | | E | | | F | | | F | |
























Intersection Summary

| | | | |
|-----------------------------------|-------|----------------------|------|
| HCM Average Control Delay | 73.7 | HCM Level of Service | E |
| HCM Volume to Capacity ratio | 1.06 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 17.6 |
| Intersection Capacity Utilization | 97.6% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

I-85/I-385 Interchange Improvements

2010 Existing AM

19: E Parkins Mill Road & US 276

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 96 | 91 | 45 | 124 | 21 | 94 | 89 | 1302 | 68 | 77 | 1138 | 81 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 0.97 | 0.91 | 1.00 |
| Flt | 1.00 | 0.95 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3267 | | 3335 | 1810 | 1538 | 1719 | 4940 | 1538 | 3335 | 4940 | 1538 |
| Flt Permitted | 0.74 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1343 | 3267 | | 3335 | 1810 | 1538 | 1719 | 4940 | 1538 | 3335 | 4940 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 107 | 101 | 50 | 138 | 23 | 104 | 99 | 1447 | 76 | 86 | 1264 | 90 |
| RTOR Reduction (vph) | 0 | 44 | 0 | 0 | 0 | 90 | 0 | 0 | 39 | 0 | 0 | 43 |
| Lane Group Flow (vph) | 107 | 107 | 0 | 138 | 23 | 14 | 99 | 1447 | 37 | 86 | 1264 | 47 |
| Turn Type | pm+pt | | | Prot | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | | | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 20.4 | 11.4 | | 10.7 | 13.1 | 13.1 | 11.3 | 47.8 | 47.8 | 8.5 | 45.0 | 45.0 |
| Effective Green, g (s) | 20.4 | 11.4 | | 10.7 | 13.1 | 13.1 | 11.3 | 47.8 | 47.8 | 8.5 | 45.0 | 45.0 |
| Actuated g/C Ratio | 0.21 | 0.11 | | 0.11 | 0.13 | 0.13 | 0.11 | 0.48 | 0.48 | 0.09 | 0.45 | 0.45 |
| Clearance Time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 4.3 | 4.9 | | 4.3 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 310 | 375 | | 359 | 239 | 203 | 195 | 2376 | 740 | 285 | 2236 | 696 |
| v/s Ratio Prot | 0.03 | 0.03 | | c0.04 | 0.01 | | c0.06 | c0.29 | | 0.03 | 0.26 | |
| v/s Ratio Perm | c0.04 | | | | | 0.01 | | | 0.02 | | | 0.03 |
| v/c Ratio | 0.35 | 0.28 | | 0.38 | 0.10 | 0.07 | 0.51 | 0.61 | 0.05 | 0.30 | 0.57 | 0.07 |
| Uniform Delay, d1 | 33.5 | 40.3 | | 41.3 | 37.9 | 37.8 | 41.4 | 18.9 | 13.7 | 42.7 | 20.0 | 15.4 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.1 | 0.8 | | 1.1 | 0.4 | 0.3 | 3.3 | 0.6 | 0.1 | 0.9 | 0.5 | 0.1 |
| Delay (s) | 34.5 | 41.1 | | 42.4 | 38.3 | 38.1 | 44.7 | 19.6 | 13.8 | 43.6 | 20.5 | 15.4 |
| Level of Service | C | D | | D | D | D | D | B | B | D | C | B |
| Approach Delay (s) | | 38.4 | | | 40.3 | | | 20.8 | | | 21.6 | |
| Approach LOS | | D | | | D | | | C | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 23.8 | | | HCM Level of Service | | | C | | | |
| HCM Volume to Capacity ratio | | | 0.52 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 99.4 | | | Sum of lost time (s) | | | 19.0 | | | |
| Intersection Capacity Utilization | | | 55.5% | | | ICU Level of Service | | | B | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements

2010 Existing AM

20: Duvall Drive & US 276


























| Movement | EBL | EBR | SET | SER | NWL | NWT |
|-----------------------------------|-------|------|-------|------|----------------------|------|
| Lane Configurations | | | | | | |
| Volume (vph) | 318 | 88 | 1099 | 208 | 95 | 1141 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 6.3 | | 6.3 | 6.3 |
| Lane Util. Factor | 1.00 | 1.00 | 0.91 | | 1.00 | 0.91 |
| Frt | 1.00 | 0.85 | 0.98 | | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1719 | 1538 | 4822 | | 1719 | 4940 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.15 | 1.00 |
| Satd. Flow (perm) | 1719 | 1538 | 4822 | | 265 | 4940 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 353 | 98 | 1221 | 231 | 106 | 1268 |
| RTOR Reduction (vph) | 0 | 50 | 43 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 353 | 48 | 1409 | 0 | 106 | 1268 |
| Turn Type | Perm | | Perm | | Perm | |
| Protected Phases | 8 | | 2 | | | 6 |
| Permitted Phases | | 8 | | | 6 | |
| Actuated Green, G (s) | 15.0 | 15.0 | 36.4 | | 36.4 | 36.4 |
| Effective Green, g (s) | 15.0 | 15.0 | 36.4 | | 36.4 | 36.4 |
| Actuated g/C Ratio | 0.24 | 0.24 | 0.57 | | 0.57 | 0.57 |
| Clearance Time (s) | 6.0 | 6.0 | 6.3 | | 6.3 | 6.3 |
| Vehicle Extension (s) | 4.9 | 4.9 | 4.9 | | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 405 | 362 | 2755 | | 151 | 2823 |
| v/s Ratio Prot | c0.21 | | 0.29 | | | 0.26 |
| v/s Ratio Perm | | 0.03 | | | c0.40 | |
| v/c Ratio | 0.87 | 0.13 | 0.51 | | 0.70 | 0.45 |
| Uniform Delay, d1 | 23.4 | 19.2 | 8.3 | | 9.8 | 7.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 19.4 | 0.3 | 0.3 | | 16.7 | 0.2 |
| Delay (s) | 42.8 | 19.5 | 8.6 | | 26.5 | 8.1 |
| Level of Service | D | B | A | | C | A |
| Approach Delay (s) | 37.8 | | 8.6 | | | 9.5 |
| Approach LOS | D | | A | | | A |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 13.0 | | HCM Level of Service | B |
| HCM Volume to Capacity ratio | | | 0.75 | | | |
| Actuated Cycle Length (s) | | | 63.7 | | Sum of lost time (s) | 12.3 |
| Intersection Capacity Utilization | | | 72.3% | | ICU Level of Service | C |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

I-85/I-385 Interchange Improvements





















2010 Existing AM

23: US 276 & Millennium Blvd

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Volume (vph) | 93 | 1104 | 192 | 22 | 1542 | 52 | 65 | 68 | 56 | 4 | 13 | 35 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 6.5 | 6.5 | 4.5 | 6.5 | 6.5 | 6.0 | 6.0 | | 6.0 | 6.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | | 1.00 | 1.00 | 0.88 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3438 | 1538 | 1719 | 3438 | 1538 | 3335 | 3206 | | 1719 | 1810 | 2707 |
| Flt Permitted | 0.06 | 1.00 | 1.00 | 0.19 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.66 | 1.00 | 1.00 |
| Satd. Flow (perm) | 112 | 3438 | 1538 | 347 | 3438 | 1538 | 3335 | 3206 | | 1202 | 1810 | 2707 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 103 | 1227 | 213 | 24 | 1713 | 58 | 72 | 76 | 62 | 4 | 14 | 39 |
| RTOR Reduction (vph) | 0 | 0 | 72 | 0 | 0 | 22 | 0 | 54 | 0 | 0 | 0 | 33 |
| Lane Group Flow (vph) | 103 | 1227 | 141 | 24 | 1713 | 36 | 72 | 84 | 0 | 4 | 14 | 6 |
| Turn Type | pm+pt | | Perm | pm+pt | | Perm | Prot | | | pm+pt | | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | 2 | | 2 | 6 | | 6 | | | | 4 | | 4 |
| Actuated Green, G (s) | 95.7 | 87.5 | 87.5 | 85.8 | 82.1 | 82.1 | 8.5 | 16.7 | | 10.8 | 9.5 | 19.1 |
| Effective Green, g (s) | 95.7 | 87.5 | 87.5 | 85.8 | 82.1 | 82.1 | 8.5 | 16.7 | | 10.8 | 9.5 | 19.1 |
| Actuated g/C Ratio | 0.72 | 0.66 | 0.66 | 0.65 | 0.62 | 0.62 | 0.06 | 0.13 | | 0.08 | 0.07 | 0.14 |
| Clearance Time (s) | 4.0 | 6.5 | 6.5 | 4.5 | 6.5 | 6.5 | 6.0 | 6.0 | | 6.0 | 6.0 | 4.0 |
| Vehicle Extension (s) | 4.3 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 | 4.3 | 6.4 | | 4.3 | 6.4 | 4.3 |
| Lane Grp Cap (vph) | 198 | 2276 | 1018 | 264 | 2135 | 955 | 214 | 405 | | 103 | 130 | 391 |
| v/s Ratio Prot | c0.04 | 0.36 | | 0.00 | c0.50 | | c0.02 | c0.03 | | 0.00 | 0.01 | 0.00 |
| v/s Ratio Perm | 0.34 | | 0.09 | 0.06 | | 0.02 | | | | 0.00 | | 0.00 |
| v/c Ratio | 0.52 | 0.54 | 0.14 | 0.09 | 0.80 | 0.04 | 0.34 | 0.21 | | 0.04 | 0.11 | 0.01 |
| Uniform Delay, d1 | 19.9 | 11.7 | 8.3 | 8.9 | 18.9 | 9.7 | 59.2 | 51.8 | | 55.9 | 57.4 | 48.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.6 | 0.4 | 0.1 | 0.2 | 2.6 | 0.0 | 1.5 | 0.8 | | 0.2 | 1.1 | 0.0 |
| Delay (s) | 23.6 | 12.2 | 8.4 | 9.2 | 21.5 | 9.8 | 60.6 | 52.6 | | 56.1 | 58.5 | 48.5 |
| Level of Service | C | B | A | A | C | A | E | D | | E | E | D |
| Approach Delay (s) | | 12.4 | | | 21.0 | | | 55.4 | | | 51.5 | |
| Approach LOS | | B | | | C | | | E | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 19.8 | | | HCM Level of Service | | | | B | | |
| HCM Volume to Capacity ratio | | | 0.66 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 132.2 | | | Sum of lost time (s) | | | | 16.5 | | |
| Intersection Capacity Utilization | | | 73.5% | | | ICU Level of Service | | | | D | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing AM

24: Pelham Road & The Parkway

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | |  |  | | | |  |  |  |
| Volume (vph) | 224 | 846 | 880 | 0 | 1509 | 700 | 0 | 0 | 0 | 250 | 454 | 175 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.8 | 5.8 | 5.8 | | 5.8 | 5.3 | | | | 5.3 | 5.3 | 5.3 |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | | 0.95 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 3335 | 3438 | 1538 | | 3438 | 1538 | | | | 1719 | 1810 | 1538 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 3335 | 3438 | 1538 | | 3438 | 1538 | | | | 1719 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 249 | 940 | 978 | 0 | 1677 | 778 | 0 | 0 | 0 | 278 | 504 | 194 |
| RTOR Reduction (vph) | 0 | 0 | 40 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 116 |
| Lane Group Flow (vph) | 249 | 940 | 938 | 0 | 1677 | 774 | 0 | 0 | 0 | 278 | 504 | 78 |
| Turn Type | Prot | | Perm | Perm | | custom | | | | Perm | | Perm |
| Protected Phases | 5 | 2 | | | 6 | 4 | | | | | 4 | |
| Permitted Phases | | | 2 | 6 | | 6 | | | | 4 | | 4 |
| Actuated Green, G (s) | 10.2 | 78.1 | 78.1 | | 62.1 | 97.9 | | | | 35.8 | 35.8 | 35.8 |
| Effective Green, g (s) | 10.2 | 78.1 | 78.1 | | 62.1 | 97.9 | | | | 35.8 | 35.8 | 35.8 |
| Actuated g/C Ratio | 0.08 | 0.62 | 0.62 | | 0.50 | 0.78 | | | | 0.29 | 0.29 | 0.29 |
| Clearance Time (s) | 5.8 | 5.8 | 5.8 | | 5.8 | 5.3 | | | | 5.3 | 5.3 | 5.3 |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | | 4.3 | 4.3 | | | | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 272 | 2148 | 961 | | 1708 | 1205 | | | | 492 | 518 | 440 |
| v/s Ratio Prot | 0.07 | 0.27 | | | 0.49 | 0.18 | | | | | c0.28 | |
| v/s Ratio Perm | | | c0.61 | | | 0.32 | | | | 0.16 | | 0.05 |
| v/c Ratio | 0.92 | 0.44 | 0.98 | | 0.98 | 0.64 | | | | 0.57 | 0.97 | 0.18 |
| Uniform Delay, d1 | 57.0 | 12.1 | 22.6 | | 30.9 | 5.9 | | | | 38.0 | 44.1 | 33.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 0.80 | 0.86 | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 33.6 | 0.7 | 23.8 | | 11.2 | 0.7 | | | | 2.0 | 32.6 | 0.3 |
| Delay (s) | 90.6 | 12.8 | 46.4 | | 35.8 | 5.7 | | | | 40.0 | 76.8 | 33.8 |
| Level of Service | F | B | D | | D | A | | | | D | E | C |
| Approach Delay (s) | | 36.9 | | | 26.3 | | | 0.0 | | | 57.8 | |
| Approach LOS | | D | | | C | | | A | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 35.9 | | HCM Level of Service | | | | | D | | |
| HCM Volume to Capacity ratio | | | 0.98 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 125.0 | | Sum of lost time (s) | | | | | 11.1 | | |
| Intersection Capacity Utilization | | | 134.2% | | ICU Level of Service | | | | | H | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing AM







25: Pelham Road & I-85 SB off ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|------|------|--------|------|----------------------|-------|
| Lane Configurations | | ↑↑ | ↑↑ | | ↑ | ↑↑ |
| Volume (vph) | 0 | 1096 | 1144 | 0 | 562 | 1065 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.6 | 5.6 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 0.95 | | 1.00 | 0.88 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3438 | 3438 | | 1719 | 2707 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3438 | 3438 | | 1719 | 2707 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 1218 | 1271 | 0 | 624 | 1183 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 19 |
| Lane Group Flow (vph) | 0 | 1218 | 1271 | 0 | 624 | 1164 |
| Turn Type | | | | | Perm | |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | | 54.9 | 54.9 | | 59.2 | 59.2 |
| Effective Green, g (s) | | 54.9 | 54.9 | | 59.2 | 59.2 |
| Actuated g/C Ratio | | 0.44 | 0.44 | | 0.47 | 0.47 |
| Clearance Time (s) | | 5.6 | 5.6 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 4.3 | 4.3 | | 4.3 | 4.3 |
| Lane Grp Cap (vph) | | 1510 | 1510 | | 814 | 1282 |
| v/s Ratio Prot | | 0.35 | c0.37 | | 0.36 | |
| v/s Ratio Perm | | | | | | c0.43 |
| v/c Ratio | | 0.81 | 0.84 | | 0.77 | 0.91 |
| Uniform Delay, d1 | | 30.4 | 31.2 | | 27.2 | 30.4 |
| Progression Factor | | 0.98 | 0.84 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 4.3 | 5.1 | | 4.8 | 9.8 |
| Delay (s) | | 34.2 | 31.3 | | 32.0 | 40.2 |
| Level of Service | | C | C | | C | D |
| Approach Delay (s) | | 34.2 | 31.3 | | 37.3 | |
| Approach LOS | | C | C | | D | |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 34.7 | | HCM Level of Service | C |
| HCM Volume to Capacity ratio | | | 0.88 | | | |
| Actuated Cycle Length (s) | | | 125.0 | | Sum of lost time (s) | 10.9 |
| Intersection Capacity Utilization | | | 111.6% | | ICU Level of Service | H |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing AM




















26: Pelham Road & I-85 NB off ramp

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑ | | | ↑↑ | ↘↘ | ↗ |
| Volume (vph) | 1002 | 0 | 0 | 613 | 839 | 869 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.8 | | | 5.8 | 5.0 | 5.0 |
| Lane Util. Factor | 0.95 | | | 0.95 | 0.97 | 1.00 |
| Frt | 1.00 | | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 1.00 | | | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 3438 | | | 3438 | 3335 | 1538 |
| Flt Permitted | 1.00 | | | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 3438 | | | 3438 | 3335 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 1113 | 0 | 0 | 681 | 932 | 966 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 5 |
| Lane Group Flow (vph) | 1113 | 0 | 0 | 681 | 932 | 961 |
| Turn Type | | | | | Perm | |
| Protected Phases | 2 | | | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Actuated Green, G (s) | 42.2 | | | 42.2 | 72.0 | 72.0 |
| Effective Green, g (s) | 42.2 | | | 42.2 | 72.0 | 72.0 |
| Actuated g/C Ratio | 0.34 | | | 0.34 | 0.58 | 0.58 |
| Clearance Time (s) | 5.8 | | | 5.8 | 5.0 | 5.0 |
| Vehicle Extension (s) | 4.3 | | | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 1161 | | | 1161 | 1921 | 886 |
| v/s Ratio Prot | c0.32 | | | 0.20 | 0.28 | |
| v/s Ratio Perm | | | | | | c0.62 |
| v/c Ratio | 0.96 | | | 0.59 | 0.49 | 1.08 |
| Uniform Delay, d1 | 40.5 | | | 34.2 | 15.6 | 26.5 |
| Progression Factor | 0.70 | | | 0.94 | 1.00 | 1.00 |
| Incremental Delay, d2 | 12.6 | | | 1.8 | 0.3 | 55.8 |
| Delay (s) | 40.9 | | | 33.9 | 15.9 | 82.3 |
| Level of Service | D | | | C | B | F |
| Approach Delay (s) | 40.9 | | | 33.9 | 49.7 | |
| Approach LOS | D | | | C | D | |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 44.1 | | HCM Level of Service | D |
| HCM Volume to Capacity ratio | | | 1.04 | | | |
| Actuated Cycle Length (s) | | | 125.0 | | Sum of lost time (s) | 10.8 |
| Intersection Capacity Utilization | | | 123.7% | | ICU Level of Service | H |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

I-85/I-385 Interchange Improvements





















2010 Existing AM

27: Pelham Road & Boland Court

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  |  | |  | |
| Volume (vph) | 30 | 1299 | 542 | 137 | 790 | 7 | 272 | 2 | 144 | 24 | 2 | 11 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.7 | 6.7 | | 6.7 | 6.7 | | | 6.3 | 6.3 | | 6.3 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | | 1.00 | 1.00 | | 1.00 | |
| Flt | 1.00 | 0.96 | | 1.00 | 1.00 | | | 1.00 | 0.85 | | 0.96 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.97 | |
| Satd. Flow (prot) | 1719 | 3286 | | 1719 | 3433 | | | 1724 | 1538 | | 1683 | |
| Flt Permitted | 0.32 | 1.00 | | 0.05 | 1.00 | | | 0.70 | 1.00 | | 0.53 | |
| Satd. Flow (perm) | 581 | 3286 | | 95 | 3433 | | | 1262 | 1538 | | 929 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 33 | 1443 | 602 | 152 | 878 | 8 | 302 | 2 | 160 | 27 | 2 | 12 |
| RTOR Reduction (vph) | 0 | 37 | 0 | 0 | 1 | 0 | 0 | 0 | 114 | 0 | 9 | 0 |
| Lane Group Flow (vph) | 33 | 2008 | 0 | 152 | 885 | 0 | 0 | 304 | 46 | 0 | 32 | 0 |
| Turn Type | Perm | | | pm+pt | | | Perm | | | Perm | | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | 8 | | | | 4 |
| Permitted Phases | 2 | | | 6 | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 69.3 | 69.3 | | 84.3 | 84.3 | | | 27.7 | 27.7 | | 27.7 | |
| Effective Green, g (s) | 69.3 | 69.3 | | 84.3 | 84.3 | | | 27.7 | 27.7 | | 27.7 | |
| Actuated g/C Ratio | 0.55 | 0.55 | | 0.67 | 0.67 | | | 0.22 | 0.22 | | 0.22 | |
| Clearance Time (s) | 6.7 | 6.7 | | 6.7 | 6.7 | | | 6.3 | 6.3 | | 6.3 | |
| Vehicle Extension (s) | 4.9 | 4.9 | | 4.3 | 4.9 | | | 4.3 | 4.3 | | 4.3 | |
| Lane Grp Cap (vph) | 322 | 1822 | | 172 | 2315 | | | 280 | 341 | | 206 | |
| v/s Ratio Prot | | c0.61 | | c0.06 | 0.26 | | | | | | | |
| v/s Ratio Perm | 0.06 | | | 0.54 | | | | c0.24 | 0.03 | | 0.03 | |
| v/c Ratio | 0.10 | 1.10 | | 0.88 | 0.38 | | | 1.09 | 0.14 | | 0.15 | |
| Uniform Delay, d1 | 13.2 | 27.8 | | 40.1 | 8.9 | | | 48.7 | 39.0 | | 39.2 | |
| Progression Factor | 0.67 | 0.55 | | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 0.1 | 47.0 | | 38.7 | 0.5 | | | 78.6 | 0.3 | | 0.6 | |
| Delay (s) | 8.8 | 62.3 | | 78.8 | 9.4 | | | 127.2 | 39.3 | | 39.8 | |
| Level of Service | A | E | | E | A | | | F | D | | D | |
| Approach Delay (s) | | 61.5 | | | 19.6 | | | 96.9 | | | 39.8 | |
| Approach LOS | | E | | | B | | | F | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 53.7 | | | HCM Level of Service | | | D | | | |
| HCM Volume to Capacity ratio | | | 1.08 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 125.0 | | | Sum of lost time (s) | | | 19.7 | | | |
| Intersection Capacity Utilization | | | 98.4% | | | ICU Level of Service | | | F | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |


















I-85/I-385 Interchange Improvements
2010 Existing AM

28: Forsythia Dr & E Butler Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  | |  | |  |  |  |  |  | |
| Volume (vph) | 17 | 0 | 14 | 14 | 0 | 106 | 2 | 879 | 10 | 37 | 793 | 9 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.0 | 6.0 | | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | | 1.00 | 0.85 | | 0.88 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | | 0.99 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1719 | 1538 | | 1585 | | 1719 | 3432 | | 1719 | 3432 | |
| Flt Permitted | | 0.89 | 1.00 | | 0.95 | | 0.29 | 1.00 | | 0.21 | 1.00 | |
| Satd. Flow (perm) | | 1611 | 1538 | | 1521 | | 521 | 3432 | | 379 | 3432 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 19 | 0 | 16 | 16 | 0 | 118 | 2 | 977 | 11 | 41 | 881 | 10 |
| RTOR Reduction (vph) | 0 | 0 | 14 | 0 | 100 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 19 | 2 | 0 | 34 | 0 | 2 | 987 | 0 | 41 | 890 | 0 |
| Turn Type | Perm | | Perm | Perm | | | pm+pt | | | pm+pt | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | 2 | | | 6 | | |
| Actuated Green, G (s) | | 7.3 | 7.3 | | 7.3 | | 21.6 | 20.9 | | 23.8 | 22.0 | |
| Effective Green, g (s) | | 7.3 | 7.3 | | 7.3 | | 21.6 | 20.9 | | 23.8 | 22.0 | |
| Actuated g/C Ratio | | 0.15 | 0.15 | | 0.15 | | 0.45 | 0.44 | | 0.50 | 0.46 | |
| Clearance Time (s) | | 6.0 | 6.0 | | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 245 | 234 | | 231 | | 252 | 1494 | | 238 | 1573 | |
| v/s Ratio Prot | | | | | | | 0.00 | c0.29 | | c0.01 | 0.26 | |
| v/s Ratio Perm | | 0.01 | 0.00 | | c0.02 | | 0.00 | | | 0.08 | | |
| v/c Ratio | | 0.08 | 0.01 | | 0.15 | | 0.01 | 0.66 | | 0.17 | 0.57 | |
| Uniform Delay, d1 | | 17.5 | 17.3 | | 17.6 | | 7.3 | 10.7 | | 6.7 | 9.5 | |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.1 | 0.0 | | 0.3 | | 0.0 | 1.1 | | 0.3 | 0.5 | |
| Delay (s) | | 17.6 | 17.3 | | 17.9 | | 7.3 | 11.9 | | 7.0 | 10.0 | |
| Level of Service | | B | B | | B | | A | B | | A | A | |
| Approach Delay (s) | | 17.5 | | | 17.9 | | | 11.8 | | | 9.8 | |
| Approach LOS | | B | | | B | | | B | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 11.4 | | | HCM Level of Service | | | | B | | |
| HCM Volume to Capacity ratio | | | 0.51 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 48.0 | | | Sum of lost time (s) | | | | 18.0 | | |
| Intersection Capacity Utilization | | | 54.7% | | | ICU Level of Service | | | | A | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |





















I-85/I-385 Interchange Improvements
2010 Existing AM

30: E Butler Road & I-385 SB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | |  | |  |  | | |  |  | | | |
| Volume (vph) | 0 | 945 | 58 | 161 | 642 | 0 | 501 | 0 | 220 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.6 | | 5.6 | 5.6 | | | 5.7 | 5.7 | | | |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | 1.00 | 1.00 | | | |
| Flt | | 0.99 | | 1.00 | 1.00 | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | | 3408 | | 1719 | 3438 | | | 1719 | 1538 | | | |
| Flt Permitted | | 1.00 | | 0.09 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | | 3408 | | 155 | 3438 | | | 1719 | 1538 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 1050 | 64 | 179 | 713 | 0 | 557 | 0 | 244 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 116 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1111 | 0 | 179 | 713 | 0 | 0 | 557 | 128 | 0 | 0 | 0 |
| Turn Type | | | | pm+pt | | | Perm | | Perm | | | |
| Protected Phases | | 2 | | 1 | 6 | | | 4 | | | | |
| Permitted Phases | | | | 6 | | | 4 | | 4 | | | |
| Actuated Green, G (s) | | 41.1 | | 58.2 | 58.2 | | | 41.0 | 41.0 | | | |
| Effective Green, g (s) | | 41.1 | | 58.2 | 58.2 | | | 41.0 | 41.0 | | | |
| Actuated g/C Ratio | | 0.37 | | 0.53 | 0.53 | | | 0.37 | 0.37 | | | |
| Clearance Time (s) | | 5.6 | | 5.6 | 5.6 | | | 5.7 | 5.7 | | | |
| Vehicle Extension (s) | | 2.5 | | 2.5 | 2.0 | | | 2.8 | 2.8 | | | |
| Lane Grp Cap (vph) | | 1268 | | 244 | 1811 | | | 638 | 571 | | | |
| v/s Ratio Prot | | c0.33 | | c0.08 | 0.21 | | | | | | | |
| v/s Ratio Perm | | | | 0.31 | | | | 0.32 | 0.08 | | | |
| v/c Ratio | | 0.88 | | 0.73 | 0.39 | | | 0.87 | 0.22 | | | |
| Uniform Delay, d1 | | 32.3 | | 24.6 | 15.6 | | | 32.3 | 23.8 | | | |
| Progression Factor | | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 7.0 | | 10.3 | 0.1 | | | 12.6 | 0.2 | | | |
| Delay (s) | | 39.3 | | 34.9 | 15.7 | | | 44.9 | 24.0 | | | |
| Level of Service | | D | | C | B | | | D | C | | | |
| Approach Delay (s) | | 39.3 | | | 19.5 | | | 38.5 | | | 0.0 | |
| Approach LOS | | D | | | B | | | D | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 32.8 | | | HCM Level of Service | | | C | | | |
| HCM Volume to Capacity ratio | | | 0.86 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 110.5 | | | Sum of lost time (s) | | | 16.9 | | | |
| Intersection Capacity Utilization | | | 78.7% | | | ICU Level of Service | | | D | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing AM
























31: E Butler Road & I-385 NB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |   | | |   |  | | | |  | |  |
| Volume (vph) | 371 | 1075 | 0 | 0 | 787 | 460 | 0 | 0 | 0 | 16 | 0 | 273 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | | | 5.3 | 5.3 | | | | 5.3 | | 5.3 |
| Lane Util. Factor | 1.00 | 0.95 | | | 0.95 | 1.00 | | | | 1.00 | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | | 1.00 | | 0.85 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | 1719 | 3438 | | | 3438 | 1538 | | | | 1719 | | 1538 |
| Flt Permitted | 0.15 | 1.00 | | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | 264 | 3438 | | | 3438 | 1538 | | | | 1719 | | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 412 | 1194 | 0 | 0 | 874 | 511 | 0 | 0 | 0 | 18 | 0 | 303 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 333 | 0 | 0 | 0 | 0 | 0 | 84 |
| Lane Group Flow (vph) | 412 | 1194 | 0 | 0 | 874 | 178 | 0 | 0 | 0 | 18 | 0 | 219 |
| Turn Type | pm+pt | | | | Perm | | | | custom | | | custom |
| Protected Phases | 5 | 2 | | | 6 | | | | | 3 | | 3 |
| Permitted Phases | 2 | | | | | 6 | | | | 8 | | |
| Actuated Green, G (s) | 64.6 | 64.6 | | | 32.7 | 32.7 | | | | 18.5 | | 18.5 |
| Effective Green, g (s) | 64.6 | 64.6 | | | 32.7 | 32.7 | | | | 18.5 | | 18.5 |
| Actuated g/C Ratio | 0.69 | 0.69 | | | 0.35 | 0.35 | | | | 0.20 | | 0.20 |
| Clearance Time (s) | 5.3 | 5.3 | | | 5.3 | 5.3 | | | | 5.3 | | 5.3 |
| Vehicle Extension (s) | 2.0 | 3.0 | | | 3.0 | 3.0 | | | | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 595 | 2370 | | | 1200 | 537 | | | | 339 | | 304 |
| v/s Ratio Prot | c0.20 | 0.35 | | | 0.25 | | | | | 0.01 | | c0.14 |
| v/s Ratio Perm | c0.28 | | | | | 0.12 | | | | | | |
| v/c Ratio | 0.69 | 0.50 | | | 0.73 | 0.33 | | | | 0.05 | | 0.72 |
| Uniform Delay, d1 | 17.3 | 6.9 | | | 26.6 | 22.5 | | | | 30.5 | | 35.2 |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | 2.8 | 0.2 | | | 2.2 | 0.4 | | | | 0.1 | | 7.9 |
| Delay (s) | 20.1 | 7.1 | | | 28.9 | 22.8 | | | | 30.6 | | 43.1 |
| Level of Service | C | A | | | C | C | | | | C | | D |
| Approach Delay (s) | | 10.4 | | | 26.6 | | | 0.0 | | | 42.4 | |
| Approach LOS | | B | | | C | | | A | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 20.3 | | HCM Level of Service | | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.68 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 93.7 | | Sum of lost time (s) | | | | | 10.6 | | |
| Intersection Capacity Utilization | | | 78.7% | | ICU Level of Service | | | | | D | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements

2010 Existing AM




















34: Frontage Road & Roper Mountain Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 2 | 52 | 80 | 58 | 12 | 9 | 446 | 649 | 548 | 52 | 921 | 19 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | |
| Lane Util. Factor | 1.00 | 1.00 | | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frt | 1.00 | 0.91 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 1645 | | 1633 | 1664 | 1538 | 1719 | 3438 | 1538 | 1719 | 3428 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | 0.10 | 1.00 | 1.00 | 0.38 | 1.00 | |
| Satd. Flow (perm) | 1719 | 1645 | | 1633 | 1664 | 1538 | 174 | 3438 | 1538 | 683 | 3428 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 2 | 58 | 89 | 64 | 13 | 10 | 496 | 721 | 609 | 58 | 1023 | 21 |
| RTOR Reduction (vph) | 0 | 56 | 0 | 0 | 0 | 10 | 0 | 0 | 192 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 2 | 91 | 0 | 38 | 39 | 0 | 496 | 721 | 417 | 58 | 1043 | 0 |
| Turn Type | Split | | | Split | | Perm | pm+pt | | Perm | Perm | | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | 2 | | 2 | 6 | | |
| Actuated Green, G (s) | 8.8 | 8.8 | | 4.7 | 4.7 | 4.7 | 68.5 | 68.5 | 68.5 | 35.5 | 35.5 | |
| Effective Green, g (s) | 8.8 | 8.8 | | 4.7 | 4.7 | 4.7 | 68.5 | 68.5 | 68.5 | 35.5 | 35.5 | |
| Actuated g/C Ratio | 0.09 | 0.09 | | 0.05 | 0.05 | 0.05 | 0.68 | 0.68 | 0.68 | 0.36 | 0.36 | |
| Clearance Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | |
| Vehicle Extension (s) | 4.9 | 4.9 | | 4.9 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 | 4.9 | 4.9 | |
| Lane Grp Cap (vph) | 151 | 145 | | 77 | 78 | 72 | 536 | 2355 | 1054 | 242 | 1217 | |
| v/s Ratio Prot | 0.00 | c0.06 | | 0.02 | c0.02 | | c0.25 | 0.21 | | | 0.30 | |
| v/s Ratio Perm | | | | | | 0.00 | c0.38 | | 0.27 | 0.08 | | |
| v/c Ratio | 0.01 | 0.63 | | 0.49 | 0.50 | 0.01 | 0.93 | 0.31 | 0.40 | 0.24 | 0.86 | |
| Uniform Delay, d1 | 41.6 | 44.0 | | 46.5 | 46.5 | 45.4 | 28.0 | 6.3 | 6.8 | 22.7 | 29.9 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.94 | 1.09 | 3.51 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.1 | 11.5 | | 9.7 | 9.8 | 0.1 | 18.2 | 0.3 | 0.8 | 2.3 | 7.9 | |
| Delay (s) | 41.7 | 55.6 | | 56.2 | 56.3 | 45.5 | 44.4 | 7.1 | 24.8 | 25.1 | 37.8 | |
| Level of Service | D | E | | E | E | D | D | A | C | C | D | |
| Approach Delay (s) | | 55.4 | | | 55.0 | | | 23.1 | | | 37.1 | |
| Approach LOS | | E | | | E | | | C | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 30.4 | | | HCM Level of Service | | | C | | | |
| HCM Volume to Capacity ratio | | | 0.83 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 100.0 | | | Sum of lost time (s) | | | 18.0 | | | |
| Intersection Capacity Utilization | | | 81.7% | | | ICU Level of Service | | | D | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements













2010 Existing AM

35: I-385 NB Ramps & Roper Mountain Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | |  |  |  |  |  | | |  |  |
| Volume (vph) | 0 | 0 | 0 | 558 | 0 | 792 | 139 | 851 | 0 | 0 | 816 | 243 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | | 6.0 | 6.0 |
| Lane Util. Factor | | | | 0.95 | 0.95 | 0.88 | 0.97 | 0.95 | | | 0.95 | 1.00 |
| Frt | | | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 |
| Flt Protected | | | | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (prot) | | | | 1633 | 1633 | 2707 | 3335 | 3438 | | | 3438 | 1538 |
| Flt Permitted | | | | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (perm) | | | | 1633 | 1633 | 2707 | 3335 | 3438 | | | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 0 | 0 | 620 | 0 | 880 | 154 | 946 | 0 | 0 | 907 | 270 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 99 | 0 | 0 | 0 | 0 | 0 | 170 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 310 | 310 | 781 | 154 | 946 | 0 | 0 | 907 | 100 |
| Turn Type | | | | Perm | | Perm | Prot | | | | | Perm |
| Protected Phases | | | | | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | 8 | | 8 | | | | | | 6 |
| Actuated Green, G (s) | | | | 36.3 | 36.3 | 36.3 | 8.8 | 51.7 | | | 36.9 | 36.9 |
| Effective Green, g (s) | | | | 36.3 | 36.3 | 36.3 | 8.8 | 51.7 | | | 36.9 | 36.9 |
| Actuated g/C Ratio | | | | 0.36 | 0.36 | 0.36 | 0.09 | 0.52 | | | 0.37 | 0.37 |
| Clearance Time (s) | | | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | | 6.0 | 6.0 |
| Vehicle Extension (s) | | | | 4.9 | 4.9 | 4.9 | 4.3 | 4.9 | | | 4.9 | 4.9 |
| Lane Grp Cap (vph) | | | | 593 | 593 | 983 | 293 | 1777 | | | 1269 | 568 |
| v/s Ratio Prot | | | | | | | 0.05 | c0.28 | | | c0.26 | |
| v/s Ratio Perm | | | | 0.19 | 0.19 | c0.29 | | | | | | 0.06 |
| v/c Ratio | | | | 0.52 | 0.52 | 0.79 | 0.53 | 0.53 | | | 0.71 | 0.18 |
| Uniform Delay, d1 | | | | 25.0 | 25.0 | 28.5 | 43.6 | 16.1 | | | 27.0 | 21.3 |
| Progression Factor | | | | 1.00 | 1.00 | 1.00 | 1.36 | 0.51 | | | 0.64 | 0.99 |
| Incremental Delay, d2 | | | | 1.5 | 1.5 | 5.1 | 2.3 | 1.0 | | | 1.9 | 0.4 |
| Delay (s) | | | | 26.6 | 26.6 | 33.7 | 61.5 | 9.3 | | | 19.1 | 21.5 |
| Level of Service | | | | C | C | C | E | A | | | B | C |
| Approach Delay (s) | | 0.0 | | | 30.7 | | | 16.6 | | | 19.6 | |
| Approach LOS | | A | | | C | | | B | | | B | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 23.2 | | | | HCM Level of Service | | | | C | |
| HCM Volume to Capacity ratio | | | 0.75 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 100.0 | | | | Sum of lost time (s) | | | 18.0 | | |
| Intersection Capacity Utilization | | | 80.7% | | | | ICU Level of Service | | | D | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing AM


























36: Roper Mountain Road & I-385 SB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | | ↑↑↑ | ↑ | ↑ | ↑↑ | | ↑ | ↑ | ↑↑ | | | |
| Volume (vph) | 0 | 560 | 200 | 515 | 859 | 0 | 430 | 0 | 241 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.4 | 6.4 | 5.8 | 6.4 | | 6.1 | 6.1 | 6.1 | | | |
| Lane Util. Factor | | 0.91 | 1.00 | 1.00 | 0.95 | | 0.95 | 0.95 | 0.88 | | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | | 4940 | 1538 | 1719 | 3438 | | 1633 | 1633 | 2707 | | | |
| Flt Permitted | | 1.00 | 1.00 | 0.39 | 1.00 | | 0.95 | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | | 4940 | 1538 | 705 | 3438 | | 1633 | 1633 | 2707 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 622 | 222 | 572 | 954 | 0 | 478 | 0 | 268 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 127 | 0 | 0 | 0 | 0 | 0 | 214 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 622 | 95 | 572 | 954 | 0 | 239 | 239 | 54 | 0 | 0 | 0 |
| Turn Type | | Perm | | pm+pt | | | Perm | | Perm | | | |
| Protected Phases | | 2 | | 1 | 6 | | | 4 | | | | |
| Permitted Phases | | | 2 | 6 | | | 4 | | 4 | | | |
| Actuated Green, G (s) | | 43.0 | 43.0 | 68.1 | 67.5 | | 20.0 | 20.0 | 20.0 | | | |
| Effective Green, g (s) | | 43.0 | 43.0 | 68.1 | 67.5 | | 20.0 | 20.0 | 20.0 | | | |
| Actuated g/C Ratio | | 0.43 | 0.43 | 0.68 | 0.68 | | 0.20 | 0.20 | 0.20 | | | |
| Clearance Time (s) | | 6.4 | 6.4 | 5.8 | 6.4 | | 6.1 | 6.1 | 6.1 | | | |
| Vehicle Extension (s) | | 4.9 | 4.9 | 4.3 | 4.9 | | 4.9 | 4.9 | 4.9 | | | |
| Lane Grp Cap (vph) | | 2124 | 661 | 670 | 2321 | | 327 | 327 | 541 | | | |
| v/s Ratio Prot | | 0.13 | | c0.16 | 0.28 | | | | | | | |
| v/s Ratio Perm | | | 0.06 | c0.42 | | | c0.15 | 0.15 | 0.02 | | | |
| v/c Ratio | | 0.29 | 0.14 | 0.85 | 0.41 | | 0.73 | 0.73 | 0.10 | | | |
| Uniform Delay, d1 | | 18.6 | 17.3 | 15.0 | 7.3 | | 37.5 | 37.5 | 32.6 | | | |
| Progression Factor | | 0.26 | 0.24 | 0.54 | 0.24 | | 1.00 | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 0.3 | 0.4 | 8.7 | 0.4 | | 9.7 | 9.7 | 0.2 | | | |
| Delay (s) | | 5.2 | 4.7 | 16.8 | 2.2 | | 47.2 | 47.2 | 32.8 | | | |
| Level of Service | | A | A | B | A | | D | D | C | | | |
| Approach Delay (s) | | 5.1 | | | 7.7 | | | 42.0 | | | 0.0 | |
| Approach LOS | | A | | | A | | | D | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 15.2 | | | HCM Level of Service | | | B | | | |
| HCM Volume to Capacity ratio | | | 0.81 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 100.0 | | | Sum of lost time (s) | | | 11.9 | | | |
| Intersection Capacity Utilization | | | 80.7% | | | ICU Level of Service | | | D | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements











2010 Existing AM

37: Roper Mountain Road & Congaree Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |    | | |   |  |  |  |  | |   |  |
| Volume (vph) | 231 | 593 | 1 | 3 | 774 | 323 | 166 | 2 | 171 | 1 | 2 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.8 | 6.4 | | | 6.4 | 6.4 | 6.1 | 6.1 | | | 6.1 | 6.1 |
| Lane Util. Factor | 1.00 | 0.91 | | | 0.95 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | 0.85 | | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.98 | 1.00 |
| Satd. Flow (prot) | 1719 | 4939 | | | 3437 | 1538 | 1719 | 1541 | | | 1780 | 1538 |
| Flt Permitted | 0.24 | 1.00 | | | 0.95 | 1.00 | 0.76 | 1.00 | | | 0.93 | 1.00 |
| Satd. Flow (perm) | 425 | 4939 | | | 3277 | 1538 | 1368 | 1541 | | | 1676 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 257 | 659 | 1 | 3 | 860 | 359 | 184 | 2 | 190 | 1 | 2 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 177 | 0 | 153 | 0 | 0 | 0 | 1 |
| Lane Group Flow (vph) | 257 | 660 | 0 | 0 | 863 | 182 | 184 | 39 | 0 | 0 | 3 | 0 |
| Turn Type | pm+pt | | | Perm | | Perm | Perm | | | Perm | | Perm |
| Protected Phases | 5 | 2 | | | 6 | | | 4 | | | 8 | |
| Permitted Phases | 2 | | | 6 | | 6 | 4 | | | 8 | | 8 |
| Actuated Green, G (s) | 67.9 | 67.9 | | | 50.7 | 50.7 | 19.6 | 19.6 | | | 19.6 | 19.6 |
| Effective Green, g (s) | 67.9 | 67.9 | | | 50.7 | 50.7 | 19.6 | 19.6 | | | 19.6 | 19.6 |
| Actuated g/C Ratio | 0.68 | 0.68 | | | 0.51 | 0.51 | 0.20 | 0.20 | | | 0.20 | 0.20 |
| Clearance Time (s) | 5.8 | 6.4 | | | 6.4 | 6.4 | 6.1 | 6.1 | | | 6.1 | 6.1 |
| Vehicle Extension (s) | 4.3 | 4.9 | | | 4.9 | 4.9 | 4.9 | 4.9 | | | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 436 | 3354 | | | 1661 | 780 | 268 | 302 | | | 328 | 301 |
| v/s Ratio Prot | c0.07 | 0.13 | | | | | | 0.03 | | | | |
| v/s Ratio Perm | c0.33 | | | | 0.26 | 0.12 | c0.13 | | | | 0.00 | 0.00 |
| v/c Ratio | 0.59 | 0.20 | | | 0.52 | 0.23 | 0.69 | 0.13 | | | 0.01 | 0.00 |
| Uniform Delay, d1 | 8.3 | 5.9 | | | 16.5 | 13.8 | 37.3 | 33.2 | | | 32.4 | 32.3 |
| Progression Factor | 2.21 | 1.96 | | | 0.54 | 0.54 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Incremental Delay, d2 | 2.4 | 0.1 | | | 1.1 | 0.7 | 8.9 | 0.4 | | | 0.0 | 0.0 |
| Delay (s) | 20.8 | 11.8 | | | 10.0 | 8.0 | 46.3 | 33.6 | | | 32.4 | 32.3 |
| Level of Service | C | B | | | B | A | D | C | | | C | C |
| Approach Delay (s) | | 14.3 | | | 9.4 | | | 39.8 | | | 32.4 | |
| Approach LOS | | B | | | A | | | D | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 15.8 | | | HCM Level of Service | | | | B | | |
| HCM Volume to Capacity ratio | | | 0.59 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 100.0 | | | Sum of lost time (s) | | | 11.9 | | | |
| Intersection Capacity Utilization | | | 81.6% | | | ICU Level of Service | | | D | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |










I-85/I-385 Interchange Improvements
2010 Existing AM

21: Frontage Rd & US 276

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | SEL | SET | NWT | NWR |
| Lane Configurations |  | |  |  |  | |
| Volume (veh/h) | 115 | 18 | 67 | 1419 | 1744 | 67 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 128 | 20 | 74 | 1577 | 1938 | 74 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | 1009 | |
| pX, platoon unblocked | 0.63 | 0.63 | 0.63 | | | |
| vC, conflicting volume | 2912 | 1006 | 2012 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 2861 | 0 | 1435 | | | |
| tC, single (s) | 6.9 | 7.0 | 4.2 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.6 | 3.4 | 2.2 | | | |
| p0 queue free % | 0 | 97 | 74 | | | |
| cM capacity (veh/h) | 6 | 678 | 287 | | | |
| Direction, Lane # | WB 1 | SE 1 | SE 2 | SE 3 | NW 1 | NW 2 |
| Volume Total | 148 | 74 | 788 | 788 | 1292 | 720 |
| Volume Left | 128 | 74 | 0 | 0 | 0 | 0 |
| Volume Right | 20 | 0 | 0 | 0 | 0 | 74 |
| cSH | 7 | 287 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 21.67 | 0.26 | 0.46 | 0.46 | 0.76 | 0.42 |
| Queue Length 95th (ft) | Err | 25 | 0 | 0 | 0 | 0 |
| Control Delay (s) | Err | 21.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | F | C | | | | |
| Approach Delay (s) | Err | 1.0 | | | 0.0 | |
| Approach LOS | F | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | 388.1 | | | | |
| Intersection Capacity Utilization | | 69.8% | | ICU Level of Service | | C |
| Analysis Period (min) | | 15 | | | | |

I-85/I-385 Interchange Improvements
2010 Existing AM












22: US 276 & St Josephs Dr

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | SET | SER | NWL | NWT | NEL | NER |
| Lane Configurations |  | | |  |  | |
| Volume (veh/h) | 1297 | 237 | 245 | 1397 | 414 | 92 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 1441 | 263 | 272 | 1552 | 460 | 102 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 854 | | |
| pX, platoon unblocked | | | | | 0.59 | |
| vC, conflicting volume | | | 1704 | | 2893 | 852 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 1704 | | 2818 | 852 |
| tC, single (s) | | | 4.2 | | 6.9 | 7.0 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.6 | 3.4 |
| p0 queue free % | | | 24 | | 0 | 66 |
| cM capacity (veh/h) | | | 356 | | 2 | 297 |
| Direction, Lane # | SE 1 | SE 2 | NW 1 | NW 2 | NE 1 | |
| Volume Total | 961 | 744 | 790 | 1035 | 562 | |
| Volume Left | 0 | 0 | 272 | 0 | 460 | |
| Volume Right | 0 | 263 | 0 | 0 | 102 | |
| cSH | 1700 | 1700 | 356 | 1700 | 2 | |
| Volume to Capacity | 0.57 | 0.44 | 0.76 | 0.61 | 246.23 | |
| Queue Length 95th (ft) | 0 | 0 | 154 | 0 | Err | |
| Control Delay (s) | 0.0 | 0.0 | 41.4 | 0.0 | Err | |
| Lane LOS | | | E | | F | |
| Approach Delay (s) | 0.0 | | 17.9 | | Err | |
| Approach LOS | | | | | F | |
| Intersection Summary | | | | | | |
| Average Delay | | | 1382.1 | | | |
| Intersection Capacity Utilization | | | 127.7% | ICU Level of Service | | H |
| Analysis Period (min) | | | 15 | | | |

I-85/I-385 Interchange Improvements

2010 Existing AM














29: Rothwell Dr & E Butler Road

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |
| Volume (veh/h) | 5 | 1 | 4 | 998 | 838 | 24 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 6 | 1 | 4 | 1109 | 931 | 27 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | 5 | | | | |
| Median type | | | | TWLT | TWLT | |
| Median storage (veh) | | | | 2 | 2 | |
| Upstream signal (ft) | | | | 1176 | 378 | |
| pX, platoon unblocked | 0.86 | 0.88 | 0.88 | | | |
| vC, conflicting volume | 1508 | 479 | 958 | | | |
| vC1, stage 1 conf vol | 944 | | | | | |
| vC2, stage 2 conf vol | 563 | | | | | |
| vCu, unblocked vol | 619 | 130 | 675 | | | |
| tC, single (s) | 6.9 | 7.0 | 4.2 | | | |
| tC, 2 stage (s) | 5.9 | | | | | |
| tF (s) | 3.6 | 3.4 | 2.2 | | | |
| p0 queue free % | 99 | 100 | 99 | | | |
| cM capacity (veh/h) | 400 | 779 | 784 | | | |
| Direction, Lane # | EB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 |
| Volume Total | 7 | 4 | 554 | 554 | 621 | 337 |
| Volume Left | 6 | 4 | 0 | 0 | 0 | 0 |
| Volume Right | 1 | 0 | 0 | 0 | 0 | 27 |
| cSH | 480 | 784 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.01 | 0.01 | 0.33 | 0.33 | 0.37 | 0.20 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 13.4 | 9.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 13.4 | 0.0 | | | 0.0 | |
| Approach LOS | B | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.1 | | | |
| Intersection Capacity Utilization | | | 37.6% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |

I-85/I-385 Interchange Improvements

2010 Existing AM




















32: New Commerce Ct & E Butler Road

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |   | |   |   |
| Volume (veh/h) | 48 | 52 | 1329 | 19 | 32 | 1199 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 53 | 58 | 1477 | 21 | 36 | 1332 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | 371 | | | |
| pX, platoon unblocked | 0.83 | 0.83 | | | 0.83 | |
| vC, conflicting volume | 2224 | 749 | | | 1498 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 2067 | 291 | | | 1192 | |
| tC, single (s) | 6.9 | 7.0 | | | 4.2 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.6 | 3.4 | | | 2.2 | |
| p0 queue free % | 0 | 90 | | | 92 | |
| cM capacity (veh/h) | 35 | 579 | | | 469 | |
| Direction, Lane # | WB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
| Volume Total | 111 | 984 | 513 | 36 | 666 | 666 |
| Volume Left | 53 | 0 | 0 | 36 | 0 | 0 |
| Volume Right | 58 | 0 | 21 | 0 | 0 | 0 |
| cSH | 68 | 1700 | 1700 | 469 | 1700 | 1700 |
| Volume to Capacity | 1.63 | 0.58 | 0.30 | 0.08 | 0.39 | 0.39 |
| Queue Length 95th (ft) | 242 | 0 | 0 | 6 | 0 | 0 |
| Control Delay (s) | 444.4 | 0.0 | 0.0 | 13.3 | 0.0 | 0.0 |
| Lane LOS | F | | | B | | |
| Approach Delay (s) | 444.4 | 0.0 | | 0.3 | | |
| Approach LOS | F | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | 16.7 | | | | |
| Intersection Capacity Utilization | | 49.9% | | ICU Level of Service | | A |
| Analysis Period (min) | | 15 | | | | |

I-85/I-385 Interchange Improvements

2010 Existing AM
























33: E Butler Road & Brookfield Pkwy

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |  | | |  | | |  |  | |  |  |
| Volume (veh/h) | 86 | 1276 | 19 | 15 | 1201 | 16 | 1 | 0 | 12 | 18 | 0 | 9 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 96 | 1418 | 21 | 17 | 1334 | 18 | 1 | 0 | 13 | 20 | 0 | 10 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage (veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | 939 | | | | | | | | | | |
| pX, platoon unblocked | | | | 0.85 | | | 0.85 | 0.85 | | 0.85 | 0.85 | 0.85 |
| vC, conflicting volume | 1352 | | | 1439 | | | 2287 | 3007 | 676 | 2333 | 3005 | 719 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 1352 | | | 1159 | | | 2159 | 3008 | 676 | 2214 | 3006 | 310 |
| tC, single (s) | 4.2 | | | 4.2 | | | 7.6 | 6.6 | 7.0 | 7.6 | 6.6 | 7.0 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.6 | 4.0 | 3.4 | 3.6 | 4.0 | 3.4 |
| p0 queue free % | 80 | | | 97 | | | 94 | 100 | 97 | 0 | 100 | 98 |
| cM capacity (veh/h) | 489 | | | 493 | | | 18 | 8 | 389 | 16 | 8 | 574 |
| Direction, Lane # | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SE 1 | SE 2 | NW 1 | NW 2 | | | |
| Volume Total | 96 | 945 | 494 | 684 | 685 | 1 | 13 | 20 | 10 | | | |
| Volume Left | 96 | 0 | 0 | 17 | 0 | 1 | 0 | 20 | 0 | | | |
| Volume Right | 0 | 0 | 21 | 0 | 18 | 0 | 13 | 0 | 10 | | | |
| cSH | 489 | 1700 | 1700 | 493 | 1700 | 18 | 389 | 16 | 574 | | | |
| Volume to Capacity | 0.20 | 0.56 | 0.29 | 0.03 | 0.40 | 0.06 | 0.03 | 1.26 | 0.02 | | | |
| Queue Length 95th (ft) | 18 | 0 | 0 | 3 | 0 | 5 | 3 | 75 | 1 | | | |
| Control Delay (s) | 14.1 | 0.0 | 0.0 | 1.0 | 0.0 | 221.0 | 14.6 | 657.2 | 11.4 | | | |
| Lane LOS | B | | | A | | F | B | F | B | | | |
| Approach Delay (s) | 0.9 | | | 0.5 | | 30.5 | | 441.9 | | | | |
| Approach LOS | | | | | | D | | F | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 5.3 | | | | | | | | | |
| Intersection Capacity Utilization | | | 85.8% | | ICU Level of Service | | | | E | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

I-85/I-385 Interchange Improvements























2010 Existing PM

1: Woodruff Road & Roper Mountain Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 241 | 271 | 40 | 106 | 569 | 333 | 30 | 397 | 93 | 382 | 397 | 55 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 |
| Flt | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3372 | | 1719 | 3438 | 1538 | 1719 | 3438 | 1538 | 3335 | 3438 | 1538 |
| Flt Permitted | 0.18 | 1.00 | | 0.54 | 1.00 | 1.00 | 0.50 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 334 | 3372 | | 985 | 3438 | 1538 | 898 | 3438 | 1538 | 3335 | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 268 | 301 | 44 | 118 | 632 | 370 | 33 | 441 | 103 | 424 | 441 | 61 |
| RTOR Reduction (vph) | 0 | 12 | 0 | 0 | 0 | 282 | 0 | 0 | 80 | 0 | 0 | 34 |
| Lane Group Flow (vph) | 268 | 333 | 0 | 118 | 632 | 88 | 33 | 441 | 23 | 424 | 441 | 27 |
| Turn Type | pm+pt | | | pm+pt | | Perm | Perm | | Perm | Prot | | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | 2 | | | 6 |
| Actuated Green, G (s) | 44.1 | 30.1 | | 33.7 | 23.7 | 23.7 | 22.7 | 22.7 | 22.7 | 16.2 | 43.9 | 43.9 |
| Effective Green, g (s) | 44.1 | 30.1 | | 33.7 | 23.7 | 23.7 | 22.7 | 22.7 | 22.7 | 16.2 | 43.9 | 43.9 |
| Actuated g/C Ratio | 0.44 | 0.30 | | 0.34 | 0.24 | 0.24 | 0.23 | 0.23 | 0.23 | 0.16 | 0.44 | 0.44 |
| Clearance Time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 4.3 | 5.5 | | 4.3 | 5.5 | 5.5 | 4.9 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 374 | 1015 | | 405 | 815 | 365 | 204 | 780 | 349 | 540 | 1509 | 675 |
| v/s Ratio Prot | c0.12 | 0.10 | | 0.03 | 0.18 | | | c0.13 | | c0.13 | 0.13 | |
| v/s Ratio Perm | c0.20 | | | 0.07 | | 0.06 | 0.04 | | 0.02 | | | 0.02 |
| v/c Ratio | 0.72 | 0.33 | | 0.29 | 0.78 | 0.24 | 0.16 | 0.57 | 0.07 | 0.79 | 0.29 | 0.04 |
| Uniform Delay, d1 | 20.3 | 27.1 | | 23.6 | 35.7 | 30.9 | 31.0 | 34.3 | 30.3 | 40.2 | 18.1 | 16.0 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.55 | 0.43 | 0.22 |
| Incremental Delay, d2 | 7.1 | 0.5 | | 0.6 | 5.6 | 0.8 | 1.7 | 3.0 | 0.4 | 7.2 | 0.4 | 0.1 |
| Delay (s) | 27.5 | 27.6 | | 24.2 | 41.3 | 31.7 | 32.7 | 37.2 | 30.7 | 29.1 | 8.2 | 3.6 |
| Level of Service | C | C | | C | D | C | C | D | C | C | A | A |
| Approach Delay (s) | | 27.5 | | | 36.3 | | | 35.8 | | | 17.5 | |
| Approach LOS | | C | | | D | | | D | | | B | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 29.2 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.66 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 100.0 | | | Sum of lost time (s) | | | 15.0 | | | |
| Intersection Capacity Utilization | | | 68.5% | | | ICU Level of Service | | | C | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing PM

2: Woodruff Road & Costco Driveway

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NEL | NET | NER | SWL | SWT | SWR |
| Lane Configurations |  |  | |  |  |  |  |  | |  |  |  |
| Volume (vph) | 11 | 652 | 72 | 160 | 953 | 34 | 79 | 3 | 170 | 31 | 2 | 25 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3387 | | 1719 | 3438 | 1538 | 1719 | 1542 | | 1719 | 1810 | 1538 |
| Flt Permitted | 0.22 | 1.00 | | 0.35 | 1.00 | 1.00 | 0.76 | 1.00 | | 0.39 | 1.00 | 1.00 |
| Satd. Flow (perm) | 389 | 3387 | | 630 | 3438 | 1538 | 1369 | 1542 | | 700 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 12 | 724 | 80 | 178 | 1059 | 38 | 88 | 3 | 189 | 34 | 2 | 28 |
| RTOR Reduction (vph) | 0 | 6 | 0 | 0 | 0 | 12 | 0 | 165 | 0 | 0 | 0 | 23 |
| Lane Group Flow (vph) | 12 | 798 | 0 | 178 | 1059 | 26 | 88 | 27 | 0 | 34 | 2 | 5 |
| Turn Type | pm+pt | | | Perm | | Perm | Perm | | | Perm | | pm+ov |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | 4 | 5 |
| Permitted Phases | 2 | | | 6 | | 6 | 8 | | | 4 | | 4 |
| Actuated Green, G (s) | 91.7 | 91.7 | | 80.4 | 80.4 | 80.4 | 15.3 | 15.3 | | 15.3 | 15.3 | 20.1 |
| Effective Green, g (s) | 91.7 | 91.7 | | 80.4 | 80.4 | 80.4 | 15.3 | 15.3 | | 15.3 | 15.3 | 20.1 |
| Actuated g/C Ratio | 0.76 | 0.76 | | 0.67 | 0.67 | 0.67 | 0.13 | 0.13 | | 0.13 | 0.13 | 0.17 |
| Clearance Time (s) | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 |
| Vehicle Extension (s) | 4.3 | 5.5 | | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | | 5.5 | 5.5 | 4.3 |
| Lane Grp Cap (vph) | 350 | 2588 | | 422 | 2303 | 1030 | 175 | 197 | | 89 | 231 | 341 |
| v/s Ratio Prot | 0.00 | c0.24 | | | c0.31 | | | 0.02 | | | 0.00 | 0.00 |
| v/s Ratio Perm | 0.02 | | | 0.28 | | 0.02 | c0.06 | | | 0.05 | | 0.00 |
| v/c Ratio | 0.03 | 0.31 | | 0.42 | 0.46 | 0.03 | 0.50 | 0.14 | | 0.38 | 0.01 | 0.01 |
| Uniform Delay, d1 | 4.7 | 4.4 | | 9.1 | 9.4 | 6.6 | 48.8 | 46.5 | | 48.0 | 45.7 | 41.7 |
| Progression Factor | 1.00 | 1.00 | | 0.60 | 0.54 | 0.18 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.1 | 0.3 | | 3.0 | 0.7 | 0.0 | 5.5 | 0.8 | | 6.6 | 0.0 | 0.0 |
| Delay (s) | 4.8 | 4.7 | | 8.5 | 5.8 | 1.2 | 54.3 | 47.3 | | 54.6 | 45.8 | 41.7 |
| Level of Service | A | A | | A | A | A | D | D | | D | D | D |
| Approach Delay (s) | | 4.7 | | | 6.0 | | | 49.5 | | | 48.7 | |
| Approach LOS | | A | | | A | | | D | | | D | |





















Intersection Summary

| | | | |
|-----------------------------------|-------|----------------------|------|
| HCM Average Control Delay | 11.7 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.47 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 19.5 |
| Intersection Capacity Utilization | 89.0% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

I-85/I-385 Interchange Improvements

2010 Existing PM





















3: Green Heron Road & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | |  | | |  |  |  |  | |  |  |  |
| Volume (vph) | 18 | 1 | 51 | 10 | 2 | 71 | 59 | 1152 | 9 | 2 | 798 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.0 | | | 5.0 | 5.0 | 6.3 | 6.3 | | 6.3 | 6.3 | 6.3 |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 |
| Frt | | 0.90 | | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 0.99 | | | 0.96 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | | 1610 | | | 1736 | 1538 | 1719 | 3434 | | 1719 | 3438 | 1538 |
| Flt Permitted | | 0.91 | | | 0.71 | 1.00 | 0.32 | 1.00 | | 0.20 | 1.00 | 1.00 |
| Satd. Flow (perm) | | 1481 | | | 1292 | 1538 | 575 | 3434 | | 364 | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 20 | 1 | 57 | 11 | 2 | 79 | 66 | 1280 | 10 | 2 | 887 | 2 |
| RTOR Reduction (vph) | 0 | 53 | 0 | 0 | 0 | 73 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 25 | 0 | 0 | 13 | 6 | 66 | 1290 | 0 | 2 | 887 | 2 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | Perm |
| Protected Phases | | 8 | | | 4 | | | 2 | | | 6 | |
| Permitted Phases | 8 | | | 4 | | 4 | 2 | | | 6 | | 6 |
| Actuated Green, G (s) | | 9.2 | | | 9.2 | 9.2 | 99.5 | 99.5 | | 99.5 | 99.5 | 99.5 |
| Effective Green, g (s) | | 9.2 | | | 9.2 | 9.2 | 99.5 | 99.5 | | 99.5 | 99.5 | 99.5 |
| Actuated g/C Ratio | | 0.08 | | | 0.08 | 0.08 | 0.83 | 0.83 | | 0.83 | 0.83 | 0.83 |
| Clearance Time (s) | | 5.0 | | | 5.0 | 5.0 | 6.3 | 6.3 | | 6.3 | 6.3 | 6.3 |
| Vehicle Extension (s) | | 4.3 | | | 4.3 | 4.3 | 5.5 | 5.5 | | 5.5 | 5.5 | 5.5 |
| Lane Grp Cap (vph) | | 114 | | | 99 | 118 | 477 | 2847 | | 302 | 2851 | 1275 |
| v/s Ratio Prot | | | | | | | | c0.38 | | | 0.26 | |
| v/s Ratio Perm | | c0.02 | | | 0.01 | 0.00 | 0.11 | | | 0.01 | | 0.00 |
| v/c Ratio | | 0.22 | | | 0.13 | 0.05 | 0.14 | 0.45 | | 0.01 | 0.31 | 0.00 |
| Uniform Delay, d1 | | 52.0 | | | 51.7 | 51.4 | 2.0 | 2.8 | | 1.8 | 2.4 | 1.8 |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 0.93 | 0.93 | | 0.26 | 0.34 | 0.15 |
| Incremental Delay, d2 | | 1.6 | | | 1.0 | 0.3 | 0.6 | 0.5 | | 0.0 | 0.2 | 0.0 |
| Delay (s) | | 53.6 | | | 52.6 | 51.6 | 2.4 | 3.1 | | 0.5 | 1.1 | 0.3 |
| Level of Service | | D | | | D | D | A | A | | A | A | A |
| Approach Delay (s) | | 53.6 | | | 51.8 | | | 3.1 | | | 1.1 | |
| Approach LOS | | D | | | D | | | A | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | 5.8 | | | HCM Level of Service | | | A | | | | |
| HCM Volume to Capacity ratio | | 0.43 | | | | | | | | | | |
| Actuated Cycle Length (s) | | 120.0 | | | Sum of lost time (s) | | | 11.3 | | | | |
| Intersection Capacity Utilization | | 69.3% | | | ICU Level of Service | | | C | | | | |
| Analysis Period (min) | | 15 | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements

2010 Existing PM



















4: Woodruff Industrial Lane & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |  | |  |  | |  |  | |  |  | |
| Volume (vph) | 124 | 28 | 233 | 170 | 25 | 24 | 45 | 1104 | 64 | 187 | 654 | 202 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 0.87 | | 1.00 | 0.93 | | 1.00 | 0.99 | | 1.00 | 0.96 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 1567 | | 1719 | 1676 | | 1719 | 3410 | | 1719 | 3317 | |
| Flt Permitted | 0.72 | 1.00 | | 0.22 | 1.00 | | 0.27 | 1.00 | | 0.08 | 1.00 | |
| Satd. Flow (perm) | 1305 | 1567 | | 400 | 1676 | | 482 | 3410 | | 136 | 3317 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 138 | 31 | 259 | 189 | 28 | 27 | 50 | 1227 | 71 | 208 | 727 | 224 |
| RTOR Reduction (vph) | 0 | 163 | 0 | 0 | 23 | 0 | 0 | 3 | 0 | 0 | 23 | 0 |
| Lane Group Flow (vph) | 138 | 127 | 0 | 189 | 32 | 0 | 50 | 1295 | 0 | 208 | 928 | 0 |
| Turn Type | pm+pt | | | pm+pt | | | pm+pt | | | pm+pt | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 8 | | | 4 | | | 2 | | | 6 | | |
| Actuated Green, G (s) | 23.1 | 14.1 | | 31.1 | 18.1 | | 59.8 | 55.3 | | 74.9 | 64.4 | |
| Effective Green, g (s) | 23.1 | 14.1 | | 31.1 | 18.1 | | 59.8 | 55.3 | | 74.9 | 64.4 | |
| Actuated g/C Ratio | 0.19 | 0.12 | | 0.26 | 0.15 | | 0.50 | 0.46 | | 0.62 | 0.54 | |
| Clearance Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 5.5 | | 4.3 | 5.5 | |
| Lane Grp Cap (vph) | 282 | 184 | | 247 | 253 | | 287 | 1571 | | 264 | 1780 | |
| v/s Ratio Prot | 0.04 | 0.08 | | c0.08 | 0.02 | | 0.01 | c0.38 | | c0.09 | 0.28 | |
| v/s Ratio Perm | 0.06 | | | c0.12 | | | 0.08 | | | 0.40 | | |
| v/c Ratio | 0.49 | 0.69 | | 0.77 | 0.13 | | 0.17 | 0.82 | | 0.79 | 0.52 | |
| Uniform Delay, d1 | 42.5 | 50.8 | | 37.9 | 44.1 | | 15.7 | 28.1 | | 30.9 | 17.9 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.85 | 0.89 | | 0.86 | 0.74 | |
| Incremental Delay, d2 | 2.1 | 11.6 | | 14.4 | 0.4 | | 0.4 | 4.6 | | 15.0 | 1.0 | |
| Delay (s) | 44.6 | 62.4 | | 52.3 | 44.5 | | 13.8 | 29.6 | | 41.6 | 14.3 | |
| Level of Service | D | E | | D | D | | B | C | | D | B | |
| Approach Delay (s) | | 56.7 | | | 50.5 | | | 29.0 | | | 19.2 | |
| Approach LOS | | E | | | D | | | C | | | B | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 30.8 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.83 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | | | Sum of lost time (s) | | | | 24.0 | | |
| Intersection Capacity Utilization | | | 88.2% | | | ICU Level of Service | | | | E | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements












2010 Existing PM

5: I-85 SB Ramps & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  |  | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|--|--|--|--|--|--|
| Movement | WBL2 | WBL | WBR | SEL | SET | SER | NWL | NWT | NWR | NEL | NER | | | | | | | |
| Lane Configurations |  | |  | |  |  |  |  | | | | | | | | | | |
| Volume (vph) | 285 | 0 | 171 | 0 | 1270 | 237 | 565 | 872 | 0 | 0 | 0 | | | | | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | | | | | | | |
| Total Lost time (s) | 5.0 | | 5.0 | | 6.3 | 6.3 | 6.5 | 6.1 | | | | | | | | | | |
| Lane Util. Factor | 0.97 | | 0.88 | | 0.95 | 1.00 | 1.00 | 0.95 | | | | | | | | | | |
| Frt | 1.00 | | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | | | | | | | | | | |
| Flt Protected | 0.95 | | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | | | | | | |
| Satd. Flow (prot) | 3335 | | 2707 | | 3438 | 1538 | 1719 | 3438 | | | | | | | | | | |
| Flt Permitted | 0.95 | | 1.00 | | 1.00 | 1.00 | 0.07 | 1.00 | | | | | | | | | | |
| Satd. Flow (perm) | 3335 | | 2707 | | 3438 | 1538 | 124 | 3438 | | | | | | | | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | | | | | | | |
| Adj. Flow (vph) | 317 | 0 | 190 | 0 | 1411 | 263 | 628 | 969 | 0 | 0 | 0 | | | | | | | |
| RTOR Reduction (vph) | 0 | 0 | 173 | 0 | 0 | 117 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| Lane Group Flow (vph) | 317 | 0 | 17 | 0 | 1411 | 146 | 628 | 969 | 0 | 0 | 0 | | | | | | | |
| Turn Type | custom | | custom | | Perm | | pm+pt | | | | | | | | | | | |
| Protected Phases | | | | | 2 | | 1 | | 6 | | | | | | | | | |
| Permitted Phases | 4 | | 4 | | | | 2 | | 6 | | | | | | | | | |
| Actuated Green, G (s) | 11.0 | | 11.0 | | 51.7 | | 51.7 | | 97.9 | | | | | | | | | |
| Effective Green, g (s) | 11.0 | | 11.0 | | 51.7 | | 51.7 | | 97.9 | | | | | | | | | |
| Actuated g/C Ratio | 0.09 | | 0.09 | | 0.43 | | 0.43 | | 0.82 | | | | | | | | | |
| Clearance Time (s) | 5.0 | | 5.0 | | 6.3 | | 6.3 | | 6.5 | | | | | | | | | |
| Vehicle Extension (s) | 4.3 | | 4.3 | | 4.3 | | 4.3 | | 4.3 | | | | | | | | | |
| Lane Grp Cap (vph) | 306 | | 248 | | 1481 | | 663 | | 626 | | | | | | | | | |
| v/s Ratio Prot | | | | | 0.41 | | | | c0.33 | | | | | | | | | |
| v/s Ratio Perm | c0.10 | | 0.01 | | | | 0.10 | | c0.49 | | | | | | | | | |
| v/c Ratio | 1.04 | | 0.07 | | 0.95 | | 0.22 | | 1.00 | | | | | | | | | |
| Uniform Delay, d1 | 54.5 | | 49.8 | | 33.0 | | 21.5 | | 35.7 | | | | | | | | | |
| Progression Factor | 1.00 | | 1.00 | | 0.55 | | 0.17 | | 1.03 | | | | | | | | | |
| Incremental Delay, d2 | 61.1 | | 0.2 | | 9.5 | | 0.4 | | 34.1 | | | | | | | | | |
| Delay (s) | 115.6 | | 50.0 | | 27.5 | | 4.0 | | 71.1 | | | | | | | | | |
| Level of Service | F | | D | | C | | A | | E | | | | | | | | | |
| Approach Delay (s) | | | 91.0 | | 23.8 | | | | 32.5 | | | | | | | | | |
| Approach LOS | | | F | | C | | | | C | | A | | | | | | | |
| Intersection Summary | | | | | | | | | | | | | | | | | | |
| HCM Average Control Delay | | | 36.5 | | HCM Level of Service | | D | | | | | | | | | | | |
| HCM Volume to Capacity ratio | | | 0.98 | | | | | | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | | Sum of lost time (s) | | 11.5 | | | | | | | | | | | |
| Intersection Capacity Utilization | | | 88.2% | | ICU Level of Service | | E | | | | | | | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing PM





















6: I-85 NB Ramps & Woodruff Road

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | NBL | NBR | SET | SER | NWL | NWT |
| Lane Configurations |  |  |  |  | |  |
| Volume (vph) | 437 | 522 | 709 | 846 | 0 | 1000 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.6 | 5.6 | 6.5 | 6.5 | | 6.5 |
| Lane Util. Factor | 0.97 | 1.00 | 0.95 | 1.00 | | 0.95 |
| Frt | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 3335 | 1538 | 3438 | 1538 | | 3438 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 3335 | 1538 | 3438 | 1538 | | 3438 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 486 | 580 | 788 | 940 | 0 | 1111 |
| RTOR Reduction (vph) | 0 | 184 | 0 | 537 | 0 | 0 |
| Lane Group Flow (vph) | 486 | 396 | 788 | 403 | 0 | 1111 |
| Turn Type | Perm | | Perm | | | |
| Protected Phases | 3 | | 2 | | | 2 4 |
| Permitted Phases | | 3 | | 2 | | |
| Actuated Green, G (s) | 38.4 | 38.4 | 51.5 | 51.5 | | 69.5 |
| Effective Green, g (s) | 38.4 | 38.4 | 51.5 | 51.5 | | 62.5 |
| Actuated g/C Ratio | 0.32 | 0.32 | 0.43 | 0.43 | | 0.52 |
| Clearance Time (s) | 5.6 | 5.6 | 6.5 | 6.5 | | |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | | |
| Lane Grp Cap (vph) | 1067 | 492 | 1475 | 660 | | 1791 |
| v/s Ratio Prot | 0.15 | | 0.23 | | | c0.32 |
| v/s Ratio Perm | | c0.26 | | 0.26 | | |
| v/c Ratio | 0.46 | 0.80 | 0.53 | 0.61 | | 0.62 |
| Uniform Delay, d1 | 32.5 | 37.4 | 25.4 | 26.5 | | 20.4 |
| Progression Factor | 1.00 | 1.00 | 1.33 | 11.99 | | 1.38 |
| Incremental Delay, d2 | 0.5 | 10.0 | 0.4 | 1.2 | | 0.8 |
| Delay (s) | 33.0 | 47.4 | 34.1 | 318.9 | | 28.9 |
| Level of Service | C | D | C | F | | C |
| Approach Delay (s) | 40.8 | | 189.1 | | | 28.9 |
| Approach LOS | D | | F | | | C |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 103.0 | HCM Level of Service | | F |
| HCM Volume to Capacity ratio | | | 0.69 | | | |
| Actuated Cycle Length (s) | | | 120.0 | Sum of lost time (s) | | 18.6 |
| Intersection Capacity Utilization | | | 62.0% | ICU Level of Service | | B |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

I-85/I-385 Interchange Improvements

























2010 Existing PM

7: Carolina Point Pkwy & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |  |  | | | | |  |  |  |  |  |
| Volume (vph) | 75 | 103 | 62 | 0 | 0 | 0 | 0 | 1151 | 80 | 15 | 925 | 800 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 7.0 | 7.0 | 7.0 | | | | | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | | | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | | | | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 1810 | 1538 | | | | | 3438 | 1538 | 1719 | 3438 | 1538 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 0.20 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1719 | 1810 | 1538 | | | | | 3438 | 1538 | 361 | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 83 | 114 | 69 | 0 | 0 | 0 | 0 | 1279 | 89 | 17 | 1028 | 889 |
| RTOR Reduction (vph) | 0 | 0 | 63 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 42 |
| Lane Group Flow (vph) | 83 | 114 | 6 | 0 | 0 | 0 | 0 | 1279 | 71 | 17 | 1028 | 847 |
| Turn Type | custom | | Perm | | | | | | Perm | Perm | | |
| Protected Phases | 4 | 4 | | | | | | 2 3 6 | | | 2 3 6 | |
| Permitted Phases | 4 | | 4 | | | | | | 2 3 6 | 2 3 6 | | 2 3 6 |
| Actuated Green, G (s) | 11.0 | 11.0 | 11.0 | | | | | 96.4 | 96.4 | 96.4 | 96.4 | 96.4 |
| Effective Green, g (s) | 11.0 | 11.0 | 11.0 | | | | | 96.4 | 96.4 | 96.4 | 96.4 | 96.4 |
| Actuated g/C Ratio | 0.09 | 0.09 | 0.09 | | | | | 0.80 | 0.80 | 0.80 | 0.80 | 0.80 |
| Clearance Time (s) | 7.0 | 7.0 | 7.0 | | | | | | | | | |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | | | | | | | | | |
| Lane Grp Cap (vph) | 158 | 166 | 141 | | | | | 2762 | 1236 | 290 | 2762 | 1236 |
| v/s Ratio Prot | 0.05 | c0.06 | | | | | | 0.37 | | | 0.30 | |
| v/s Ratio Perm | | | 0.00 | | | | | | 0.05 | 0.05 | | c0.55 |
| v/c Ratio | 0.53 | 0.69 | 0.04 | | | | | 0.46 | 0.06 | 0.06 | 0.37 | 0.69 |
| Uniform Delay, d1 | 52.0 | 52.8 | 49.7 | | | | | 3.7 | 2.4 | 2.4 | 3.3 | 5.2 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | | | | 0.35 | 0.18 | 0.34 | 0.21 | 0.58 |
| Incremental Delay, d2 | 4.6 | 12.6 | 0.2 | | | | | 0.1 | 0.0 | 0.1 | 0.1 | 0.9 |
| Delay (s) | 56.6 | 65.4 | 49.9 | | | | | 1.5 | 0.5 | 0.9 | 0.8 | 3.9 |
| Level of Service | E | E | D | | | | | A | A | A | A | A |
| Approach Delay (s) | | 58.7 | | | 0.0 | | | 1.4 | | | 2.2 | |
| Approach LOS | | E | | | A | | | A | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 6.1 | | HCM Level of Service | | | | A | | | |
| HCM Volume to Capacity ratio | | | 0.69 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | | Sum of lost time (s) | | | | 13.5 | | | |
| Intersection Capacity Utilization | | | 66.2% | | ICU Level of Service | | | | C | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing PM






















8: Woodruff Road & Market Point Drive

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 339 | 842 | 32 | 68 | 1407 | 146 | 103 | 26 | 67 | 211 | 26 | 230 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.1 | 6.1 | 5.8 | 6.1 | 6.1 | 5.8 | 5.8 | 5.8 | 6.1 | 5.8 | 5.8 | 5.8 |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 3335 | 3438 | 1538 | 1719 | 3438 | 1538 | 1719 | 1810 | 1538 | 3335 | 3438 | 1538 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 3335 | 3438 | 1538 | 1719 | 3438 | 1538 | 1719 | 1810 | 1538 | 3335 | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 377 | 936 | 36 | 76 | 1563 | 162 | 114 | 29 | 74 | 234 | 29 | 256 |
| RTOR Reduction (vph) | 0 | 0 | 13 | 0 | 0 | 42 | 0 | 0 | 62 | 0 | 0 | 219 |
| Lane Group Flow (vph) | 377 | 936 | 23 | 76 | 1563 | 120 | 114 | 29 | 12 | 234 | 29 | 37 |
| Turn Type | Prot | pm+ov | | Prot | pm+ov | | Prot | pm+ov | | Prot | Perm | |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | 7 | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | 4 |
| Actuated Green, G (s) | 15.1 | 65.1 | 75.3 | 12.0 | 62.0 | 73.5 | 10.2 | 7.6 | 19.6 | 11.5 | 8.9 | 8.9 |
| Effective Green, g (s) | 15.1 | 65.1 | 75.3 | 12.0 | 62.0 | 73.5 | 10.2 | 7.6 | 19.6 | 11.5 | 8.9 | 8.9 |
| Actuated g/C Ratio | 0.13 | 0.54 | 0.63 | 0.10 | 0.52 | 0.61 | 0.08 | 0.06 | 0.16 | 0.10 | 0.07 | 0.07 |
| Clearance Time (s) | 6.1 | 6.1 | 5.8 | 6.1 | 6.1 | 5.8 | 5.8 | 5.8 | 6.1 | 5.8 | 5.8 | 5.8 |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 420 | 1865 | 965 | 172 | 1776 | 942 | 146 | 115 | 251 | 320 | 255 | 114 |
| v/s Ratio Prot | c0.11 | 0.27 | 0.00 | 0.04 | c0.45 | 0.01 | 0.07 | 0.02 | 0.00 | c0.07 | 0.01 | |
| v/s Ratio Perm | | | 0.01 | | | 0.07 | | | 0.00 | | | c0.02 |
| v/c Ratio | 0.90 | 0.50 | 0.02 | 0.44 | 0.88 | 0.13 | 0.78 | 0.25 | 0.05 | 0.73 | 0.11 | 0.32 |
| Uniform Delay, d1 | 51.7 | 17.3 | 8.4 | 50.8 | 25.7 | 9.8 | 53.8 | 53.5 | 42.3 | 52.7 | 51.9 | 52.7 |
| Progression Factor | 1.24 | 0.45 | 0.55 | 0.64 | 0.35 | 0.04 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 20.2 | 0.9 | 0.0 | 0.9 | 2.3 | 0.0 | 25.1 | 1.8 | 0.1 | 9.2 | 0.3 | 2.6 |
| Delay (s) | 84.1 | 8.7 | 4.6 | 33.5 | 11.3 | 0.4 | 78.9 | 55.3 | 42.5 | 61.9 | 52.2 | 55.3 |
| Level of Service | F | A | A | C | B | A | E | E | D | E | D | E |
| Approach Delay (s) | | 29.7 | | | 11.2 | | | 63.3 | | | 58.1 | |
| Approach LOS | | C | | | B | | | E | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 26.8 | HCM Level of Service | | | C | | | | | |
| HCM Volume to Capacity ratio | | | 0.78 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | Sum of lost time (s) | | | 18.0 | | | | | |
| Intersection Capacity Utilization | | | 76.3% | ICU Level of Service | | | D | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements

2010 Existing PM


















9: Woodruff Road & Garlington Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  | |  |  |  |
| Volume (vph) | 163 | 794 | 163 | 150 | 1220 | 147 | 238 | 134 | 106 | 301 | 248 | 163 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.2 | 6.1 | | 5.2 | 6.1 | | 5.2 | 5.2 | | 5.2 | 5.2 | 5.2 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.97 | | 1.00 | 0.98 | | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3350 | | 1719 | 3383 | | 1719 | 1690 | | 1719 | 1810 | 1538 |
| Flt Permitted | 0.08 | 1.00 | | 0.14 | 1.00 | | 0.38 | 1.00 | | 0.17 | 1.00 | 1.00 |
| Satd. Flow (perm) | 142 | 3350 | | 246 | 3383 | | 687 | 1690 | | 312 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 181 | 882 | 181 | 167 | 1356 | 163 | 264 | 149 | 118 | 334 | 276 | 181 |
| RTOR Reduction (vph) | 0 | 14 | 0 | 0 | 8 | 0 | 0 | 24 | 0 | 0 | 0 | 143 |
| Lane Group Flow (vph) | 181 | 1049 | 0 | 167 | 1511 | 0 | 264 | 243 | 0 | 334 | 276 | 38 |
| Turn Type | pm+pt | | | pm+pt | | | pm+pt | | | pm+pt | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | 4 |
| Actuated Green, G (s) | 60.8 | 51.1 | | 62.2 | 51.8 | | 31.0 | 18.0 | | 42.0 | 23.8 | 23.8 |
| Effective Green, g (s) | 60.8 | 51.1 | | 62.2 | 51.8 | | 31.0 | 18.0 | | 42.0 | 23.8 | 23.8 |
| Actuated g/C Ratio | 0.51 | 0.43 | | 0.52 | 0.43 | | 0.26 | 0.15 | | 0.35 | 0.20 | 0.20 |
| Clearance Time (s) | 5.2 | 6.1 | | 5.2 | 6.1 | | 5.2 | 5.2 | | 5.2 | 5.2 | 5.2 |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 199 | 1427 | | 255 | 1460 | | 289 | 254 | | 330 | 359 | 305 |
| v/s Ratio Prot | c0.07 | 0.31 | | 0.06 | c0.45 | | 0.10 | 0.14 | | c0.16 | 0.15 | |
| v/s Ratio Perm | 0.39 | | | 0.28 | | | 0.14 | | | c0.20 | | 0.02 |
| v/c Ratio | 0.91 | 0.73 | | 0.65 | 1.03 | | 0.91 | 0.96 | | 1.01 | 0.77 | 0.12 |
| Uniform Delay, d1 | 32.7 | 28.8 | | 19.6 | 34.1 | | 40.6 | 50.6 | | 34.1 | 45.5 | 39.5 |
| Progression Factor | 1.38 | 0.75 | | 1.36 | 0.74 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 36.1 | 2.9 | | 5.3 | 30.2 | | 32.0 | 44.7 | | 52.6 | 10.4 | 0.3 |
| Delay (s) | 81.3 | 24.6 | | 32.0 | 55.5 | | 72.6 | 95.4 | | 86.8 | 55.9 | 39.8 |
| Level of Service | F | C | | C | E | | E | F | | F | E | D |
| Approach Delay (s) | | 32.8 | | | 53.2 | | | 84.0 | | | 65.3 | |
| Approach LOS | | C | | | D | | | F | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 53.3 | | | HCM Level of Service | | | | D | | |
| HCM Volume to Capacity ratio | | | 0.94 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | | | Sum of lost time (s) | | | | 10.4 | | |
| Intersection Capacity Utilization | | | 95.7% | | | ICU Level of Service | | | | F | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements

2010 Existing PM



















10: Woodruff Road & I-385 SB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | |  |  | | | | |  | |  |
| Volume (vph) | 0 | 810 | 391 | 164 | 1170 | 0 | 0 | 0 | 0 | 573 | 0 | 347 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.6 | | 6.6 | 6.6 | | | | | 5.7 | | 5.7 |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | | | 0.97 | | 1.00 |
| Frt | | 0.95 | | 1.00 | 1.00 | | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 3270 | | 1719 | 3438 | | | | | 3335 | | 1538 |
| Flt Permitted | | 1.00 | | 0.08 | 1.00 | | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 3270 | | 141 | 3438 | | | | | 3335 | | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 900 | 434 | 182 | 1300 | 0 | 0 | 0 | 0 | 637 | 0 | 386 |
| RTOR Reduction (vph) | 0 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 48 |
| Lane Group Flow (vph) | 0 | 1288 | 0 | 182 | 1300 | 0 | 0 | 0 | 0 | 637 | 0 | 338 |
| Turn Type | | | | pm+pt | | | | | | Prot | | custom |
| Protected Phases | | 2 | | 1 | 6 | | | | | 4 | | |
| Permitted Phases | | | | 6 | | | | | | | | 4 |
| Actuated Green, G (s) | | 57.7 | | 76.5 | 76.5 | | | | | 31.2 | | 31.2 |
| Effective Green, g (s) | | 57.7 | | 76.5 | 76.5 | | | | | 31.2 | | 31.2 |
| Actuated g/C Ratio | | 0.48 | | 0.64 | 0.64 | | | | | 0.26 | | 0.26 |
| Clearance Time (s) | | 6.6 | | 6.6 | 6.6 | | | | | 5.7 | | 5.7 |
| Vehicle Extension (s) | | 4.3 | | 4.3 | 4.3 | | | | | 4.3 | | 4.3 |
| Lane Grp Cap (vph) | | 1572 | | 250 | 2192 | | | | | 867 | | 400 |
| v/s Ratio Prot | | c0.39 | | 0.07 | c0.38 | | | | | 0.19 | | |
| v/s Ratio Perm | | | | 0.39 | | | | | | | | c0.22 |
| v/c Ratio | | 0.82 | | 0.73 | 0.59 | | | | | 0.73 | | 0.84 |
| Uniform Delay, d1 | | 26.7 | | 26.9 | 12.7 | | | | | 40.6 | | 42.1 |
| Progression Factor | | 0.77 | | 1.01 | 0.27 | | | | | 1.03 | | 1.03 |
| Incremental Delay, d2 | | 2.7 | | 3.8 | 0.4 | | | | | 3.6 | | 15.8 |
| Delay (s) | | 23.3 | | 31.0 | 3.8 | | | | | 45.3 | | 59.2 |
| Level of Service | | C | | C | A | | | | | D | | E |
| Approach Delay (s) | | 23.3 | | | 7.1 | | | 0.0 | | | 50.5 | |
| Approach LOS | | C | | | A | | | A | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 24.3 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.82 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | | | Sum of lost time (s) | | | | 18.9 | | |
| Intersection Capacity Utilization | | | 100.1% | | | ICU Level of Service | | | | G | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements





















2010 Existing PM

11: Woodruff Road & I-385 NB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | | |  |  |  | |  | | | |
| Volume (vph) | 431 | 952 | 0 | 0 | 855 | 571 | 479 | 0 | 227 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.1 | 6.1 | | | 6.1 | 6.1 | 5.0 | | 5.0 | | | |
| Lane Util. Factor | 1.00 | 0.95 | | | 0.95 | 1.00 | 1.00 | | 1.00 | | | |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | | 0.85 | | | |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | 0.95 | | 1.00 | | | |
| Satd. Flow (prot) | 1719 | 3438 | | | 3438 | 1538 | 1719 | | 1538 | | | |
| Flt Permitted | 0.10 | 1.00 | | | 1.00 | 1.00 | 0.95 | | 1.00 | | | |
| Satd. Flow (perm) | 174 | 3438 | | | 3438 | 1538 | 1719 | | 1538 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 479 | 1058 | 0 | 0 | 950 | 634 | 532 | 0 | 252 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 418 | 0 | 0 | 70 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 479 | 1058 | 0 | 0 | 950 | 216 | 532 | 0 | 182 | 0 | 0 | 0 |
| Turn Type | pm+pt | | | | | Perm | Prot | | custom | | | |
| Protected Phases | 5 | 2 | | | 6 | | 8 | | | | | |
| Permitted Phases | 2 | | | | | 6 | | | 8 | | | |
| Actuated Green, G (s) | 70.9 | 70.9 | | | 35.5 | 35.5 | 38.0 | | 38.0 | | | |
| Effective Green, g (s) | 70.9 | 70.9 | | | 35.5 | 35.5 | 38.0 | | 38.0 | | | |
| Actuated g/C Ratio | 0.59 | 0.59 | | | 0.30 | 0.30 | 0.32 | | 0.32 | | | |
| Clearance Time (s) | 6.1 | 6.1 | | | 6.1 | 6.1 | 5.0 | | 5.0 | | | |
| Vehicle Extension (s) | 4.3 | 4.3 | | | 4.3 | 4.3 | 4.3 | | 4.3 | | | |
| Lane Grp Cap (vph) | 480 | 2031 | | | 1017 | 455 | 544 | | 487 | | | |
| v/s Ratio Prot | c0.24 | 0.31 | | | 0.28 | | c0.31 | | | | | |
| v/s Ratio Perm | c0.35 | | | | | 0.14 | | | 0.12 | | | |
| v/c Ratio | 1.00 | 0.52 | | | 0.93 | 0.47 | 0.98 | | 0.37 | | | |
| Uniform Delay, d1 | 36.7 | 14.5 | | | 41.1 | 34.6 | 40.6 | | 31.8 | | | |
| Progression Factor | 1.06 | 0.93 | | | 0.76 | 0.71 | 1.00 | | 1.00 | | | |
| Incremental Delay, d2 | 31.7 | 0.6 | | | 12.0 | 2.4 | 32.8 | | 0.8 | | | |
| Delay (s) | 70.5 | 14.1 | | | 43.2 | 26.8 | 73.4 | | 32.6 | | | |
| Level of Service | E | B | | | D | C | E | | C | | | |
| Approach Delay (s) | | 31.6 | | | 36.6 | | | 60.2 | | | 0.0 | |
| Approach LOS | | C | | | D | | | E | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 39.4 | | | HCM Level of Service | | | D | | | |
| HCM Volume to Capacity ratio | | | 0.96 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | | | Sum of lost time (s) | | | 11.1 | | | |
| Intersection Capacity Utilization | | | 100.1% | | | ICU Level of Service | | | G | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing PM



















12: Woodruff Road & Commercial Drive

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  | |  |  | |
| Volume (vph) | 151 | 988 | 40 | 9 | 1139 | 49 | 187 | 17 | 9 | 84 | 11 | 100 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.5 | | 5.5 | 5.5 | | 5.3 | 5.4 | | 5.4 | 5.4 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 0.95 | | 1.00 | 0.86 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 3418 | | 1719 | 3417 | | 1719 | 1716 | | 1719 | 1565 | |
| Flt Permitted | 0.09 | 1.00 | | 0.25 | 1.00 | | 0.38 | 1.00 | | 0.74 | 1.00 | |
| Satd. Flow (perm) | 168 | 3418 | | 450 | 3417 | | 690 | 1716 | | 1336 | 1565 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 168 | 1098 | 44 | 10 | 1266 | 54 | 208 | 19 | 10 | 93 | 12 | 111 |
| RTOR Reduction (vph) | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 7 | 0 | 0 | 99 | 0 |
| Lane Group Flow (vph) | 168 | 1140 | 0 | 10 | 1318 | 0 | 208 | 22 | 0 | 93 | 24 | 0 |
| Turn Type | pm+pt | | | Perm | | | pm+pt | | | Perm | | |
| Protected Phases | 5 | 2 | | | 6 | | 3 | 8 | | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 77.8 | 77.8 | | 61.2 | 61.2 | | 31.3 | 31.3 | | 12.5 | 12.5 | |
| Effective Green, g (s) | 77.8 | 77.8 | | 61.2 | 61.2 | | 31.3 | 31.3 | | 12.5 | 12.5 | |
| Actuated g/C Ratio | 0.65 | 0.65 | | 0.51 | 0.51 | | 0.26 | 0.26 | | 0.10 | 0.10 | |
| Clearance Time (s) | 5.3 | 5.5 | | 5.5 | 5.5 | | 5.3 | 5.4 | | 5.4 | 5.4 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | 255 | 2216 | | 230 | 1743 | | 296 | 448 | | 139 | 163 | |
| v/s Ratio Prot | c0.06 | 0.33 | | | c0.39 | | c0.08 | 0.01 | | | 0.02 | |
| v/s Ratio Perm | 0.36 | | | 0.02 | | | c0.10 | | | 0.07 | | |
| v/c Ratio | 0.66 | 0.51 | | 0.04 | 0.76 | | 0.70 | 0.05 | | 0.67 | 0.14 | |
| Uniform Delay, d1 | 18.4 | 11.1 | | 14.7 | 23.4 | | 37.6 | 33.2 | | 51.8 | 48.9 | |
| Progression Factor | 2.45 | 0.28 | | 0.66 | 0.72 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 6.2 | 0.7 | | 0.3 | 2.7 | | 8.2 | 0.1 | | 13.3 | 0.6 | |
| Delay (s) | 51.3 | 3.8 | | 10.1 | 19.6 | | 45.8 | 33.3 | | 65.0 | 49.5 | |
| Level of Service | D | A | | B | B | | D | C | | E | D | |
| Approach Delay (s) | | 9.9 | | | 19.5 | | | 44.2 | | | 56.2 | |
| Approach LOS | | A | | | B | | | D | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 19.9 | | | HCM Level of Service | | | | B | | |
| HCM Volume to Capacity ratio | | | 0.72 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | | | Sum of lost time (s) | | | 16.1 | | | |
| Intersection Capacity Utilization | | | 72.6% | | | ICU Level of Service | | | C | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements




















2010 Existing PM

13: Woodruff Road & Smith Hines Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Volume (vph) | 9 | 1016 | 56 | 54 | 1037 | 1 | 151 | 1 | 119 | 4 | 1 | 9 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 6.0 | 6.0 | | | 5.0 | | | 5.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | | 1.00 | | | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | | | 0.94 | | | 0.91 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.97 | | | 0.99 | |
| Satd. Flow (prot) | 1719 | 3411 | | 1719 | 3438 | | | 1656 | | | 1625 | |
| Flt Permitted | 0.20 | 1.00 | | 0.19 | 1.00 | | | 0.82 | | | 0.93 | |
| Satd. Flow (perm) | 362 | 3411 | | 343 | 3438 | | | 1393 | | | 1527 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 10 | 1129 | 62 | 60 | 1152 | 1 | 168 | 1 | 132 | 4 | 1 | 10 |
| RTOR Reduction (vph) | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 28 | 0 | 0 | 8 | 0 |
| Lane Group Flow (vph) | 10 | 1189 | 0 | 60 | 1153 | 0 | 0 | 273 | 0 | 0 | 7 | 0 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | |
| Protected Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 78.8 | 78.8 | | 79.1 | 79.1 | | | 29.9 | | | 29.9 | |
| Effective Green, g (s) | 78.8 | 78.8 | | 79.1 | 79.1 | | | 29.9 | | | 29.9 | |
| Actuated g/C Ratio | 0.66 | 0.66 | | 0.66 | 0.66 | | | 0.25 | | | 0.25 | |
| Clearance Time (s) | 6.3 | 6.3 | | 6.0 | 6.0 | | | 5.0 | | | 5.0 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | | 4.3 | | | 4.3 | |
| Lane Grp Cap (vph) | 238 | 2240 | | 226 | 2266 | | | 347 | | | 380 | |
| v/s Ratio Prot | c0.35 | | | 0.34 | | | | | | | | |
| v/s Ratio Perm | 0.03 | | | 0.17 | | | | c0.20 | | | 0.00 | |
| v/c Ratio | 0.04 | 0.53 | | 0.27 | 0.51 | | | 0.79 | | | 0.02 | |
| Uniform Delay, d1 | 7.3 | 10.9 | | 8.4 | 10.5 | | | 42.1 | | | 34.0 | |
| Progression Factor | 0.26 | 0.17 | | 0.80 | 0.76 | | | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 0.3 | 0.8 | | 0.3 | 0.1 | | | 12.2 | | | 0.0 | |
| Delay (s) | 2.2 | 2.7 | | 7.0 | 8.1 | | | 54.3 | | | 34.0 | |
| Level of Service | A | A | | A | A | | | D | | | C | |
| Approach Delay (s) | 2.7 | | | 8.0 | | | | 54.3 | | | 34.0 | |
| Approach LOS | A | | | A | | | | D | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | 10.9 | | | HCM Level of Service | | | B | | | | | |
| HCM Volume to Capacity ratio | 0.60 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 120.0 | | | Sum of lost time (s) | | | 11.3 | | | | | |
| Intersection Capacity Utilization | 76.4% | | | ICU Level of Service | | | D | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |























I-85/I-385 Interchange Improvements
2010 Existing PM

14: Woodruff Road & Walmart Driveway

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  | | |  | |
| Volume (vph) | 20 | 1393 | 122 | 20 | 2079 | 38 | 333 | 6 | 5 | 35 | 1 | 33 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.0 | 5.0 | | | 5.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | | | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 0.93 | | | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.98 | |
| Satd. Flow (prot) | 1719 | 3396 | | 1719 | 3429 | | 1719 | 1684 | | | 1650 | |
| Flt Permitted | 0.05 | 1.00 | | 0.10 | 1.00 | | 0.72 | 1.00 | | | 0.87 | |
| Satd. Flow (perm) | 94 | 3396 | | 173 | 3429 | | 1302 | 1684 | | | 1464 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 22 | 1548 | 136 | 22 | 2310 | 42 | 370 | 7 | 6 | 39 | 1 | 37 |
| RTOR Reduction (vph) | 0 | 5 | 0 | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 28 | 0 |
| Lane Group Flow (vph) | 22 | 1679 | 0 | 22 | 2351 | 0 | 370 | 8 | 0 | 0 | 49 | 0 |
| Turn Type | pm+pt | | | Perm | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 79.7 | 79.7 | | 70.4 | 70.4 | | 29.0 | 29.0 | | | 29.0 | |
| Effective Green, g (s) | 79.7 | 79.7 | | 70.4 | 70.4 | | 29.0 | 29.0 | | | 29.0 | |
| Actuated g/C Ratio | 0.66 | 0.66 | | 0.59 | 0.59 | | 0.24 | 0.24 | | | 0.24 | |
| Clearance Time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.0 | 5.0 | | | 5.0 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | | | 4.3 | |
| Lane Grp Cap (vph) | 103 | 2256 | | 101 | 2012 | | 315 | 407 | | | 354 | |
| v/s Ratio Prot | 0.01 | c0.49 | | | c0.69 | | | 0.01 | | | | |
| v/s Ratio Perm | 0.14 | | | 0.13 | | | c0.28 | | | | 0.03 | |
| v/c Ratio | 0.21 | 0.74 | | 0.22 | 1.17 | | 1.17 | 0.02 | | | 0.14 | |
| Uniform Delay, d1 | 29.1 | 13.4 | | 11.8 | 24.8 | | 45.5 | 34.7 | | | 35.7 | |
| Progression Factor | 1.02 | 0.78 | | 0.77 | 0.62 | | 1.00 | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 1.5 | 2.1 | | 4.2 | 80.8 | | 106.8 | 0.0 | | | 0.3 | |
| Delay (s) | 31.2 | 12.5 | | 13.3 | 96.3 | | 152.3 | 34.7 | | | 36.0 | |
| Level of Service | C | B | | B | F | | F | C | | | D | |
| Approach Delay (s) | | 12.8 | | | 95.5 | | | 148.3 | | | 36.0 | |
| Approach LOS | | B | | | F | | | F | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 67.9 | | | HCM Level of Service | | | E | | | |
| HCM Volume to Capacity ratio | | | 1.19 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | | | Sum of lost time (s) | | | 17.6 | | | |
| Intersection Capacity Utilization | | | 93.2% | | | ICU Level of Service | | | F | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |




















I-85/I-385 Interchange Improvements
2010 Existing PM

15: Woodruff Road & Verdin Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  |  |  |  |  |
| Volume (vph) | 90 | 1699 | 38 | 56 | 1099 | 66 | 228 | 183 | 112 | 48 | 195 | 150 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.2 | 5.0 | 5.0 | 5.2 | 5.2 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 3427 | | 1719 | 3409 | | 1719 | 1810 | 1538 | 1719 | 1691 | |
| Flt Permitted | 0.13 | 1.00 | | 0.06 | 1.00 | | 0.14 | 1.00 | 1.00 | 0.63 | 1.00 | |
| Satd. Flow (perm) | 233 | 3427 | | 109 | 3409 | | 248 | 1810 | 1538 | 1141 | 1691 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 100 | 1888 | 42 | 62 | 1221 | 73 | 253 | 203 | 124 | 53 | 217 | 167 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 6 | 0 | 23 | 0 |
| Lane Group Flow (vph) | 100 | 1929 | 0 | 62 | 1290 | 0 | 253 | 203 | 118 | 53 | 361 | 0 |
| Turn Type | Perm | | | Perm | | | pm+pt | | | Perm | Perm | |
| Protected Phases | 2 | | | 6 | | | 3 | | 8 | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | 8 | | 4 | |
| Actuated Green, G (s) | 66.3 | 66.3 | | 66.3 | 66.3 | | 42.4 | 42.4 | 42.4 | 23.8 | 23.8 | |
| Effective Green, g (s) | 66.3 | 66.3 | | 66.3 | 66.3 | | 42.4 | 42.4 | 42.4 | 23.8 | 23.8 | |
| Actuated g/C Ratio | 0.55 | 0.55 | | 0.55 | 0.55 | | 0.35 | 0.35 | 0.35 | 0.20 | 0.20 | |
| Clearance Time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.2 | 5.0 | 5.0 | 5.2 | 5.2 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | 129 | 1893 | | 60 | 1883 | | 249 | 640 | 543 | 226 | 335 | |
| v/s Ratio Prot | | 0.56 | | | 0.38 | | c0.11 | 0.11 | | | 0.21 | |
| v/s Ratio Perm | 0.43 | | | c0.57 | | | c0.25 | | 0.08 | 0.05 | | |
| v/c Ratio | 0.78 | 1.02 | | 1.03 | 0.69 | | 1.02 | 0.32 | 0.22 | 0.23 | 1.08 | |
| Uniform Delay, d1 | 21.0 | 26.9 | | 26.9 | 19.3 | | 32.5 | 28.3 | 27.2 | 40.4 | 48.1 | |
| Progression Factor | 0.79 | 0.79 | | 1.51 | 1.56 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 30.5 | 23.7 | | 99.2 | 1.2 | | 61.2 | 0.5 | 0.3 | 0.8 | 71.2 | |
| Delay (s) | 47.1 | 44.8 | | 139.9 | 31.3 | | 93.7 | 28.7 | 27.5 | 41.3 | 119.3 | |
| Level of Service | D | D | | F | C | | F | C | C | D | F | |
| Approach Delay (s) | | 44.9 | | | 36.3 | | | 56.8 | | | 109.8 | |
| Approach LOS | | D | | | D | | | E | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | 50.3 | | | HCM Level of Service | | | D | | | | | |
| HCM Volume to Capacity ratio | 1.00 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 120.0 | | | Sum of lost time (s) | | | 11.5 | | | | | |
| Intersection Capacity Utilization | 120.6% | | | ICU Level of Service | | | H | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |



















I-85/I-385 Interchange Improvements
2010 Existing PM

16: Woodruff Road & Butler Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | |  |  | | |  |  |  |  | |
| Volume (vph) | 18 | 1505 | 105 | 332 | 1054 | 16 | 166 | 17 | 410 | 278 | 347 | 90 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.3 | | 6.3 | 6.3 | | | 5.0 | 6.3 | 5.0 | 5.0 | |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.99 | | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 3403 | | 1719 | 3430 | | | 1731 | 1538 | 1719 | 1754 | |
| Flt Permitted | | 0.92 | | 0.07 | 1.00 | | | 0.18 | 1.00 | 0.55 | 1.00 | |
| Satd. Flow (perm) | | 3149 | | 127 | 3430 | | | 324 | 1538 | 993 | 1754 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 20 | 1672 | 117 | 369 | 1171 | 18 | 184 | 19 | 456 | 309 | 386 | 100 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 8 | 0 |
| Lane Group Flow (vph) | 0 | 1805 | 0 | 369 | 1188 | 0 | 0 | 203 | 454 | 309 | 478 | 0 |
| Turn Type | Perm | | | pm+pt | | | Perm | | pm+ov | | Perm | |
| Protected Phases | | 2 | | 1 | 6 | | | 8 | 1 | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | | 50.7 | | 68.7 | 68.7 | | | 40.0 | 51.7 | 40.0 | 40.0 | |
| Effective Green, g (s) | | 50.7 | | 68.7 | 68.7 | | | 40.0 | 51.7 | 40.0 | 40.0 | |
| Actuated g/C Ratio | | 0.42 | | 0.57 | 0.57 | | | 0.33 | 0.43 | 0.33 | 0.33 | |
| Clearance Time (s) | | 6.3 | | 6.3 | 6.3 | | | 5.0 | 6.3 | 5.0 | 5.0 | |
| Vehicle Extension (s) | | 4.3 | | 4.3 | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | | 1330 | | 228 | 1964 | | | 108 | 663 | 331 | 585 | |
| v/s Ratio Prot | | | | c0.16 | 0.35 | | | | 0.07 | | 0.27 | |
| v/s Ratio Perm | | 0.57 | | c0.77 | | | | c0.63 | 0.23 | 0.31 | | |
| v/c Ratio | | 1.36 | | 1.62 | 0.60 | | | 1.88 | 0.68 | 0.93 | 0.82 | |
| Uniform Delay, d1 | | 34.6 | | 38.5 | 16.8 | | | 40.0 | 27.6 | 38.7 | 36.6 | |
| Progression Factor | | 0.42 | | 1.25 | 1.08 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 162.3 | | 292.6 | 1.0 | | | 428.7 | 3.3 | 33.0 | 9.3 | |
| Delay (s) | | 176.8 | | 340.5 | 19.2 | | | 468.7 | 30.9 | 71.8 | 46.0 | |
| Level of Service | | F | | F | B | | | F | C | E | D | |
| Approach Delay (s) | | 176.8 | | | 95.3 | | | 165.8 | | | 56.0 | |
| Approach LOS | | F | | | F | | | F | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 129.0 | | | HCM Level of Service | | | | F | | |
| HCM Volume to Capacity ratio | | | 1.66 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | | | Sum of lost time (s) | | | 11.3 | | | |
| Intersection Capacity Utilization | | | 127.8% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |
























I-85/I-385 Interchange Improvements
2010 Existing PM

17: Woodruff Road & Bell Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Volume (vph) | 60 | 2149 | 98 | 33 | 1549 | 10 | 131 | 1 | 36 | 13 | 1 | 55 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.2 | 6.2 | | 6.2 | 6.2 | | | 5.4 | | | 5.4 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | | 1.00 | | | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | | | 0.97 | | | 0.89 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | | | 0.99 | |
| Satd. Flow (prot) | 1719 | 3416 | | 1719 | 3435 | | | 1691 | | | 1599 | |
| Flt Permitted | 0.10 | 1.00 | | 0.04 | 1.00 | | | 0.73 | | | 0.94 | |
| Satd. Flow (perm) | 180 | 3416 | | 80 | 3435 | | | 1277 | | | 1520 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 67 | 2388 | 109 | 37 | 1721 | 11 | 146 | 1 | 40 | 14 | 1 | 61 |
| RTOR Reduction (vph) | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 42 | 0 |
| Lane Group Flow (vph) | 67 | 2494 | 0 | 37 | 1732 | 0 | 0 | 179 | 0 | 0 | 34 | 0 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | |
| Protected Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 90.0 | 90.0 | | 90.0 | 90.0 | | | 18.4 | | | 18.4 | |
| Effective Green, g (s) | 90.0 | 90.0 | | 90.0 | 90.0 | | | 18.4 | | | 18.4 | |
| Actuated g/C Ratio | 0.75 | 0.75 | | 0.75 | 0.75 | | | 0.15 | | | 0.15 | |
| Clearance Time (s) | 6.2 | 6.2 | | 6.2 | 6.2 | | | 5.4 | | | 5.4 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | | 4.3 | | | 4.3 | |
| Lane Grp Cap (vph) | 135 | 2562 | | 60 | 2576 | | | 196 | | | 233 | |
| v/s Ratio Prot | c0.73 | | | 0.50 | | | | | | | | |
| v/s Ratio Perm | 0.37 | | | 0.46 | | | | c0.14 | | | 0.02 | |
| v/c Ratio | 0.50 | 0.97 | | 0.62 | 0.67 | | | 0.91 | | | 0.14 | |
| Uniform Delay, d1 | 6.0 | 13.9 | | 7.0 | 7.6 | | | 50.0 | | | 44.0 | |
| Progression Factor | 0.67 | 0.61 | | 1.13 | 1.05 | | | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 1.2 | 2.0 | | 36.8 | 1.3 | | | 41.0 | | | 0.5 | |
| Delay (s) | 5.2 | 10.5 | | 44.6 | 9.2 | | | 91.0 | | | 44.4 | |
| Level of Service | A | B | | D | A | | | F | | | D | |
| Approach Delay (s) | 10.3 | | | 10.0 | | | | 91.0 | | | 44.4 | |
| Approach LOS | B | | | A | | | | F | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 14.1 | HCM Level of Service | | | B | | | | | |
| HCM Volume to Capacity ratio | | | 0.96 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | Sum of lost time (s) | | | 11.6 | | | | | |
| Intersection Capacity Utilization | | | 88.4% | ICU Level of Service | | | E | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing PM
























18: Woodruff Road & SC 14

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |  |  |  |  |  |  |
| Volume (vph) | 140 | 1155 | 325 | 89 | 763 | 66 | 166 | 247 | 48 | 181 | 368 | 105 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | 5.0 | 6.3 | 6.3 | | 5.0 | 5.0 | 6.3 | 5.0 | 5.0 | 6.3 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3438 | 1538 | 1719 | 3397 | | 1719 | 1810 | 1538 | 1719 | 1810 | 1538 |
| Flt Permitted | 0.18 | 1.00 | 1.00 | 0.08 | 1.00 | | 0.14 | 1.00 | 1.00 | 0.36 | 1.00 | 1.00 |
| Satd. Flow (perm) | 319 | 3438 | 1538 | 146 | 3397 | | 252 | 1810 | 1538 | 645 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 156 | 1283 | 361 | 99 | 848 | 73 | 184 | 274 | 53 | 201 | 409 | 117 |
| RTOR Reduction (vph) | 0 | 0 | 66 | 0 | 5 | 0 | 0 | 0 | 38 | 0 | 0 | 55 |
| Lane Group Flow (vph) | 156 | 1283 | 295 | 99 | 916 | 0 | 184 | 274 | 15 | 201 | 409 | 62 |
| Turn Type | pm+pt | | pm+ov | pm+pt | | | pm+pt | | pm+ov | pm+pt | | pm+ov |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | 5 |
| Permitted Phases | 2 | | 2 | 6 | | | 8 | | 8 | 4 | | 4 |
| Actuated Green, G (s) | 61.6 | 52.4 | 62.4 | 55.8 | 49.5 | | 38.7 | 28.7 | 35.0 | 38.7 | 28.7 | 37.9 |
| Effective Green, g (s) | 61.6 | 52.4 | 62.4 | 55.8 | 49.5 | | 38.7 | 28.7 | 35.0 | 38.7 | 28.7 | 37.9 |
| Actuated g/C Ratio | 0.51 | 0.44 | 0.52 | 0.46 | 0.41 | | 0.32 | 0.24 | 0.29 | 0.32 | 0.24 | 0.32 |
| Clearance Time (s) | 6.3 | 6.3 | 5.0 | 6.3 | 6.3 | | 5.0 | 5.0 | 6.3 | 5.0 | 5.0 | 6.3 |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 271 | 1501 | 800 | 150 | 1401 | | 204 | 433 | 449 | 298 | 433 | 486 |
| v/s Ratio Prot | c0.04 | c0.37 | 0.03 | 0.03 | 0.27 | | c0.08 | 0.15 | 0.00 | 0.06 | c0.23 | 0.01 |
| v/s Ratio Perm | 0.25 | | 0.16 | 0.27 | | | 0.22 | | 0.01 | 0.16 | | 0.03 |
| v/c Ratio | 0.58 | 0.85 | 0.37 | 0.66 | 0.65 | | 0.90 | 0.63 | 0.03 | 0.67 | 0.94 | 0.13 |
| Uniform Delay, d1 | 18.6 | 30.4 | 17.1 | 23.7 | 28.4 | | 33.2 | 40.9 | 30.4 | 32.5 | 44.9 | 29.3 |
| Progression Factor | 0.43 | 0.56 | 0.89 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.1 | 2.0 | 0.1 | 11.9 | 2.4 | | 38.0 | 3.6 | 0.0 | 6.8 | 29.8 | 0.2 |
| Delay (s) | 9.2 | 18.9 | 15.4 | 35.6 | 30.7 | | 71.3 | 44.5 | 30.5 | 39.3 | 74.7 | 29.4 |
| Level of Service | A | B | B | D | C | | E | D | C | D | E | C |
| Approach Delay (s) | | 17.4 | | | 31.2 | | | 52.7 | | | 57.6 | |
| Approach LOS | | B | | | C | | | D | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 32.5 | | | HCM Level of Service | | | C | | | |
| HCM Volume to Capacity ratio | | | 0.89 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | | | Sum of lost time (s) | | | 22.6 | | | |
| Intersection Capacity Utilization | | | 84.3% | | | ICU Level of Service | | | E | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements

2010 Existing PM

19: E Parkins Mill Road & US 276

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 99 | 110 | 61 | 93 | 66 | 76 | 142 | 1071 | 181 | 78 | 1334 | 214 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 0.97 | 0.91 | 1.00 |
| Frt | 1.00 | 0.95 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3254 | | 3335 | 1810 | 1538 | 1719 | 4940 | 1538 | 3335 | 4940 | 1538 |
| Flt Permitted | 0.60 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1079 | 3254 | | 3335 | 1810 | 1538 | 1719 | 4940 | 1538 | 3335 | 4940 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 110 | 122 | 68 | 103 | 73 | 84 | 158 | 1190 | 201 | 87 | 1482 | 238 |
| RTOR Reduction (vph) | 0 | 60 | 0 | 0 | 0 | 76 | 0 | 0 | 92 | 0 | 0 | 101 |
| Lane Group Flow (vph) | 110 | 130 | 0 | 103 | 73 | 8 | 158 | 1190 | 109 | 87 | 1482 | 137 |
| Turn Type | pm+pt | | | Prot | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | | | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 20.1 | 11.3 | | 7.0 | 9.5 | 9.5 | 14.4 | 53.9 | 53.9 | 6.0 | 45.5 | 45.5 |
| Effective Green, g (s) | 20.1 | 11.3 | | 7.0 | 9.5 | 9.5 | 14.4 | 53.9 | 53.9 | 6.0 | 45.5 | 45.5 |
| Actuated g/C Ratio | 0.20 | 0.11 | | 0.07 | 0.10 | 0.10 | 0.15 | 0.54 | 0.54 | 0.06 | 0.46 | 0.46 |
| Clearance Time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 4.3 | 4.9 | | 4.3 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 275 | 371 | | 235 | 173 | 147 | 250 | 2684 | 836 | 202 | 2266 | 705 |
| v/s Ratio Prot | c0.04 | 0.04 | | 0.03 | 0.04 | | c0.09 | 0.24 | | 0.03 | c0.30 | |
| v/s Ratio Perm | c0.05 | | | | | 0.01 | | | 0.07 | | | 0.09 |
| v/c Ratio | 0.40 | 0.35 | | 0.44 | 0.42 | 0.05 | 0.63 | 0.44 | 0.13 | 0.43 | 0.65 | 0.19 |
| Uniform Delay, d1 | 33.7 | 40.6 | | 44.2 | 42.3 | 40.8 | 39.9 | 13.6 | 11.1 | 45.0 | 20.8 | 16.0 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.5 | 1.2 | | 2.1 | 3.3 | 0.3 | 6.1 | 0.2 | 0.1 | 2.3 | 0.9 | 0.3 |
| Delay (s) | 35.2 | 41.7 | | 46.3 | 45.6 | 41.1 | 46.0 | 13.9 | 11.3 | 47.3 | 21.7 | 16.2 |
| Level of Service | D | D | | D | D | D | D | B | B | D | C | B |
| Approach Delay (s) | | 39.3 | | | 44.4 | | | 16.8 | | | 22.2 | |
| Approach LOS | | D | | | D | | | B | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 22.8 | | | | HCM Level of Service | | | C | | |
| HCM Volume to Capacity ratio | | | 0.58 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 99.2 | | | | Sum of lost time (s) | | | 19.0 | | |
| Intersection Capacity Utilization | | | 60.8% | | | | ICU Level of Service | | | B | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing PM
























20: Duvall Drive & US 276



| Movement | EBL | EBR | SET | SER | NWL | NWT |
|-----------------------------------|-------|------|-------|------|----------------------|------|
| Lane Configurations | | | | | | |
| Volume (vph) | 361 | 139 | 1150 | 338 | 130 | 1033 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 6.3 | | 6.3 | 6.3 |
| Lane Util. Factor | 1.00 | 1.00 | 0.91 | | 1.00 | 0.91 |
| Frt | 1.00 | 0.85 | 0.97 | | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1719 | 1538 | 4772 | | 1719 | 4940 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.12 | 1.00 |
| Satd. Flow (perm) | 1719 | 1538 | 4772 | | 212 | 4940 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 401 | 154 | 1278 | 376 | 144 | 1148 |
| RTOR Reduction (vph) | 0 | 59 | 81 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 401 | 95 | 1573 | 0 | 144 | 1148 |
| Turn Type | Perm | | Perm | | | |
| Protected Phases | 8 | | 2 | | | 6 |
| Permitted Phases | | 8 | | | 6 | |
| Actuated Green, G (s) | 12.0 | 12.0 | 40.7 | | 40.7 | 40.7 |
| Effective Green, g (s) | 12.0 | 12.0 | 40.7 | | 40.7 | 40.7 |
| Actuated g/C Ratio | 0.18 | 0.18 | 0.63 | | 0.63 | 0.63 |
| Clearance Time (s) | 6.0 | 6.0 | 6.3 | | 6.3 | 6.3 |
| Vehicle Extension (s) | 4.9 | 4.9 | 4.9 | | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 317 | 284 | 2988 | | 133 | 3093 |
| v/s Ratio Prot | c0.23 | | 0.33 | | | 0.23 |
| v/s Ratio Perm | | 0.06 | | | c0.68 | |
| v/c Ratio | 1.26 | 0.34 | 0.53 | | 1.08 | 0.37 |
| Uniform Delay, d1 | 26.5 | 23.0 | 6.8 | | 12.1 | 5.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 142.0 | 1.4 | 0.3 | | 101.9 | 0.2 |
| Delay (s) | 168.5 | 24.4 | 7.1 | | 114.1 | 6.1 |
| Level of Service | F | C | A | | F | A |
| Approach Delay (s) | 128.5 | | 7.1 | | | 18.1 |
| Approach LOS | F | | A | | | B |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 30.4 | | HCM Level of Service | C |
| HCM Volume to Capacity ratio | | | 1.13 | | | |
| Actuated Cycle Length (s) | | | 65.0 | | Sum of lost time (s) | 12.3 |
| Intersection Capacity Utilization | | | 78.6% | | ICU Level of Service | D |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |





















I-85/I-385 Interchange Improvements
2010 Existing PM

23: US 276 & Millennium Blvd

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Volume (vph) | 85 | 1618 | 107 | 28 | 1184 | 9 | 80 | 48 | 62 | 57 | 19 | 46 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 6.5 | 6.5 | 4.5 | 6.5 | 6.5 | 6.0 | 6.0 | | 6.0 | 6.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | | 1.00 | 1.00 | 0.88 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.92 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3438 | 1538 | 1719 | 3438 | 1538 | 3335 | 3146 | | 1719 | 1810 | 2707 |
| Flt Permitted | 0.15 | 1.00 | 1.00 | 0.07 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.67 | 1.00 | 1.00 |
| Satd. Flow (perm) | 266 | 3438 | 1538 | 134 | 3438 | 1538 | 3335 | 3146 | | 1221 | 1810 | 2707 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 94 | 1798 | 119 | 31 | 1316 | 10 | 89 | 53 | 69 | 63 | 21 | 51 |
| RTOR Reduction (vph) | 0 | 0 | 38 | 0 | 0 | 4 | 0 | 64 | 0 | 0 | 0 | 45 |
| Lane Group Flow (vph) | 94 | 1798 | 81 | 31 | 1316 | 6 | 89 | 58 | 0 | 63 | 21 | 6 |
| Turn Type | pm+pt | | Perm | pm+pt | | Perm | Prot | | | pm+pt | | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | 2 | | 2 | 6 | | 6 | | | | 4 | | 4 |
| Actuated Green, G (s) | 94.6 | 86.5 | 86.5 | 86.1 | 82.5 | 82.5 | 8.1 | 9.7 | | 10.8 | 6.2 | 14.3 |
| Effective Green, g (s) | 94.6 | 86.5 | 86.5 | 86.1 | 82.5 | 82.5 | 8.1 | 9.7 | | 10.8 | 6.2 | 14.3 |
| Actuated g/C Ratio | 0.74 | 0.68 | 0.68 | 0.68 | 0.65 | 0.65 | 0.06 | 0.08 | | 0.08 | 0.05 | 0.11 |
| Clearance Time (s) | 4.0 | 6.5 | 6.5 | 4.5 | 6.5 | 6.5 | 6.0 | 6.0 | | 6.0 | 6.0 | 4.0 |
| Vehicle Extension (s) | 4.3 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 | 4.3 | 6.4 | | 4.3 | 6.4 | 4.3 |
| Lane Grp Cap (vph) | 290 | 2334 | 1044 | 135 | 2226 | 996 | 212 | 240 | | 121 | 88 | 304 |
| v/s Ratio Prot | c0.02 | c0.52 | | 0.01 | 0.38 | | c0.03 | c0.02 | | 0.02 | 0.01 | 0.00 |
| v/s Ratio Perm | 0.22 | | 0.05 | 0.15 | | 0.00 | | | | c0.03 | | 0.00 |
| v/c Ratio | 0.32 | 0.77 | 0.08 | 0.23 | 0.59 | 0.01 | 0.42 | 0.24 | | 0.52 | 0.24 | 0.02 |
| Uniform Delay, d1 | 7.9 | 13.8 | 6.9 | 12.3 | 12.8 | 7.9 | 57.4 | 55.4 | | 55.4 | 58.3 | 50.3 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.0 | 1.9 | 0.1 | 1.4 | 0.6 | 0.0 | 2.1 | 1.6 | | 5.9 | 4.3 | 0.0 |
| Delay (s) | 8.9 | 15.7 | 7.0 | 13.7 | 13.4 | 8.0 | 59.5 | 57.0 | | 61.3 | 62.7 | 50.3 |
| Level of Service | A | B | A | B | B | A | E | E | | E | E | D |
| Approach Delay (s) | | 14.8 | | | 13.4 | | | 58.1 | | | 57.4 | |
| Approach LOS | | B | | | B | | | E | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 18.3 | | | HCM Level of Service | | | | B | | |
| HCM Volume to Capacity ratio | | | 0.76 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 127.4 | | | Sum of lost time (s) | | | | 28.5 | | |
| Intersection Capacity Utilization | | | 74.8% | | | ICU Level of Service | | | | D | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing PM

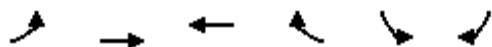
24: Pelham Road & The Parkway

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | |  |  | | | |  |  |  |
| Volume (vph) | 195 | 724 | 624 | 0 | 844 | 664 | 0 | 0 | 0 | 260 | 433 | 269 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.8 | 5.8 | 5.8 | | 5.8 | 5.3 | | | | 5.3 | 5.3 | 5.3 |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | | 0.95 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 3335 | 3438 | 1538 | | 3438 | 1538 | | | | 1719 | 1810 | 1538 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 3335 | 3438 | 1538 | | 3438 | 1538 | | | | 1719 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 217 | 804 | 693 | 0 | 938 | 738 | 0 | 0 | 0 | 289 | 481 | 299 |
| RTOR Reduction (vph) | 0 | 0 | 84 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 183 |
| Lane Group Flow (vph) | 217 | 804 | 609 | 0 | 938 | 718 | 0 | 0 | 0 | 289 | 481 | 116 |
| Turn Type | Prot | | Perm | Perm | | custom | | | | Perm | | Perm |
| Protected Phases | 5 | 2 | | | 6 | 4 | | | | | 4 | |
| Permitted Phases | | | 2 | 6 | | 6 | | | | 4 | | 4 |
| Actuated Green, G (s) | 12.9 | 71.3 | 71.3 | | 52.6 | 95.2 | | | | 42.6 | 42.6 | 42.6 |
| Effective Green, g (s) | 12.9 | 71.3 | 71.3 | | 52.6 | 95.2 | | | | 42.6 | 42.6 | 42.6 |
| Actuated g/C Ratio | 0.10 | 0.57 | 0.57 | | 0.42 | 0.76 | | | | 0.34 | 0.34 | 0.34 |
| Clearance Time (s) | 5.8 | 5.8 | 5.8 | | 5.8 | 5.3 | | | | 5.3 | 5.3 | 5.3 |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | | 4.3 | 4.3 | | | | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 344 | 1961 | 877 | | 1447 | 1171 | | | | 586 | 617 | 524 |
| v/s Ratio Prot | 0.07 | 0.23 | | | 0.27 | 0.21 | | | | | c0.27 | |
| v/s Ratio Perm | | | c0.40 | | | 0.26 | | | | 0.17 | | 0.08 |
| v/c Ratio | 0.63 | 0.41 | 0.69 | | 0.65 | 0.61 | | | | 0.49 | 0.78 | 0.22 |
| Uniform Delay, d1 | 53.8 | 15.1 | 19.1 | | 28.8 | 6.7 | | | | 32.6 | 37.0 | 29.4 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 0.63 | 1.47 | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 4.5 | 0.6 | 4.5 | | 1.8 | 1.0 | | | | 1.0 | 6.8 | 0.3 |
| Delay (s) | 58.2 | 15.7 | 23.6 | | 20.0 | 10.7 | | | | 33.7 | 43.8 | 29.7 |
| Level of Service | E | B | C | | C | B | | | | C | D | C |
| Approach Delay (s) | | 24.3 | | | 15.9 | | | 0.0 | | | 37.1 | |
| Approach LOS | | C | | | B | | | A | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 24.2 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.73 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 125.0 | | | Sum of lost time (s) | | | | 11.1 | | |
| Intersection Capacity Utilization | | | 98.8% | | | ICU Level of Service | | | | F | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements

2010 Existing PM







25: Pelham Road & I-85 SB off ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Lane Configurations | | ↑↑ | ↑↑ | | ↑ | ↑↑ |
| Volume (vph) | 0 | 984 | 1233 | 0 | 387 | 275 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.6 | 5.6 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 0.95 | | 1.00 | 0.88 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3438 | 3438 | | 1719 | 2707 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3438 | 3438 | | 1719 | 2707 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 1093 | 1370 | 0 | 430 | 306 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 41 |
| Lane Group Flow (vph) | 0 | 1093 | 1370 | 0 | 430 | 265 |
| Turn Type | | | | | Perm | |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | | 75.4 | 75.4 | | 38.7 | 38.7 |
| Effective Green, g (s) | | 75.4 | 75.4 | | 38.7 | 38.7 |
| Actuated g/C Ratio | | 0.60 | 0.60 | | 0.31 | 0.31 |
| Clearance Time (s) | | 5.6 | 5.6 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 4.3 | 4.3 | | 4.3 | 4.3 |
| Lane Grp Cap (vph) | | 2074 | 2074 | | 532 | 838 |
| v/s Ratio Prot | | 0.32 | c0.40 | | c0.25 | |
| v/s Ratio Perm | | | | | | 0.10 |
| v/c Ratio | | 0.53 | 0.66 | | 0.81 | 0.32 |
| Uniform Delay, d1 | | 14.4 | 16.4 | | 39.7 | 33.0 |
| Progression Factor | | 0.90 | 1.04 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.9 | 1.3 | | 9.6 | 0.3 |
| Delay (s) | | 13.8 | 18.4 | | 49.3 | 33.4 |
| Level of Service | | B | B | | D | C |
| Approach Delay (s) | | 13.8 | 18.4 | | 42.7 | |
| Approach LOS | | B | B | | D | |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 22.4 | | HCM Level of Service | C |
| HCM Volume to Capacity ratio | | | 0.71 | | | |
| Actuated Cycle Length (s) | | | 125.0 | | Sum of lost time (s) | 10.9 |
| Intersection Capacity Utilization | | | 95.2% | | ICU Level of Service | F |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |




















I-85/I-385 Interchange Improvements
2010 Existing PM

26: Pelham Road & I-85 NB off ramp

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑ | | | ↑↑ | ↘↘ | ↗ |
| Volume (vph) | 493 | 0 | 0 | 572 | 1213 | 669 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.8 | | | 5.8 | 5.0 | 5.0 |
| Lane Util. Factor | 0.95 | | | 0.95 | 0.97 | 1.00 |
| Frt | 1.00 | | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 1.00 | | | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 3438 | | | 3438 | 3335 | 1538 |
| Flt Permitted | 1.00 | | | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 3438 | | | 3438 | 3335 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 548 | 0 | 0 | 636 | 1348 | 743 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 34 |
| Lane Group Flow (vph) | 548 | 0 | 0 | 636 | 1348 | 709 |
| Turn Type | | | | | Perm | |
| Protected Phases | 2 | | | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Actuated Green, G (s) | 40.6 | | | 40.6 | 73.6 | 73.6 |
| Effective Green, g (s) | 40.6 | | | 40.6 | 73.6 | 73.6 |
| Actuated g/C Ratio | 0.32 | | | 0.32 | 0.59 | 0.59 |
| Clearance Time (s) | 5.8 | | | 5.8 | 5.0 | 5.0 |
| Vehicle Extension (s) | 4.3 | | | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 1117 | | | 1117 | 1964 | 906 |
| v/s Ratio Prot | 0.16 | | | c0.18 | 0.40 | |
| v/s Ratio Perm | | | | | | c0.46 |
| v/c Ratio | 0.49 | | | 0.57 | 0.69 | 0.78 |
| Uniform Delay, d1 | 33.9 | | | 35.0 | 17.7 | 19.6 |
| Progression Factor | 0.81 | | | 0.91 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.3 | | | 1.8 | 1.2 | 4.9 |
| Delay (s) | 28.6 | | | 33.5 | 18.9 | 24.5 |
| Level of Service | C | | | C | B | C |
| Approach Delay (s) | 28.6 | | | 33.5 | 20.9 | |
| Approach LOS | C | | | C | C | |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 24.6 | | HCM Level of Service | C |
| HCM Volume to Capacity ratio | | | 0.71 | | | |
| Actuated Cycle Length (s) | | | 125.0 | | Sum of lost time (s) | 10.8 |
| Intersection Capacity Utilization | | | 123.9% | | ICU Level of Service | H |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing PM




















27: Pelham Road & Boland Court

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  |  | |  | |
| Volume (vph) | 51 | 776 | 335 | 295 | 1051 | 19 | 195 | 16 | 277 | 25 | 12 | 27 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.7 | 6.7 | | 6.7 | 6.7 | | | 6.3 | 6.3 | | 6.3 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 1.00 | | | 1.00 | 0.85 | | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | | 0.98 | |
| Satd. Flow (prot) | 1719 | 3283 | | 1719 | 3429 | | | 1730 | 1538 | | 1673 | |
| Flt Permitted | 0.24 | 1.00 | | 0.09 | 1.00 | | | 0.72 | 1.00 | | 0.70 | |
| Satd. Flow (perm) | 429 | 3283 | | 169 | 3429 | | | 1311 | 1538 | | 1196 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 57 | 862 | 372 | 328 | 1168 | 21 | 217 | 18 | 308 | 28 | 13 | 30 |
| RTOR Reduction (vph) | 0 | 37 | 0 | 0 | 1 | 0 | 0 | 0 | 244 | 0 | 21 | 0 |
| Lane Group Flow (vph) | 57 | 1197 | 0 | 328 | 1188 | 0 | 0 | 235 | 64 | 0 | 50 | 0 |
| Turn Type | Perm | | | pm+pt | | | Perm | | | Perm | | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | 8 | | | | 4 |
| Permitted Phases | 2 | | | 6 | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 57.8 | 57.8 | | 86.1 | 86.1 | | | 25.9 | 25.9 | | 25.9 | |
| Effective Green, g (s) | 57.8 | 57.8 | | 86.1 | 86.1 | | | 25.9 | 25.9 | | 25.9 | |
| Actuated g/C Ratio | 0.46 | 0.46 | | 0.69 | 0.69 | | | 0.21 | 0.21 | | 0.21 | |
| Clearance Time (s) | 6.7 | 6.7 | | 6.7 | 6.7 | | | 6.3 | 6.3 | | 6.3 | |
| Vehicle Extension (s) | 4.9 | 4.9 | | 4.3 | 4.9 | | | 4.3 | 4.3 | | 4.3 | |
| Lane Grp Cap (vph) | 198 | 1518 | | 384 | 2362 | | | 272 | 319 | | 248 | |
| v/s Ratio Prot | | 0.36 | | c0.15 | 0.35 | | | | | | | |
| v/s Ratio Perm | 0.13 | | | c0.44 | | | | c0.18 | 0.04 | | 0.04 | |
| v/c Ratio | 0.29 | 0.79 | | 0.85 | 0.50 | | | 0.86 | 0.20 | | 0.20 | |
| Uniform Delay, d1 | 20.8 | 28.4 | | 33.5 | 9.3 | | | 47.8 | 41.0 | | 41.0 | |
| Progression Factor | 0.70 | 0.67 | | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 2.8 | 3.3 | | 17.5 | 0.8 | | | 24.6 | 0.5 | | 0.6 | |
| Delay (s) | 17.3 | 22.4 | | 51.0 | 10.0 | | | 72.5 | 41.5 | | 41.6 | |
| Level of Service | B | C | | D | B | | | E | D | | D | |
| Approach Delay (s) | | 22.1 | | | 18.9 | | | 54.9 | | | 41.6 | |
| Approach LOS | | C | | | B | | | D | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 26.3 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.83 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 125.0 | | | Sum of lost time (s) | | | 13.0 | | | |
| Intersection Capacity Utilization | | | 83.2% | | | ICU Level of Service | | | E | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements


















2010 Existing PM

28: Forsythia Dr & E Butler Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  | |  | |  |  | |  |  | |
| Volume (vph) | 11 | 0 | 4 | 31 | 0 | 89 | 6 | 606 | 15 | 71 | 891 | 15 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.0 | 6.0 | | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | | 1.00 | 0.85 | | 0.90 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | | 0.99 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1719 | 1538 | | 1607 | | 1719 | 3425 | | 1719 | 3429 | |
| Flt Permitted | | 0.88 | 1.00 | | 0.91 | | 0.25 | 1.00 | | 0.32 | 1.00 | |
| Satd. Flow (perm) | | 1598 | 1538 | | 1479 | | 449 | 3425 | | 574 | 3429 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 12 | 0 | 4 | 34 | 0 | 99 | 7 | 673 | 17 | 79 | 990 | 17 |
| RTOR Reduction (vph) | 0 | 0 | 3 | 0 | 83 | 0 | 0 | 2 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 12 | 1 | 0 | 50 | 0 | 7 | 688 | 0 | 79 | 1006 | 0 |
| Turn Type | Perm | | Perm | Perm | | | pm+pt | | | pm+pt | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | 2 | | | 6 | | |
| Actuated Green, G (s) | | 7.5 | 7.5 | | 7.5 | | 19.0 | 18.3 | | 24.2 | 20.9 | |
| Effective Green, g (s) | | 7.5 | 7.5 | | 7.5 | | 19.0 | 18.3 | | 24.2 | 20.9 | |
| Actuated g/C Ratio | | 0.16 | 0.16 | | 0.16 | | 0.40 | 0.39 | | 0.51 | 0.44 | |
| Clearance Time (s) | | 6.0 | 6.0 | | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | 254 | 245 | | 236 | | 200 | 1331 | | 375 | 1522 | |
| v/s Ratio Prot | | | | | | | 0.00 | 0.20 | | c0.01 | c0.29 | |
| v/s Ratio Perm | | 0.01 | 0.00 | | c0.03 | | 0.01 | | | 0.09 | | |
| v/c Ratio | | 0.05 | 0.00 | | 0.21 | | 0.04 | 0.52 | | 0.21 | 0.66 | |
| Uniform Delay, d1 | | 16.8 | 16.7 | | 17.2 | | 8.5 | 11.0 | | 6.0 | 10.3 | |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.1 | 0.0 | | 0.4 | | 0.1 | 0.3 | | 0.3 | 1.1 | |
| Delay (s) | | 16.9 | 16.7 | | 17.7 | | 8.5 | 11.4 | | 6.3 | 11.4 | |
| Level of Service | | B | B | | B | | A | B | | A | B | |
| Approach Delay (s) | | 16.8 | | | 17.7 | | | 11.3 | | | 11.0 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | 11.6 | | | | | HCM Level of Service | | | B | | |
| HCM Volume to Capacity ratio | | 0.55 | | | | | | | | | | |
| Actuated Cycle Length (s) | | 47.1 | | | | | Sum of lost time (s) | | 18.0 | | | |
| Intersection Capacity Utilization | | 57.3% | | | | | ICU Level of Service | | B | | | |
| Analysis Period (min) | | 15 | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |





















I-85/I-385 Interchange Improvements
2010 Existing PM

30: E Butler Road & I-385 SB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | |  | |  |  | | |  |  | | | |
| Volume (vph) | 0 | 657 | 67 | 349 | 596 | 0 | 370 | 0 | 377 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (%) | | 0% | | | 0% | | | 2% | | | -2% | |
| Total Lost time (s) | | 5.6 | | 5.6 | 5.6 | | | 5.7 | 5.7 | | | |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | 1.00 | 1.00 | | | |
| Frt | | 0.99 | | 1.00 | 1.00 | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | | 3391 | | 1719 | 3438 | | | 1702 | 1523 | | | |
| Flt Permitted | | 1.00 | | 0.13 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | | 3391 | | 233 | 3438 | | | 1702 | 1523 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 730 | 74 | 388 | 662 | 0 | 411 | 0 | 419 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 175 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 797 | 0 | 388 | 662 | 0 | 0 | 411 | 244 | 0 | 0 | 0 |
| Turn Type | | | | pm+pt | | | Perm | | Perm | | | |
| Protected Phases | | 2 | | 1 | 6 | | | 4 | | | | |
| Permitted Phases | | | | 6 | | | 4 | | 4 | | | |
| Actuated Green, G (s) | | 25.8 | | 51.8 | 51.8 | | | 27.0 | 27.0 | | | |
| Effective Green, g (s) | | 25.8 | | 51.8 | 51.8 | | | 27.0 | 27.0 | | | |
| Actuated g/C Ratio | | 0.29 | | 0.57 | 0.57 | | | 0.30 | 0.30 | | | |
| Clearance Time (s) | | 5.6 | | 5.6 | 5.6 | | | 5.7 | 5.7 | | | |
| Vehicle Extension (s) | | 2.5 | | 2.5 | 2.0 | | | 2.8 | 2.8 | | | |
| Lane Grp Cap (vph) | | 971 | | 470 | 1977 | | | 510 | 456 | | | |
| v/s Ratio Prot | | 0.24 | | c0.19 | 0.19 | | | | | | | |
| v/s Ratio Perm | | | | c0.29 | | | | 0.24 | 0.16 | | | |
| v/c Ratio | | 0.82 | | 0.83 | 0.33 | | | 0.81 | 0.53 | | | |
| Uniform Delay, d1 | | 30.0 | | 21.9 | 10.1 | | | 29.1 | 26.3 | | | |
| Progression Factor | | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 5.5 | | 11.1 | 0.0 | | | 8.9 | 1.1 | | | |
| Delay (s) | | 35.5 | | 32.9 | 10.1 | | | 38.1 | 27.4 | | | |
| Level of Service | | D | | C | B | | | D | C | | | |
| Approach Delay (s) | | 35.5 | | | 18.6 | | | 32.7 | | | 0.0 | |
| Approach LOS | | D | | | B | | | C | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 28.0 | | | HCM Level of Service | | | C | | | |
| HCM Volume to Capacity ratio | | | 0.79 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 90.1 | | | Sum of lost time (s) | | | 11.3 | | | |
| Intersection Capacity Utilization | | | 74.2% | | | ICU Level of Service | | | D | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2010 Existing PM
























31: E Butler Road & I-385 NB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |   | | |   |  | | | |  | |  |
| Volume (vph) | 241 | 786 | 0 | 0 | 907 | 680 | 0 | 0 | 0 | 38 | 0 | 198 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (%) | | 0% | | | 0% | | | -2% | | | 2% | |
| Total Lost time (s) | 5.3 | 5.3 | | | 5.3 | 5.3 | | | | 6.0 | | 6.0 |
| Lane Util. Factor | 1.00 | 0.95 | | | 0.95 | 1.00 | | | | 1.00 | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | | 1.00 | | 0.85 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | 1719 | 3438 | | | 3438 | 1538 | | | | 1702 | | 1523 |
| Flt Permitted | 0.17 | 1.00 | | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | 305 | 3438 | | | 3438 | 1538 | | | | 1702 | | 1523 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 268 | 873 | 0 | 0 | 1008 | 756 | 0 | 0 | 0 | 42 | 0 | 220 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 358 | 0 | 0 | 0 | 0 | 0 | 194 |
| Lane Group Flow (vph) | 268 | 873 | 0 | 0 | 1008 | 398 | 0 | 0 | 0 | 42 | 0 | 26 |
| Turn Type | pm+pt | | | | | Perm | | | | custom | | custom |
| Protected Phases | 5 | 2 | | | 6 | | | | | | | |
| Permitted Phases | 2 | | | | | 6 | | | | 8 | | 8 |
| Actuated Green, G (s) | 55.5 | 55.5 | | | 35.8 | 35.8 | | | | 9.1 | | 9.1 |
| Effective Green, g (s) | 55.5 | 55.5 | | | 35.8 | 35.8 | | | | 9.1 | | 9.1 |
| Actuated g/C Ratio | 0.73 | 0.73 | | | 0.47 | 0.47 | | | | 0.12 | | 0.12 |
| Clearance Time (s) | 5.3 | 5.3 | | | 5.3 | 5.3 | | | | 6.0 | | 6.0 |
| Vehicle Extension (s) | 2.0 | 3.0 | | | 3.0 | 3.0 | | | | 4.3 | | 4.3 |
| Lane Grp Cap (vph) | 491 | 2514 | | | 1622 | 725 | | | | 204 | | 183 |
| v/s Ratio Prot | c0.10 | 0.25 | | | c0.29 | | | | | | | |
| v/s Ratio Perm | 0.30 | | | | | 0.26 | | | | c0.02 | | 0.02 |
| v/c Ratio | 0.55 | 0.35 | | | 0.62 | 0.55 | | | | 0.21 | | 0.14 |
| Uniform Delay, d1 | 7.1 | 3.7 | | | 15.0 | 14.3 | | | | 30.1 | | 29.9 |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | 0.7 | 0.1 | | | 0.7 | 0.9 | | | | 0.8 | | 0.6 |
| Delay (s) | 7.8 | 3.8 | | | 15.7 | 15.1 | | | | 30.9 | | 30.5 |
| Level of Service | A | A | | | B | B | | | | C | | C |
| Approach Delay (s) | | 4.7 | | | 15.5 | | | 0.0 | | | 30.6 | |
| Approach LOS | | A | | | B | | | A | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 12.8 | | | HCM Level of Service | | | | B | | |
| HCM Volume to Capacity ratio | | | 0.54 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 75.9 | | | Sum of lost time (s) | | | | 16.6 | | |
| Intersection Capacity Utilization | | | 74.2% | | | ICU Level of Service | | | | D | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements

2010 Existing PM




















34: Frontage Road & Roper Mountain Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 21 | 10 | 310 | 502 | 42 | 46 | 147 | 1038 | 160 | 11 | 805 | 21 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | |
| Lane Util. Factor | 1.00 | 1.00 | | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frt | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 1547 | | 1633 | 1649 | 1538 | 1719 | 3438 | 1538 | 1719 | 3425 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | 0.11 | 1.00 | 1.00 | 0.18 | 1.00 | |
| Satd. Flow (perm) | 1719 | 1547 | | 1633 | 1649 | 1538 | 193 | 3438 | 1538 | 327 | 3425 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 23 | 11 | 344 | 558 | 47 | 51 | 163 | 1153 | 178 | 12 | 894 | 23 |
| RTOR Reduction (vph) | 0 | 127 | 0 | 0 | 0 | 22 | 0 | 0 | 98 | 0 | 2 | 0 |
| Lane Group Flow (vph) | 23 | 228 | 0 | 301 | 304 | 29 | 163 | 1153 | 80 | 12 | 915 | 0 |
| Turn Type | Split | | | Split | | Perm | pm+pt | | Perm | Perm | | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | 2 | | 2 | 6 | | |
| Actuated Green, G (s) | 16.2 | 16.2 | | 20.7 | 20.7 | 20.7 | 45.1 | 45.1 | 45.1 | 31.6 | 31.6 | |
| Effective Green, g (s) | 16.2 | 16.2 | | 20.7 | 20.7 | 20.7 | 45.1 | 45.1 | 45.1 | 31.6 | 31.6 | |
| Actuated g/C Ratio | 0.16 | 0.16 | | 0.21 | 0.21 | 0.21 | 0.45 | 0.45 | 0.45 | 0.32 | 0.32 | |
| Clearance Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | |
| Vehicle Extension (s) | 4.9 | 4.9 | | 4.9 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 | 4.9 | 4.9 | |
| Lane Grp Cap (vph) | 278 | 251 | | 338 | 341 | 318 | 201 | 1551 | 694 | 103 | 1082 | |
| v/s Ratio Prot | 0.01 | c0.15 | | 0.18 | c0.18 | | 0.06 | c0.34 | | | 0.27 | |
| v/s Ratio Perm | | | | | | 0.02 | c0.30 | | 0.05 | 0.04 | | |
| v/c Ratio | 0.08 | 0.91 | | 0.89 | 0.89 | 0.09 | 0.81 | 0.74 | 0.12 | 0.12 | 0.85 | |
| Uniform Delay, d1 | 35.6 | 41.2 | | 38.5 | 38.6 | 32.0 | 21.0 | 22.7 | 15.9 | 24.3 | 31.9 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.78 | 0.90 | 1.01 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.3 | 35.2 | | 25.3 | 25.3 | 0.3 | 20.7 | 2.9 | 0.3 | 2.3 | 8.2 | |
| Delay (s) | 35.8 | 76.4 | | 63.9 | 63.8 | 32.3 | 37.1 | 23.4 | 16.3 | 26.6 | 40.1 | |
| Level of Service | D | E | | E | E | C | D | C | B | C | D | |
| Approach Delay (s) | | 73.9 | | | 61.4 | | | 24.0 | | | 39.9 | |
| Approach LOS | | E | | | E | | | C | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 40.8 | | | HCM Level of Service | | | D | | | |
| HCM Volume to Capacity ratio | | | 0.84 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 100.0 | | | Sum of lost time (s) | | | 18.0 | | | |
| Intersection Capacity Utilization | | | 104.2% | | | ICU Level of Service | | | G | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements

2010 Existing PM













35: I-385 NB Ramps & Roper Mountain Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | |  |  |  |  |  | | |  |  |
| Volume (vph) | 0 | 0 | 0 | 361 | 0 | 398 | 282 | 947 | 0 | 0 | 1200 | 417 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | | 6.0 | 6.0 |
| Lane Util. Factor | | | | 0.95 | 0.95 | 0.88 | 0.97 | 0.95 | | | 0.95 | 1.00 |
| Frt | | | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 |
| Flt Protected | | | | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (prot) | | | | 1633 | 1633 | 2707 | 3335 | 3438 | | | 3438 | 1538 |
| Flt Permitted | | | | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (perm) | | | | 1633 | 1633 | 2707 | 3335 | 3438 | | | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 0 | 0 | 401 | 0 | 442 | 313 | 1052 | 0 | 0 | 1333 | 463 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 213 | 0 | 0 | 0 | 0 | 0 | 224 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 200 | 201 | 229 | 313 | 1052 | 0 | 0 | 1333 | 239 |
| Turn Type | | | | Perm | | Perm | Prot | | | | | Perm |
| Protected Phases | | | | | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | 8 | | 8 | | | | | | 6 |
| Actuated Green, G (s) | | | | 17.6 | 17.6 | 17.6 | 12.7 | 70.4 | | | 51.7 | 51.7 |
| Effective Green, g (s) | | | | 17.6 | 17.6 | 17.6 | 12.7 | 70.4 | | | 51.7 | 51.7 |
| Actuated g/C Ratio | | | | 0.18 | 0.18 | 0.18 | 0.13 | 0.70 | | | 0.52 | 0.52 |
| Clearance Time (s) | | | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | | 6.0 | 6.0 |
| Vehicle Extension (s) | | | | 4.9 | 4.9 | 4.9 | 4.3 | 4.9 | | | 4.9 | 4.9 |
| Lane Grp Cap (vph) | | | | 287 | 287 | 476 | 424 | 2420 | | | 1777 | 795 |
| v/s Ratio Prot | | | | | | | c0.09 | 0.31 | | | c0.39 | |
| v/s Ratio Perm | | | | 0.12 | 0.12 | 0.08 | | | | | | 0.16 |
| v/c Ratio | | | | 0.70 | 0.70 | 0.48 | 0.74 | 0.43 | | | 0.75 | 0.30 |
| Uniform Delay, d1 | | | | 38.7 | 38.7 | 37.1 | 42.0 | 6.3 | | | 19.1 | 13.8 |
| Progression Factor | | | | 1.00 | 1.00 | 1.00 | 0.81 | 1.28 | | | 0.64 | 1.32 |
| Incremental Delay, d2 | | | | 8.9 | 9.2 | 1.6 | 4.1 | 0.3 | | | 1.4 | 0.5 |
| Delay (s) | | | | 47.6 | 47.9 | 38.6 | 38.1 | 8.4 | | | 13.5 | 18.7 |
| Level of Service | | | | D | D | D | D | A | | | B | B |
| Approach Delay (s) | | 0.0 | | | 43.0 | | | 15.2 | | | 14.9 | |
| Approach LOS | | A | | | D | | | B | | | B | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 20.9 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.74 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 100.0 | | | Sum of lost time (s) | | | 18.0 | | | |
| Intersection Capacity Utilization | | | 97.2% | | | ICU Level of Service | | | F | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements

2010 Existing PM


























36: Roper Mountain Road & I-385 SB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | | ↑↑↑ | ↑ | ↑ | ↑↑ | | ↑ | ↑ | ↑↑ | | | |
| Volume (vph) | 0 | 856 | 562 | 960 | 601 | 0 | 373 | 0 | 280 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.4 | 6.4 | 5.8 | 6.4 | | 6.1 | 6.1 | 6.1 | | | |
| Lane Util. Factor | | 0.91 | 1.00 | 1.00 | 0.95 | | 0.95 | 0.95 | 0.88 | | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | | 4940 | 1538 | 1719 | 3438 | | 1633 | 1633 | 2707 | | | |
| Flt Permitted | | 1.00 | 1.00 | 0.21 | 1.00 | | 0.95 | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | | 4940 | 1538 | 385 | 3438 | | 1633 | 1633 | 2707 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 951 | 624 | 1067 | 668 | 0 | 414 | 0 | 311 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 181 | 0 | 0 | 0 | 0 | 0 | 280 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 951 | 443 | 1067 | 668 | 0 | 207 | 207 | 31 | 0 | 0 | 0 |
| Turn Type | | Perm | | pm+pt | | | Perm | | Perm | | | |
| Protected Phases | | 2 | | 1 | 6 | | | 4 | | | | |
| Permitted Phases | | | 2 | 6 | | | 4 | | 4 | | | |
| Actuated Green, G (s) | | 31.6 | 31.6 | 78.2 | 77.6 | | 9.9 | 9.9 | 9.9 | | | |
| Effective Green, g (s) | | 31.6 | 31.6 | 78.2 | 77.6 | | 9.9 | 9.9 | 9.9 | | | |
| Actuated g/C Ratio | | 0.32 | 0.32 | 0.78 | 0.78 | | 0.10 | 0.10 | 0.10 | | | |
| Clearance Time (s) | | 6.4 | 6.4 | 5.8 | 6.4 | | 6.1 | 6.1 | 6.1 | | | |
| Vehicle Extension (s) | | 4.9 | 4.9 | 4.3 | 4.9 | | 4.9 | 4.9 | 4.9 | | | |
| Lane Grp Cap (vph) | | 1561 | 486 | 837 | 2668 | | 162 | 162 | 268 | | | |
| v/s Ratio Prot | | 0.19 | | c0.51 | 0.19 | | | | | | | |
| v/s Ratio Perm | | | 0.29 | c0.48 | | | c0.13 | 0.13 | 0.01 | | | |
| v/c Ratio | | 0.61 | 0.91 | 1.27 | 0.25 | | 1.28 | 1.28 | 0.11 | | | |
| Uniform Delay, d1 | | 29.0 | 32.8 | 18.2 | 3.1 | | 45.0 | 45.0 | 41.1 | | | |
| Progression Factor | | 0.50 | 0.39 | 0.67 | 0.92 | | 1.00 | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 1.4 | 19.4 | 130.0 | 0.2 | | 164.0 | 164.0 | 0.4 | | | |
| Delay (s) | | 15.7 | 32.2 | 142.2 | 3.0 | | 209.0 | 209.0 | 41.4 | | | |
| Level of Service | | B | C | F | A | | F | F | D | | | |
| Approach Delay (s) | | 22.3 | | | 88.6 | | | 137.1 | | | 0.0 | |
| Approach LOS | | C | | | F | | | F | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 71.4 | | | HCM Level of Service | | | E | | | |
| HCM Volume to Capacity ratio | | | 1.25 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 100.0 | | | Sum of lost time (s) | | | 11.9 | | | |
| Intersection Capacity Utilization | | | 97.2% | | | ICU Level of Service | | | F | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements











2010 Existing PM

37: Roper Mountain Road & Congaree Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |    | | |   |  |  |  |  | |   |  |
| Volume (vph) | 88 | 882 | 1 | 5 | 558 | 318 | 530 | 1 | 273 | 3 | 1 | 6 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.8 | 6.4 | | | 6.4 | 6.4 | 6.1 | 6.1 | | | 6.1 | 6.1 |
| Lane Util. Factor | 1.00 | 0.91 | | | 0.95 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | 0.85 | | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.96 | 1.00 |
| Satd. Flow (prot) | 1719 | 4939 | | | 3436 | 1538 | 1719 | 1539 | | | 1744 | 1538 |
| Flt Permitted | 0.26 | 1.00 | | | 0.94 | 1.00 | 0.76 | 1.00 | | | 0.88 | 1.00 |
| Satd. Flow (perm) | 479 | 4939 | | | 3241 | 1538 | 1366 | 1539 | | | 1591 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 98 | 980 | 1 | 6 | 620 | 353 | 589 | 1 | 303 | 3 | 1 | 7 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 234 | 0 | 112 | 0 | 0 | 0 | 4 |
| Lane Group Flow (vph) | 98 | 981 | 0 | 0 | 626 | 119 | 589 | 192 | 0 | 0 | 4 | 3 |
| Turn Type | pm+pt | | | Perm | | Perm | Perm | | | Perm | | Perm |
| Protected Phases | 5 | 2 | | | 6 | | | 4 | | | 8 | |
| Permitted Phases | 2 | | | 6 | | 6 | 4 | | | 8 | | 8 |
| Actuated Green, G (s) | 42.9 | 42.9 | | | 33.7 | 33.7 | 44.6 | 44.6 | | | 44.6 | 44.6 |
| Effective Green, g (s) | 42.9 | 42.9 | | | 33.7 | 33.7 | 44.6 | 44.6 | | | 44.6 | 44.6 |
| Actuated g/C Ratio | 0.43 | 0.43 | | | 0.34 | 0.34 | 0.45 | 0.45 | | | 0.45 | 0.45 |
| Clearance Time (s) | 5.8 | 6.4 | | | 6.4 | 6.4 | 6.1 | 6.1 | | | 6.1 | 6.1 |
| Vehicle Extension (s) | 4.3 | 4.9 | | | 4.9 | 4.9 | 4.9 | 4.9 | | | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 248 | 2119 | | | 1092 | 518 | 609 | 686 | | | 710 | 686 |
| v/s Ratio Prot | 0.01 | c0.20 | | | | | | 0.12 | | | | |
| v/s Ratio Perm | 0.16 | | | | c0.19 | 0.08 | c0.43 | | | | 0.00 | 0.00 |
| v/c Ratio | 0.40 | 0.46 | | | 0.57 | 0.23 | 0.97 | 0.28 | | | 0.01 | 0.00 |
| Uniform Delay, d1 | 18.6 | 20.3 | | | 27.2 | 23.8 | 27.0 | 17.5 | | | 15.4 | 15.4 |
| Progression Factor | 1.08 | 1.18 | | | 1.26 | 3.10 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.3 | 0.6 | | | 2.1 | 1.0 | 28.5 | 0.5 | | | 0.0 | 0.0 |
| Delay (s) | 21.4 | 24.6 | | | 36.3 | 74.9 | 55.5 | 18.0 | | | 15.4 | 15.4 |
| Level of Service | C | C | | | D | E | E | B | | | B | B |
| Approach Delay (s) | | 24.3 | | | 50.2 | | | 42.7 | | | 15.4 | |
| Approach LOS | | C | | | D | | | D | | | B | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 38.4 | | | HCM Level of Service | | | | D | | |
| HCM Volume to Capacity ratio | | | 0.81 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 100.0 | | | Sum of lost time (s) | | | 18.9 | | | |
| Intersection Capacity Utilization | | | 101.8% | | | ICU Level of Service | | | G | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |










I-85/I-385 Interchange Improvements
2010 Existing PM

21: Frontage Rd & US 276

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | SEL | SET | NWT | NWR |
| Lane Configurations |  | |  |  |  | |
| Volume (veh/h) | 49 | 109 | 34 | 1891 | 1516 | 49 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 54 | 121 | 38 | 2101 | 1684 | 54 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | 1011 | |
| pX, platoon unblocked | 0.78 | 0.78 | 0.78 | | | |
| vC, conflicting volume | 2838 | 869 | 1739 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 2793 | 279 | 1389 | | | |
| tC, single (s) | 6.9 | 7.0 | 4.2 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 0 | 78 | 90 | | | |
| cM capacity (veh/h) | 10 | 556 | 371 | | | |
| Direction, Lane # | WB 1 | SE 1 | SE 2 | SE 3 | NW 1 | NW 2 |
| Volume Total | 176 | 38 | 1051 | 1051 | 1123 | 616 |
| Volume Left | 54 | 38 | 0 | 0 | 0 | 0 |
| Volume Right | 121 | 0 | 0 | 0 | 0 | 54 |
| cSH | 31 | 371 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 5.70 | 0.10 | 0.62 | 0.62 | 0.66 | 0.36 |
| Queue Length 95th (ft) | Err | 8 | 0 | 0 | 0 | 0 |
| Control Delay (s) | Err | 15.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | F | C | | | | |
| Approach Delay (s) | Err | 0.3 | | | 0.0 | |
| Approach LOS | F | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 433.2 | | | |
| Intersection Capacity Utilization | | | 68.4% | | ICU Level of Service | C |
| Analysis Period (min) | | | 15 | | | |












I-85/I-385 Interchange Improvements
2010 Existing PM

22: US 276 & St Josephs Dr

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | SET | SER | NWL | NWT | NEL | NER |
| Lane Configurations |  | | |  |  | |
| Volume (veh/h) | 1565 | 375 | 80 | 1230 | 335 | 245 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 1739 | 417 | 89 | 1367 | 372 | 272 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 863 | | |
| pX, platoon unblocked | | | | | 0.77 | |
| vC, conflicting volume | | | 2156 | | 2808 | 1078 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 2156 | | 2751 | 1078 |
| tC, single (s) | | | 4.2 | | 6.9 | 7.0 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 62 | | 0 | 0 |
| cM capacity (veh/h) | | | 236 | | 7 | 209 |
| Direction, Lane # | SE 1 | SE 2 | NW 1 | NW 2 | NE 1 | |
| Volume Total | 1159 | 996 | 544 | 911 | 644 | |
| Volume Left | 0 | 0 | 89 | 0 | 372 | |
| Volume Right | 0 | 417 | 0 | 0 | 272 | |
| cSH | 1700 | 1700 | 236 | 1700 | 12 | |
| Volume to Capacity | 0.68 | 0.59 | 0.38 | 0.54 | 52.64 | |
| Queue Length 95th (ft) | 0 | 0 | 42 | 0 | Err | |
| Control Delay (s) | 0.0 | 0.0 | 17.4 | 0.0 | Err | |
| Lane LOS | | | C | | F | |
| Approach Delay (s) | 0.0 | | 6.5 | | Err | |
| Approach LOS | | | | | F | |
| Intersection Summary | | | | | | |
| Average Delay | | | 1516.4 | | | |
| Intersection Capacity Utilization | | | 134.4% | | ICU Level of Service | H |
| Analysis Period (min) | | | 15 | | | |














I-85/I-385 Interchange Improvements
2010 Existing PM

29: Rothwell Dr & E Butler Road

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |
| Volume (veh/h) | 19 | 5 | 1 | 705 | 972 | 1 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 21 | 6 | 1 | 783 | 1080 | 1 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | 5 | | | | |
| Median type | | | | TWLT | TWLT | |
| Median storage (veh) | | | | 2 | 2 | |
| Upstream signal (ft) | | | | 1175 | 377 | |
| pX, platoon unblocked | 0.93 | 0.90 | 0.90 | | | |
| vC, conflicting volume | 1474 | 541 | 1081 | | | |
| vC1, stage 1 conf vol | 1081 | | | | | |
| vC2, stage 2 conf vol | 394 | | | | | |
| vCu, unblocked vol | 1063 | 273 | 872 | | | |
| tC, single (s) | 6.9 | 7.0 | 4.2 | | | |
| tC, 2 stage (s) | 5.9 | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 93 | 99 | 100 | | | |
| cM capacity (veh/h) | 313 | 645 | 677 | | | |
| Direction, Lane # | EB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 |
| Volume Total | 27 | 1 | 392 | 392 | 720 | 361 |
| Volume Left | 21 | 1 | 0 | 0 | 0 | 0 |
| Volume Right | 6 | 0 | 0 | 0 | 0 | 1 |
| cSH | 396 | 677 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.07 | 0.00 | 0.23 | 0.23 | 0.42 | 0.21 |
| Queue Length 95th (ft) | 5 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 15.9 | 10.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | C | B | | | | |
| Approach Delay (s) | 15.9 | 0.0 | | | 0.0 | |
| Approach LOS | C | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.2 | | | |
| Intersection Capacity Utilization | | | 36.9% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |




















I-85/I-385 Interchange Improvements
2010 Existing PM

32: New Commerce Ct & E Butler Road

| |  |  |  |  |  |  |
|-----------------------------------|---|---|--|---|--|--|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |   | |   |   |
| Volume (veh/h) | 51 | 58 | 980 | 4 | 51 | 1536 |
| Sign Control | Stop | | Free | | Free | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 57 | 64 | 1089 | 4 | 57 | 1707 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | 369 | | | |
| pX, platoon unblocked | 0.92 | 0.92 | | | 0.92 | |
| vC, conflicting volume | 2058 | 547 | | | 1093 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1974 | 328 | | | 924 | |
| tC, single (s) | 6.9 | 7.0 | | | 4.2 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 0 | 89 | | | 91 | |
| cM capacity (veh/h) | 44 | 605 | | | 658 | |
| Direction, Lane # | WB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
| Volume Total | 121 | 726 | 367 | 57 | 853 | 853 |
| Volume Left | 57 | 0 | 0 | 57 | 0 | 0 |
| Volume Right | 64 | 0 | 4 | 0 | 0 | 0 |
| cSH | 87 | 1700 | 1700 | 658 | 1700 | 1700 |
| Volume to Capacity | 1.40 | 0.43 | 0.22 | 0.09 | 0.50 | 0.50 |
| Queue Length 95th (ft) | 230 | 0 | 0 | 7 | 0 | 0 |
| Control Delay (s) | 319.8 | 0.0 | 0.0 | 11.0 | 0.0 | 0.0 |
| Lane LOS | F | | | B | | |
| Approach Delay (s) | 319.8 | 0.0 | | 0.4 | | |
| Approach LOS | F | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | 13.2 | | | | |
| Intersection Capacity Utilization | | 55.5% | | ICU Level of Service | | B |
| Analysis Period (min) | | 15 | | | | |
























I-85/I-385 Interchange Improvements
2010 Existing PM

33: E Butler Road & Brookfield Pkwy

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |  | | |  | | |  |  | |  |  |
| Volume (veh/h) | 15 | 1019 | 4 | 1 | 1400 | 9 | 2 | 0 | 171 | 16 | 0 | 4 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 17 | 1132 | 4 | 1 | 1556 | 10 | 2 | 0 | 190 | 18 | 0 | 4 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage (veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | 939 | | | | | | | | | | |
| pX, platoon unblocked | | | | 1.00 | | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| vC, conflicting volume | 1566 | | | 1137 | | | 2167 | 2733 | 783 | 2138 | 2736 | 568 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 1566 | | | 1131 | | | 2164 | 2732 | 783 | 2135 | 2735 | 561 |
| tC, single (s) | 4.2 | | | 4.2 | | | 7.6 | 6.6 | 7.0 | 7.6 | 6.6 | 7.0 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 96 | | | 100 | | | 91 | 100 | 42 | 0 | 100 | 99 |
| cM capacity (veh/h) | 404 | | | 595 | | | 24 | 18 | 330 | 11 | 18 | 462 |
| Direction, Lane # | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SE 1 | SE 2 | NW 1 | NW 2 | | | |
| Volume Total | 17 | 755 | 382 | 779 | 788 | 2 | 190 | 18 | 4 | | | |
| Volume Left | 17 | 0 | 0 | 1 | 0 | 2 | 0 | 18 | 0 | | | |
| Volume Right | 0 | 0 | 4 | 0 | 10 | 0 | 190 | 0 | 4 | | | |
| cSH | 404 | 1700 | 1700 | 595 | 1700 | 24 | 330 | 11 | 462 | | | |
| Volume to Capacity | 0.04 | 0.44 | 0.22 | 0.00 | 0.46 | 0.09 | 0.58 | 1.62 | 0.01 | | | |
| Queue Length 95th (ft) | 3 | 0 | 0 | 0 | 0 | 7 | 85 | 76 | 1 | | | |
| Control Delay (s) | 14.3 | 0.0 | 0.0 | 0.1 | 0.0 | 167.5 | 29.7 | 981.0 | 12.9 | | | |
| Lane LOS | B | | | A | | F | D | F | B | | | |
| Approach Delay (s) | 0.2 | | | 0.0 | | 31.3 | | 787.4 | | | | |
| Approach LOS | | | | | | D | | F | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 8.1 | | | | | | | | | |
| Intersection Capacity Utilization | | | 62.9% | | ICU Level of Service | | | | B | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |























I-85/I-385 Interchange Improvements
2015 No-Build AM

1: Woodruff Road & Roper Mountain Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 119 | 381 | 210 | 216 | 258 | 37 | 261 | 818 | 162 | 164 | 860 | 92 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frt | 1.00 | 0.95 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3255 | | 1719 | 3438 | 1538 | 1719 | 3438 | 1538 | 3335 | 3438 | 1538 |
| Flt Permitted | 0.50 | 1.00 | | 0.16 | 1.00 | 1.00 | 0.29 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 898 | 3255 | | 297 | 3438 | 1538 | 526 | 3438 | 1538 | 3335 | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 132 | 423 | 233 | 240 | 287 | 41 | 290 | 909 | 180 | 182 | 956 | 102 |
| RTOR Reduction (vph) | 0 | 53 | 0 | 0 | 0 | 34 | 0 | 0 | 80 | 0 | 0 | 38 |
| Lane Group Flow (vph) | 132 | 603 | 0 | 240 | 287 | 7 | 290 | 909 | 100 | 182 | 956 | 64 |
| Turn Type | pm+pt | | | pm+pt | | Perm | Perm | | Perm | Prot | | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | 2 | | | 6 |
| Actuated Green, G (s) | 34.6 | 23.0 | | 37.4 | 24.4 | 24.4 | 76.0 | 76.0 | 76.0 | 7.0 | 88.0 | 88.0 |
| Effective Green, g (s) | 34.6 | 23.0 | | 37.4 | 24.4 | 24.4 | 76.0 | 76.0 | 76.0 | 7.0 | 88.0 | 88.0 |
| Actuated g/C Ratio | 0.25 | 0.16 | | 0.27 | 0.17 | 0.17 | 0.54 | 0.54 | 0.54 | 0.05 | 0.63 | 0.63 |
| Clearance Time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 4.3 | 5.5 | | 4.3 | 5.5 | 5.5 | 4.9 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 290 | 535 | | 211 | 599 | 268 | 286 | 1866 | 835 | 167 | 2161 | 967 |
| v/s Ratio Prot | 0.04 | 0.19 | | c0.11 | 0.08 | | | 0.26 | | c0.05 | 0.28 | |
| v/s Ratio Perm | 0.07 | | | c0.20 | | 0.00 | c0.55 | | 0.07 | | | 0.04 |
| v/c Ratio | 0.46 | 1.13 | | 1.14 | 0.48 | 0.03 | 1.01 | 0.49 | 0.12 | 1.09 | 0.44 | 0.07 |
| Uniform Delay, d1 | 43.0 | 58.5 | | 46.1 | 52.1 | 47.9 | 32.0 | 19.9 | 15.7 | 66.5 | 13.4 | 10.1 |
| Progression Factor | 1.00 | 1.00 | | 0.97 | 0.79 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.8 | 78.5 | | 103.1 | 1.4 | 0.1 | 56.8 | 0.9 | 0.3 | 95.7 | 0.7 | 0.1 |
| Delay (s) | 44.8 | 137.0 | | 147.8 | 42.3 | 46.8 | 88.8 | 20.8 | 15.9 | 162.2 | 14.0 | 10.2 |
| Level of Service | D | F | | F | D | D | F | C | B | F | B | B |
| Approach Delay (s) | | 121.6 | | | 87.2 | | | 34.5 | | | 35.5 | |
| Approach LOS | | F | | | F | | | C | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 59.6 | | | HCM Level of Service | | | | E | | |
| HCM Volume to Capacity ratio | | | 1.02 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | Sum of lost time (s) | | | 15.0 | | | |
| Intersection Capacity Utilization | | | 85.8% | | | ICU Level of Service | | | E | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2015 No-Build AM

2: Woodruff Road & Costco Driveway





















| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NEL | NET | NER | SWL | SWT | SWR |
| Lane Configurations |  |  | |  |  |  |  |  | |  |  |  |
| Volume (vph) | 18 | 736 | 25 | 56 | 551 | 28 | 25 | 1 | 53 | 7 | 1 | 11 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3421 | | 1719 | 3438 | 1538 | 1719 | 1543 | | 1719 | 1810 | 1538 |
| Flt Permitted | 0.36 | 1.00 | | 0.33 | 1.00 | 1.00 | 0.76 | 1.00 | | 0.72 | 1.00 | 1.00 |
| Satd. Flow (perm) | 647 | 3421 | | 604 | 3438 | 1538 | 1370 | 1543 | | 1299 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 20 | 818 | 28 | 62 | 612 | 31 | 28 | 1 | 59 | 8 | 1 | 12 |
| RTOR Reduction (vph) | 0 | 3 | 0 | 0 | 0 | 14 | 0 | 52 | 0 | 0 | 0 | 10 |
| Lane Group Flow (vph) | 20 | 843 | 0 | 62 | 612 | 17 | 28 | 8 | 0 | 8 | 1 | 2 |
| Turn Type | pm+pt | | | Perm | | Perm | Perm | | | Perm | | pm+ov |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | 4 | 5 |
| Permitted Phases | 2 | | | 6 | | 6 | 8 | | | 4 | | 4 |
| Actuated Green, G (s) | 48.6 | 48.6 | | 38.9 | 38.9 | 38.9 | 8.4 | 8.4 | | 8.4 | 8.4 | 11.6 |
| Effective Green, g (s) | 48.6 | 48.6 | | 38.9 | 38.9 | 38.9 | 8.4 | 8.4 | | 8.4 | 8.4 | 11.6 |
| Actuated g/C Ratio | 0.69 | 0.69 | | 0.56 | 0.56 | 0.56 | 0.12 | 0.12 | | 0.12 | 0.12 | 0.17 |
| Clearance Time (s) | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 |
| Vehicle Extension (s) | 4.3 | 5.5 | | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | | 5.5 | 5.5 | 4.3 |
| Lane Grp Cap (vph) | 498 | 2375 | | 336 | 1911 | 855 | 164 | 185 | | 156 | 217 | 398 |
| v/s Ratio Prot | 0.00 | c0.25 | | | 0.18 | | | 0.01 | | | 0.00 | 0.00 |
| v/s Ratio Perm | 0.03 | | | 0.10 | | 0.01 | c0.02 | | | 0.01 | | 0.00 |
| v/c Ratio | 0.04 | 0.35 | | 0.18 | 0.32 | 0.02 | 0.17 | 0.04 | | 0.05 | 0.00 | 0.00 |
| Uniform Delay, d1 | 3.6 | 4.3 | | 7.7 | 8.4 | 7.0 | 27.7 | 27.2 | | 27.3 | 27.1 | 24.4 |
| Progression Factor | 0.33 | 0.32 | | 0.29 | 0.30 | 0.44 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.0 | 0.2 | | 1.1 | 0.4 | 0.0 | 1.2 | 0.2 | | 0.3 | 0.0 | 0.0 |
| Delay (s) | 1.2 | 1.6 | | 3.4 | 3.0 | 3.1 | 28.9 | 27.5 | | 27.6 | 27.1 | 24.4 |
| Level of Service | A | A | | A | A | A | C | C | | C | C | C |
| Approach Delay (s) | | 1.6 | | | 3.0 | | | 27.9 | | | 25.7 | |
| Approach LOS | | A | | | A | | | C | | | C | |

Intersection Summary

| | | | |
|-----------------------------------|-------|----------------------|------|
| HCM Average Control Delay | 3.9 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.33 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 65.4% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |





















I-85/I-385 Interchange Improvements
2015 No-Build AM

3: Green Heron Road & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | |  | | |  |  |  |  | |  |  |  |
| Volume (vph) | 4 | 1 | 26 | 1 | 1 | 6 | 8 | 576 | 45 | 54 | 834 | 4 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.0 | | | 5.0 | 5.0 | 6.3 | 6.3 | | 6.3 | 6.3 | 6.3 |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 |
| Frt | | 0.88 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 0.99 | | | 0.98 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | | 1592 | | | 1765 | 1538 | 1719 | 3401 | | 1719 | 3438 | 1538 |
| Flt Permitted | | 0.97 | | | 0.87 | 1.00 | 0.30 | 1.00 | | 0.39 | 1.00 | 1.00 |
| Satd. Flow (perm) | | 1546 | | | 1578 | 1538 | 550 | 3401 | | 704 | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 4 | 1 | 29 | 1 | 1 | 7 | 9 | 640 | 50 | 60 | 927 | 4 |
| RTOR Reduction (vph) | 0 | 26 | 0 | 0 | 0 | 6 | 0 | 7 | 0 | 0 | 0 | 1 |
| Lane Group Flow (vph) | 0 | 8 | 0 | 0 | 2 | 1 | 9 | 683 | 0 | 60 | 927 | 3 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | Perm |
| Protected Phases | | 8 | | | 4 | | | 2 | | | 6 | |
| Permitted Phases | 8 | | | 4 | | 4 | 2 | | | 6 | | 6 |
| Actuated Green, G (s) | | 7.6 | | | 7.6 | 7.6 | 51.1 | 51.1 | | 51.1 | 51.1 | 51.1 |
| Effective Green, g (s) | | 7.6 | | | 7.6 | 7.6 | 51.1 | 51.1 | | 51.1 | 51.1 | 51.1 |
| Actuated g/C Ratio | | 0.11 | | | 0.11 | 0.11 | 0.73 | 0.73 | | 0.73 | 0.73 | 0.73 |
| Clearance Time (s) | | 5.0 | | | 5.0 | 5.0 | 6.3 | 6.3 | | 6.3 | 6.3 | 6.3 |
| Vehicle Extension (s) | | 4.3 | | | 4.3 | 4.3 | 5.5 | 5.5 | | 5.5 | 5.5 | 5.5 |
| Lane Grp Cap (vph) | | 168 | | | 171 | 167 | 402 | 2483 | | 514 | 2510 | 1123 |
| v/s Ratio Prot | | | | | | | | 0.20 | | | c0.27 | |
| v/s Ratio Perm | | c0.01 | | | 0.00 | 0.00 | 0.02 | | | 0.09 | | 0.00 |
| v/c Ratio | | 0.05 | | | 0.01 | 0.00 | 0.02 | 0.27 | | 0.12 | 0.37 | 0.00 |
| Uniform Delay, d1 | | 28.0 | | | 27.8 | 27.8 | 2.6 | 3.2 | | 2.8 | 3.5 | 2.6 |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 0.23 | 0.19 | | 0.28 | 0.33 | 0.23 |
| Incremental Delay, d2 | | 0.2 | | | 0.0 | 0.0 | 0.1 | 0.3 | | 0.4 | 0.4 | 0.0 |
| Delay (s) | | 28.1 | | | 27.9 | 27.8 | 0.7 | 0.9 | | 1.2 | 1.6 | 0.6 |
| Level of Service | | C | | | C | C | A | A | | A | A | A |
| Approach Delay (s) | | 28.1 | | | 27.9 | | | 0.9 | | | 1.5 | |
| Approach LOS | | C | | | C | | | A | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | 1.9 | | | HCM Level of Service | | | A | | | | |
| HCM Volume to Capacity ratio | | 0.33 | | | | | | | | | | |
| Actuated Cycle Length (s) | | 70.0 | | | Sum of lost time (s) | | | 11.3 | | | | |
| Intersection Capacity Utilization | | 68.8% | | | ICU Level of Service | | | C | | | | |
| Analysis Period (min) | | 15 | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |


















I-85/I-385 Interchange Improvements
2015 No-Build AM

4: Woodruff Industrial Lane & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |  | |  |  | |  |  | |  |  | |
| Volume (vph) | 36 | 5 | 58 | 21 | 5 | 2 | 12 | 512 | 79 | 156 | 854 | 35 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 0.86 | | 1.00 | 0.96 | | 1.00 | 0.98 | | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 1561 | | 1719 | 1742 | | 1719 | 3369 | | 1719 | 3418 | |
| Flt Permitted | 0.61 | 1.00 | | 0.71 | 1.00 | | 0.28 | 1.00 | | 0.35 | 1.00 | |
| Satd. Flow (perm) | 1105 | 1561 | | 1287 | 1742 | | 498 | 3369 | | 636 | 3418 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 40 | 6 | 64 | 23 | 6 | 2 | 13 | 569 | 88 | 173 | 949 | 39 |
| RTOR Reduction (vph) | 0 | 58 | 0 | 0 | 2 | 0 | 0 | 6 | 0 | 0 | 2 | 0 |
| Lane Group Flow (vph) | 40 | 12 | 0 | 23 | 6 | 0 | 13 | 651 | 0 | 173 | 986 | 0 |
| Turn Type | pm+pt | | | pm+pt | | | pm+pt | | | pm+pt | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 8 | | | 4 | | | 2 | | | 6 | | |
| Actuated Green, G (s) | 19.3 | 12.2 | | 14.7 | 9.9 | | 91.9 | 89.3 | | 105.0 | 96.4 | |
| Effective Green, g (s) | 19.3 | 12.2 | | 14.7 | 9.9 | | 91.9 | 89.3 | | 105.0 | 96.4 | |
| Actuated g/C Ratio | 0.14 | 0.09 | | 0.10 | 0.07 | | 0.66 | 0.64 | | 0.75 | 0.69 | |
| Clearance Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 5.5 | | 4.3 | 5.5 | |
| Lane Grp Cap (vph) | 183 | 136 | | 150 | 123 | | 350 | 2149 | | 552 | 2354 | |
| v/s Ratio Prot | c0.01 | 0.01 | | 0.01 | 0.00 | | 0.00 | 0.19 | | c0.02 | c0.29 | |
| v/s Ratio Perm | c0.02 | | | 0.01 | | | 0.02 | | | 0.21 | | |
| v/c Ratio | 0.22 | 0.09 | | 0.15 | 0.05 | | 0.04 | 0.30 | | 0.31 | 0.42 | |
| Uniform Delay, d1 | 53.3 | 58.8 | | 56.8 | 60.7 | | 8.4 | 11.4 | | 5.5 | 9.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.47 | 0.40 | | 0.21 | 0.39 | |
| Incremental Delay, d2 | 1.0 | 0.4 | | 0.8 | 0.3 | | 0.1 | 0.4 | | 0.5 | 0.5 | |
| Delay (s) | 54.2 | 59.2 | | 57.6 | 60.9 | | 4.0 | 5.0 | | 1.7 | 4.2 | |
| Level of Service | D | E | | E | E | | A | A | | A | A | |
| Approach Delay (s) | | 57.4 | | | 58.5 | | | 4.9 | | | 3.8 | |
| Approach LOS | | E | | | E | | | A | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 8.1 | | | HCM Level of Service | | | | A | | |
| HCM Volume to Capacity ratio | | | 0.38 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | Sum of lost time (s) | | | | 18.0 | | |
| Intersection Capacity Utilization | | | 61.5% | | | ICU Level of Service | | | | B | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |












I-85/I-385 Interchange Improvements
2015 No-Build AM

5: I-85 SB Ramps & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|
| Movement | WBL2 | WBL | WBR | SEL | SET | SER | NWL | NWT | NWR | NEL | NER |
| Lane Configurations |  | |  | |  |  |  |  | | | |
| Volume (vph) | 346 | 0 | 232 | 0 | 509 | 82 | 464 | 813 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.0 | | 5.0 | | 6.3 | 6.3 | 6.5 | 6.1 | | | |
| Lane Util. Factor | 0.97 | | 0.88 | | 0.95 | 1.00 | 1.00 | 0.95 | | | |
| Frt | 1.00 | | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | | | |
| Flt Protected | 0.95 | | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | 3335 | | 2707 | | 3438 | 1538 | 1719 | 3438 | | | |
| Flt Permitted | 0.95 | | 1.00 | | 1.00 | 1.00 | 0.36 | 1.00 | | | |
| Satd. Flow (perm) | 3335 | | 2707 | | 3438 | 1538 | 655 | 3438 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 384 | 0 | 258 | 0 | 566 | 91 | 516 | 903 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 216 | 0 | 0 | 44 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 384 | 0 | 42 | 0 | 566 | 47 | 516 | 903 | 0 | 0 | 0 |
| Turn Type | custom | | custom | | | Perm | pm+pt | | | | |
| Protected Phases | | | | | 2 | | 1 | 6 | | | |
| Permitted Phases | 4 | | 4 | | | 2 | 6 | | | | |
| Actuated Green, G (s) | 23.0 | | 23.0 | | 71.6 | 71.6 | 105.9 | 105.9 | | | |
| Effective Green, g (s) | 23.0 | | 23.0 | | 71.6 | 71.6 | 105.9 | 105.9 | | | |
| Actuated g/C Ratio | 0.16 | | 0.16 | | 0.51 | 0.51 | 0.76 | 0.76 | | | |
| Clearance Time (s) | 5.0 | | 5.0 | | 6.3 | 6.3 | 6.5 | 6.1 | | | |
| Vehicle Extension (s) | 4.3 | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | | | |
| Lane Grp Cap (vph) | 548 | | 445 | | 1758 | 787 | 705 | 2601 | | | |
| v/s Ratio Prot | | | | | 0.16 | | c0.14 | 0.26 | | | |
| v/s Ratio Perm | c0.12 | | 0.02 | | | 0.03 | c0.41 | | | | |
| v/c Ratio | 0.70 | | 0.10 | | 0.32 | 0.06 | 0.73 | 0.35 | | | |
| Uniform Delay, d1 | 55.2 | | 49.7 | | 20.0 | 17.2 | 7.9 | 5.6 | | | |
| Progression Factor | 1.00 | | 1.00 | | 0.37 | 0.22 | 1.37 | 0.33 | | | |
| Incremental Delay, d2 | 4.5 | | 0.1 | | 0.5 | 0.1 | 3.9 | 0.3 | | | |
| Delay (s) | 59.7 | | 49.8 | | 7.8 | 4.0 | 14.7 | 2.2 | | | |
| Level of Service | E | | D | | A | A | B | A | | | |
| Approach Delay (s) | | 55.8 | | | 7.3 | | | 6.7 | | 0.0 | |
| Approach LOS | | E | | | A | | | A | | A | |
| Intersection Summary | | | | | | | | | | | |
| HCM Average Control Delay | | | 18.5 | | HCM Level of Service | | | | B | | |
| HCM Volume to Capacity ratio | | | 0.71 | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | Sum of lost time (s) | | | | 11.5 | | |
| Intersection Capacity Utilization | | | 74.2% | | ICU Level of Service | | | | D | | |
| Analysis Period (min) | | | 15 | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2015 No-Build AM

6: I-85 NB Ramps & Woodruff Road

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | NBL | NBR | SET | SER | NWL | NWT |
| Lane Configurations |  |  |  |  | |  |
| Volume (vph) | 331 | 583 | 698 | 157 | 0 | 946 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.6 | 5.6 | 6.5 | 6.5 | | 6.5 |
| Lane Util. Factor | 0.97 | 0.88 | 0.95 | 1.00 | | 0.95 |
| Frt | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 3335 | 2707 | 3438 | 1538 | | 3438 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 3335 | 2707 | 3438 | 1538 | | 3438 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 368 | 648 | 776 | 174 | 0 | 1051 |
| RTOR Reduction (vph) | 0 | 398 | 0 | 79 | 0 | 0 |
| Lane Group Flow (vph) | 368 | 250 | 776 | 95 | 0 | 1051 |
| Turn Type | | Prot | | Perm | | |
| Protected Phases | 3 | 3 | 2 | | | 2 4 |
| Permitted Phases | | | | 2 | | |
| Actuated Green, G (s) | 32.4 | 32.4 | 76.5 | 76.5 | | 95.5 |
| Effective Green, g (s) | 32.4 | 32.4 | 76.5 | 76.5 | | 88.5 |
| Actuated g/C Ratio | 0.23 | 0.23 | 0.55 | 0.55 | | 0.63 |
| Clearance Time (s) | 5.6 | 5.6 | 6.5 | 6.5 | | |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | | |
| Lane Grp Cap (vph) | 772 | 626 | 1879 | 840 | | 2173 |
| v/s Ratio Prot | c0.11 | 0.09 | 0.23 | | | c0.31 |
| v/s Ratio Perm | | | | 0.06 | | |
| v/c Ratio | 0.48 | 0.40 | 0.41 | 0.11 | | 0.48 |
| Uniform Delay, d1 | 46.5 | 45.6 | 18.6 | 15.4 | | 13.6 |
| Progression Factor | 1.00 | 1.00 | 0.81 | 2.48 | | 1.00 |
| Incremental Delay, d2 | 0.7 | 0.7 | 0.6 | 0.3 | | 0.2 |
| Delay (s) | 47.2 | 46.2 | 15.6 | 38.4 | | 13.9 |
| Level of Service | D | D | B | D | | B |
| Approach Delay (s) | 46.6 | | 19.8 | | | 13.9 |
| Approach LOS | D | | B | | | B |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 26.8 | | HCM Level of Service | C |
| HCM Volume to Capacity ratio | | | 0.48 | | | |
| Actuated Cycle Length (s) | | | 140.0 | | Sum of lost time (s) | 18.6 |
| Intersection Capacity Utilization | | | 49.8% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

I-85/I-385 Interchange Improvements
2015 No-Build AM

























7: Carolina Point Pkwy & Woodruff Road



| Movement | EBL | EBR | SET | SER | NWL | NWT |
|-----------------------------------|-------|------|-------|-------|----------------------|-------|
| Lane Configurations | ↰↰ | ↰ | ↰↰ | ↰ | ↰ | ↰↰ |
| Volume (vph) | 113 | 86 | 1116 | 165 | 123 | 1441 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 7.0 | 7.0 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 0.97 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 |
| Frt | 1.00 | 0.85 | 1.00 | 0.85 | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 3335 | 1538 | 3438 | 1538 | 1719 | 3438 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.21 | 1.00 |
| Satd. Flow (perm) | 3335 | 1538 | 3438 | 1538 | 382 | 3438 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 126 | 96 | 1240 | 183 | 137 | 1601 |
| RTOR Reduction (vph) | 0 | 88 | 0 | 32 | 0 | 0 |
| Lane Group Flow (vph) | 126 | 8 | 1240 | 151 | 137 | 1601 |
| Turn Type | | Prot | | Perm | Perm | |
| Protected Phases | 4 | 4 | 2 3 6 | | | 2 3 6 |
| Permitted Phases | 4 | | | 2 3 6 | 2 3 6 | |
| Actuated Green, G (s) | 12.0 | 12.0 | 115.4 | 115.4 | 115.4 | 115.4 |
| Effective Green, g (s) | 12.0 | 12.0 | 115.4 | 115.4 | 115.4 | 115.4 |
| Actuated g/C Ratio | 0.09 | 0.09 | 0.82 | 0.82 | 0.82 | 0.82 |
| Clearance Time (s) | 7.0 | 7.0 | | | | |
| Vehicle Extension (s) | 4.3 | 4.3 | | | | |
| Lane Grp Cap (vph) | 286 | 132 | 2834 | 1268 | 315 | 2834 |
| v/s Ratio Prot | c0.04 | 0.01 | 0.36 | | | c0.47 |
| v/s Ratio Perm | | | | 0.10 | 0.36 | |
| v/c Ratio | 0.44 | 0.06 | 0.44 | 0.12 | 0.43 | 0.56 |
| Uniform Delay, d1 | 60.8 | 58.8 | 3.4 | 2.4 | 3.4 | 4.0 |
| Progression Factor | 1.00 | 1.00 | 0.31 | 0.00 | 0.12 | 0.11 |
| Incremental Delay, d2 | 1.7 | 0.3 | 0.1 | 0.1 | 1.1 | 0.2 |
| Delay (s) | 62.5 | 59.1 | 1.2 | 0.1 | 1.5 | 0.7 |
| Level of Service | E | E | A | A | A | A |
| Approach Delay (s) | 61.1 | | 1.1 | | | 0.7 |
| Approach LOS | E | | A | | | A |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 4.8 | | HCM Level of Service | A |
| HCM Volume to Capacity ratio | | | 0.56 | | | |
| Actuated Cycle Length (s) | | | 140.0 | | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | | | 60.0% | | ICU Level of Service | B |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |
























I-85/I-385 Interchange Improvements
2015 No-Build AM

8: Woodruff Road & Market Point Drive

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  | |
| Volume (vph) | 100 | 1048 | 54 | 24 | 1468 | 60 | 33 | 1 | 34 | 27 | 1 | 63 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | 6.1 | 6.1 | 5.8 | 6.1 | 6.1 | 6.1 | 5.8 | 5.8 | 6.1 | 5.8 | 5.8 | 5.8 | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 3335 | 3438 | 1538 | 1719 | 3438 | 1538 | 1719 | 1810 | 1538 | 3335 | 3438 | 1538 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 3335 | 3438 | 1538 | 1719 | 3438 | 1538 | 1719 | 1810 | 1538 | 3335 | 3438 | 1538 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | |
| Adj. Flow (vph) | 111 | 1164 | 60 | 27 | 1631 | 67 | 37 | 1 | 38 | 30 | 1 | 70 | |
| RTOR Reduction (vph) | 0 | 0 | 17 | 0 | 0 | 21 | 0 | 0 | 33 | 0 | 0 | 66 | |
| Lane Group Flow (vph) | 111 | 1164 | 43 | 27 | 1631 | 46 | 37 | 1 | 5 | 30 | 1 | 4 | |
| Turn Type | Prot | pm+ov | | Prot | Perm | | Prot | pm+ov | | Prot | Perm | | |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | 3 | | 8 | 1 | 7 | 4 | | |
| Permitted Phases | 2 | | | 6 | | | | | | 8 | | | 4 |
| Actuated Green, G (s) | 9.8 | 93.6 | 101.4 | 6.9 | 90.7 | 90.7 | 7.8 | 11.5 | 18.4 | 4.2 | 7.9 | 7.9 | |
| Effective Green, g (s) | 9.8 | 93.6 | 101.4 | 6.9 | 90.7 | 90.7 | 7.8 | 11.5 | 18.4 | 4.2 | 7.9 | 7.9 | |
| Actuated g/C Ratio | 0.07 | 0.67 | 0.72 | 0.05 | 0.65 | 0.65 | 0.06 | 0.08 | 0.13 | 0.03 | 0.06 | 0.06 | |
| Clearance Time (s) | 6.1 | 6.1 | 5.8 | 6.1 | 6.1 | 6.1 | 5.8 | 5.8 | 6.1 | 5.8 | 5.8 | 5.8 | |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | 233 | 2299 | 1114 | 85 | 2227 | 996 | 96 | 149 | 202 | 100 | 194 | 87 | |
| v/s Ratio Prot | 0.03 | c0.34 | 0.00 | 0.02 | c0.47 | c0.02 | | 0.00 | c0.00 | 0.01 | 0.00 | | |
| v/s Ratio Perm | 0.03 | | | 0.03 | | | | 0.00 | | | c0.00 | | |
| v/c Ratio | 0.48 | 0.51 | 0.04 | 0.32 | 0.73 | 0.05 | 0.39 | 0.01 | 0.02 | 0.30 | 0.01 | 0.05 | |
| Uniform Delay, d1 | 62.6 | 11.6 | 5.5 | 64.3 | 16.5 | 8.9 | 63.8 | 59.0 | 53.0 | 66.5 | 62.3 | 62.5 | |
| Progression Factor | 1.25 | 0.52 | 0.29 | 0.72 | 0.15 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 2.2 | 0.7 | 0.0 | 2.7 | 1.7 | 0.1 | 4.0 | 0.0 | 0.1 | 2.7 | 0.0 | 0.3 | |
| Delay (s) | 80.5 | 6.7 | 1.6 | 48.7 | 4.2 | 0.1 | 67.8 | 59.0 | 53.1 | 69.1 | 62.4 | 62.8 | |
| Level of Service | F | A | A | D | A | A | E | E | D | E | E | E | |
| Approach Delay (s) | 12.6 | | 4.7 | | | | 60.3 | | | 64.7 | | | |
| Approach LOS | B | | A | | | | E | | | E | | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM Average Control Delay | | | 11.2 | HCM Level of Service | | | | B | | | | | |
| HCM Volume to Capacity ratio | | | 0.69 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | Sum of lost time (s) | | | | 29.9 | | | | | |
| Intersection Capacity Utilization | | | 62.6% | ICU Level of Service | | | | B | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | | |


















I-85/I-385 Interchange Improvements
2015 No-Build AM

9: Woodruff Road & Garlington Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Volume (vph) | 220 | 773 | 116 | 103 | 1018 | 465 | 253 | 243 | 66 | 140 | 112 | 281 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.2 | 6.1 | 6.1 | 5.2 | 6.1 | 6.1 | 5.2 | 5.2 | | 5.2 | 5.2 | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | | 0.97 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 3335 | 3438 | 1538 | 1719 | 3438 | 1538 | 3335 | 1752 | | 3335 | 1810 | 1538 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.26 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 3335 | 3438 | 1538 | 475 | 3438 | 1538 | 3335 | 1752 | | 3335 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 244 | 859 | 129 | 114 | 1131 | 517 | 281 | 270 | 73 | 156 | 124 | 312 |
| RTOR Reduction (vph) | 0 | 0 | 66 | 0 | 0 | 217 | 0 | 7 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 244 | 859 | 63 | 114 | 1131 | 300 | 281 | 336 | 0 | 156 | 124 | 312 |
| Turn Type | Prot | | Perm | pm+pt | | Perm | Prot | | | Prot | | Free |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | 6 | | 6 | | | | | | Free |
| Actuated Green, G (s) | 14.4 | 67.9 | 67.9 | 71.5 | 62.5 | 62.5 | 17.1 | 31.6 | | 9.8 | 24.3 | 140.0 |
| Effective Green, g (s) | 14.4 | 67.9 | 67.9 | 71.5 | 62.5 | 62.5 | 17.1 | 31.6 | | 9.8 | 24.3 | 140.0 |
| Actuated g/C Ratio | 0.10 | 0.49 | 0.49 | 0.51 | 0.45 | 0.45 | 0.12 | 0.23 | | 0.07 | 0.17 | 1.00 |
| Clearance Time (s) | 5.2 | 6.1 | 6.1 | 5.2 | 6.1 | 6.1 | 5.2 | 5.2 | | 5.2 | 5.2 | |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | 343 | 1667 | 746 | 323 | 1535 | 687 | 407 | 395 | | 233 | 314 | 1538 |
| v/s Ratio Prot | c0.07 | 0.25 | | 0.02 | c0.33 | | c0.08 | c0.19 | | 0.05 | 0.07 | |
| v/s Ratio Perm | | | 0.04 | 0.16 | | 0.20 | | | | | | 0.20 |
| v/c Ratio | 0.71 | 0.52 | 0.08 | 0.35 | 0.74 | 0.44 | 0.69 | 0.85 | | 0.67 | 0.39 | 0.20 |
| Uniform Delay, d1 | 60.8 | 24.8 | 19.4 | 18.7 | 32.0 | 26.6 | 58.9 | 51.9 | | 63.5 | 51.3 | 0.0 |
| Progression Factor | 1.22 | 0.77 | 0.93 | 0.49 | 0.48 | 0.06 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 6.7 | 1.0 | 0.2 | 0.9 | 2.8 | 1.7 | 5.6 | 16.8 | | 8.2 | 1.3 | 0.3 |
| Delay (s) | 81.1 | 20.1 | 18.2 | 10.0 | 18.1 | 3.4 | 64.5 | 68.7 | | 71.7 | 52.6 | 0.3 |
| Level of Service | F | C | B | A | B | A | E | E | | E | D | A |
| Approach Delay (s) | | 32.0 | | | 13.3 | | | 66.8 | | | 30.1 | |
| Approach LOS | | C | | | B | | | E | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 29.0 | | | | HCM Level of Service | | | C | | |
| HCM Volume to Capacity ratio | | | 0.78 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | | Sum of lost time (s) | | | 21.7 | | |
| Intersection Capacity Utilization | | | 73.5% | | | | ICU Level of Service | | | D | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |



















I-85/I-385 Interchange Improvements
2015 No-Build AM

10: Woodruff Road & I-385 SB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | |  |  | | | | |  | |  |
| Volume (vph) | 0 | 830 | 149 | 64 | 1091 | 0 | 0 | 0 | 0 | 832 | 0 | 495 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.6 | | 6.6 | 6.6 | | | | | 5.7 | | 4.0 |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | | | 0.97 | | 1.00 |
| Frt | | 0.98 | | 1.00 | 1.00 | | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 3359 | | 1719 | 3438 | | | | | 3335 | | 1538 |
| Flt Permitted | | 1.00 | | 0.14 | 1.00 | | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 3359 | | 261 | 3438 | | | | | 3335 | | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 922 | 166 | 71 | 1212 | 0 | 0 | 0 | 0 | 924 | 0 | 550 |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1078 | 0 | 71 | 1212 | 0 | 0 | 0 | 0 | 924 | 0 | 550 |
| Turn Type | | | | pm+pt | | | | | | Prot | | Free |
| Protected Phases | | 2 | | 1 | 6 | | | | | 4 | | |
| Permitted Phases | | | | 6 | | | | | | | | Free |
| Actuated Green, G (s) | | 68.0 | | 81.2 | 81.2 | | | | | 46.5 | | 140.0 |
| Effective Green, g (s) | | 68.0 | | 81.2 | 81.2 | | | | | 46.5 | | 140.0 |
| Actuated g/C Ratio | | 0.49 | | 0.58 | 0.58 | | | | | 0.33 | | 1.00 |
| Clearance Time (s) | | 6.6 | | 6.6 | 6.6 | | | | | 5.7 | | |
| Vehicle Extension (s) | | 4.3 | | 4.3 | 4.3 | | | | | 4.3 | | |
| Lane Grp Cap (vph) | | 1632 | | 220 | 1994 | | | | | 1108 | | 1538 |
| v/s Ratio Prot | | c0.32 | | 0.02 | c0.35 | | | | | c0.28 | | |
| v/s Ratio Perm | | | | 0.17 | | | | | | | | 0.36 |
| v/c Ratio | | 0.66 | | 0.32 | 0.61 | | | | | 0.83 | | 0.36 |
| Uniform Delay, d1 | | 27.3 | | 17.6 | 19.1 | | | | | 43.2 | | 0.0 |
| Progression Factor | | 0.72 | | 0.12 | 0.29 | | | | | 1.02 | | 1.00 |
| Incremental Delay, d2 | | 1.8 | | 0.4 | 0.4 | | | | | 5.9 | | 0.7 |
| Delay (s) | | 21.5 | | 2.6 | 5.9 | | | | | 49.8 | | 0.7 |
| Level of Service | | C | | A | A | | | | | D | | A |
| Approach Delay (s) | | 21.5 | | | 5.8 | | | 0.0 | | | 31.5 | |
| Approach LOS | | C | | | A | | | A | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 20.1 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.75 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | Sum of lost time (s) | | | | 18.9 | | |
| Intersection Capacity Utilization | | | 114.8% | | | ICU Level of Service | | | | H | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |





















I-85/I-385 Interchange Improvements
2015 No-Build AM

11: Woodruff Road & I-385 NB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | | |  |  |  | |  | | | |
| Volume (vph) | 605 | 1057 | 0 | 0 | 632 | 614 | 523 | 0 | 254 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.1 | 6.1 | | | 6.1 | 6.1 | 5.0 | | 5.0 | | | |
| Lane Util. Factor | 1.00 | 0.95 | | | 0.95 | 1.00 | 1.00 | | 1.00 | | | |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | | 0.85 | | | |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | 0.95 | | 1.00 | | | |
| Satd. Flow (prot) | 1719 | 3438 | | | 3438 | 1538 | 1719 | | 1538 | | | |
| Flt Permitted | 0.11 | 1.00 | | | 1.00 | 1.00 | 0.95 | | 1.00 | | | |
| Satd. Flow (perm) | 190 | 3438 | | | 3438 | 1538 | 1719 | | 1538 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 672 | 1174 | 0 | 0 | 702 | 682 | 581 | 0 | 282 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 452 | 0 | 0 | 54 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 672 | 1174 | 0 | 0 | 702 | 230 | 581 | 0 | 228 | 0 | 0 | 0 |
| Turn Type | pm+pt | | | | Perm | | Prot | custom | | | | |
| Protected Phases | 5 | 2 | | | 6 | | 8 | | | | | |
| Permitted Phases | 2 | | | | | 6 | | | 8 | | | |
| Actuated Green, G (s) | 83.9 | 83.9 | | | 31.9 | 31.9 | 45.0 | | 45.0 | | | |
| Effective Green, g (s) | 83.9 | 83.9 | | | 31.9 | 31.9 | 45.0 | | 45.0 | | | |
| Actuated g/C Ratio | 0.60 | 0.60 | | | 0.23 | 0.23 | 0.32 | | 0.32 | | | |
| Clearance Time (s) | 6.1 | 6.1 | | | 6.1 | 6.1 | 5.0 | | 5.0 | | | |
| Vehicle Extension (s) | 4.3 | 4.3 | | | 4.3 | 4.3 | 4.3 | | 4.3 | | | |
| Lane Grp Cap (vph) | 615 | 2060 | | | 783 | 350 | 553 | | 494 | | | |
| v/s Ratio Prot | c0.36 | 0.34 | | | 0.20 | | c0.34 | | | | | |
| v/s Ratio Perm | c0.30 | | | | | 0.15 | | | 0.15 | | | |
| v/c Ratio | 1.09 | 0.57 | | | 0.90 | 0.66 | 1.05 | | 0.46 | | | |
| Uniform Delay, d1 | 40.0 | 17.1 | | | 52.4 | 49.1 | 47.5 | | 37.8 | | | |
| Progression Factor | 0.99 | 0.71 | | | 0.75 | 1.77 | 1.00 | | 1.00 | | | |
| Incremental Delay, d2 | 58.9 | 0.8 | | | 11.0 | 6.4 | 52.2 | | 1.1 | | | |
| Delay (s) | 98.4 | 12.9 | | | 50.3 | 93.3 | 99.7 | | 38.9 | | | |
| Level of Service | F | B | | | D | F | F | | D | | | |
| Approach Delay (s) | | 44.1 | | | 71.5 | | | 79.9 | | | 0.0 | |
| Approach LOS | | D | | | E | | | E | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | 60.9 | | | HCM Level of Service | | | E | | | | |
| HCM Volume to Capacity ratio | | 1.05 | | | | | | | | | | |
| Actuated Cycle Length (s) | | 140.0 | | | Sum of lost time (s) | | | 11.1 | | | | |
| Intersection Capacity Utilization | | 114.8% | | | ICU Level of Service | | | H | | | | |
| Analysis Period (min) | | 15 | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |



















I-85/I-385 Interchange Improvements
2015 No-Build AM

12: Woodruff Road & Commercial Drive

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  | |  |  | |
| Volume (vph) | 116 | 1102 | 93 | 21 | 1099 | 44 | 85 | 5 | 7 | 78 | 20 | 62 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.5 | | 5.5 | 5.5 | | 5.3 | 5.4 | | 5.4 | 5.4 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 0.91 | | 1.00 | 0.89 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 3398 | | 1719 | 3418 | | 1719 | 1654 | | 1719 | 1604 | |
| Flt Permitted | 0.11 | 1.00 | | 0.19 | 1.00 | | 0.39 | 1.00 | | 0.75 | 1.00 | |
| Satd. Flow (perm) | 195 | 3398 | | 350 | 3418 | | 710 | 1654 | | 1354 | 1604 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 129 | 1224 | 103 | 23 | 1221 | 49 | 94 | 6 | 8 | 87 | 22 | 69 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 4 | 0 | 0 | 6 | 0 | 0 | 62 | 0 |
| Lane Group Flow (vph) | 129 | 1318 | 0 | 23 | 1266 | 0 | 94 | 8 | 0 | 87 | 29 | 0 |
| Turn Type | pm+pt | | | Perm | | | pm+pt | | | Perm | | |
| Protected Phases | 5 | 2 | | | 6 | | 3 | 8 | | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 42.1 | 42.1 | | 31.9 | 31.9 | | 17.0 | 17.0 | | 6.8 | 6.8 | |
| Effective Green, g (s) | 42.1 | 42.1 | | 31.9 | 31.9 | | 17.0 | 17.0 | | 6.8 | 6.8 | |
| Actuated g/C Ratio | 0.60 | 0.60 | | 0.46 | 0.46 | | 0.24 | 0.24 | | 0.10 | 0.10 | |
| Clearance Time (s) | 5.3 | 5.5 | | 5.5 | 5.5 | | 5.3 | 5.4 | | 5.4 | 5.4 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | 224 | 2044 | | 160 | 1558 | | 243 | 402 | | 132 | 156 | |
| v/s Ratio Prot | 0.04 | c0.39 | | | c0.37 | | c0.03 | 0.00 | | | 0.02 | |
| v/s Ratio Perm | 0.31 | | | 0.07 | | | 0.07 | | | c0.06 | | |
| v/c Ratio | 0.58 | 0.64 | | 0.14 | 0.81 | | 0.39 | 0.02 | | 0.66 | 0.18 | |
| Uniform Delay, d1 | 10.8 | 9.1 | | 11.1 | 16.5 | | 21.4 | 20.2 | | 30.5 | 29.0 | |
| Progression Factor | 1.20 | 1.08 | | 0.61 | 0.75 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 3.9 | 1.3 | | 1.6 | 4.2 | | 1.6 | 0.0 | | 13.1 | 0.9 | |
| Delay (s) | 17.0 | 11.1 | | 8.4 | 16.5 | | 23.1 | 20.2 | | 43.6 | 30.0 | |
| Level of Service | B | B | | A | B | | C | C | | D | C | |
| Approach Delay (s) | | 11.7 | | | 16.3 | | | 22.7 | | | 36.6 | |
| Approach LOS | | B | | | B | | | C | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 15.5 | | | HCM Level of Service | | | | B | | |
| HCM Volume to Capacity ratio | | | 0.78 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 70.0 | | | Sum of lost time (s) | | | 21.7 | | | |
| Intersection Capacity Utilization | | | 71.8% | | | ICU Level of Service | | | C | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |




















I-85/I-385 Interchange Improvements
2015 No-Build AM

13: Woodruff Road & Smith Hines Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Volume (vph) | 6 | 1017 | 164 | 124 | 1088 | 1 | 74 | 1 | 104 | 1 | 1 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 6.0 | 6.0 | | | 5.0 | | | 5.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | | 1.00 | | | 1.00 | |
| Frt | 1.00 | 0.98 | | 1.00 | 1.00 | | | 0.92 | | | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.98 | | | 0.99 | |
| Satd. Flow (prot) | 1719 | 3367 | | 1719 | 3438 | | | 1633 | | | 1667 | |
| Flt Permitted | 0.21 | 1.00 | | 0.18 | 1.00 | | | 0.86 | | | 0.92 | |
| Satd. Flow (perm) | 380 | 3367 | | 333 | 3438 | | | 1441 | | | 1548 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 7 | 1130 | 182 | 138 | 1209 | 1 | 82 | 1 | 116 | 1 | 1 | 2 |
| RTOR Reduction (vph) | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 72 | 0 | 0 | 2 | 0 |
| Lane Group Flow (vph) | 7 | 1294 | 0 | 138 | 1210 | 0 | 0 | 127 | 0 | 0 | 2 | 0 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | |
| Protected Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 49.9 | 49.9 | | 50.2 | 50.2 | | | 8.8 | | | 8.8 | |
| Effective Green, g (s) | 49.9 | 49.9 | | 50.2 | 50.2 | | | 8.8 | | | 8.8 | |
| Actuated g/C Ratio | 0.71 | 0.71 | | 0.72 | 0.72 | | | 0.13 | | | 0.13 | |
| Clearance Time (s) | 6.3 | 6.3 | | 6.0 | 6.0 | | | 5.0 | | | 5.0 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | | 4.3 | | | 4.3 | |
| Lane Grp Cap (vph) | 271 | 2400 | | 239 | 2466 | | | 181 | | | 195 | |
| v/s Ratio Prot | 0.38 | | | 0.35 | | | | | | | | |
| v/s Ratio Perm | 0.02 | | | c0.41 | | | | c0.09 | | | 0.00 | |
| v/c Ratio | 0.03 | 0.54 | | 0.58 | 0.49 | | | 0.70 | | | 0.01 | |
| Uniform Delay, d1 | 2.9 | 4.7 | | 4.8 | 4.3 | | | 29.3 | | | 26.8 | |
| Progression Factor | 0.15 | 0.10 | | 1.94 | 1.43 | | | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 0.1 | 0.7 | | 0.9 | 0.1 | | | 13.0 | | | 0.0 | |
| Delay (s) | 0.6 | 1.1 | | 10.2 | 6.3 | | | 42.3 | | | 26.8 | |
| Level of Service | A | A | | B | A | | | D | | | C | |
| Approach Delay (s) | 1.1 | | | 6.7 | | | | 42.3 | | | 26.8 | |
| Approach LOS | A | | | A | | | | D | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 6.6 | HCM Level of Service | | | A | | | | | |
| HCM Volume to Capacity ratio | | | 0.60 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 70.0 | Sum of lost time (s) | | | 11.0 | | | | | |
| Intersection Capacity Utilization | | | 90.0% | ICU Level of Service | | | E | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |























I-85/I-385 Interchange Improvements
2015 No-Build AM

14: Woodruff Road & Walmart Driveway

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  | | |  | |
| Volume (vph) | 21 | 1445 | 17 | 14 | 3250 | 83 | 49 | 2 | 25 | 84 | 1 | 8 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.0 | 5.0 | | | 5.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | | | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.86 | | | 0.99 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | |
| Satd. Flow (prot) | 1719 | 3432 | | 1719 | 3425 | | 1719 | 1556 | | | 1711 | |
| Flt Permitted | 0.04 | 1.00 | | 0.14 | 1.00 | | 0.78 | 1.00 | | | 0.73 | |
| Satd. Flow (perm) | 67 | 3432 | | 251 | 3425 | | 1413 | 1556 | | | 1296 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 23 | 1606 | 19 | 16 | 3611 | 92 | 54 | 2 | 28 | 93 | 1 | 9 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 25 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 23 | 1625 | 0 | 16 | 3702 | 0 | 54 | 5 | 0 | 0 | 100 | 0 |
| Turn Type | pm+pt | | | Perm | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 111.4 | 111.4 | | 101.0 | 101.0 | | 17.3 | 17.3 | | | 17.3 | |
| Effective Green, g (s) | 111.4 | 111.4 | | 101.0 | 101.0 | | 17.3 | 17.3 | | | 17.3 | |
| Actuated g/C Ratio | 0.80 | 0.80 | | 0.72 | 0.72 | | 0.12 | 0.12 | | | 0.12 | |
| Clearance Time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.0 | 5.0 | | | 5.0 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | | | 4.3 | |
| Lane Grp Cap (vph) | 102 | 2731 | | 181 | 2471 | | 175 | 192 | | | 160 | |
| v/s Ratio Prot | 0.01 | c0.47 | | | c1.08 | | | 0.00 | | | | |
| v/s Ratio Perm | 0.17 | | | 0.06 | | | 0.04 | | | | c0.08 | |
| v/c Ratio | 0.23 | 0.59 | | 0.09 | 1.50 | | 0.31 | 0.03 | | | 0.63 | |
| Uniform Delay, d1 | 41.6 | 5.5 | | 5.8 | 19.5 | | 55.9 | 54.0 | | | 58.3 | |
| Progression Factor | 0.75 | 0.50 | | 0.60 | 0.54 | | 1.00 | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 1.6 | 0.9 | | 0.4 | 225.2 | | 1.6 | 0.1 | | | 9.0 | |
| Delay (s) | 32.8 | 3.7 | | 3.9 | 235.7 | | 57.5 | 54.1 | | | 67.3 | |
| Level of Service | C | A | | A | F | | E | D | | | E | |
| Approach Delay (s) | | 4.1 | | | 234.7 | | | 56.3 | | | 67.3 | |
| Approach LOS | | A | | | F | | | E | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 160.4 | | | HCM Level of Service | | | F | | | |
| HCM Volume to Capacity ratio | | | 1.36 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | Sum of lost time (s) | | | 17.6 | | | |
| Intersection Capacity Utilization | | | 113.8% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |




















I-85/I-385 Interchange Improvements
2015 No-Build AM

15: Woodruff Road & Verdin Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  |  |  |  |  |
| Volume (vph) | 40 | 746 | 20 | 94 | 2081 | 54 | 337 | 247 | 27 | 47 | 200 | 71 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.2 | 5.0 | 5.0 | 5.2 | 5.2 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 3425 | | 1719 | 3425 | | 1719 | 1810 | 1538 | 1719 | 1738 | |
| Flt Permitted | 0.05 | 1.00 | | 0.28 | 1.00 | | 0.17 | 1.00 | 1.00 | 0.59 | 1.00 | |
| Satd. Flow (perm) | 86 | 3425 | | 512 | 3425 | | 299 | 1810 | 1538 | 1069 | 1738 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 44 | 829 | 22 | 104 | 2312 | 60 | 374 | 274 | 30 | 52 | 222 | 79 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 20 | 0 | 10 | 0 |
| Lane Group Flow (vph) | 44 | 850 | 0 | 104 | 2371 | 0 | 374 | 274 | 10 | 52 | 291 | 0 |
| Turn Type | Perm | | | Perm | | | pm+pt | | | Perm | Perm | |
| Protected Phases | 2 | | | 6 | | | 3 | | 8 | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 8 | 4 | |
| Actuated Green, G (s) | 83.7 | 83.7 | | 83.7 | 83.7 | | 45.0 | 45.0 | 45.0 | 18.8 | 18.8 | |
| Effective Green, g (s) | 83.7 | 83.7 | | 83.7 | 83.7 | | 45.0 | 45.0 | 45.0 | 18.8 | 18.8 | |
| Actuated g/C Ratio | 0.60 | 0.60 | | 0.60 | 0.60 | | 0.32 | 0.32 | 0.32 | 0.13 | 0.13 | |
| Clearance Time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.2 | 5.0 | 5.0 | 5.2 | 5.2 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | 51 | 2048 | | 306 | 2048 | | 307 | 582 | 494 | 144 | 233 | |
| v/s Ratio Prot | | 0.25 | | | c0.69 | | c0.18 | 0.15 | | | 0.17 | |
| v/s Ratio Perm | 0.51 | | | 0.20 | | | c0.21 | | 0.01 | 0.05 | | |
| v/c Ratio | 0.86 | 0.41 | | 0.34 | 1.16 | | 1.22 | 0.47 | 0.02 | 0.36 | 1.25 | |
| Uniform Delay, d1 | 23.4 | 15.1 | | 14.2 | 28.1 | | 41.5 | 38.0 | 32.4 | 55.1 | 60.6 | |
| Progression Factor | 0.83 | 0.90 | | 0.80 | 0.77 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 79.7 | 0.5 | | 1.9 | 74.7 | | 124.1 | 1.0 | 0.0 | 2.4 | 143.3 | |
| Delay (s) | 99.1 | 14.0 | | 13.3 | 96.5 | | 165.6 | 38.9 | 32.5 | 57.6 | 203.9 | |
| Level of Service | F | B | | B | F | | F | D | C | E | F | |
| Approach Delay (s) | | 18.2 | | | 93.0 | | | 108.5 | | | 182.3 | |
| Approach LOS | | B | | | F | | | F | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 87.3 | HCM Level of Service | | | F | | | | | |
| HCM Volume to Capacity ratio | | | 1.16 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | Sum of lost time (s) | | | 11.5 | | | | | |
| Intersection Capacity Utilization | | | 125.4% | ICU Level of Service | | | H | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |



















I-85/I-385 Interchange Improvements
2015 No-Build AM

16: Woodruff Road & Butler Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | |  |  | | |  |  |  |  | |
| Volume (vph) | 5 | 708 | 52 | 533 | 1893 | 1 | 162 | 28 | 390 | 22 | 29 | 8 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.3 | | 6.3 | 6.3 | | | 5.0 | 6.3 | 5.0 | 5.0 | |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.99 | | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 3402 | | 1719 | 3438 | | | 1735 | 1538 | 1719 | 1750 | |
| Flt Permitted | | 0.93 | | 0.19 | 1.00 | | | 0.73 | 1.00 | 0.39 | 1.00 | |
| Satd. Flow (perm) | | 3151 | | 336 | 3438 | | | 1318 | 1538 | 700 | 1750 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 6 | 787 | 58 | 592 | 2103 | 1 | 180 | 31 | 433 | 24 | 32 | 9 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 7 | 0 |
| Lane Group Flow (vph) | 0 | 847 | 0 | 592 | 2104 | 0 | 0 | 211 | 398 | 24 | 34 | 0 |
| Turn Type | Perm | | | pm+pt | | | Perm | | pm+ov | | Perm | |
| Protected Phases | | 2 | | 1 | 6 | | | 8 | 1 | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | | 56.4 | | 102.3 | 102.3 | | | 26.4 | 66.0 | 26.4 | 26.4 | |
| Effective Green, g (s) | | 56.4 | | 102.3 | 102.3 | | | 26.4 | 66.0 | 26.4 | 26.4 | |
| Actuated g/C Ratio | | 0.40 | | 0.73 | 0.73 | | | 0.19 | 0.47 | 0.19 | 0.19 | |
| Clearance Time (s) | | 6.3 | | 6.3 | 6.3 | | | 5.0 | 6.3 | 5.0 | 5.0 | |
| Vehicle Extension (s) | | 4.3 | | 4.3 | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | | 1269 | | 637 | 2512 | | | 249 | 725 | 132 | 330 | |
| v/s Ratio Prot | | | | c0.26 | 0.61 | | | | 0.16 | | 0.02 | |
| v/s Ratio Perm | | 0.27 | | c0.42 | | | | c0.16 | 0.10 | 0.03 | | |
| v/c Ratio | | 0.67 | | 0.93 | 0.84 | | | 0.85 | 0.55 | 0.18 | 0.10 | |
| Uniform Delay, d1 | | 34.1 | | 29.9 | 13.1 | | | 54.9 | 26.4 | 47.7 | 47.0 | |
| Progression Factor | | 0.55 | | 1.19 | 0.59 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 2.6 | | 2.8 | 0.3 | | | 23.7 | 1.2 | 1.1 | 0.2 | |
| Delay (s) | | 21.4 | | 38.3 | 8.0 | | | 78.6 | 27.6 | 48.8 | 47.2 | |
| Level of Service | | C | | D | A | | | E | C | D | D | |
| Approach Delay (s) | | 21.4 | | | 14.7 | | | 44.3 | | | 47.8 | |
| Approach LOS | | C | | | B | | | D | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 21.0 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.89 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | Sum of lost time (s) | | | 11.3 | | | |
| Intersection Capacity Utilization | | | 109.1% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |
























I-85/I-385 Interchange Improvements
2015 No-Build AM

17: Woodruff Road & Bell Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Volume (vph) | 25 | 1105 | 90 | 28 | 2672 | 17 | 139 | 1 | 34 | 14 | 1 | 59 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.2 | 6.2 | | 6.2 | 6.2 | | | 5.4 | | | 5.4 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | | 1.00 | | | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | | | 0.97 | | | 0.89 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | | | 0.99 | |
| Satd. Flow (prot) | 1719 | 3399 | | 1719 | 3435 | | | 1694 | | | 1600 | |
| Flt Permitted | 0.04 | 1.00 | | 0.18 | 1.00 | | | 0.67 | | | 0.95 | |
| Satd. Flow (perm) | 67 | 3399 | | 327 | 3435 | | | 1176 | | | 1528 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 28 | 1228 | 100 | 31 | 2969 | 19 | 154 | 1 | 38 | 16 | 1 | 66 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 28 | 1324 | 0 | 31 | 2988 | 0 | 0 | 187 | 0 | 0 | 79 | 0 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | |
| Protected Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 108.8 | 108.8 | | 108.8 | 108.8 | | | 19.6 | | | 19.6 | |
| Effective Green, g (s) | 108.8 | 108.8 | | 108.8 | 108.8 | | | 19.6 | | | 19.6 | |
| Actuated g/C Ratio | 0.78 | 0.78 | | 0.78 | 0.78 | | | 0.14 | | | 0.14 | |
| Clearance Time (s) | 6.2 | 6.2 | | 6.2 | 6.2 | | | 5.4 | | | 5.4 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | | 4.3 | | | 4.3 | |
| Lane Grp Cap (vph) | 52 | 2642 | | 254 | 2669 | | | 165 | | | 214 | |
| v/s Ratio Prot | 0.39 | | | c0.87 | | | | | | | | |
| v/s Ratio Perm | 0.42 | | | 0.09 | | | | c0.16 | | | 0.05 | |
| v/c Ratio | 0.54 | 0.50 | | 0.12 | 1.12 | | | 1.13 | | | 0.37 | |
| Uniform Delay, d1 | 6.0 | 5.7 | | 3.8 | 15.6 | | | 60.2 | | | 54.6 | |
| Progression Factor | 1.93 | 1.36 | | 0.70 | 0.48 | | | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 29.6 | 0.6 | | 0.4 | 56.3 | | | 110.4 | | | 1.7 | |
| Delay (s) | 41.1 | 8.3 | | 3.1 | 63.7 | | | 170.6 | | | 56.3 | |
| Level of Service | D | A | | A | E | | | F | | | E | |
| Approach Delay (s) | 9.0 | | | 63.1 | | | | 170.6 | | | 56.3 | |
| Approach LOS | A | | | E | | | | F | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | 51.7 | | | HCM Level of Service | | | D | | | | | |
| HCM Volume to Capacity ratio | 1.12 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 140.0 | | | Sum of lost time (s) | | | 11.6 | | | | | |
| Intersection Capacity Utilization | 100.6% | | | ICU Level of Service | | | G | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |
























I-85/I-385 Interchange Improvements
2015 No-Build AM

18: Woodruff Road & SC 14

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |  |  |  |  |  |  |
| Volume (vph) | 151 | 598 | 92 | 50 | 1477 | 199 | 369 | 384 | 132 | 132 | 229 | 319 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | 5.0 | 6.3 | 6.3 | | 5.0 | 5.0 | 6.3 | 5.0 | 5.0 | 6.3 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3438 | 1538 | 1719 | 3377 | | 1719 | 1810 | 1538 | 1719 | 1810 | 1538 |
| Flt Permitted | 0.06 | 1.00 | 1.00 | 0.36 | 1.00 | | 0.19 | 1.00 | 1.00 | 0.25 | 1.00 | 1.00 |
| Satd. Flow (perm) | 102 | 3438 | 1538 | 652 | 3377 | | 345 | 1810 | 1538 | 452 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 168 | 664 | 102 | 56 | 1641 | 221 | 410 | 427 | 147 | 147 | 254 | 354 |
| RTOR Reduction (vph) | 0 | 0 | 33 | 0 | 7 | 0 | 0 | 0 | 75 | 0 | 0 | 18 |
| Lane Group Flow (vph) | 168 | 664 | 69 | 56 | 1855 | 0 | 410 | 427 | 72 | 147 | 254 | 336 |
| Turn Type | pm+pt | | pm+ov | pm+pt | | | pm+pt | | pm+ov | pm+pt | | pm+ov |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | 5 |
| Permitted Phases | 2 | | 2 | 6 | | | 8 | | 8 | 4 | | 4 |
| Actuated Green, G (s) | 82.0 | 71.3 | 94.3 | 74.8 | 67.7 | | 44.0 | 32.0 | 39.1 | 23.0 | 16.0 | 26.7 |
| Effective Green, g (s) | 82.0 | 71.3 | 94.3 | 74.8 | 67.7 | | 44.0 | 32.0 | 39.1 | 23.0 | 16.0 | 26.7 |
| Actuated g/C Ratio | 0.59 | 0.51 | 0.67 | 0.53 | 0.48 | | 0.31 | 0.23 | 0.28 | 0.16 | 0.11 | 0.19 |
| Clearance Time (s) | 6.3 | 6.3 | 5.0 | 6.3 | 6.3 | | 5.0 | 5.0 | 6.3 | 5.0 | 5.0 | 6.3 |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 183 | 1751 | 1036 | 402 | 1633 | | 334 | 414 | 430 | 138 | 207 | 293 |
| v/s Ratio Prot | 0.07 | 0.19 | 0.01 | 0.01 | c0.55 | | c0.20 | 0.24 | 0.01 | 0.05 | 0.14 | c0.09 |
| v/s Ratio Perm | c0.47 | | 0.03 | 0.07 | | | c0.18 | | 0.04 | 0.12 | | 0.13 |
| v/c Ratio | 0.92 | 0.38 | 0.07 | 0.14 | 1.14 | | 1.23 | 1.03 | 0.17 | 1.07 | 1.23 | 1.15 |
| Uniform Delay, d1 | 44.1 | 20.9 | 7.8 | 15.9 | 36.1 | | 42.2 | 54.0 | 38.1 | 57.1 | 62.0 | 56.6 |
| Progression Factor | 1.12 | 0.57 | 0.88 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 40.3 | 0.5 | 0.0 | 0.3 | 69.2 | | 126.0 | 52.5 | 0.3 | 95.1 | 137.2 | 98.5 |
| Delay (s) | 89.9 | 12.5 | 6.9 | 16.1 | 105.4 | | 168.2 | 106.5 | 38.4 | 152.2 | 199.2 | 155.2 |
| Level of Service | F | B | A | B | F | | F | F | D | F | F | F |
| Approach Delay (s) | | 25.8 | | | 102.8 | | | 122.1 | | | 169.4 | |
| Approach LOS | | C | | | F | | | F | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 102.2 | | | HCM Level of Service | | | F | | | |
| HCM Volume to Capacity ratio | | | 1.22 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | Sum of lost time (s) | | | 23.9 | | | |
| Intersection Capacity Utilization | | | 106.9% | | | ICU Level of Service | | | G | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2015 No-Build AM

19: E Parkins Mill Road & US 276

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 105 | 100 | 49 | 136 | 23 | 103 | 97 | 1419 | 75 | 84 | 1240 | 89 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 0.97 | 0.91 | 1.00 |
| Flt Protected | 1.00 | 0.95 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3269 | | 3335 | 1810 | 1538 | 1719 | 4940 | 1538 | 3335 | 4940 | 1538 |
| Satd. Flow (perm) | 1340 | 3269 | | 3335 | 1810 | 1538 | 1719 | 4940 | 1538 | 3335 | 4940 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 117 | 111 | 54 | 151 | 26 | 114 | 108 | 1577 | 83 | 93 | 1378 | 99 |
| RTOR Reduction (vph) | 0 | 49 | 0 | 0 | 0 | 100 | 0 | 0 | 48 | 0 | 0 | 62 |
| Lane Group Flow (vph) | 117 | 116 | 0 | 151 | 26 | 14 | 108 | 1577 | 35 | 93 | 1378 | 37 |
| Turn Type | pm+pt | | | Prot | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | | | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 9.8 | 5.8 | | 6.0 | 7.8 | 7.8 | 7.6 | 27.2 | 27.2 | 5.0 | 24.6 | 24.6 |
| Effective Green, g (s) | 9.8 | 5.8 | | 6.0 | 7.8 | 7.8 | 7.6 | 27.2 | 27.2 | 5.0 | 24.6 | 24.6 |
| Actuated g/C Ratio | 0.15 | 0.09 | | 0.09 | 0.12 | 0.12 | 0.12 | 0.42 | 0.42 | 0.08 | 0.38 | 0.38 |
| Clearance Time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 4.3 | 4.9 | | 4.3 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 225 | 292 | | 308 | 217 | 185 | 201 | 2067 | 644 | 257 | 1870 | 582 |
| v/s Ratio Prot | 0.03 | 0.04 | | c0.05 | 0.01 | | c0.06 | c0.32 | | 0.03 | 0.28 | |
| v/s Ratio Perm | c0.05 | | | | | 0.01 | | | 0.02 | | | 0.02 |
| v/c Ratio | 0.52 | 0.40 | | 0.49 | 0.12 | 0.07 | 0.54 | 0.76 | 0.05 | 0.36 | 0.74 | 0.06 |
| Uniform Delay, d1 | 25.2 | 27.9 | | 28.0 | 25.5 | 25.4 | 27.0 | 16.1 | 11.2 | 28.5 | 17.4 | 12.9 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.87 | 0.89 | 0.82 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.2 | 1.8 | | 1.9 | 0.5 | 0.3 | 3.2 | 2.2 | 0.1 | 1.4 | 2.6 | 0.2 |
| Delay (s) | 28.3 | 29.7 | | 30.0 | 26.0 | 25.7 | 26.8 | 16.6 | 9.3 | 29.9 | 20.0 | 13.1 |
| Level of Service | C | C | | C | C | C | C | B | A | C | C | B |
| Approach Delay (s) | | 29.2 | | | 28.0 | | | 16.9 | | | 20.2 | |
| Approach LOS | | C | | | C | | | B | | | C | |

Intersection Summary

| | | | |
|-----------------------------------|-------|----------------------|------|
| HCM Average Control Delay | 19.9 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.65 | | |
| Actuated Cycle Length (s) | 65.0 | Sum of lost time (s) | 19.0 |
| Intersection Capacity Utilization | 58.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

I-85/I-385 Interchange Improvements
2015 No-Build AM

























20: Duvall Drive & US 276



| Movement | EBL | EBR | SET | SER | NWL | NWT |
|-----------------------------------|-------|------|-------|------|----------------------|------|
| Lane Configurations | | | | | | |
| Volume (vph) | 346 | 96 | 1198 | 227 | 104 | 1245 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 6.3 | | 6.3 | 6.3 |
| Lane Util. Factor | 1.00 | 1.00 | 0.91 | | 1.00 | 0.91 |
| Frt | 1.00 | 0.85 | 0.98 | | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1719 | 1538 | 4822 | | 1719 | 4940 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.12 | 1.00 |
| Satd. Flow (perm) | 1719 | 1538 | 4822 | | 221 | 4940 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 384 | 107 | 1331 | 252 | 116 | 1383 |
| RTOR Reduction (vph) | 0 | 38 | 42 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 384 | 69 | 1541 | 0 | 116 | 1383 |
| Turn Type | Perm | | Perm | | Perm | |
| Protected Phases | 8 | | 2 | | | 6 |
| Permitted Phases | | 8 | | | 6 | |
| Actuated Green, G (s) | 15.0 | 15.0 | 37.7 | | 37.7 | 37.7 |
| Effective Green, g (s) | 15.0 | 15.0 | 37.7 | | 37.7 | 37.7 |
| Actuated g/C Ratio | 0.23 | 0.23 | 0.58 | | 0.58 | 0.58 |
| Clearance Time (s) | 6.0 | 6.0 | 6.3 | | 6.3 | 6.3 |
| Vehicle Extension (s) | 4.9 | 4.9 | 4.9 | | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 397 | 355 | 2797 | | 128 | 2865 |
| v/s Ratio Prot | c0.22 | | 0.32 | | | 0.28 |
| v/s Ratio Perm | | 0.04 | | | c0.52 | |
| v/c Ratio | 0.97 | 0.19 | 0.55 | | 0.91 | 0.48 |
| Uniform Delay, d1 | 24.8 | 20.1 | 8.4 | | 12.1 | 8.0 |
| Progression Factor | 1.00 | 1.00 | 0.18 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 36.7 | 0.5 | 0.6 | | 57.5 | 0.6 |
| Delay (s) | 61.5 | 20.7 | 2.1 | | 69.6 | 8.5 |
| Level of Service | E | C | A | | E | A |
| Approach Delay (s) | 52.6 | | 2.1 | | | 13.3 |
| Approach LOS | D | | A | | | B |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 13.7 | | HCM Level of Service | B |
| HCM Volume to Capacity ratio | | | 0.92 | | | |
| Actuated Cycle Length (s) | | | 65.0 | | Sum of lost time (s) | 12.3 |
| Intersection Capacity Utilization | | | 76.2% | | ICU Level of Service | D |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |





















I-85/I-385 Interchange Improvements
2015 No-Build AM

23: US 276 & Millennium Blvd

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 102 | 1205 | 210 | 24 | 1680 | 57 | 71 | 75 | 61 | 4 | 14 | 38 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 6.5 | 6.5 | 4.5 | 6.5 | 6.5 | 6.0 | 6.0 | | 6.0 | 6.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | | 1.00 | 1.00 | 0.88 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3438 | 1538 | 1719 | 3438 | 1538 | 3335 | 3206 | | 1719 | 1810 | 2707 |
| Flt Permitted | 0.06 | 1.00 | 1.00 | 0.14 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.66 | 1.00 | 1.00 |
| Satd. Flow (perm) | 115 | 3438 | 1538 | 260 | 3438 | 1538 | 3335 | 3206 | | 1188 | 1810 | 2707 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 113 | 1339 | 233 | 27 | 1867 | 63 | 79 | 83 | 68 | 4 | 16 | 42 |
| RTOR Reduction (vph) | 0 | 0 | 95 | 0 | 0 | 28 | 0 | 58 | 0 | 0 | 0 | 35 |
| Lane Group Flow (vph) | 113 | 1339 | 138 | 27 | 1867 | 35 | 79 | 93 | 0 | 4 | 16 | 7 |
| Turn Type | pm+pt | | Perm | pm+pt | | Perm | Prot | | | pm+pt | | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | 2 | | 2 | 6 | | 6 | | | | 4 | | 4 |
| Actuated Green, G (s) | 71.2 | 63.2 | 63.2 | 62.9 | 59.3 | 59.3 | 8.0 | 16.2 | | 9.4 | 8.8 | 16.8 |
| Effective Green, g (s) | 71.2 | 63.2 | 63.2 | 62.9 | 59.3 | 59.3 | 8.0 | 16.2 | | 9.4 | 8.8 | 16.8 |
| Actuated g/C Ratio | 0.67 | 0.59 | 0.59 | 0.59 | 0.56 | 0.56 | 0.08 | 0.15 | | 0.09 | 0.08 | 0.16 |
| Clearance Time (s) | 4.0 | 6.5 | 6.5 | 4.5 | 6.5 | 6.5 | 6.0 | 6.0 | | 6.0 | 6.0 | 4.0 |
| Vehicle Extension (s) | 4.3 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 | 4.3 | 6.4 | | 4.3 | 6.4 | 4.3 |
| Lane Grp Cap (vph) | 197 | 2038 | 912 | 203 | 1913 | 856 | 250 | 487 | | 108 | 149 | 427 |
| v/s Ratio Prot | c0.04 | 0.39 | | 0.00 | c0.54 | | c0.02 | c0.03 | | 0.00 | 0.01 | 0.00 |
| v/s Ratio Perm | 0.34 | | 0.09 | 0.07 | | 0.02 | | | | 0.00 | | 0.00 |
| v/c Ratio | 0.57 | 0.66 | 0.15 | 0.13 | 0.98 | 0.04 | 0.32 | 0.19 | | 0.04 | 0.11 | 0.02 |
| Uniform Delay, d1 | 22.3 | 14.5 | 9.7 | 10.7 | 23.0 | 10.7 | 46.7 | 39.5 | | 44.4 | 45.3 | 37.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 5.2 | 1.0 | 0.2 | 0.5 | 15.3 | 0.0 | 1.2 | 0.6 | | 0.2 | 1.0 | 0.0 |
| Delay (s) | 27.6 | 15.5 | 9.9 | 11.1 | 38.3 | 10.8 | 47.9 | 40.1 | | 44.6 | 46.3 | 37.9 |
| Level of Service | C | B | A | B | D | B | D | D | | D | D | D |
| Approach Delay (s) | | 15.5 | | | 37.0 | | | 42.8 | | | 40.5 | |
| Approach LOS | | B | | | D | | | D | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 28.2 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.78 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 106.6 | | | Sum of lost time (s) | | | | 20.5 | | |
| Intersection Capacity Utilization | | | 75.5% | | | ICU Level of Service | | | | D | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2015 No-Build AM

24: Pelham Road & The Parkway

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | |  |  | | | |  |  |  |
| Volume (vph) | 234 | 936 | 955 | 0 | 1657 | 774 | 0 | 0 | 0 | 276 | 502 | 180 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.8 | 5.8 | 5.8 | | 5.8 | 5.3 | | | | 5.3 | 5.3 | 5.3 |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | | 0.95 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 3335 | 3438 | 1538 | | 3438 | 1538 | | | | 1719 | 1810 | 1538 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 3335 | 3438 | 1538 | | 3438 | 1538 | | | | 1719 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 260 | 1040 | 1061 | 0 | 1841 | 860 | 0 | 0 | 0 | 307 | 558 | 200 |
| RTOR Reduction (vph) | 0 | 0 | 29 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 107 |
| Lane Group Flow (vph) | 260 | 1040 | 1032 | 0 | 1841 | 858 | 0 | 0 | 0 | 307 | 558 | 93 |
| Turn Type | Prot | | Perm | Perm | | custom | | | | Perm | | Perm |
| Protected Phases | 5 | 2 | | | 6 | 4 | | | | | 4 | |
| Permitted Phases | | | 2 | 6 | | 6 | | | | 4 | | 4 |
| Actuated Green, G (s) | 8.2 | 68.2 | 68.2 | | 54.2 | 84.9 | | | | 30.7 | 30.7 | 30.7 |
| Effective Green, g (s) | 8.2 | 68.2 | 68.2 | | 54.2 | 84.9 | | | | 30.7 | 30.7 | 30.7 |
| Actuated g/C Ratio | 0.07 | 0.62 | 0.62 | | 0.49 | 0.77 | | | | 0.28 | 0.28 | 0.28 |
| Clearance Time (s) | 5.8 | 5.8 | 5.8 | | 5.8 | 5.3 | | | | 5.3 | 5.3 | 5.3 |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | | 4.3 | 4.3 | | | | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 249 | 2132 | 954 | | 1694 | 1187 | | | | 480 | 505 | 429 |
| v/s Ratio Prot | 0.08 | 0.30 | | | 0.54 | 0.20 | | | | | c0.31 | |
| v/s Ratio Perm | | | c0.67 | | | 0.36 | | | | 0.18 | | 0.06 |
| v/c Ratio | 1.04 | 0.49 | 1.08 | | 1.09 | 0.72 | | | | 0.64 | 1.10 | 0.22 |
| Uniform Delay, d1 | 50.9 | 11.4 | 20.9 | | 27.9 | 6.5 | | | | 34.8 | 39.6 | 30.4 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 0.82 | 0.89 | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 69.1 | 0.8 | 53.9 | | 42.2 | 0.6 | | | | 3.4 | 71.9 | 0.4 |
| Delay (s) | 120.0 | 12.2 | 74.8 | | 65.2 | 6.4 | | | | 38.1 | 111.5 | 30.8 |
| Level of Service | F | B | E | | E | A | | | | D | F | C |
| Approach Delay (s) | | 52.2 | | | 46.5 | | | 0.0 | | | 75.2 | |
| Approach LOS | | D | | | D | | | A | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 53.7 | | HCM Level of Service | | | | | D | | |
| HCM Volume to Capacity ratio | | | 1.09 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 110.0 | | Sum of lost time (s) | | | | | 11.1 | | |
| Intersection Capacity Utilization | | | 145.4% | | ICU Level of Service | | | | | H | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2015 No-Build AM







25: Pelham Road & I-85 SB off ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|------|------|--------|------|----------------------|-------|
| Lane Configurations | | ↑↑ | ↑↑ | | ↑ | ↑↑ |
| Volume (vph) | 0 | 1212 | 1222 | 0 | 649 | 1209 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.6 | 5.6 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 0.95 | | 1.00 | 0.88 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3438 | 3438 | | 1719 | 2707 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3438 | 3438 | | 1719 | 2707 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 1347 | 1358 | 0 | 721 | 1343 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 11 |
| Lane Group Flow (vph) | 0 | 1347 | 1358 | 0 | 721 | 1332 |
| Turn Type | | | | | Perm | |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | | 45.4 | 45.4 | | 53.7 | 53.7 |
| Effective Green, g (s) | | 45.4 | 45.4 | | 53.7 | 53.7 |
| Actuated g/C Ratio | | 0.41 | 0.41 | | 0.49 | 0.49 |
| Clearance Time (s) | | 5.6 | 5.6 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 4.3 | 4.3 | | 4.3 | 4.3 |
| Lane Grp Cap (vph) | | 1419 | 1419 | | 839 | 1322 |
| v/s Ratio Prot | | 0.39 | c0.39 | | 0.42 | |
| v/s Ratio Perm | | | | | | c0.49 |
| v/c Ratio | | 0.95 | 0.96 | | 0.86 | 1.01 |
| Uniform Delay, d1 | | 31.2 | 31.4 | | 24.8 | 28.1 |
| Progression Factor | | 0.93 | 0.84 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 13.0 | 13.7 | | 9.2 | 26.7 |
| Delay (s) | | 42.0 | 40.1 | | 34.1 | 54.8 |
| Level of Service | | D | D | | C | D |
| Approach Delay (s) | | 42.0 | 40.1 | | 47.6 | |
| Approach LOS | | D | D | | D | |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 43.9 | | HCM Level of Service | D |
| HCM Volume to Capacity ratio | | | 0.98 | | | |
| Actuated Cycle Length (s) | | | 110.0 | | Sum of lost time (s) | 10.9 |
| Intersection Capacity Utilization | | | 122.0% | | ICU Level of Service | H |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |




















I-85/I-385 Interchange Improvements
2015 No-Build AM

26: Pelham Road & I-85 NB off ramp

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑ | | | ↑↑ | ↘↘ | ↗ |
| Volume (vph) | 1110 | 0 | 0 | 647 | 910 | 948 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.8 | | | 5.8 | 5.0 | 5.0 |
| Lane Util. Factor | 0.95 | | | 0.95 | 0.97 | 1.00 |
| Frt | 1.00 | | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 1.00 | | | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 3438 | | | 3438 | 3335 | 1538 |
| Flt Permitted | 1.00 | | | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 3438 | | | 3438 | 3335 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 1233 | 0 | 0 | 719 | 1011 | 1053 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 3 |
| Lane Group Flow (vph) | 1233 | 0 | 0 | 719 | 1011 | 1050 |
| Turn Type | | | | | Perm | |
| Protected Phases | 2 | | | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Actuated Green, G (s) | 36.2 | | | 36.2 | 63.0 | 63.0 |
| Effective Green, g (s) | 36.2 | | | 36.2 | 63.0 | 63.0 |
| Actuated g/C Ratio | 0.33 | | | 0.33 | 0.57 | 0.57 |
| Clearance Time (s) | 5.8 | | | 5.8 | 5.0 | 5.0 |
| Vehicle Extension (s) | 4.3 | | | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 1131 | | | 1131 | 1910 | 881 |
| v/s Ratio Prot | c0.36 | | | 0.21 | 0.30 | |
| v/s Ratio Perm | | | | | | c0.68 |
| v/c Ratio | 1.09 | | | 0.64 | 0.53 | 1.19 |
| Uniform Delay, d1 | 36.9 | | | 31.3 | 14.4 | 23.5 |
| Progression Factor | 0.74 | | | 0.84 | 1.00 | 1.00 |
| Incremental Delay, d2 | 46.9 | | | 2.2 | 0.4 | 97.8 |
| Delay (s) | 74.3 | | | 28.6 | 14.8 | 121.3 |
| Level of Service | E | | | C | B | F |
| Approach Delay (s) | 74.3 | | | 28.6 | 69.1 | |
| Approach LOS | E | | | C | E | |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 63.5 | | HCM Level of Service | E |
| HCM Volume to Capacity ratio | | | 1.16 | | | |
| Actuated Cycle Length (s) | | | 110.0 | | Sum of lost time (s) | 10.8 |
| Intersection Capacity Utilization | | | 135.4% | | ICU Level of Service | H |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |




















I-85/I-385 Interchange Improvements
2015 No-Build AM

27: Pelham Road & Boland Court

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  |  | |  | |
| Volume (vph) | 33 | 1425 | 600 | 141 | 869 | 8 | 305 | 2 | 148 | 26 | 2 | 12 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.7 | 6.7 | | 6.7 | 6.7 | | | 6.3 | 6.3 | | 6.3 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 0.96 | | 1.00 | 1.00 | | | 1.00 | 0.85 | | 0.96 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.97 | |
| Satd. Flow (prot) | 1719 | 3285 | | 1719 | 3433 | | | 1724 | 1538 | | 1682 | |
| Flt Permitted | 0.29 | 1.00 | | 0.06 | 1.00 | | | 0.69 | 1.00 | | 0.51 | |
| Satd. Flow (perm) | 532 | 3285 | | 110 | 3433 | | | 1258 | 1538 | | 880 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 37 | 1583 | 667 | 157 | 966 | 9 | 339 | 2 | 164 | 29 | 2 | 13 |
| RTOR Reduction (vph) | 0 | 42 | 0 | 0 | 1 | 0 | 0 | 0 | 82 | 0 | 10 | 0 |
| Lane Group Flow (vph) | 37 | 2208 | 0 | 157 | 974 | 0 | 0 | 341 | 82 | 0 | 34 | 0 |
| Turn Type | Perm | | | pm+pt | | | Perm | | | Perm | | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | 8 | | | | 4 |
| Permitted Phases | 2 | | | 6 | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 59.0 | 59.0 | | 71.0 | 71.0 | | | 26.0 | 26.0 | | 26.0 | |
| Effective Green, g (s) | 59.0 | 59.0 | | 71.0 | 71.0 | | | 26.0 | 26.0 | | 26.0 | |
| Actuated g/C Ratio | 0.54 | 0.54 | | 0.65 | 0.65 | | | 0.24 | 0.24 | | 0.24 | |
| Clearance Time (s) | 6.7 | 6.7 | | 6.7 | 6.7 | | | 6.3 | 6.3 | | 6.3 | |
| Vehicle Extension (s) | 4.9 | 4.9 | | 4.3 | 4.9 | | | 4.3 | 4.3 | | 4.3 | |
| Lane Grp Cap (vph) | 285 | 1762 | | 149 | 2216 | | | 297 | 364 | | 208 | |
| v/s Ratio Prot | | c0.67 | | c0.05 | 0.28 | | | | | | | |
| v/s Ratio Perm | 0.07 | | | 0.63 | | | | c0.27 | 0.05 | | 0.04 | |
| v/c Ratio | 0.13 | 1.25 | | 1.05 | 0.44 | | | 1.15 | 0.22 | | 0.16 | |
| Uniform Delay, d1 | 12.7 | 25.5 | | 33.1 | 9.7 | | | 42.0 | 33.9 | | 33.4 | |
| Progression Factor | 0.62 | 0.54 | | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 0.1 | 114.3 | | 88.7 | 0.6 | | | 98.5 | 0.5 | | 0.6 | |
| Delay (s) | 7.9 | 128.1 | | 121.8 | 10.3 | | | 140.5 | 34.4 | | 34.0 | |
| Level of Service | A | F | | F | B | | | F | C | | C | |
| Approach Delay (s) | | 126.1 | | | 25.8 | | | 106.0 | | | 34.0 | |
| Approach LOS | | F | | | C | | | F | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 93.9 | | | HCM Level of Service | | | F | | | |
| HCM Volume to Capacity ratio | | | 1.21 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 110.0 | | | Sum of lost time (s) | | | 19.7 | | | |
| Intersection Capacity Utilization | | | 106.5% | | | ICU Level of Service | | | G | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |


















I-85/I-385 Interchange Improvements
2015 No-Build AM

28: Forsythia Dr & E Butler Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  | |  | |  |  | |  |  | |
| Volume (vph) | 19 | 0 | 16 | 16 | 0 | 118 | 2 | 978 | 11 | 41 | 882 | 10 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.0 | 6.0 | | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | | 1.00 | 0.85 | | 0.88 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | | 0.99 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1719 | 1538 | | 1585 | | 1719 | 3432 | | 1719 | 3432 | |
| Flt Permitted | | 0.76 | 1.00 | | 0.96 | | 0.26 | 1.00 | | 0.22 | 1.00 | |
| Satd. Flow (perm) | | 1377 | 1538 | | 1527 | | 474 | 3432 | | 405 | 3432 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 21 | 0 | 18 | 18 | 0 | 131 | 2 | 1087 | 12 | 46 | 980 | 11 |
| RTOR Reduction (vph) | 0 | 0 | 15 | 0 | 46 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 21 | 3 | 0 | 103 | 0 | 2 | 1098 | 0 | 46 | 990 | 0 |
| Turn Type | Perm | | Perm | Perm | | | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | 2 | | | 6 | | |
| Actuated Green, G (s) | | 10.2 | 10.2 | | 10.2 | | 32.8 | 32.8 | | 32.8 | 32.8 | |
| Effective Green, g (s) | | 10.2 | 10.2 | | 10.2 | | 32.8 | 32.8 | | 32.8 | 32.8 | |
| Actuated g/C Ratio | | 0.19 | 0.19 | | 0.19 | | 0.60 | 0.60 | | 0.60 | 0.60 | |
| Clearance Time (s) | | 6.0 | 6.0 | | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Vehicle Extension (s) | | 4.3 | 4.3 | | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | | 255 | 285 | | 283 | | 283 | 2047 | | 242 | 2047 | |
| v/s Ratio Prot | | | | | | | | c0.32 | | | | 0.29 |
| v/s Ratio Perm | | 0.02 | 0.00 | | c0.07 | | 0.00 | | | 0.11 | | |
| v/c Ratio | | 0.08 | 0.01 | | 0.37 | | 0.01 | 0.54 | | 0.19 | 0.48 | |
| Uniform Delay, d1 | | 18.5 | 18.3 | | 19.6 | | 4.5 | 6.6 | | 5.1 | 6.3 | |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | | 0.65 | 0.72 | |
| Incremental Delay, d2 | | 0.2 | 0.0 | | 1.3 | | 0.0 | 1.0 | | 1.6 | 0.8 | |
| Delay (s) | | 18.7 | 18.3 | | 20.8 | | 4.5 | 7.6 | | 4.9 | 5.3 | |
| Level of Service | | B | B | | C | | A | A | | A | A | |
| Approach Delay (s) | | 18.5 | | | 20.8 | | | 7.6 | | | 5.3 | |
| Approach LOS | | B | | | C | | | A | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 7.6 | | | HCM Level of Service | | | | A | | |
| HCM Volume to Capacity ratio | | | 0.50 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 55.0 | | | Sum of lost time (s) | | | | 12.0 | | |
| Intersection Capacity Utilization | | | 58.9% | | | ICU Level of Service | | | | B | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |





















I-85/I-385 Interchange Improvements
2015 No-Build AM

30: E Butler Road & I-385 SB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | |  | |  |  | | |  |  | | | |
| Volume (vph) | 0 | 1052 | 65 | 179 | 714 | 0 | 557 | 0 | 245 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.0 | | 6.0 | 6.0 | | | 6.0 | 6.0 | | | |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | 1.00 | 1.00 | | | |
| Flt | | 0.99 | | 1.00 | 1.00 | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | | 3408 | | 1719 | 3438 | | | 1719 | 1538 | | | |
| Flt Permitted | | 1.00 | | 0.09 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | | 3408 | | 155 | 3438 | | | 1719 | 1538 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 1169 | 72 | 199 | 793 | 0 | 619 | 0 | 272 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 105 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1237 | 0 | 199 | 793 | 0 | 0 | 619 | 167 | 0 | 0 | 0 |
| Turn Type | | | | pm+pt | | | Perm | | Perm | | | |
| Protected Phases | | | | 1 | 6 | | | 4 | | | | |
| Permitted Phases | | 2 | | 6 | | | 4 | | 4 | | | |
| Actuated Green, G (s) | | 40.7 | | 60.0 | 60.0 | | | 38.0 | 38.0 | | | |
| Effective Green, g (s) | | 40.7 | | 60.0 | 60.0 | | | 38.0 | 38.0 | | | |
| Actuated g/C Ratio | | 0.37 | | 0.55 | 0.55 | | | 0.35 | 0.35 | | | |
| Clearance Time (s) | | 6.0 | | 6.0 | 6.0 | | | 6.0 | 6.0 | | | |
| Vehicle Extension (s) | | 4.3 | | 4.3 | 4.3 | | | 4.3 | 4.3 | | | |
| Lane Grp Cap (vph) | | 1261 | | 274 | 1875 | | | 594 | 531 | | | |
| v/s Ratio Prot | | | | c0.09 | 0.23 | | | | | | | |
| v/s Ratio Perm | | c0.36 | | 0.31 | | | | 0.36 | 0.11 | | | |
| v/c Ratio | | 0.98 | | 0.73 | 0.42 | | | 1.04 | 0.31 | | | |
| Uniform Delay, d1 | | 34.3 | | 26.9 | 14.8 | | | 36.0 | 26.4 | | | |
| Progression Factor | | 1.02 | | 0.64 | 1.39 | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 19.7 | | 7.0 | 0.5 | | | 48.3 | 0.5 | | | |
| Delay (s) | | 54.5 | | 24.4 | 21.0 | | | 84.3 | 27.0 | | | |
| Level of Service | | D | | C | C | | | F | C | | | |
| Approach Delay (s) | | 54.5 | | | 21.7 | | | 66.8 | | | 0.0 | |
| Approach LOS | | D | | | C | | | E | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 47.6 | | | HCM Level of Service | | | D | | | |
| HCM Volume to Capacity ratio | | | 0.97 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 110.0 | | | Sum of lost time (s) | | | 18.0 | | | |
| Intersection Capacity Utilization | | | 86.9% | | | ICU Level of Service | | | E | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |
























I-85/I-385 Interchange Improvements
2015 No-Build AM

31: E Butler Road & I-385 NB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |   | | |   |  | | | |  | |  |
| Volume (vph) | 413 | 1196 | 0 | 0 | 875 | 512 | 0 | 0 | 0 | 18 | 0 | 304 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | | | 6.0 | 6.0 | | | | 6.0 | | 6.0 |
| Lane Util. Factor | 1.00 | 0.95 | | | 0.95 | 1.00 | | | | 1.00 | | 1.00 |
| Flt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | | 1.00 | | 0.85 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | 1719 | 3438 | | | 3438 | 1538 | | | | 1719 | | 1538 |
| Flt Permitted | 0.13 | 1.00 | | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | 234 | 3438 | | | 3438 | 1538 | | | | 1719 | | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 459 | 1329 | 0 | 0 | 972 | 569 | 0 | 0 | 0 | 20 | 0 | 338 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 351 | 0 | 0 | 0 | 0 | 0 | 60 |
| Lane Group Flow (vph) | 459 | 1329 | 0 | 0 | 972 | 218 | 0 | 0 | 0 | 20 | 0 | 278 |
| Turn Type | pm+pt | | | | custom | | | | custom | | | custom |
| Protected Phases | 5 | 2 | | | | | | | | | | 8 |
| Permitted Phases | 2 | | | | 6 | 6 | | | | 8 | | |
| Actuated Green, G (s) | 74.9 | 74.9 | | | 42.1 | 42.1 | | | | 23.1 | | 23.1 |
| Effective Green, g (s) | 74.9 | 74.9 | | | 42.1 | 42.1 | | | | 23.1 | | 23.1 |
| Actuated g/C Ratio | 0.68 | 0.68 | | | 0.38 | 0.38 | | | | 0.21 | | 0.21 |
| Clearance Time (s) | 6.0 | 6.0 | | | 6.0 | 6.0 | | | | 6.0 | | 6.0 |
| Vehicle Extension (s) | 4.3 | 4.3 | | | 4.3 | 4.3 | | | | 4.3 | | 4.3 |
| Lane Grp Cap (vph) | 521 | 2341 | | | 1316 | 589 | | | | 361 | | 323 |
| v/s Ratio Prot | c0.21 | 0.39 | | | | | | | | | | c0.18 |
| v/s Ratio Perm | c0.38 | | | | 0.28 | 0.14 | | | | 0.01 | | |
| v/c Ratio | 0.88 | 0.57 | | | 0.74 | 0.37 | | | | 0.06 | | 0.86 |
| Uniform Delay, d1 | 27.0 | 9.1 | | | 29.2 | 24.4 | | | | 34.7 | | 41.9 |
| Progression Factor | 0.63 | 0.34 | | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | 1.9 | 0.1 | | | 3.7 | 1.8 | | | | 0.1 | | 21.1 |
| Delay (s) | 19.0 | 3.2 | | | 33.0 | 26.2 | | | | 34.8 | | 63.0 |
| Level of Service | B | A | | | C | C | | | | C | | E |
| Approach Delay (s) | | 7.2 | | | 30.5 | | | 0.0 | | | 61.4 | |
| Approach LOS | | A | | | C | | | A | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 22.2 | | HCM Level of Service | | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.85 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 110.0 | | Sum of lost time (s) | | | | | 12.0 | | |
| Intersection Capacity Utilization | | | 86.9% | | ICU Level of Service | | | | | E | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |




















I-85/I-385 Interchange Improvements
2015 No-Build AM

34: Frontage Road & Roper Mountain Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 2 | 61 | 94 | 69 | 14 | 11 | 526 | 766 | 647 | 61 | 1087 | 23 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | |
| Lane Util. Factor | 1.00 | 1.00 | | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Flt Protected | 1.00 | 0.91 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 1645 | | 1633 | 1664 | 1538 | 1719 | 3438 | 1538 | 1719 | 3427 | |
| Satd. Flow (perm) | 1719 | 1645 | | 1633 | 1664 | 1538 | 196 | 3438 | 1538 | 601 | 3427 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 2 | 68 | 104 | 77 | 16 | 12 | 584 | 851 | 719 | 68 | 1208 | 26 |
| RTOR Reduction (vph) | 0 | 61 | 0 | 0 | 0 | 11 | 0 | 0 | 200 | 0 | 2 | 0 |
| Lane Group Flow (vph) | 2 | 111 | 0 | 46 | 47 | 1 | 584 | 851 | 519 | 68 | 1232 | 0 |
| Turn Type | Split | | | Split | | Perm | pm+pt | | Perm | Perm | | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | 2 | | 2 | 6 | | |
| Actuated Green, G (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 61.0 | 61.0 | 61.0 | 31.0 | 31.0 | |
| Effective Green, g (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 61.0 | 61.0 | 61.0 | 31.0 | 31.0 | |
| Actuated g/C Ratio | 0.08 | 0.08 | | 0.04 | 0.04 | 0.04 | 0.68 | 0.68 | 0.68 | 0.34 | 0.34 | |
| Clearance Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | |
| Vehicle Extension (s) | 4.9 | 4.9 | | 4.9 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 | 4.9 | 4.9 | |
| Lane Grp Cap (vph) | 134 | 128 | | 73 | 74 | 68 | 539 | 2330 | 1042 | 207 | 1180 | |
| v/s Ratio Prot | 0.00 | c0.07 | | 0.03 | c0.03 | | c0.29 | 0.25 | | | 0.36 | |
| v/s Ratio Perm | | | | | | 0.00 | c0.45 | | 0.34 | 0.11 | | |
| v/c Ratio | 0.01 | 0.87 | | 0.63 | 0.64 | 0.01 | 1.08 | 0.37 | 0.50 | 0.33 | 1.04 | |
| Uniform Delay, d1 | 38.3 | 41.0 | | 42.3 | 42.3 | 41.1 | 26.6 | 6.2 | 7.1 | 21.8 | 29.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.03 | 0.85 | 1.75 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.1 | 44.8 | | 21.7 | 21.8 | 0.1 | 54.4 | 0.3 | 1.0 | 4.2 | 38.5 | |
| Delay (s) | 38.4 | 85.8 | | 64.0 | 64.1 | 41.2 | 81.9 | 5.5 | 13.3 | 26.0 | 68.0 | |
| Level of Service | D | F | | E | E | D | F | A | B | C | E | |
| Approach Delay (s) | | 85.3 | | | 61.4 | | | 28.8 | | | 65.8 | |
| Approach LOS | | F | | | E | | | C | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 45.3 | | | HCM Level of Service | | | D | | | |
| HCM Volume to Capacity ratio | | | 0.99 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 90.0 | | | Sum of lost time (s) | | | 18.0 | | | |
| Intersection Capacity Utilization | | | 92.2% | | | ICU Level of Service | | | F | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |













I-85/I-385 Interchange Improvements
2015 No-Build AM

35: I-385 NB Ramps & Roper Mountain Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | |  |  |  |  |  | | |  |  |
| Volume (vph) | 0 | 0 | 0 | 659 | 0 | 934 | 164 | 1005 | 0 | 0 | 963 | 287 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | | 6.0 | 6.0 |
| Lane Util. Factor | | | | 0.95 | 0.95 | 0.88 | 0.97 | 0.95 | | | 0.95 | 1.00 |
| Frt | | | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 |
| Flt Protected | | | | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (prot) | | | | 1633 | 1633 | 2707 | 3335 | 3438 | | | 3438 | 1538 |
| Flt Permitted | | | | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (perm) | | | | 1633 | 1633 | 2707 | 3335 | 3438 | | | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 0 | 0 | 732 | 0 | 1038 | 182 | 1117 | 0 | 0 | 1070 | 319 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 56 | 0 | 0 | 0 | 0 | 0 | 206 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 366 | 366 | 982 | 182 | 1117 | 0 | 0 | 1070 | 113 |
| Turn Type | | | | Perm | | Perm | Prot | | | | | Perm |
| Protected Phases | | | | | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | 8 | | 8 | | | | | | 6 |
| Actuated Green, G (s) | | | | 34.2 | 34.2 | 34.2 | 6.0 | 43.8 | | | 31.8 | 31.8 |
| Effective Green, g (s) | | | | 34.2 | 34.2 | 34.2 | 6.0 | 43.8 | | | 31.8 | 31.8 |
| Actuated g/C Ratio | | | | 0.38 | 0.38 | 0.38 | 0.07 | 0.49 | | | 0.35 | 0.35 |
| Clearance Time (s) | | | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | | 6.0 | 6.0 |
| Vehicle Extension (s) | | | | 4.9 | 4.9 | 4.9 | 4.3 | 4.9 | | | 4.9 | 4.9 |
| Lane Grp Cap (vph) | | | | 621 | 621 | 1029 | 222 | 1673 | | | 1215 | 543 |
| v/s Ratio Prot | | | | | | | 0.05 | c0.32 | | | c0.31 | |
| v/s Ratio Perm | | | | 0.22 | 0.22 | c0.36 | | | | | | 0.07 |
| v/c Ratio | | | | 0.59 | 0.59 | 0.95 | 0.82 | 0.67 | | | 0.88 | 0.21 |
| Uniform Delay, d1 | | | | 22.3 | 22.3 | 27.1 | 41.5 | 17.6 | | | 27.3 | 20.3 |
| Progression Factor | | | | 1.00 | 1.00 | 1.00 | 1.36 | 0.16 | | | 0.67 | 1.14 |
| Incremental Delay, d2 | | | | 2.2 | 2.2 | 18.4 | 17.6 | 1.6 | | | 1.0 | 0.1 |
| Delay (s) | | | | 24.5 | 24.5 | 45.5 | 74.2 | 4.5 | | | 19.4 | 23.3 |
| Level of Service | | | | C | C | D | E | A | | | B | C |
| Approach Delay (s) | | 0.0 | | | 36.8 | | | 14.3 | | | 20.3 | |
| Approach LOS | | A | | | D | | | B | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 25.1 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.93 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 90.0 | | | Sum of lost time (s) | | | 18.0 | | | |
| Intersection Capacity Utilization | | | 88.0% | | | ICU Level of Service | | | E | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

























I-85/I-385 Interchange Improvements
2015 No-Build AM

36: Roper Mountain Road & I-385 SB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | | ↑↑↑ | ↑ | ↑ | ↑↑ | | ↑ | ↑ | ↑↑ | | | |
| Volume (vph) | 0 | 661 | 236 | 608 | 1014 | 0 | 508 | 0 | 284 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.4 | 6.4 | 5.8 | 6.4 | | 6.1 | 6.1 | 6.1 | | | |
| Lane Util. Factor | | 0.91 | 1.00 | 1.00 | 0.95 | | 0.95 | 0.95 | 0.88 | | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | | 4940 | 1538 | 1719 | 3438 | | 1633 | 1633 | 2707 | | | |
| Flt Permitted | | 1.00 | 1.00 | 0.32 | 1.00 | | 0.95 | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | | 4940 | 1538 | 587 | 3438 | | 1633 | 1633 | 2707 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 734 | 262 | 676 | 1127 | 0 | 564 | 0 | 316 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 170 | 0 | 0 | 0 | 0 | 0 | 178 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 734 | 92 | 676 | 1127 | 0 | 282 | 282 | 138 | 0 | 0 | 0 |
| Turn Type | | Perm | | pm+pt | | | Perm | | Perm | | | |
| Protected Phases | | 2 | | 1 | 6 | | | 4 | | | | |
| Permitted Phases | | | 2 | 6 | | | 4 | | 4 | | | |
| Actuated Green, G (s) | | 31.6 | 31.6 | 61.6 | 61.0 | | 16.5 | 16.5 | 16.5 | | | |
| Effective Green, g (s) | | 31.6 | 31.6 | 61.6 | 61.0 | | 16.5 | 16.5 | 16.5 | | | |
| Actuated g/C Ratio | | 0.35 | 0.35 | 0.68 | 0.68 | | 0.18 | 0.18 | 0.18 | | | |
| Clearance Time (s) | | 6.4 | 6.4 | 5.8 | 6.4 | | 6.1 | 6.1 | 6.1 | | | |
| Vehicle Extension (s) | | 4.9 | 4.9 | 4.3 | 4.9 | | 4.9 | 4.9 | 4.9 | | | |
| Lane Grp Cap (vph) | | 1734 | 540 | 699 | 2330 | | 299 | 299 | 496 | | | |
| v/s Ratio Prot | | 0.15 | | c0.25 | 0.33 | | | | | | | |
| v/s Ratio Perm | | | 0.06 | c0.41 | | | c0.17 | 0.17 | 0.05 | | | |
| v/c Ratio | | 0.42 | 0.17 | 0.97 | 0.48 | | 0.94 | 0.94 | 0.28 | | | |
| Uniform Delay, d1 | | 22.3 | 20.2 | 16.1 | 7.0 | | 36.3 | 36.3 | 31.6 | | | |
| Progression Factor | | 0.74 | 0.26 | 0.52 | 0.45 | | 1.00 | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 0.7 | 0.7 | 19.5 | 0.5 | | 37.8 | 37.8 | 0.6 | | | |
| Delay (s) | | 17.1 | 5.8 | 27.8 | 3.6 | | 74.1 | 74.1 | 32.2 | | | |
| Level of Service | | B | A | C | A | | E | E | C | | | |
| Approach Delay (s) | | 14.2 | | | 12.7 | | | 59.1 | | | 0.0 | |
| Approach LOS | | B | | | B | | | E | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 24.2 | | | HCM Level of Service | | | C | | | |
| HCM Volume to Capacity ratio | | | 0.94 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 90.0 | | | Sum of lost time (s) | | | 11.9 | | | |
| Intersection Capacity Utilization | | | 88.0% | | | ICU Level of Service | | | E | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |











I-85/I-385 Interchange Improvements
2015 No-Build AM

37: Roper Mountain Road & Congaree Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |    | | |   |  |  |  | | |   |  |
| Volume (vph) | 273 | 700 | 1 | 4 | 913 | 381 | 196 | 2 | 202 | 1 | 2 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.8 | 6.4 | | | 6.4 | 6.4 | 6.1 | 6.1 | | | 6.1 | 6.1 |
| Lane Util. Factor | 1.00 | 0.91 | | | 0.95 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | 0.85 | | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.98 | 1.00 |
| Satd. Flow (prot) | 1719 | 4939 | | | 3437 | 1538 | 1719 | 1540 | | | 1780 | 1538 |
| Flt Permitted | 0.16 | 1.00 | | | 0.95 | 1.00 | 0.76 | 1.00 | | | 0.92 | 1.00 |
| Satd. Flow (perm) | 295 | 4939 | | | 3274 | 1538 | 1368 | 1540 | | | 1662 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 303 | 778 | 1 | 4 | 1014 | 423 | 218 | 2 | 224 | 1 | 2 | 1 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 227 | 0 | 178 | 0 | 0 | 0 | 1 |
| Lane Group Flow (vph) | 303 | 779 | 0 | 0 | 1018 | 196 | 218 | 48 | 0 | 0 | 3 | 0 |
| Turn Type | pm+pt | | | Perm | | Perm | Perm | | | Perm | | Perm |
| Protected Phases | 5 | 2 | | | 6 | | | 4 | | | 8 | |
| Permitted Phases | 2 | | | 6 | | 6 | 4 | | | 8 | | 8 |
| Actuated Green, G (s) | 59.0 | 59.0 | | | 41.6 | 41.6 | 18.5 | 18.5 | | | 18.5 | 18.5 |
| Effective Green, g (s) | 59.0 | 59.0 | | | 41.6 | 41.6 | 18.5 | 18.5 | | | 18.5 | 18.5 |
| Actuated g/C Ratio | 0.66 | 0.66 | | | 0.46 | 0.46 | 0.21 | 0.21 | | | 0.21 | 0.21 |
| Clearance Time (s) | 5.8 | 6.4 | | | 6.4 | 6.4 | 6.1 | 6.1 | | | 6.1 | 6.1 |
| Vehicle Extension (s) | 4.3 | 4.9 | | | 4.9 | 4.9 | 4.9 | 4.9 | | | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 377 | 3238 | | | 1513 | 711 | 281 | 317 | | | 342 | 316 |
| v/s Ratio Prot | c0.10 | 0.16 | | | | | | 0.03 | | | | |
| v/s Ratio Perm | c0.42 | | | | 0.31 | 0.13 | c0.16 | | | | 0.00 | 0.00 |
| v/c Ratio | 0.80 | 0.24 | | | 0.67 | 0.27 | 0.78 | 0.15 | | | 0.01 | 0.00 |
| Uniform Delay, d1 | 12.4 | 6.3 | | | 18.9 | 14.9 | 33.8 | 29.3 | | | 28.5 | 28.4 |
| Progression Factor | 1.00 | 1.00 | | | 0.75 | 0.74 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Incremental Delay, d2 | 12.7 | 0.2 | | | 2.2 | 0.9 | 14.4 | 0.4 | | | 0.0 | 0.0 |
| Delay (s) | 25.1 | 6.5 | | | 16.3 | 11.8 | 48.2 | 29.8 | | | 28.5 | 28.4 |
| Level of Service | C | A | | | B | B | D | C | | | C | C |
| Approach Delay (s) | | 11.7 | | | 15.0 | | | 38.8 | | | 28.5 | |
| Approach LOS | | B | | | B | | | D | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 17.4 | | HCM Level of Service | | | | B | | | |
| HCM Volume to Capacity ratio | | | 0.76 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 90.0 | | Sum of lost time (s) | | | 11.9 | | | | |
| Intersection Capacity Utilization | | | 83.6% | | ICU Level of Service | | | E | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |










I-85/I-385 Interchange Improvements
2015 No-Build AM

21: Frontage Rd & US 276

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | SEL | SET | NWT | NWR |
| Lane Configurations |  | |  |  |  | |
| Volume (veh/h) | 125 | 20 | 74 | 1555 | 1906 | 72 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 139 | 22 | 82 | 1728 | 2118 | 80 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | 1013 | |
| pX, platoon unblocked | 0.50 | 0.50 | 0.50 | | | |
| vC, conflicting volume | 3186 | 1099 | 2198 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 3372 | 0 | 1396 | | | |
| tC, single (s) | 6.9 | 7.0 | 4.2 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 0 | 96 | 65 | | | |
| cM capacity (veh/h) | 2 | 537 | 235 | | | |
| Direction, Lane # | WB 1 | SE 1 | SE 2 | SE 3 | NW 1 | NW 2 |
| Volume Total | 161 | 82 | 864 | 864 | 1412 | 786 |
| Volume Left | 139 | 82 | 0 | 0 | 0 | 0 |
| Volume Right | 22 | 0 | 0 | 0 | 0 | 80 |
| cSH | 2 | 235 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 78.27 | 0.35 | 0.51 | 0.51 | 0.83 | 0.46 |
| Queue Length 95th (ft) | Err | 37 | 0 | 0 | 0 | 0 |
| Control Delay (s) | Err | 28.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | F | D | | | | |
| Approach Delay (s) | Err | 1.3 | | | 0.0 | |
| Approach LOS | F | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 387.0 | | | |
| Intersection Capacity Utilization | | | 76.3% | | ICU Level of Service | D |
| Analysis Period (min) | | | 15 | | | |












I-85/I-385 Interchange Improvements
2015 No-Build AM

22: US 276 & St Josephs Dr

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | SET | SER | NWL | NWT | NEL | NER |
| Lane Configurations |  | | |  |  | |
| Volume (veh/h) | 1419 | 261 | 264 | 1525 | 453 | 98 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 1577 | 290 | 293 | 1694 | 503 | 109 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 860 | | |
| pX, platoon unblocked | | | | | 0.47 | |
| vC, conflicting volume | | | 1867 | | 3156 | 933 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 1867 | | 3330 | 933 |
| tC, single (s) | | | 4.2 | | 6.9 | 7.0 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 4 | | 0 | 58 |
| cM capacity (veh/h) | | | 307 | | 0 | 262 |
| Direction, Lane # | SE 1 | SE 2 | NW 1 | NW 2 | NE 1 | |
| Volume Total | 1051 | 816 | 858 | 1130 | 612 | |
| Volume Left | 0 | 0 | 293 | 0 | 503 | |
| Volume Right | 0 | 290 | 0 | 0 | 109 | |
| cSH | 1700 | 1700 | 307 | 1700 | 0 | |
| Volume to Capacity | 0.62 | 0.48 | 0.96 | 0.66 | 4063.17 | |
| Queue Length 95th (ft) | 0 | 0 | 242 | 0 | Err | |
| Control Delay (s) | 0.0 | 0.0 | 78.3 | 0.0 | Err | |
| Lane LOS | | | F | | F | |
| Approach Delay (s) | 0.0 | | 33.8 | | Err | |
| Approach LOS | | | | | F | |
| Intersection Summary | | | | | | |
| Average Delay | | | 1385.6 | | | |
| Intersection Capacity Utilization | | | 138.4% | ICU Level of Service | | H |
| Analysis Period (min) | | | 15 | | | |











I-85/I-385 Interchange Improvements
2015 No-Build AM

29: Rothwell Dr & E Butler Road

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |
| Volume (veh/h) | 6 | 1 | 4 | 1111 | 932 | 27 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 7 | 1 | 4 | 1234 | 1036 | 30 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | 5 | | | | |
| Median type | | | | TWLT | TWLT | |
| Median storage (veh) | | | | 2 | 2 | |
| Upstream signal (ft) | | | | 1176 | 378 | |
| pX, platoon unblocked | 0.91 | 0.87 | 0.87 | | | |
| vC, conflicting volume | 1677 | 533 | 1066 | | | |
| vC1, stage 1 conf vol | 1051 | | | | | |
| vC2, stage 2 conf vol | 626 | | | | | |
| vCu, unblocked vol | 878 | 149 | 764 | | | |
| tC, single (s) | 6.9 | 7.0 | 4.2 | | | |
| tC, 2 stage (s) | 5.9 | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 98 | 100 | 99 | | | |
| cM capacity (veh/h) | 351 | 746 | 714 | | | |
| Direction, Lane # | EB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 |
| Volume Total | 8 | 4 | 617 | 617 | 690 | 375 |
| Volume Left | 7 | 4 | 0 | 0 | 0 | 0 |
| Volume Right | 1 | 0 | 0 | 0 | 0 | 30 |
| cSH | 409 | 714 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.02 | 0.01 | 0.36 | 0.36 | 0.41 | 0.22 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 14.7 | 10.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | B | B | | | | |
| Approach Delay (s) | 14.7 | 0.0 | | | 0.0 | |
| Approach LOS | B | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.1 | | | |
| Intersection Capacity Utilization | | | 40.7% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |




















I-85/I-385 Interchange Improvements
2015 No-Build AM

32: New Commerce Ct & E Butler Road

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  | |  |  |
| Volume (veh/h) | 53 | 58 | 1479 | 21 | 36 | 1334 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 59 | 64 | 1643 | 23 | 40 | 1482 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | 371 | | | |
| pX, platoon unblocked | 0.79 | 0.79 | | | 0.79 | |
| vC, conflicting volume | 2476 | 833 | | | 1667 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 2338 | 261 | | | 1314 | |
| tC, single (s) | 6.9 | 7.0 | | | 4.2 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 0 | 89 | | | 90 | |
| cM capacity (veh/h) | 21 | 577 | | | 400 | |
| Direction, Lane # | WB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
| Volume Total | 123 | 1096 | 571 | 40 | 741 | 741 |
| Volume Left | 59 | 0 | 0 | 40 | 0 | 0 |
| Volume Right | 64 | 0 | 23 | 0 | 0 | 0 |
| cSH | 42 | 1700 | 1700 | 400 | 1700 | 1700 |
| Volume to Capacity | 2.92 | 0.64 | 0.34 | 0.10 | 0.44 | 0.44 |
| Queue Length 95th (ft) | 339 | 0 | 0 | 8 | 0 | 0 |
| Control Delay (s) | 1070.6 | 0.0 | 0.0 | 15.0 | 0.0 | 0.0 |
| Lane LOS | F | | | B | | |
| Approach Delay (s) | 1070.6 | 0.0 | | 0.4 | | |
| Approach LOS | F | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 40.0 | | | |
| Intersection Capacity Utilization | | | 54.7% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |
























I-85/I-385 Interchange Improvements
2015 No-Build AM

33: E Butler Road & Brookfield Pkwy

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |  | | |  | | |  |  | |  |  |
| Volume (veh/h) | 96 | 1420 | 21 | 17 | 1337 | 18 | 1 | 0 | 13 | 20 | 0 | 10 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 107 | 1578 | 23 | 19 | 1486 | 20 | 1 | 0 | 14 | 22 | 0 | 11 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage (veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | 939 | | | | | | | | | | |
| pX, platoon unblocked | | | | 0.81 | | | 0.81 | 0.81 | | 0.81 | 0.81 | 0.81 |
| vC, conflicting volume | 1506 | | | 1601 | | | 2547 | 3348 | 753 | 2598 | 3346 | 801 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 1506 | | | 1273 | | | 2440 | 3429 | 753 | 2503 | 3427 | 285 |
| tC, single (s) | 4.2 | | | 4.2 | | | 7.6 | 6.6 | 7.0 | 7.6 | 6.6 | 7.0 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 75 | | | 96 | | | 88 | 100 | 96 | 0 | 100 | 98 |
| cM capacity (veh/h) | 426 | | | 426 | | | 10 | 4 | 346 | 8 | 4 | 570 |
| Direction, Lane # | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SE 1 | SE 2 | NW 1 | NW 2 | | | |
| Volume Total | 107 | 1052 | 549 | 762 | 763 | 1 | 14 | 22 | 11 | | | |
| Volume Left | 107 | 0 | 0 | 19 | 0 | 1 | 0 | 22 | 0 | | | |
| Volume Right | 0 | 0 | 23 | 0 | 20 | 0 | 14 | 0 | 11 | | | |
| cSH | 426 | 1700 | 1700 | 426 | 1700 | 10 | 346 | 8 | 570 | | | |
| Volume to Capacity | 0.25 | 0.62 | 0.32 | 0.04 | 0.45 | 0.12 | 0.04 | 2.65 | 0.02 | | | |
| Queue Length 95th (ft) | 24 | 0 | 0 | 3 | 0 | 8 | 3 | 97 | 1 | | | |
| Control Delay (s) | 16.2 | 0.0 | 0.0 | 1.4 | 0.0 | 422.8 | 15.9 | 1608.6 | 11.4 | | | |
| Lane LOS | C | | | A | | F | C | F | B | | | |
| Approach Delay (s) | 1.0 | | | 0.7 | | 44.9 | | 1076.2 | | | | |
| Approach LOS | | | | | | E | | F | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 12.0 | | | | | | | | | |
| Intersection Capacity Utilization | | | 94.2% | | ICU Level of Service | | | | F | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |























I-85/I-385 Interchange Improvements 2015 No-Build PM

1: Woodruff Road & Roper Mountain Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 284 | 320 | 47 | 125 | 633 | 393 | 36 | 469 | 110 | 451 | 469 | 65 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frt | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3372 | | 1719 | 3438 | 1538 | 1719 | 3438 | 1538 | 3335 | 3438 | 1538 |
| Flt Permitted | 0.22 | 1.00 | | 0.51 | 1.00 | 1.00 | 0.46 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 396 | 3372 | | 927 | 3438 | 1538 | 831 | 3438 | 1538 | 3335 | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 316 | 356 | 52 | 139 | 703 | 437 | 40 | 521 | 122 | 501 | 521 | 72 |
| RTOR Reduction (vph) | 0 | 16 | 0 | 0 | 0 | 311 | 0 | 0 | 102 | 0 | 0 | 44 |
| Lane Group Flow (vph) | 316 | 392 | 0 | 139 | 703 | 126 | 40 | 521 | 20 | 501 | 521 | 28 |
| Turn Type | pm+pt | | | pm+pt | | Perm | Perm | | Perm | Prot | | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | 2 | | | 6 |
| Actuated Green, G (s) | 28.8 | 18.3 | | 23.8 | 15.8 | 15.8 | 11.7 | 11.7 | 11.7 | 11.0 | 27.7 | 27.7 |
| Effective Green, g (s) | 28.8 | 18.3 | | 23.8 | 15.8 | 15.8 | 11.7 | 11.7 | 11.7 | 11.0 | 27.7 | 27.7 |
| Actuated g/C Ratio | 0.41 | 0.26 | | 0.34 | 0.23 | 0.23 | 0.17 | 0.17 | 0.17 | 0.16 | 0.40 | 0.40 |
| Clearance Time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 4.3 | 5.5 | | 4.3 | 5.5 | 5.5 | 4.9 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 361 | 882 | | 406 | 776 | 347 | 139 | 575 | 257 | 524 | 1360 | 609 |
| v/s Ratio Prot | c0.13 | 0.12 | | 0.04 | 0.20 | | | c0.15 | | c0.15 | 0.15 | |
| v/s Ratio Perm | c0.23 | | | 0.08 | | 0.08 | 0.05 | | 0.01 | | | 0.02 |
| v/c Ratio | 0.88 | 0.45 | | 0.34 | 0.91 | 0.36 | 0.29 | 0.91 | 0.08 | 0.96 | 0.38 | 0.05 |
| Uniform Delay, d1 | 16.1 | 21.6 | | 16.6 | 26.4 | 22.9 | 25.5 | 28.6 | 24.6 | 29.3 | 15.1 | 13.0 |
| Progression Factor | 1.00 | 1.00 | | 0.40 | 0.73 | 1.87 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 21.2 | 0.9 | | 0.6 | 12.5 | 1.2 | 5.1 | 20.4 | 0.6 | 28.6 | 0.8 | 0.1 |
| Delay (s) | 37.2 | 22.5 | | 7.2 | 31.8 | 43.9 | 30.7 | 49.0 | 25.2 | 57.9 | 15.9 | 13.2 |
| Level of Service | D | C | | A | C | D | C | D | C | E | B | B |
| Approach Delay (s) | | 28.9 | | | 33.2 | | | 43.7 | | | 34.9 | |
| Approach LOS | | C | | | C | | | D | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 34.8 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.91 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 70.0 | | | Sum of lost time (s) | | | 19.0 | | | |
| Intersection Capacity Utilization | | | 76.6% | | | ICU Level of Service | | | D | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |





















I-85/I-385 Interchange Improvements
2015 No-Build PM

2: Woodruff Road & Costco Driveway

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NEL | NET | NER | SWL | SWT | SWR |
| Lane Configurations |  |  | |  |  |  |  |  | |  |  |  |
| Volume (vph) | 13 | 769 | 85 | 189 | 1125 | 40 | 93 | 4 | 201 | 37 | 2 | 30 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3387 | | 1719 | 3438 | 1538 | 1719 | 1543 | | 1719 | 1810 | 1538 |
| Flt Permitted | 0.13 | 1.00 | | 0.30 | 1.00 | 1.00 | 0.76 | 1.00 | | 0.50 | 1.00 | 1.00 |
| Satd. Flow (perm) | 234 | 3387 | | 546 | 3438 | 1538 | 1369 | 1543 | | 905 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 14 | 854 | 94 | 210 | 1250 | 44 | 103 | 4 | 223 | 41 | 2 | 33 |
| RTOR Reduction (vph) | 0 | 12 | 0 | 0 | 0 | 20 | 0 | 197 | 0 | 0 | 0 | 27 |
| Lane Group Flow (vph) | 14 | 936 | 0 | 210 | 1250 | 24 | 103 | 30 | 0 | 41 | 2 | 6 |
| Turn Type | pm+pt | | | Perm | | Perm | Perm | | | Perm | | pm+ov |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | 4 | 5 |
| Permitted Phases | 2 | | | 6 | | 6 | 8 | | | 4 | | 4 |
| Actuated Green, G (s) | 49.0 | 49.0 | | 37.7 | 37.7 | 37.7 | 8.0 | 8.0 | | 8.0 | 8.0 | 12.8 |
| Effective Green, g (s) | 49.0 | 49.0 | | 37.7 | 37.7 | 37.7 | 8.0 | 8.0 | | 8.0 | 8.0 | 12.8 |
| Actuated g/C Ratio | 0.70 | 0.70 | | 0.54 | 0.54 | 0.54 | 0.11 | 0.11 | | 0.11 | 0.11 | 0.18 |
| Clearance Time (s) | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 |
| Vehicle Extension (s) | 4.3 | 5.5 | | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | | 5.5 | 5.5 | 4.3 |
| Lane Grp Cap (vph) | 266 | 2371 | | 294 | 1852 | 828 | 156 | 176 | | 103 | 207 | 424 |
| v/s Ratio Prot | 0.00 | c0.28 | | | 0.36 | | | 0.02 | | | 0.00 | 0.00 |
| v/s Ratio Perm | 0.03 | | | c0.38 | | 0.02 | c0.08 | | | 0.05 | | 0.00 |
| v/c Ratio | 0.05 | 0.39 | | 0.71 | 0.67 | 0.03 | 0.66 | 0.17 | | 0.40 | 0.01 | 0.01 |
| Uniform Delay, d1 | 5.7 | 4.4 | | 12.1 | 11.7 | 7.6 | 29.7 | 28.0 | | 28.8 | 27.5 | 23.4 |
| Progression Factor | 0.13 | 0.20 | | 0.77 | 0.60 | 0.51 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.1 | 0.4 | | 13.3 | 1.9 | 0.1 | 14.2 | 1.1 | | 6.1 | 0.0 | 0.0 |
| Delay (s) | 0.8 | 1.2 | | 22.6 | 9.0 | 3.9 | 43.9 | 29.2 | | 34.9 | 27.5 | 23.5 |
| Level of Service | A | A | | C | A | A | D | C | | C | C | C |
| Approach Delay (s) | | 1.2 | | | 10.7 | | | 33.8 | | | 29.7 | |
| Approach LOS | | A | | | B | | | C | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 10.7 | | | HCM Level of Service | | | B | | | |
| HCM Volume to Capacity ratio | | | 0.71 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 70.0 | | | Sum of lost time (s) | | | 19.5 | | | |
| Intersection Capacity Utilization | | | 91.0% | | | ICU Level of Service | | | E | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |





















I-85/I-385 Interchange Improvements
2015 No-Build PM

3: Green Heron Road & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | |  | | |  |  |  |  | |  |  |  |
| Volume (vph) | 21 | 1 | 60 | 12 | 2 | 84 | 70 | 1347 | 11 | 2 | 971 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.0 | | | 5.0 | 5.0 | 6.3 | 6.3 | | 6.3 | 6.3 | 6.3 |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 |
| Frt | | 0.90 | | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 0.99 | | | 0.96 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | | 1609 | | | 1734 | 1538 | 1719 | 3434 | | 1719 | 3438 | 1538 |
| Flt Permitted | | 0.91 | | | 0.83 | 1.00 | 0.25 | 1.00 | | 0.14 | 1.00 | 1.00 |
| Satd. Flow (perm) | | 1481 | | | 1497 | 1538 | 455 | 3434 | | 257 | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 23 | 1 | 67 | 13 | 2 | 93 | 78 | 1497 | 12 | 2 | 1079 | 2 |
| RTOR Reduction (vph) | 0 | 58 | 0 | 0 | 0 | 83 | 0 | 1 | 0 | 0 | 0 | 1 |
| Lane Group Flow (vph) | 0 | 33 | 0 | 0 | 15 | 10 | 78 | 1508 | 0 | 2 | 1079 | 1 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | Perm |
| Protected Phases | | 8 | | | 4 | | | 2 | | | 6 | |
| Permitted Phases | 8 | | | 4 | | 4 | 2 | | | 6 | | 6 |
| Actuated Green, G (s) | | 7.9 | | | 7.9 | 7.9 | 50.8 | 50.8 | | 50.8 | 50.8 | 50.8 |
| Effective Green, g (s) | | 7.9 | | | 7.9 | 7.9 | 50.8 | 50.8 | | 50.8 | 50.8 | 50.8 |
| Actuated g/C Ratio | | 0.11 | | | 0.11 | 0.11 | 0.73 | 0.73 | | 0.73 | 0.73 | 0.73 |
| Clearance Time (s) | | 5.0 | | | 5.0 | 5.0 | 6.3 | 6.3 | | 6.3 | 6.3 | 6.3 |
| Vehicle Extension (s) | | 4.3 | | | 4.3 | 4.3 | 5.5 | 5.5 | | 5.5 | 5.5 | 5.5 |
| Lane Grp Cap (vph) | | 167 | | | 169 | 174 | 330 | 2492 | | 187 | 2495 | 1116 |
| v/s Ratio Prot | | | | | | | | c0.44 | | | 0.31 | |
| v/s Ratio Perm | | c0.02 | | | 0.01 | 0.01 | 0.17 | | | 0.01 | | 0.00 |
| v/c Ratio | | 0.20 | | | 0.09 | 0.06 | 0.24 | 0.61 | | 0.01 | 0.43 | 0.00 |
| Uniform Delay, d1 | | 28.2 | | | 27.8 | 27.7 | 3.2 | 4.7 | | 2.7 | 3.8 | 2.6 |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 0.64 | 0.73 | | 0.44 | 0.61 | 0.33 |
| Incremental Delay, d2 | | 0.9 | | | 0.4 | 0.2 | 1.6 | 1.1 | | 0.1 | 0.5 | 0.0 |
| Delay (s) | | 29.1 | | | 28.2 | 28.0 | 3.7 | 4.5 | | 1.2 | 2.8 | 0.9 |
| Level of Service | | C | | | C | C | A | A | | A | A | A |
| Approach Delay (s) | | 29.1 | | | 28.0 | | | 4.5 | | | 2.8 | |
| Approach LOS | | C | | | C | | | A | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 5.5 | | | | HCM Level of Service | | | A | | |
| HCM Volume to Capacity ratio | | | 0.55 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 70.0 | | | | Sum of lost time (s) | | | 11.3 | | |
| Intersection Capacity Utilization | | | 79.2% | | | | ICU Level of Service | | | D | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |


















I-85/I-385 Interchange Improvements
2015 No-Build PM

4: Woodruff Industrial Lane & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |  | |  |  | |  |  | |  |  | |
| Volume (vph) | 146 | 33 | 272 | 199 | 29 | 28 | 53 | 1291 | 75 | 219 | 800 | 236 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 0.87 | | 1.00 | 0.93 | | 1.00 | 0.99 | | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 1568 | | 1719 | 1676 | | 1719 | 3410 | | 1719 | 3321 | |
| Flt Permitted | 0.72 | 1.00 | | 0.22 | 1.00 | | 0.20 | 1.00 | | 0.05 | 1.00 | |
| Satd. Flow (perm) | 1296 | 1568 | | 391 | 1676 | | 371 | 3410 | | 98 | 3321 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 162 | 37 | 302 | 221 | 32 | 31 | 59 | 1434 | 83 | 243 | 889 | 262 |
| RTOR Reduction (vph) | 0 | 139 | 0 | 0 | 26 | 0 | 0 | 3 | 0 | 0 | 18 | 0 |
| Lane Group Flow (vph) | 162 | 200 | 0 | 221 | 37 | 0 | 59 | 1514 | 0 | 243 | 1133 | 0 |
| Turn Type | pm+pt | | | pm+pt | | | pm+pt | | | pm+pt | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 8 | | | 4 | | | 2 | | | 6 | | |
| Actuated Green, G (s) | 27.5 | 15.5 | | 33.5 | 18.5 | | 72.7 | 67.6 | | 91.5 | 80.4 | |
| Effective Green, g (s) | 27.5 | 15.5 | | 33.5 | 18.5 | | 72.7 | 67.6 | | 91.5 | 80.4 | |
| Actuated g/C Ratio | 0.20 | 0.11 | | 0.24 | 0.13 | | 0.52 | 0.48 | | 0.65 | 0.57 | |
| Clearance Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 5.5 | | 4.3 | 5.5 | |
| Lane Grp Cap (vph) | 291 | 174 | | 236 | 221 | | 242 | 1647 | | 271 | 1907 | |
| v/s Ratio Prot | 0.05 | c0.13 | | c0.10 | 0.02 | | 0.01 | 0.44 | | c0.11 | 0.34 | |
| v/s Ratio Perm | 0.06 | | | c0.12 | | | 0.12 | | | c0.47 | | |
| v/c Ratio | 0.56 | 1.15 | | 0.94 | 0.17 | | 0.24 | 0.92 | | 0.90 | 0.59 | |
| Uniform Delay, d1 | 49.9 | 62.2 | | 47.9 | 53.9 | | 17.3 | 33.7 | | 46.2 | 19.3 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.69 | 0.72 | | 1.01 | 1.00 | |
| Incremental Delay, d2 | 3.2 | 114.7 | | 41.7 | 0.6 | | 0.7 | 8.2 | | 28.5 | 1.3 | |
| Delay (s) | 53.1 | 176.9 | | 89.6 | 54.5 | | 12.6 | 32.4 | | 75.2 | 20.5 | |
| Level of Service | D | F | | F | D | | B | C | | E | C | |
| Approach Delay (s) | | 136.9 | | | 81.8 | | | 31.7 | | | 30.0 | |
| Approach LOS | | F | | | F | | | C | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 48.9 | | | HCM Level of Service | | | | D | | |
| HCM Volume to Capacity ratio | | | 0.96 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | Sum of lost time (s) | | | | 24.0 | | |
| Intersection Capacity Utilization | | | 99.8% | | | ICU Level of Service | | | | F | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |












I-85/I-385 Interchange Improvements
2015 No-Build PM

5: I-85 SB Ramps & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|--|--|--|--|--|--|--|
| Movement | WBL2 | WBL | WBR | SEL | SET | SER | NWL | NWT | NWR | NEL | NER | | | | | | | |
| Lane Configurations |  | |  | |  |  |  |  | | | | | | | | | | |
| Volume (vph) | 336 | 0 | 205 | 0 | 1490 | 272 | 653 | 1051 | 0 | 0 | 0 | | | | | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | | | | | | | |
| Total Lost time (s) | 5.0 | | 5.0 | | 6.3 | 6.3 | 6.5 | 6.1 | | | | | | | | | | |
| Lane Util. Factor | 0.97 | | 0.88 | | 0.95 | 1.00 | 1.00 | 0.95 | | | | | | | | | | |
| Frt | 1.00 | | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | | | | | | | | | | |
| Flt Protected | 0.95 | | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | | | | | | |
| Satd. Flow (prot) | 3335 | | 2707 | | 3438 | 1538 | 1719 | 3438 | | | | | | | | | | |
| Flt Permitted | 0.95 | | 1.00 | | 1.00 | 1.00 | 0.06 | 1.00 | | | | | | | | | | |
| Satd. Flow (perm) | 3335 | | 2707 | | 3438 | 1538 | 104 | 3438 | | | | | | | | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | | | | | | | |
| Adj. Flow (vph) | 373 | 0 | 228 | 0 | 1656 | 302 | 726 | 1168 | 0 | 0 | 0 | | | | | | | |
| RTOR Reduction (vph) | 0 | 0 | 207 | 0 | 0 | 98 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| Lane Group Flow (vph) | 373 | 0 | 21 | 0 | 1656 | 204 | 726 | 1168 | 0 | 0 | 0 | | | | | | | |
| Turn Type | custom | | custom | | Perm | | pm+pt | | | | | | | | | | | |
| Protected Phases | | | | | 2 | | 1 | | 6 | | | | | | | | | |
| Permitted Phases | 4 | | 4 | | 2 | | 6 | | | | | | | | | | | |
| Actuated Green, G (s) | 13.0 | | 13.0 | | 62.7 | | 115.9 | | 115.9 | | | | | | | | | |
| Effective Green, g (s) | 13.0 | | 13.0 | | 62.7 | | 115.9 | | 115.9 | | | | | | | | | |
| Actuated g/C Ratio | 0.09 | | 0.09 | | 0.45 | | 0.83 | | 0.83 | | | | | | | | | |
| Clearance Time (s) | 5.0 | | 5.0 | | 6.3 | | 6.5 | | 6.1 | | | | | | | | | |
| Vehicle Extension (s) | 4.3 | | 4.3 | | 4.3 | | 4.3 | | 4.3 | | | | | | | | | |
| Lane Grp Cap (vph) | 310 | | 251 | | 1540 | | 623 | | 2846 | | | | | | | | | |
| v/s Ratio Prot | | | | | 0.48 | | c0.39 | | 0.34 | | | | | | | | | |
| v/s Ratio Perm | c0.11 | | 0.01 | | | | 0.13 | | c0.58 | | | | | | | | | |
| v/c Ratio | 1.20 | | 0.08 | | 1.08 | | 0.30 | | 1.17 | | 0.41 | | | | | | | |
| Uniform Delay, d1 | 63.5 | | 58.1 | | 38.6 | | 24.6 | | 42.7 | | 3.1 | | | | | | | |
| Progression Factor | 1.00 | | 1.00 | | 0.62 | | 0.35 | | 0.84 | | 0.93 | | | | | | | |
| Incremental Delay, d2 | 118.1 | | 0.2 | | 39.1 | | 0.4 | | 87.9 | | 0.3 | | | | | | | |
| Delay (s) | 181.6 | | 58.3 | | 63.0 | | 9.1 | | 123.7 | | 3.3 | | | | | | | |
| Level of Service | F | | E | | E | | A | | F | | A | | | | | | | |
| Approach Delay (s) | | | 134.8 | | 54.7 | | | | 49.4 | | 0.0 | | | | | | | |
| Approach LOS | | | F | | D | | | | D | | A | | | | | | | |
| Intersection Summary | | | | | | | | | | | | | | | | | | |
| HCM Average Control Delay | | | 63.3 | | HCM Level of Service | | E | | | | | | | | | | | |
| HCM Volume to Capacity ratio | | | 1.14 | | | | | | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | Sum of lost time (s) | | 11.5 | | | | | | | | | | | |
| Intersection Capacity Utilization | | | 100.6% | | ICU Level of Service | | G | | | | | | | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2015 No-Build PM

6: I-85 NB Ramps & Woodruff Road

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | NBL | NBR | SET | SER | NWL | NWT |
| Lane Configurations |  |  |  |  | |  |
| Volume (vph) | 500 | 582 | 839 | 987 | 0 | 1204 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.6 | 5.6 | 6.5 | 6.5 | | 6.5 |
| Lane Util. Factor | 0.97 | 0.88 | 0.95 | 1.00 | | 0.95 |
| Frt | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 3335 | 2707 | 3438 | 1538 | | 3438 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 3335 | 2707 | 3438 | 1538 | | 3438 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 556 | 647 | 932 | 1097 | 0 | 1338 |
| RTOR Reduction (vph) | 0 | 350 | 0 | 471 | 0 | 0 |
| Lane Group Flow (vph) | 556 | 297 | 932 | 626 | 0 | 1338 |
| Turn Type | | Prot | | Perm | | |
| Protected Phases | 3 | 3 | 2 | | | 2 4 |
| Permitted Phases | | | | 2 | | |
| Actuated Green, G (s) | 29.4 | 29.4 | 79.5 | 79.5 | | 98.5 |
| Effective Green, g (s) | 29.4 | 29.4 | 79.5 | 79.5 | | 91.5 |
| Actuated g/C Ratio | 0.21 | 0.21 | 0.57 | 0.57 | | 0.65 |
| Clearance Time (s) | 5.6 | 5.6 | 6.5 | 6.5 | | |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | | |
| Lane Grp Cap (vph) | 700 | 568 | 1952 | 873 | | 2247 |
| v/s Ratio Prot | c0.17 | 0.11 | 0.27 | | | c0.39 |
| v/s Ratio Perm | | | | c0.41 | | |
| v/c Ratio | 0.79 | 0.52 | 0.48 | 0.72 | | 0.60 |
| Uniform Delay, d1 | 52.4 | 49.1 | 17.9 | 22.0 | | 13.8 |
| Progression Factor | 1.00 | 1.00 | 0.71 | 11.75 | | 1.34 |
| Incremental Delay, d2 | 6.8 | 1.3 | 0.1 | 0.5 | | 0.3 |
| Delay (s) | 59.2 | 50.4 | 12.8 | 259.4 | | 18.7 |
| Level of Service | E | D | B | F | | B |
| Approach Delay (s) | 54.4 | | 146.1 | | | 18.7 |
| Approach LOS | D | | F | | | B |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 84.7 | | HCM Level of Service | F |
| HCM Volume to Capacity ratio | | | 0.72 | | | |
| Actuated Cycle Length (s) | | | 140.0 | | Sum of lost time (s) | 18.6 |
| Intersection Capacity Utilization | | | 66.5% | | ICU Level of Service | C |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

I-85/I-385 Interchange Improvements
2015 No-Build PM

























7: Carolina Point Pkwy & Woodruff Road



| Movement | EBL | EBR | SET | SER | NWL | NWT |
|-----------------------------------|-------|------|-------|-------|----------------------|-------|
| Lane Configurations | ↰↰ | ↰ | ↰↰ | ↰ | ↰ | ↰↰ |
| Volume (vph) | 207 | 73 | 1328 | 93 | 18 | 2052 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 7.0 | 7.0 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 0.97 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 |
| Frt | 1.00 | 0.85 | 1.00 | 0.85 | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 3335 | 1538 | 3438 | 1538 | 1719 | 3438 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.16 | 1.00 |
| Satd. Flow (perm) | 3335 | 1538 | 3438 | 1538 | 288 | 3438 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 230 | 81 | 1476 | 103 | 20 | 2280 |
| RTOR Reduction (vph) | 0 | 74 | 0 | 18 | 0 | 0 |
| Lane Group Flow (vph) | 230 | 7 | 1476 | 85 | 20 | 2280 |
| Turn Type | | Prot | | Perm | Perm | |
| Protected Phases | 4 | 4 | 2 3 6 | | | 2 3 6 |
| Permitted Phases | 4 | | | 2 3 6 | 2 3 6 | |
| Actuated Green, G (s) | 12.0 | 12.0 | 115.4 | 115.4 | 115.4 | 115.4 |
| Effective Green, g (s) | 12.0 | 12.0 | 115.4 | 115.4 | 115.4 | 115.4 |
| Actuated g/C Ratio | 0.09 | 0.09 | 0.82 | 0.82 | 0.82 | 0.82 |
| Clearance Time (s) | 7.0 | 7.0 | | | | |
| Vehicle Extension (s) | 4.3 | 4.3 | | | | |
| Lane Grp Cap (vph) | 286 | 132 | 2834 | 1268 | 237 | 2834 |
| v/s Ratio Prot | c0.07 | 0.00 | 0.43 | | | c0.66 |
| v/s Ratio Perm | | | | 0.06 | 0.07 | |
| v/c Ratio | 0.80 | 0.05 | 0.52 | 0.07 | 0.08 | 0.80 |
| Uniform Delay, d1 | 62.8 | 58.8 | 3.8 | 2.3 | 2.3 | 6.4 |
| Progression Factor | 1.00 | 1.00 | 0.25 | 0.01 | 0.61 | 0.97 |
| Incremental Delay, d2 | 16.2 | 0.3 | 0.2 | 0.0 | 0.0 | 0.2 |
| Delay (s) | 79.1 | 59.0 | 1.2 | 0.0 | 1.4 | 6.4 |
| Level of Service | E | E | A | A | A | A |
| Approach Delay (s) | 73.9 | | 1.1 | | | 6.4 |
| Approach LOS | E | | A | | | A |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 9.4 | | HCM Level of Service | A |
| HCM Volume to Capacity ratio | | | 0.81 | | | |
| Actuated Cycle Length (s) | | | 140.0 | | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | | | 73.9% | | ICU Level of Service | D |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

I-85/I-385 Interchange Improvements
2015 No-Build PM

8: Woodruff Road & Market Point Drive
























| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 420 | 925 | 56 | 76 | 1648 | 163 | 130 | 29 | 75 | 236 | 29 | 292 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.1 | 6.1 | 5.8 | 6.1 | 6.1 | 6.1 | 5.8 | 5.8 | 6.1 | 5.8 | 5.8 | 5.8 |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 3335 | 3438 | 1538 | 1719 | 3438 | 1538 | 1719 | 1810 | 1538 | 3335 | 3438 | 1538 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 3335 | 3438 | 1538 | 1719 | 3438 | 1538 | 1719 | 1810 | 1538 | 3335 | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 467 | 1028 | 62 | 84 | 1831 | 181 | 144 | 32 | 83 | 262 | 32 | 324 |
| RTOR Reduction (vph) | 0 | 0 | 22 | 0 | 0 | 53 | 0 | 0 | 70 | 0 | 0 | 217 |
| Lane Group Flow (vph) | 467 | 1028 | 40 | 84 | 1831 | 128 | 144 | 32 | 13 | 262 | 32 | 107 |
| Turn Type | Prot | pm+ov | | Prot | Perm | | Prot | pm+ov | | Prot | Perm | |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | 4 |
| Actuated Green, G (s) | 19.5 | 78.7 | 90.7 | 13.5 | 72.7 | 72.7 | 12.0 | 8.9 | 22.4 | 15.1 | 12.0 | 12.0 |
| Effective Green, g (s) | 19.5 | 78.7 | 90.7 | 13.5 | 72.7 | 72.7 | 12.0 | 8.9 | 22.4 | 15.1 | 12.0 | 12.0 |
| Actuated g/C Ratio | 0.14 | 0.56 | 0.65 | 0.10 | 0.52 | 0.52 | 0.09 | 0.06 | 0.16 | 0.11 | 0.09 | 0.09 |
| Clearance Time (s) | 6.1 | 6.1 | 5.8 | 6.1 | 6.1 | 6.1 | 5.8 | 5.8 | 6.1 | 5.8 | 5.8 | 5.8 |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 465 | 1933 | 996 | 166 | 1785 | 799 | 147 | 115 | 246 | 360 | 295 | 132 |
| v/s Ratio Prot | c0.14 | 0.30 | 0.00 | 0.05 | c0.53 | | c0.08 | 0.02 | 0.01 | 0.08 | 0.01 | |
| v/s Ratio Perm | | | 0.02 | | | 0.08 | | | 0.00 | | | c0.07 |
| v/c Ratio | 1.00 | 0.53 | 0.04 | 0.51 | 1.03 | 0.16 | 0.98 | 0.28 | 0.05 | 0.73 | 0.11 | 0.81 |
| Uniform Delay, d1 | 60.2 | 19.1 | 8.9 | 60.1 | 33.6 | 17.6 | 63.9 | 62.5 | 49.8 | 60.5 | 59.1 | 62.9 |
| Progression Factor | 1.20 | 1.02 | 1.74 | 0.69 | 0.44 | 0.32 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 39.9 | 0.9 | 0.0 | 1.8 | 21.5 | 0.2 | 67.6 | 2.1 | 0.1 | 7.9 | 0.3 | 32.4 |
| Delay (s) | 112.3 | 20.5 | 15.5 | 43.3 | 36.4 | 5.8 | 131.5 | 64.6 | 50.0 | 68.4 | 59.3 | 95.3 |
| Level of Service | F | C | B | D | D | A | F | E | D | E | E | F |
| Approach Delay (s) | | 47.8 | | | 34.1 | | | 97.1 | | | 82.0 | |
| Approach LOS | | D | | | C | | | F | | | F | |

Intersection Summary

| | | | |
|-----------------------------------|-------|----------------------|------|
| HCM Average Control Delay | 48.9 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.00 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 23.8 |
| Intersection Capacity Utilization | 86.4% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |


















I-85/I-385 Interchange Improvements
2015 No-Build PM

9: Woodruff Road & Garlington Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Volume (vph) | 182 | 872 | 182 | 168 | 1439 | 164 | 266 | 150 | 119 | 336 | 277 | 182 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.2 | 6.1 | 6.1 | 5.2 | 6.1 | 6.1 | 5.2 | 5.2 | | 5.2 | 5.2 | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | | 0.97 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 3335 | 3438 | 1538 | 1719 | 3438 | 1538 | 3335 | 1690 | | 3335 | 1810 | 1538 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.18 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 3335 | 3438 | 1538 | 321 | 3438 | 1538 | 3335 | 1690 | | 3335 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 202 | 969 | 202 | 187 | 1599 | 182 | 296 | 167 | 132 | 373 | 308 | 202 |
| RTOR Reduction (vph) | 0 | 0 | 109 | 0 | 0 | 61 | 0 | 21 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 202 | 969 | 93 | 187 | 1599 | 121 | 296 | 278 | 0 | 373 | 308 | 202 |
| Turn Type | Prot | | Perm | pm+pt | | Perm | Prot | | | Prot | | Free |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | 6 | | 6 | | | | | | Free |
| Actuated Green, G (s) | 9.6 | 64.5 | 64.5 | 80.9 | 67.9 | 67.9 | 13.4 | 24.0 | | 16.8 | 27.4 | 140.0 |
| Effective Green, g (s) | 9.6 | 64.5 | 64.5 | 80.9 | 67.9 | 67.9 | 13.4 | 24.0 | | 16.8 | 27.4 | 140.0 |
| Actuated g/C Ratio | 0.07 | 0.46 | 0.46 | 0.58 | 0.49 | 0.49 | 0.10 | 0.17 | | 0.12 | 0.20 | 1.00 |
| Clearance Time (s) | 5.2 | 6.1 | 6.1 | 5.2 | 6.1 | 6.1 | 5.2 | 5.2 | | 5.2 | 5.2 | |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | 229 | 1584 | 709 | 315 | 1667 | 746 | 319 | 290 | | 400 | 354 | 1538 |
| v/s Ratio Prot | c0.06 | 0.28 | | 0.06 | c0.47 | | 0.09 | c0.16 | | c0.11 | c0.17 | |
| v/s Ratio Perm | | | 0.06 | 0.29 | | 0.08 | | | | | | 0.13 |
| v/c Ratio | 0.88 | 0.61 | 0.13 | 0.59 | 0.96 | 0.16 | 0.93 | 0.96 | | 0.93 | 0.87 | 0.13 |
| Uniform Delay, d1 | 64.6 | 28.3 | 21.7 | 18.0 | 34.7 | 20.1 | 62.8 | 57.5 | | 61.0 | 54.6 | 0.0 |
| Progression Factor | 1.27 | 0.72 | 0.74 | 0.89 | 0.40 | 0.19 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 27.6 | 1.5 | 0.3 | 3.1 | 12.4 | 0.4 | 32.5 | 41.8 | | 29.0 | 20.9 | 0.2 |
| Delay (s) | 109.8 | 21.9 | 16.5 | 19.1 | 26.3 | 4.1 | 95.4 | 99.3 | | 90.0 | 75.5 | 0.2 |
| Level of Service | F | C | B | B | C | A | F | F | | F | E | A |
| Approach Delay (s) | | 34.0 | | | 23.6 | | | 97.4 | | | 64.4 | |
| Approach LOS | | C | | | C | | | F | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 43.1 | | | | HCM Level of Service | | | D | | |
| HCM Volume to Capacity ratio | | | 0.99 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | | Sum of lost time (s) | | | 26.9 | | |
| Intersection Capacity Utilization | | | 87.8% | | | | ICU Level of Service | | | E | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |



















I-85/I-385 Interchange Improvements
2015 No-Build PM

10: Woodruff Road & I-385 SB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | |  |  | | | | |  | |  |
| Volume (vph) | 0 | 889 | 438 | 183 | 1348 | 0 | 0 | 0 | 0 | 696 | 0 | 423 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.6 | | 6.6 | 6.6 | | | | | 5.7 | | 4.0 |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | | | 0.97 | | 1.00 |
| Frt | | 0.95 | | 1.00 | 1.00 | | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 3268 | | 1719 | 3438 | | | | | 3335 | | 1538 |
| Flt Permitted | | 1.00 | | 0.06 | 1.00 | | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 3268 | | 101 | 3438 | | | | | 3335 | | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 988 | 487 | 203 | 1498 | 0 | 0 | 0 | 0 | 773 | 0 | 470 |
| RTOR Reduction (vph) | 0 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1433 | 0 | 203 | 1498 | 0 | 0 | 0 | 0 | 773 | 0 | 470 |
| Turn Type | | | pm+pt | | | | | | | Prot | | Free |
| Protected Phases | | 2 | | 1 | 6 | | | | | 4 | | |
| Permitted Phases | | | | 6 | | | | | | | | Free |
| Actuated Green, G (s) | | 70.4 | | 92.1 | 92.1 | | | | | 35.6 | | 140.0 |
| Effective Green, g (s) | | 70.4 | | 92.1 | 92.1 | | | | | 35.6 | | 140.0 |
| Actuated g/C Ratio | | 0.50 | | 0.66 | 0.66 | | | | | 0.25 | | 1.00 |
| Clearance Time (s) | | 6.6 | | 6.6 | 6.6 | | | | | 5.7 | | |
| Vehicle Extension (s) | | 4.3 | | 4.3 | 4.3 | | | | | 4.3 | | |
| Lane Grp Cap (vph) | | 1643 | | 241 | 2262 | | | | | 848 | | 1538 |
| v/s Ratio Prot | | 0.44 | | c0.09 | 0.44 | | | | | c0.23 | | |
| v/s Ratio Perm | | | | c0.46 | | | | | | | | 0.31 |
| v/c Ratio | | 0.87 | | 0.84 | 0.66 | | | | | 0.91 | | 0.31 |
| Uniform Delay, d1 | | 30.8 | | 42.8 | 14.5 | | | | | 50.7 | | 0.0 |
| Progression Factor | | 0.65 | | 1.56 | 0.85 | | | | | 1.04 | | 1.00 |
| Incremental Delay, d2 | | 4.7 | | 2.7 | 0.1 | | | | | 14.2 | | 0.5 |
| Delay (s) | | 24.7 | | 69.4 | 12.4 | | | | | 66.8 | | 0.5 |
| Level of Service | | C | | E | B | | | | | E | | A |
| Approach Delay (s) | | 24.7 | | | 19.2 | | | 0.0 | | | 41.7 | |
| Approach LOS | | C | | | B | | | A | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 27.4 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.84 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | Sum of lost time (s) | | | 12.3 | | | |
| Intersection Capacity Utilization | | | 110.9% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |





















I-85/I-385 Interchange Improvements
2015 No-Build PM

11: Woodruff Road & I-385 NB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | | |  |  |  | |  | | | |
| Volume (vph) | 482 | 1103 | 0 | 0 | 995 | 649 | 536 | 0 | 253 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.1 | 6.1 | | | 6.1 | 6.1 | 5.0 | | 5.0 | | | |
| Lane Util. Factor | 1.00 | 0.95 | | | 0.95 | 1.00 | 1.00 | | 1.00 | | | |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | | 0.85 | | | |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | 0.95 | | 1.00 | | | |
| Satd. Flow (prot) | 1719 | 3438 | | | 3438 | 1538 | 1719 | | 1538 | | | |
| Flt Permitted | 0.08 | 1.00 | | | 1.00 | 1.00 | 0.95 | | 1.00 | | | |
| Satd. Flow (perm) | 145 | 3438 | | | 3438 | 1538 | 1719 | | 1538 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 536 | 1226 | 0 | 0 | 1106 | 721 | 596 | 0 | 281 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 350 | 0 | 0 | 51 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 536 | 1226 | 0 | 0 | 1106 | 371 | 596 | 0 | 230 | 0 | 0 | 0 |
| Turn Type | pm+pt | | | | | Perm | Prot | | custom | | | |
| Protected Phases | 5 | 2 | | | 6 | | 8 | | | | | |
| Permitted Phases | 2 | | | | | 6 | | | 8 | | | |
| Actuated Green, G (s) | 84.9 | 84.9 | | | 43.9 | 43.9 | 44.0 | | 44.0 | | | |
| Effective Green, g (s) | 84.9 | 84.9 | | | 43.9 | 43.9 | 44.0 | | 44.0 | | | |
| Actuated g/C Ratio | 0.61 | 0.61 | | | 0.31 | 0.31 | 0.31 | | 0.31 | | | |
| Clearance Time (s) | 6.1 | 6.1 | | | 6.1 | 6.1 | 5.0 | | 5.0 | | | |
| Vehicle Extension (s) | 4.3 | 4.3 | | | 4.3 | 4.3 | 4.3 | | 4.3 | | | |
| Lane Grp Cap (vph) | 480 | 2085 | | | 1078 | 482 | 540 | | 483 | | | |
| v/s Ratio Prot | c0.28 | 0.36 | | | 0.32 | | c0.35 | | | | | |
| v/s Ratio Perm | c0.40 | | | | | 0.24 | | | 0.15 | | | |
| v/c Ratio | 1.12 | 0.59 | | | 1.03 | 0.77 | 1.10 | | 0.48 | | | |
| Uniform Delay, d1 | 44.5 | 16.9 | | | 48.1 | 43.5 | 48.0 | | 38.7 | | | |
| Progression Factor | 1.10 | 1.20 | | | 0.67 | 0.84 | 1.00 | | 1.00 | | | |
| Incremental Delay, d2 | 65.3 | 0.5 | | | 26.9 | 6.2 | 70.2 | | 1.2 | | | |
| Delay (s) | 114.2 | 20.8 | | | 59.0 | 42.7 | 118.2 | | 39.9 | | | |
| Level of Service | F | C | | | E | D | F | | D | | | |
| Approach Delay (s) | | 49.2 | | | 52.5 | | | 93.1 | | | 0.0 | |
| Approach LOS | | D | | | D | | | F | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 59.2 | | | HCM Level of Service | | | E | | | |
| HCM Volume to Capacity ratio | | | 1.08 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | Sum of lost time (s) | | | 11.1 | | | |
| Intersection Capacity Utilization | | | 110.9% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |



















I-85/I-385 Interchange Improvements
2015 No-Build PM

12: Woodruff Road & Commercial Drive

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  | |  |  | |
| Volume (vph) | 169 | 1142 | 45 | 10 | 1323 | 55 | 209 | 19 | 10 | 94 | 12 | 112 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.5 | | 5.5 | 5.5 | | 5.3 | 5.4 | | 5.4 | 5.4 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 0.95 | | 1.00 | 0.86 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 3419 | | 1719 | 3418 | | 1719 | 1716 | | 1719 | 1564 | |
| Flt Permitted | 0.05 | 1.00 | | 0.19 | 1.00 | | 0.33 | 1.00 | | 0.74 | 1.00 | |
| Satd. Flow (perm) | 93 | 3419 | | 352 | 3418 | | 589 | 1716 | | 1332 | 1564 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 188 | 1269 | 50 | 11 | 1470 | 61 | 232 | 21 | 11 | 104 | 13 | 124 |
| RTOR Reduction (vph) | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 8 | 0 | 0 | 111 | 0 |
| Lane Group Flow (vph) | 188 | 1317 | 0 | 11 | 1529 | 0 | 232 | 24 | 0 | 104 | 26 | 0 |
| Turn Type | pm+pt | | | Perm | | | pm+pt | | | Perm | | |
| Protected Phases | 5 | 2 | | | 6 | | 3 | 8 | | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 92.1 | 92.1 | | 72.3 | 72.3 | | 37.0 | 37.0 | | 14.6 | 14.6 | |
| Effective Green, g (s) | 92.1 | 92.1 | | 72.3 | 72.3 | | 37.0 | 37.0 | | 14.6 | 14.6 | |
| Actuated g/C Ratio | 0.66 | 0.66 | | 0.52 | 0.52 | | 0.26 | 0.26 | | 0.10 | 0.10 | |
| Clearance Time (s) | 5.3 | 5.5 | | 5.5 | 5.5 | | 5.3 | 5.4 | | 5.4 | 5.4 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | 230 | 2249 | | 182 | 1765 | | 294 | 454 | | 139 | 163 | |
| v/s Ratio Prot | c0.08 | 0.39 | | | c0.45 | | c0.10 | 0.01 | | | 0.02 | |
| v/s Ratio Perm | 0.45 | | | 0.03 | | | c0.11 | | | 0.08 | | |
| v/c Ratio | 0.82 | 0.59 | | 0.06 | 0.87 | | 0.79 | 0.05 | | 0.75 | 0.16 | |
| Uniform Delay, d1 | 43.2 | 13.3 | | 16.9 | 29.6 | | 44.3 | 38.4 | | 60.9 | 57.1 | |
| Progression Factor | 1.47 | 0.73 | | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 17.9 | 0.9 | | 0.5 | 4.4 | | 14.3 | 0.1 | | 21.4 | 0.7 | |
| Delay (s) | 81.6 | 10.7 | | 17.4 | 33.8 | | 58.5 | 38.5 | | 82.3 | 57.8 | |
| Level of Service | F | B | | B | C | | E | D | | F | E | |
| Approach Delay (s) | | 19.6 | | | 33.7 | | | 56.1 | | | 68.4 | |
| Approach LOS | | B | | | C | | | E | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 31.7 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.83 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | Sum of lost time (s) | | | 16.1 | | | |
| Intersection Capacity Utilization | | | 84.7% | | | ICU Level of Service | | | E | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |




















I-85/I-385 Interchange Improvements
2015 No-Build PM

13: Woodruff Road & Smith Hines Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Volume (vph) | 10 | 1173 | 63 | 60 | 1209 | 1 | 169 | 1 | 133 | 5 | 1 | 10 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 6.0 | 6.0 | | | 5.0 | | | 5.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | | 1.00 | | | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | | | 0.94 | | | 0.92 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.97 | | | 0.98 | |
| Satd. Flow (prot) | 1719 | 3412 | | 1719 | 3438 | | | 1656 | | | 1633 | |
| Flt Permitted | 0.13 | 1.00 | | 0.13 | 1.00 | | | 0.82 | | | 0.89 | |
| Satd. Flow (perm) | 242 | 3412 | | 231 | 3438 | | | 1390 | | | 1475 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 11 | 1303 | 70 | 67 | 1343 | 1 | 188 | 1 | 148 | 6 | 1 | 11 |
| RTOR Reduction (vph) | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 31 | 0 | 0 | 8 | 0 |
| Lane Group Flow (vph) | 11 | 1368 | 0 | 67 | 1344 | 0 | 0 | 306 | 0 | 0 | 10 | 0 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | |
| Protected Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 39.6 | 39.6 | | 39.9 | 39.9 | | | 19.1 | | | 19.1 | |
| Effective Green, g (s) | 39.6 | 39.6 | | 39.9 | 39.9 | | | 19.1 | | | 19.1 | |
| Actuated g/C Ratio | 0.57 | 0.57 | | 0.57 | 0.57 | | | 0.27 | | | 0.27 | |
| Clearance Time (s) | 6.3 | 6.3 | | 6.0 | 6.0 | | | 5.0 | | | 5.0 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | | 4.3 | | | 4.3 | |
| Lane Grp Cap (vph) | 137 | 1930 | | 132 | 1960 | | | 379 | | | 402 | |
| v/s Ratio Prot | c0.40 | | | 0.39 | | | | | | | | |
| v/s Ratio Perm | 0.05 | | | 0.29 | | | | c0.22 | | | 0.01 | |
| v/c Ratio | 0.08 | 0.71 | | 0.51 | 0.69 | | | 0.81 | | | 0.02 | |
| Uniform Delay, d1 | 6.9 | 11.0 | | 9.1 | 10.6 | | | 23.7 | | | 18.6 | |
| Progression Factor | 0.56 | 0.86 | | 0.95 | 0.97 | | | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 0.9 | 1.8 | | 1.3 | 0.2 | | | 13.0 | | | 0.0 | |
| Delay (s) | 4.8 | 11.3 | | 9.9 | 10.5 | | | 36.7 | | | 18.7 | |
| Level of Service | A | B | | A | B | | | D | | | B | |
| Approach Delay (s) | 11.3 | | | 10.5 | | | | 36.7 | | | 18.7 | |
| Approach LOS | B | | | B | | | | D | | | B | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 13.7 | HCM Level of Service | | | B | | | | | |
| HCM Volume to Capacity ratio | | | 0.74 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 70.0 | Sum of lost time (s) | | | 11.3 | | | | | |
| Intersection Capacity Utilization | | | 83.3% | ICU Level of Service | | | E | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |























I-85/I-385 Interchange Improvements
2015 No-Build PM

14: Woodruff Road & Walmart Driveway

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  | | |  | |
| Volume (vph) | 22 | 1558 | 137 | 22 | 2324 | 43 | 372 | 7 | 6 | 39 | 1 | 37 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.0 | 5.0 | | | 5.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | | | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 0.93 | | | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.98 | |
| Satd. Flow (prot) | 1719 | 3396 | | 1719 | 3429 | | 1719 | 1683 | | | 1650 | |
| Flt Permitted | 0.04 | 1.00 | | 0.06 | 1.00 | | 0.70 | 1.00 | | | 0.86 | |
| Satd. Flow (perm) | 81 | 3396 | | 104 | 3429 | | 1264 | 1683 | | | 1455 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 24 | 1731 | 152 | 24 | 2582 | 48 | 413 | 8 | 7 | 43 | 1 | 41 |
| RTOR Reduction (vph) | 0 | 5 | 0 | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 24 | 0 |
| Lane Group Flow (vph) | 24 | 1878 | 0 | 24 | 2629 | 0 | 413 | 10 | 0 | 0 | 61 | 0 |
| Turn Type | pm+pt | | | Perm | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 92.7 | 92.7 | | 83.4 | 83.4 | | 36.0 | 36.0 | | | 36.0 | |
| Effective Green, g (s) | 92.7 | 92.7 | | 83.4 | 83.4 | | 36.0 | 36.0 | | | 36.0 | |
| Actuated g/C Ratio | 0.66 | 0.66 | | 0.60 | 0.60 | | 0.26 | 0.26 | | | 0.26 | |
| Clearance Time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.0 | 5.0 | | | 5.0 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | | | 4.3 | |
| Lane Grp Cap (vph) | 89 | 2249 | | 62 | 2043 | | 325 | 433 | | | 374 | |
| v/s Ratio Prot | 0.01 | c0.55 | | | c0.77 | | | 0.01 | | | | |
| v/s Ratio Perm | 0.17 | | | 0.23 | | | c0.33 | | | | 0.04 | |
| v/c Ratio | 0.27 | 0.84 | | 0.39 | 1.29 | | 1.27 | 0.02 | | | 0.16 | |
| Uniform Delay, d1 | 34.7 | 17.9 | | 14.9 | 28.3 | | 52.0 | 38.9 | | | 40.3 | |
| Progression Factor | 0.63 | 0.58 | | 0.78 | 0.67 | | 1.00 | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 2.2 | 3.3 | | 14.1 | 132.2 | | 143.9 | 0.0 | | | 0.3 | |
| Delay (s) | 24.1 | 13.6 | | 25.8 | 151.1 | | 195.9 | 38.9 | | | 40.7 | |
| Level of Service | C | B | | C | F | | F | D | | | D | |
| Approach Delay (s) | | 13.8 | | | 150.0 | | | 190.4 | | | 40.7 | |
| Approach LOS | | B | | | F | | | F | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 100.4 | | | HCM Level of Service | | | | F | | |
| HCM Volume to Capacity ratio | | | 1.30 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | Sum of lost time (s) | | | 17.6 | | | |
| Intersection Capacity Utilization | | | 102.3% | | | ICU Level of Service | | | G | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |




















I-85/I-385 Interchange Improvements
2015 No-Build PM

15: Woodruff Road & Verdin Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  |  |  |  |  |
| Volume (vph) | 101 | 1900 | 43 | 63 | 1229 | 74 | 255 | 205 | 125 | 54 | 218 | 168 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.2 | 5.0 | 5.0 | 5.2 | 5.2 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 3427 | | 1719 | 3409 | | 1719 | 1810 | 1538 | 1719 | 1691 | |
| Flt Permitted | 0.11 | 1.00 | | 0.05 | 1.00 | | 0.14 | 1.00 | 1.00 | 0.62 | 1.00 | |
| Satd. Flow (perm) | 201 | 3427 | | 84 | 3409 | | 248 | 1810 | 1538 | 1115 | 1691 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 112 | 2111 | 48 | 70 | 1366 | 82 | 283 | 228 | 139 | 60 | 242 | 187 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 6 | 0 | 20 | 0 |
| Lane Group Flow (vph) | 112 | 2158 | 0 | 70 | 1445 | 0 | 283 | 228 | 133 | 60 | 409 | 0 |
| Turn Type | Perm | | | Perm | | | pm+pt | | | Perm | Perm | |
| Protected Phases | 2 | | | 6 | | | 3 | | 8 | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | 8 | | 4 | |
| Actuated Green, G (s) | 85.7 | 85.7 | | 85.7 | 85.7 | | 43.0 | 43.0 | 43.0 | 23.8 | 23.8 | |
| Effective Green, g (s) | 85.7 | 85.7 | | 85.7 | 85.7 | | 43.0 | 43.0 | 43.0 | 23.8 | 23.8 | |
| Actuated g/C Ratio | 0.61 | 0.61 | | 0.61 | 0.61 | | 0.31 | 0.31 | 0.31 | 0.17 | 0.17 | |
| Clearance Time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.2 | 5.0 | 5.0 | 5.2 | 5.2 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | 123 | 2098 | | 51 | 2087 | | 221 | 556 | 472 | 190 | 287 | |
| v/s Ratio Prot | | 0.63 | | | 0.42 | | c0.13 | 0.13 | | | 0.24 | |
| v/s Ratio Perm | 0.56 | | | c0.83 | | | c0.27 | | 0.09 | 0.05 | | |
| v/c Ratio | 0.91 | 1.03 | | 1.37 | 0.69 | | 1.28 | 0.41 | 0.28 | 0.32 | 1.43 | |
| Uniform Delay, d1 | 23.8 | 27.1 | | 27.1 | 18.3 | | 41.9 | 38.4 | 36.8 | 51.0 | 58.1 | |
| Progression Factor | 0.37 | 0.37 | | 1.47 | 1.47 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 50.5 | 25.0 | | 211.5 | 0.8 | | 156.3 | 0.8 | 0.5 | 1.5 | 210.5 | |
| Delay (s) | 59.3 | 34.9 | | 251.4 | 27.6 | | 198.1 | 39.2 | 37.3 | 52.5 | 268.6 | |
| Level of Service | E | C | | F | C | | F | D | D | D | F | |
| Approach Delay (s) | | 36.1 | | | 37.9 | | | 108.0 | | | 242.1 | |
| Approach LOS | | D | | | D | | | F | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 66.6 | HCM Level of Service | | | E | | | | | |
| HCM Volume to Capacity ratio | | | 1.31 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | Sum of lost time (s) | | | 11.5 | | | | | |
| Intersection Capacity Utilization | | | 133.5% | ICU Level of Service | | | H | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |



















I-85/I-385 Interchange Improvements
2015 No-Build PM

16: Woodruff Road & Butler Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | |  |  | | |  |  |  |  | |
| Volume (vph) | 20 | 1683 | 117 | 371 | 1179 | 18 | 186 | 19 | 458 | 311 | 388 | 101 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.3 | | 6.3 | 6.3 | | | 5.0 | 6.3 | 5.0 | 5.0 | |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.99 | | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 3403 | | 1719 | 3430 | | | 1731 | 1538 | 1719 | 1754 | |
| Flt Permitted | | 0.92 | | 0.06 | 1.00 | | | 0.16 | 1.00 | 0.52 | 1.00 | |
| Satd. Flow (perm) | | 3116 | | 115 | 3430 | | | 291 | 1538 | 949 | 1754 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 22 | 1870 | 130 | 412 | 1310 | 20 | 207 | 21 | 509 | 346 | 431 | 112 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 7 | 0 |
| Lane Group Flow (vph) | 0 | 2018 | 0 | 412 | 1329 | 0 | 0 | 228 | 508 | 346 | 536 | 0 |
| Turn Type | Perm | | | pm+pt | | | Perm | | | pm+ov | | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | 8 | 1 | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | | 56.7 | | 76.7 | 76.7 | | | 52.0 | 65.7 | 52.0 | 52.0 | |
| Effective Green, g (s) | | 56.7 | | 76.7 | 76.7 | | | 52.0 | 65.7 | 52.0 | 52.0 | |
| Actuated g/C Ratio | | 0.41 | | 0.55 | 0.55 | | | 0.37 | 0.47 | 0.37 | 0.37 | |
| Clearance Time (s) | | 6.3 | | 6.3 | 6.3 | | | 5.0 | 6.3 | 5.0 | 5.0 | |
| Vehicle Extension (s) | | 4.3 | | 4.3 | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | | 1262 | | 220 | 1879 | | | 108 | 722 | 352 | 651 | |
| v/s Ratio Prot | | | | c0.18 | 0.39 | | | | 0.07 | | 0.31 | |
| v/s Ratio Perm | | 0.65 | | c0.84 | | | | c0.78 | 0.26 | 0.36 | | |
| v/c Ratio | | 1.60 | | 1.87 | 0.71 | | | 2.11 | 0.70 | 0.98 | 0.82 | |
| Uniform Delay, d1 | | 41.6 | | 46.2 | 23.4 | | | 44.0 | 29.4 | 43.6 | 39.8 | |
| Progression Factor | | 0.54 | | 1.17 | 1.17 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 270.8 | | 403.6 | 1.5 | | | 529.9 | 3.5 | 43.3 | 8.9 | |
| Delay (s) | | 293.3 | | 457.6 | 28.7 | | | 573.9 | 32.9 | 86.8 | 48.8 | |
| Level of Service | | F | | F | C | | | F | C | F | D | |
| Approach Delay (s) | | 293.3 | | | 130.1 | | | 200.3 | | | 63.6 | |
| Approach LOS | | F | | | F | | | F | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 190.0 | | | HCM Level of Service | | | | F | | |
| HCM Volume to Capacity ratio | | | 1.92 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 140.0 | | | Sum of lost time (s) | | | 11.3 | | | |
| Intersection Capacity Utilization | | | 140.7% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |
























I-85/I-385 Interchange Improvements
2015 No-Build PM

17: Woodruff Road & Bell Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Volume (vph) | 67 | 2403 | 110 | 37 | 1732 | 11 | 147 | 1 | 40 | 15 | 1 | 62 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.2 | 6.2 | | 6.2 | 6.2 | | | 5.4 | | | 5.4 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | | 1.00 | | | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | | | 0.97 | | | 0.89 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | | | 0.99 | |
| Satd. Flow (prot) | 1719 | 3416 | | 1719 | 3435 | | | 1692 | | | 1600 | |
| Flt Permitted | 0.07 | 1.00 | | 0.04 | 1.00 | | | 0.67 | | | 0.94 | |
| Satd. Flow (perm) | 128 | 3416 | | 68 | 3435 | | | 1184 | | | 1516 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 74 | 2670 | 122 | 41 | 1924 | 12 | 163 | 1 | 44 | 17 | 1 | 69 |
| RTOR Reduction (vph) | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 29 | 0 |
| Lane Group Flow (vph) | 74 | 2790 | 0 | 41 | 1936 | 0 | 0 | 201 | 0 | 0 | 58 | 0 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | |
| Protected Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 105.8 | 105.8 | | 105.8 | 105.8 | | | 22.6 | | | 22.6 | |
| Effective Green, g (s) | 105.8 | 105.8 | | 105.8 | 105.8 | | | 22.6 | | | 22.6 | |
| Actuated g/C Ratio | 0.76 | 0.76 | | 0.76 | 0.76 | | | 0.16 | | | 0.16 | |
| Clearance Time (s) | 6.2 | 6.2 | | 6.2 | 6.2 | | | 5.4 | | | 5.4 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | | 4.3 | | | 4.3 | |
| Lane Grp Cap (vph) | 97 | 2582 | | 51 | 2596 | | | 191 | | | 245 | |
| v/s Ratio Prot | c0.82 | | | 0.56 | | | | | | | | |
| v/s Ratio Perm | 0.58 | | | 0.60 | | | | c0.17 | | | 0.04 | |
| v/c Ratio | 0.76 | 1.08 | | 0.80 | 0.75 | | | 1.05 | | | 0.24 | |
| Uniform Delay, d1 | 9.9 | 17.1 | | 10.6 | 9.6 | | | 58.7 | | | 51.2 | |
| Progression Factor | 0.61 | 0.65 | | 1.50 | 1.59 | | | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 5.1 | 37.0 | | 71.6 | 1.8 | | | 80.1 | | | 0.8 | |
| Delay (s) | 11.1 | 48.1 | | 87.6 | 17.0 | | | 138.8 | | | 52.0 | |
| Level of Service | B | D | | F | B | | | F | | | D | |
| Approach Delay (s) | 47.1 | | | 18.5 | | | | 138.8 | | | 52.0 | |
| Approach LOS | D | | | B | | | | F | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | 39.9 | | | HCM Level of Service | | | D | | | | | |
| HCM Volume to Capacity ratio | 1.08 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 140.0 | | | Sum of lost time (s) | | | 11.6 | | | | | |
| Intersection Capacity Utilization | 96.9% | | | ICU Level of Service | | | F | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2015 No-Build PM

18: Woodruff Road & SC 14
























| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |  |  |  |  |  |  |
| Volume (vph) | 157 | 1291 | 363 | 100 | 853 | 74 | 186 | 276 | 54 | 202 | 412 | 117 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | 5.0 | 6.3 | 6.3 | | 5.0 | 5.0 | 6.3 | 5.0 | 5.0 | 6.3 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3438 | 1538 | 1719 | 3397 | | 1719 | 1810 | 1538 | 1719 | 1810 | 1538 |
| Flt Permitted | 0.12 | 1.00 | 1.00 | 0.07 | 1.00 | | 0.11 | 1.00 | 1.00 | 0.32 | 1.00 | 1.00 |
| Satd. Flow (perm) | 214 | 3438 | 1538 | 129 | 3397 | | 201 | 1810 | 1538 | 581 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 174 | 1434 | 403 | 111 | 948 | 82 | 207 | 307 | 60 | 224 | 458 | 130 |
| RTOR Reduction (vph) | 0 | 0 | 48 | 0 | 5 | 0 | 0 | 0 | 35 | 0 | 0 | 40 |
| Lane Group Flow (vph) | 174 | 1434 | 355 | 111 | 1025 | 0 | 207 | 307 | 25 | 224 | 458 | 90 |
| Turn Type | pm+pt | | pm+ov | pm+pt | | | pm+pt | | pm+ov | pm+pt | | pm+ov |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | 5 |
| Permitted Phases | 2 | | 2 | 6 | | | 8 | | 8 | 4 | | 4 |
| Actuated Green, G (s) | 74.3 | 62.1 | 76.1 | 62.5 | 56.2 | | 50.0 | 36.0 | 42.3 | 48.0 | 35.0 | 47.2 |
| Effective Green, g (s) | 74.3 | 62.1 | 76.1 | 62.5 | 56.2 | | 50.0 | 36.0 | 42.3 | 48.0 | 35.0 | 47.2 |
| Actuated g/C Ratio | 0.53 | 0.44 | 0.54 | 0.45 | 0.40 | | 0.36 | 0.26 | 0.30 | 0.34 | 0.25 | 0.34 |
| Clearance Time (s) | 6.3 | 6.3 | 5.0 | 6.3 | 6.3 | | 5.0 | 5.0 | 6.3 | 5.0 | 5.0 | 6.3 |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 245 | 1525 | 836 | 129 | 1364 | | 224 | 465 | 465 | 305 | 453 | 519 |
| v/s Ratio Prot | c0.06 | c0.42 | 0.04 | 0.04 | 0.30 | | c0.09 | 0.17 | 0.00 | 0.07 | c0.25 | 0.02 |
| v/s Ratio Perm | 0.32 | | 0.19 | 0.35 | | | 0.24 | | 0.01 | 0.18 | | 0.04 |
| v/c Ratio | 0.71 | 0.94 | 0.42 | 0.86 | 0.75 | | 0.92 | 0.66 | 0.05 | 0.73 | 1.01 | 0.17 |
| Uniform Delay, d1 | 24.1 | 37.2 | 19.0 | 31.4 | 35.9 | | 37.8 | 46.5 | 34.7 | 36.6 | 52.5 | 32.7 |
| Progression Factor | 0.83 | 0.58 | 0.92 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.0 | 1.6 | 0.0 | 42.2 | 3.9 | | 40.3 | 4.1 | 0.1 | 9.7 | 45.1 | 0.3 |
| Delay (s) | 21.0 | 23.0 | 17.5 | 73.7 | 39.8 | | 78.0 | 50.6 | 34.7 | 46.3 | 97.6 | 32.9 |
| Level of Service | C | C | B | E | D | | E | D | C | D | F | C |
| Approach Delay (s) | | 21.8 | | | 43.1 | | | 58.8 | | | 73.1 | |
| Approach LOS | | C | | | D | | | E | | | E | |

Intersection Summary

| | | | |
|-----------------------------------|-------|----------------------|------|
| HCM Average Control Delay | 41.0 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.97 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 22.6 |
| Intersection Capacity Utilization | 92.0% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

I-85/I-385 Interchange Improvements
2015 No-Build PM

19: E Parkins Mill Road & US 276

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 108 | 120 | 67 | 102 | 72 | 83 | 156 | 1167 | 198 | 85 | 1455 | 234 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 0.97 | 0.91 | 1.00 |
| Flt Protected | 1.00 | 0.95 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3254 | | 3335 | 1810 | 1538 | 1719 | 4940 | 1538 | 3335 | 4940 | 1538 |
| Satd. Flow (perm) | 1276 | 3254 | | 3335 | 1810 | 1538 | 1719 | 4940 | 1538 | 3335 | 4940 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 120 | 133 | 74 | 113 | 80 | 92 | 173 | 1297 | 220 | 94 | 1617 | 260 |
| RTOR Reduction (vph) | 0 | 67 | 0 | 0 | 0 | 82 | 0 | 0 | 104 | 0 | 0 | 137 |
| Lane Group Flow (vph) | 120 | 140 | 0 | 113 | 80 | 10 | 173 | 1297 | 116 | 94 | 1617 | 123 |
| Turn Type | pm+pt | | | Prot | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | | | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 11.0 | 7.8 | | 4.0 | 8.6 | 8.6 | 11.8 | 42.2 | 42.2 | 5.0 | 35.4 | 35.4 |
| Effective Green, g (s) | 11.0 | 7.8 | | 4.0 | 8.6 | 8.6 | 11.8 | 42.2 | 42.2 | 5.0 | 35.4 | 35.4 |
| Actuated g/C Ratio | 0.14 | 0.10 | | 0.05 | 0.11 | 0.11 | 0.15 | 0.53 | 0.53 | 0.06 | 0.44 | 0.44 |
| Clearance Time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 4.3 | 4.9 | | 4.3 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 193 | 317 | | 167 | 195 | 165 | 254 | 2606 | 811 | 208 | 2186 | 681 |
| v/s Ratio Prot | 0.02 | 0.04 | | c0.03 | 0.04 | | c0.10 | 0.26 | | 0.03 | c0.33 | |
| v/s Ratio Perm | c0.06 | | | | | 0.01 | | | 0.08 | | | 0.08 |
| v/c Ratio | 0.62 | 0.44 | | 0.68 | 0.41 | 0.06 | 0.68 | 0.50 | 0.14 | 0.45 | 0.74 | 0.18 |
| Uniform Delay, d1 | 32.1 | 34.0 | | 37.4 | 33.3 | 32.1 | 32.3 | 12.1 | 9.7 | 36.2 | 18.5 | 13.5 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.07 | 1.10 | 2.12 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 7.4 | 2.0 | | 11.8 | 2.8 | 0.3 | 5.9 | 0.5 | 0.3 | 2.5 | 2.3 | 0.6 |
| Delay (s) | 39.5 | 36.0 | | 49.2 | 36.2 | 32.4 | 40.6 | 13.8 | 20.7 | 38.6 | 20.8 | 14.1 |
| Level of Service | D | D | | D | D | C | D | B | C | D | C | B |
| Approach Delay (s) | | 37.3 | | | 40.1 | | | 17.5 | | | 20.7 | |
| Approach LOS | | D | | | D | | | B | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 22.0 | | | HCM Level of Service | | | C | | | |
| HCM Volume to Capacity ratio | | | 0.69 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 80.0 | | | Sum of lost time (s) | | | 19.0 | | | |
| Intersection Capacity Utilization | | | 64.4% | | | ICU Level of Service | | | C | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2015 No-Build PM

























20: Duvall Drive & US 276



| Movement | EBL | EBR | SET | SER | NWL | NWT |
|-----------------------------------|-------|------|-------|------|----------------------|------|
| Lane Configurations | | | | | | |
| Volume (vph) | 393 | 152 | 1254 | 370 | 142 | 1128 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 6.3 | | 6.3 | 6.3 |
| Lane Util. Factor | 1.00 | 1.00 | 0.91 | | 1.00 | 0.91 |
| Frt | 1.00 | 0.85 | 0.97 | | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1719 | 1538 | 4771 | | 1719 | 4940 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.21 | 1.00 |
| Satd. Flow (perm) | 1719 | 1538 | 4771 | | 387 | 4940 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 437 | 169 | 1393 | 411 | 158 | 1253 |
| RTOR Reduction (vph) | 0 | 15 | 133 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 437 | 154 | 1671 | 0 | 158 | 1253 |
| Turn Type | Perm | | | | Perm | |
| Protected Phases | 8 | | 2 | | | 6 |
| Permitted Phases | | 8 | | | 6 | |
| Actuated Green, G (s) | 9.0 | 9.0 | 18.7 | | 18.7 | 18.7 |
| Effective Green, g (s) | 9.0 | 9.0 | 18.7 | | 18.7 | 18.7 |
| Actuated g/C Ratio | 0.22 | 0.22 | 0.47 | | 0.47 | 0.47 |
| Clearance Time (s) | 6.0 | 6.0 | 6.3 | | 6.3 | 6.3 |
| Vehicle Extension (s) | 4.9 | 4.9 | 4.9 | | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 387 | 346 | 2230 | | 181 | 2309 |
| v/s Ratio Prot | c0.25 | | 0.35 | | | 0.25 |
| v/s Ratio Perm | | 0.10 | | | c0.41 | |
| v/c Ratio | 1.13 | 0.45 | 0.75 | | 0.87 | 0.54 |
| Uniform Delay, d1 | 15.5 | 13.4 | 8.7 | | 9.6 | 7.6 |
| Progression Factor | 1.00 | 1.00 | 0.85 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 85.7 | 1.8 | 1.6 | | 40.1 | 0.9 |
| Delay (s) | 101.2 | 15.2 | 9.0 | | 49.7 | 8.5 |
| Level of Service | F | B | A | | D | A |
| Approach Delay (s) | 77.2 | | 9.0 | | | 13.1 |
| Approach LOS | E | | A | | | B |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 21.4 | | HCM Level of Service | C |
| HCM Volume to Capacity ratio | | | 0.96 | | | |
| Actuated Cycle Length (s) | | | 40.0 | | Sum of lost time (s) | 12.3 |
| Intersection Capacity Utilization | | | 83.1% | | ICU Level of Service | E |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |





















I-85/I-385 Interchange Improvements
2015 No-Build PM

23: US 276 & Millennium Blvd

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 93 | 1766 | 117 | 31 | 1289 | 10 | 88 | 53 | 68 | 62 | 21 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 6.5 | 6.5 | 4.5 | 6.5 | 6.5 | 6.0 | 6.0 | | 6.0 | 6.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | | 1.00 | 1.00 | 0.88 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.92 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3438 | 1538 | 1719 | 3438 | 1538 | 3335 | 3148 | | 1719 | 1810 | 2707 |
| Flt Permitted | 0.11 | 1.00 | 1.00 | 0.07 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.75 | 1.00 | 1.00 |
| Satd. Flow (perm) | 191 | 3438 | 1538 | 125 | 3438 | 1538 | 3335 | 3148 | | 1366 | 1810 | 2707 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 103 | 1962 | 130 | 34 | 1432 | 11 | 98 | 59 | 76 | 69 | 23 | 56 |
| RTOR Reduction (vph) | 0 | 0 | 48 | 0 | 0 | 5 | 0 | 69 | 0 | 0 | 0 | 50 |
| Lane Group Flow (vph) | 103 | 1962 | 82 | 34 | 1432 | 6 | 98 | 66 | 0 | 69 | 23 | 6 |
| Turn Type | pm+pt | | Perm | pm+pt | | Perm | Prot | | | pm+pt | | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | 2 | | 2 | 6 | | 6 | | | | 4 | | 4 |
| Actuated Green, G (s) | 66.7 | 60.4 | 60.4 | 61.6 | 58.1 | 58.1 | 8.0 | 8.6 | | 10.0 | 5.3 | 11.6 |
| Effective Green, g (s) | 66.7 | 60.4 | 60.4 | 61.6 | 58.1 | 58.1 | 8.0 | 8.6 | | 10.0 | 5.3 | 11.6 |
| Actuated g/C Ratio | 0.67 | 0.60 | 0.60 | 0.61 | 0.58 | 0.58 | 0.08 | 0.09 | | 0.10 | 0.05 | 0.12 |
| Clearance Time (s) | 4.0 | 6.5 | 6.5 | 4.5 | 6.5 | 6.5 | 6.0 | 6.0 | | 6.0 | 6.0 | 4.0 |
| Vehicle Extension (s) | 4.3 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 | 4.3 | 6.4 | | 4.3 | 6.4 | 4.3 |
| Lane Grp Cap (vph) | 223 | 2072 | 927 | 133 | 1993 | 892 | 266 | 270 | | 153 | 96 | 313 |
| v/s Ratio Prot | c0.03 | c0.57 | | 0.01 | 0.42 | | c0.03 | c0.02 | | 0.02 | 0.01 | 0.00 |
| v/s Ratio Perm | 0.28 | | 0.05 | 0.15 | | 0.00 | | | | c0.02 | | 0.00 |
| v/c Ratio | 0.46 | 0.95 | 0.09 | 0.26 | 0.72 | 0.01 | 0.37 | 0.24 | | 0.45 | 0.24 | 0.02 |
| Uniform Delay, d1 | 10.9 | 18.4 | 8.3 | 18.2 | 15.2 | 8.9 | 43.7 | 42.8 | | 42.3 | 45.5 | 39.3 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 2.4 | 10.2 | 0.1 | 1.6 | 1.5 | 0.0 | 1.4 | 1.5 | | 3.3 | 4.0 | 0.0 |
| Delay (s) | 13.3 | 28.6 | 8.4 | 19.9 | 16.7 | 8.9 | 45.1 | 44.2 | | 45.6 | 49.5 | 39.3 |
| Level of Service | B | C | A | B | B | A | D | D | | D | D | D |
| Approach Delay (s) | | 26.7 | | | 16.7 | | | 44.6 | | | 43.8 | |
| Approach LOS | | C | | | B | | | D | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 24.7 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.88 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 100.2 | | | Sum of lost time (s) | | | | 26.0 | | |
| Intersection Capacity Utilization | | | 80.1% | | | ICU Level of Service | | | | D | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2015 No-Build PM

24: Pelham Road & The Parkway

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | |  |  | | | |  |  |  |
| Volume (vph) | 204 | 803 | 675 | 0 | 928 | 733 | 0 | 0 | 0 | 287 | 474 | 286 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.8 | 5.8 | 5.8 | | 5.8 | 5.3 | | | | 5.3 | 5.3 | 5.3 |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | | 0.95 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 3335 | 3438 | 1538 | | 3438 | 1538 | | | | 1719 | 1810 | 1538 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 3335 | 3438 | 1538 | | 3438 | 1538 | | | | 1719 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 227 | 892 | 750 | 0 | 1031 | 814 | 0 | 0 | 0 | 319 | 527 | 318 |
| RTOR Reduction (vph) | 0 | 0 | 68 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 152 |
| Lane Group Flow (vph) | 227 | 892 | 682 | 0 | 1031 | 804 | 0 | 0 | 0 | 319 | 527 | 166 |
| Turn Type | Prot | | Perm | Perm | | custom | | | | Perm | | Perm |
| Protected Phases | 5 | 2 | | | 6 | 4 | | | | | 4 | |
| Permitted Phases | | | 2 | 6 | | 6 | | | | 4 | | 4 |
| Actuated Green, G (s) | 10.2 | 61.1 | 61.1 | | 45.1 | 82.9 | | | | 37.8 | 37.8 | 37.8 |
| Effective Green, g (s) | 10.2 | 61.1 | 61.1 | | 45.1 | 82.9 | | | | 37.8 | 37.8 | 37.8 |
| Actuated g/C Ratio | 0.09 | 0.56 | 0.56 | | 0.41 | 0.75 | | | | 0.34 | 0.34 | 0.34 |
| Clearance Time (s) | 5.8 | 5.8 | 5.8 | | 5.8 | 5.3 | | | | 5.3 | 5.3 | 5.3 |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | | 4.3 | 4.3 | | | | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 309 | 1910 | 854 | | 1410 | 1159 | | | | 591 | 622 | 529 |
| v/s Ratio Prot | 0.07 | 0.26 | | | 0.30 | 0.24 | | | | | c0.29 | |
| v/s Ratio Perm | | | c0.44 | | | 0.28 | | | | 0.19 | | 0.11 |
| v/c Ratio | 0.73 | 0.47 | 0.80 | | 0.73 | 0.69 | | | | 0.54 | 0.85 | 0.31 |
| Uniform Delay, d1 | 48.6 | 14.7 | 19.5 | | 27.3 | 7.0 | | | | 29.1 | 33.4 | 26.6 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 0.63 | 0.80 | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 9.6 | 0.8 | 7.7 | | 2.4 | 1.5 | | | | 1.4 | 11.0 | 0.5 |
| Delay (s) | 58.2 | 15.5 | 27.3 | | 19.6 | 7.1 | | | | 30.5 | 44.4 | 27.1 |
| Level of Service | E | B | C | | B | A | | | | C | D | C |
| Approach Delay (s) | | 25.4 | | | 14.1 | | | 0.0 | | | 35.9 | |
| Approach LOS | | C | | | B | | | A | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 23.6 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.82 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 110.0 | | | Sum of lost time (s) | | | | 11.1 | | |
| Intersection Capacity Utilization | | | 106.5% | | | ICU Level of Service | | | | G | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2015 No-Build PM







25: Pelham Road & I-85 SB off ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|------|------|--------|------|----------------------|------|
| Lane Configurations | | ↑↑ | ↑↑ | | ↑ | ↑↑ |
| Volume (vph) | 0 | 1090 | 1350 | 0 | 446 | 311 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.6 | 5.6 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 0.95 | | 1.00 | 0.88 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3438 | 3438 | | 1719 | 2707 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3438 | 3438 | | 1719 | 2707 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 1211 | 1500 | 0 | 496 | 346 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 26 |
| Lane Group Flow (vph) | 0 | 1211 | 1500 | 0 | 496 | 320 |
| Turn Type | | | | | Perm | |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | | 61.6 | 61.6 | | 37.5 | 37.5 |
| Effective Green, g (s) | | 61.6 | 61.6 | | 37.5 | 37.5 |
| Actuated g/C Ratio | | 0.56 | 0.56 | | 0.34 | 0.34 |
| Clearance Time (s) | | 5.6 | 5.6 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 4.3 | 4.3 | | 4.3 | 4.3 |
| Lane Grp Cap (vph) | | 1925 | 1925 | | 586 | 923 |
| v/s Ratio Prot | | 0.35 | c0.44 | | c0.29 | |
| v/s Ratio Perm | | | | | | 0.12 |
| v/c Ratio | | 0.63 | 0.78 | | 0.85 | 0.35 |
| Uniform Delay, d1 | | 16.4 | 18.9 | | 33.6 | 27.1 |
| Progression Factor | | 0.86 | 1.01 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 1.4 | 2.3 | | 11.5 | 0.4 |
| Delay (s) | | 15.6 | 21.3 | | 45.1 | 27.5 |
| Level of Service | | B | C | | D | C |
| Approach Delay (s) | | 15.6 | 21.3 | | 37.9 | |
| Approach LOS | | B | C | | D | |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 23.3 | | HCM Level of Service | C |
| HCM Volume to Capacity ratio | | | 0.80 | | | |
| Actuated Cycle Length (s) | | | 110.0 | | Sum of lost time (s) | 10.9 |
| Intersection Capacity Utilization | | | 104.6% | | ICU Level of Service | G |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |




















I-85/I-385 Interchange Improvements
2015 No-Build PM

26: Pelham Road & I-85 NB off ramp

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑ | | | ↑↑ | ↘↘ | ↗ |
| Volume (vph) | 557 | 0 | 0 | 621 | 1329 | 732 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.8 | | | 5.8 | 5.0 | 5.0 |
| Lane Util. Factor | 0.95 | | | 0.95 | 0.97 | 1.00 |
| Frt | 1.00 | | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 1.00 | | | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 3438 | | | 3438 | 3335 | 1538 |
| Flt Permitted | 1.00 | | | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 3438 | | | 3438 | 3335 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 619 | 0 | 0 | 690 | 1477 | 813 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 21 |
| Lane Group Flow (vph) | 619 | 0 | 0 | 690 | 1477 | 792 |
| Turn Type | | | | | Perm | |
| Protected Phases | 2 | | | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Actuated Green, G (s) | 31.8 | | | 31.8 | 67.4 | 67.4 |
| Effective Green, g (s) | 31.8 | | | 31.8 | 67.4 | 67.4 |
| Actuated g/C Ratio | 0.29 | | | 0.29 | 0.61 | 0.61 |
| Clearance Time (s) | 5.8 | | | 5.8 | 5.0 | 5.0 |
| Vehicle Extension (s) | 4.3 | | | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 994 | | | 994 | 2043 | 942 |
| v/s Ratio Prot | 0.18 | | | c0.20 | 0.44 | |
| v/s Ratio Perm | | | | | | c0.52 |
| v/c Ratio | 0.62 | | | 0.69 | 0.72 | 0.84 |
| Uniform Delay, d1 | 33.9 | | | 34.8 | 14.8 | 17.0 |
| Progression Factor | 0.70 | | | 0.84 | 1.00 | 1.00 |
| Incremental Delay, d2 | 2.2 | | | 3.2 | 1.4 | 7.3 |
| Delay (s) | 26.1 | | | 32.5 | 16.2 | 24.3 |
| Level of Service | C | | | C | B | C |
| Approach Delay (s) | 26.1 | | | 32.5 | 19.1 | |
| Approach LOS | C | | | C | B | |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 22.9 | | HCM Level of Service | C |
| HCM Volume to Capacity ratio | | | 0.79 | | | |
| Actuated Cycle Length (s) | | | 110.0 | | Sum of lost time (s) | 10.8 |
| Intersection Capacity Utilization | | | 135.4% | | ICU Level of Service | H |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |




















I-85/I-385 Interchange Improvements
2015 No-Build PM

27: Pelham Road & Boland Court

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  |  | |  | |
| Volume (vph) | 56 | 855 | 378 | 310 | 1157 | 20 | 220 | 17 | 294 | 27 | 13 | 30 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.7 | 6.7 | | 6.7 | 6.7 | | | 6.3 | 6.3 | | 6.3 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 1.00 | | | 1.00 | 0.85 | | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | | 0.98 | |
| Satd. Flow (prot) | 1719 | 3280 | | 1719 | 3429 | | | 1729 | 1538 | | 1672 | |
| Flt Permitted | 0.21 | 1.00 | | 0.08 | 1.00 | | | 0.73 | 1.00 | | 0.70 | |
| Satd. Flow (perm) | 381 | 3280 | | 136 | 3429 | | | 1316 | 1538 | | 1189 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 62 | 950 | 420 | 344 | 1286 | 22 | 244 | 19 | 327 | 30 | 14 | 33 |
| RTOR Reduction (vph) | 0 | 45 | 0 | 0 | 1 | 0 | 0 | 0 | 253 | 0 | 25 | 0 |
| Lane Group Flow (vph) | 62 | 1325 | 0 | 344 | 1307 | 0 | 0 | 263 | 74 | 0 | 52 | 0 |
| Turn Type | Perm | | | pm+pt | | | Perm | | | Perm | | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | 8 | | | | 4 |
| Permitted Phases | 2 | | | 6 | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 46.6 | 46.6 | | 72.1 | 72.1 | | | 24.9 | 24.9 | | 24.9 | |
| Effective Green, g (s) | 46.6 | 46.6 | | 72.1 | 72.1 | | | 24.9 | 24.9 | | 24.9 | |
| Actuated g/C Ratio | 0.42 | 0.42 | | 0.66 | 0.66 | | | 0.23 | 0.23 | | 0.23 | |
| Clearance Time (s) | 6.7 | 6.7 | | 6.7 | 6.7 | | | 6.3 | 6.3 | | 6.3 | |
| Vehicle Extension (s) | 4.9 | 4.9 | | 4.3 | 4.9 | | | 4.3 | 4.3 | | 4.3 | |
| Lane Grp Cap (vph) | 161 | 1390 | | 360 | 2248 | | | 298 | 348 | | 269 | |
| v/s Ratio Prot | | 0.40 | | c0.16 | 0.38 | | | | | | | |
| v/s Ratio Perm | 0.16 | | | c0.46 | | | | c0.20 | 0.05 | | 0.04 | |
| v/c Ratio | 0.39 | 0.95 | | 0.96 | 0.58 | | | 0.88 | 0.21 | | 0.19 | |
| Uniform Delay, d1 | 21.8 | 30.6 | | 35.1 | 10.5 | | | 41.1 | 34.6 | | 34.4 | |
| Progression Factor | 0.73 | 0.67 | | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 4.5 | 11.3 | | 36.0 | 1.1 | | | 25.8 | 0.5 | | 0.6 | |
| Delay (s) | 20.5 | 31.9 | | 71.1 | 11.7 | | | 66.9 | 35.1 | | 35.0 | |
| Level of Service | C | C | | E | B | | | E | D | | C | |
| Approach Delay (s) | | 31.4 | | | 24.0 | | | 49.3 | | | 35.0 | |
| Approach LOS | | C | | | C | | | D | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 31.0 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.90 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 110.0 | | | Sum of lost time (s) | | | 13.0 | | | |
| Intersection Capacity Utilization | | | 89.1% | | | ICU Level of Service | | | E | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |


















I-85/I-385 Interchange Improvements
2015 No-Build PM

28: Forsythia Dr & E Butler Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  | |  | |  |  | |  |  | |
| Volume (vph) | 12 | 0 | 4 | 34 | 0 | 99 | 7 | 674 | 17 | 79 | 991 | 17 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.0 | 6.0 | | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | | 1.00 | 0.85 | | 0.90 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | | 0.99 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1719 | 1538 | | 1607 | | 1719 | 3425 | | 1719 | 3429 | |
| Flt Permitted | | 0.53 | 1.00 | | 0.91 | | 0.24 | 1.00 | | 0.36 | 1.00 | |
| Satd. Flow (perm) | | 965 | 1538 | | 1478 | | 429 | 3425 | | 649 | 3429 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 13 | 0 | 4 | 38 | 0 | 110 | 8 | 749 | 19 | 88 | 1101 | 19 |
| RTOR Reduction (vph) | 0 | 0 | 4 | 0 | 98 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 13 | 0 | 0 | 50 | 0 | 8 | 767 | 0 | 88 | 1119 | 0 |
| Turn Type | Perm | | Perm | Perm | | | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | 2 | | | 6 | | |
| Actuated Green, G (s) | | 9.9 | 9.9 | | 9.9 | | 68.1 | 68.1 | | 68.1 | 68.1 | |
| Effective Green, g (s) | | 9.9 | 9.9 | | 9.9 | | 68.1 | 68.1 | | 68.1 | 68.1 | |
| Actuated g/C Ratio | | 0.11 | 0.11 | | 0.11 | | 0.76 | 0.76 | | 0.76 | 0.76 | |
| Clearance Time (s) | | 6.0 | 6.0 | | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Vehicle Extension (s) | | 4.3 | 4.3 | | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | | 106 | 169 | | 163 | | 325 | 2592 | | 491 | 2595 | |
| v/s Ratio Prot | | | | | | | | 0.22 | | | c0.33 | |
| v/s Ratio Perm | | 0.01 | 0.00 | | c0.03 | | 0.02 | | | 0.14 | | |
| v/c Ratio | | 0.12 | 0.00 | | 0.31 | | 0.02 | 0.30 | | 0.18 | 0.43 | |
| Uniform Delay, d1 | | 36.1 | 35.7 | | 36.9 | | 2.7 | 3.4 | | 3.1 | 4.0 | |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | | 0.38 | 0.41 | |
| Incremental Delay, d2 | | 0.8 | 0.0 | | 1.7 | | 0.1 | 0.3 | | 0.7 | 0.5 | |
| Delay (s) | | 37.0 | 35.7 | | 38.6 | | 2.9 | 3.7 | | 1.9 | 2.1 | |
| Level of Service | | D | D | | D | | A | A | | A | A | |
| Approach Delay (s) | | 36.7 | | | 38.6 | | | 3.7 | | | 2.0 | |
| Approach LOS | | D | | | D | | | A | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | 5.4 | | | HCM Level of Service | | | A | | | | |
| HCM Volume to Capacity ratio | | 0.42 | | | | | | | | | | |
| Actuated Cycle Length (s) | | 90.0 | | | Sum of lost time (s) | | | 12.0 | | | | |
| Intersection Capacity Utilization | | 60.9% | | | ICU Level of Service | | | B | | | | |
| Analysis Period (min) | | 15 | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |


















I-85/I-385 Interchange Improvements
2015 No-Build PM

30: E Butler Road & I-385 SB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | |  | |  |  | | |  |  | | | |
| Volume (vph) | 0 | 730 | 75 | 388 | 663 | 0 | 412 | 0 | 419 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.0 | | 6.0 | 6.0 | | | 6.0 | 6.0 | | | |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | 1.00 | 1.00 | | | |
| Flt | | 0.99 | | 1.00 | 1.00 | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | | 3390 | | 1719 | 3438 | | | 1719 | 1538 | | | |
| Flt Permitted | | 1.00 | | 0.12 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | | 3390 | | 226 | 3438 | | | 1719 | 1538 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 811 | 83 | 431 | 737 | 0 | 458 | 0 | 466 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 141 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 885 | 0 | 431 | 737 | 0 | 0 | 458 | 325 | 0 | 0 | 0 |
| Turn Type | | | | pm+pt | | | Perm | | Perm | | | |
| Protected Phases | | | | 1 | 6 | | | 4 | | | | |
| Permitted Phases | | 2 | | 6 | | | 4 | | 4 | | | |
| Actuated Green, G (s) | | 26.0 | | 51.6 | 51.6 | | | 26.4 | 26.4 | | | |
| Effective Green, g (s) | | 26.0 | | 51.6 | 51.6 | | | 26.4 | 26.4 | | | |
| Actuated g/C Ratio | | 0.29 | | 0.57 | 0.57 | | | 0.29 | 0.29 | | | |
| Clearance Time (s) | | 6.0 | | 6.0 | 6.0 | | | 6.0 | 6.0 | | | |
| Vehicle Extension (s) | | 4.3 | | 4.3 | 4.3 | | | 4.3 | 4.3 | | | |
| Lane Grp Cap (vph) | | 979 | | 455 | 1971 | | | 504 | 451 | | | |
| v/s Ratio Prot | | | | c0.21 | 0.21 | | | | | | | |
| v/s Ratio Perm | | 0.26 | | c0.34 | | | | 0.27 | 0.21 | | | |
| v/c Ratio | | 0.90 | | 0.95 | 0.37 | | | 0.91 | 0.72 | | | |
| Uniform Delay, d1 | | 30.8 | | 24.8 | 10.4 | | | 30.6 | 28.5 | | | |
| Progression Factor | | 0.89 | | 0.50 | 0.78 | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 13.0 | | 25.4 | 0.4 | | | 20.6 | 6.2 | | | |
| Delay (s) | | 40.5 | | 37.9 | 8.5 | | | 51.3 | 34.7 | | | |
| Level of Service | | D | | D | A | | | D | C | | | |
| Approach Delay (s) | | 40.5 | | | 19.3 | | | 42.9 | | | 0.0 | |
| Approach LOS | | D | | | B | | | D | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 33.0 | | | HCM Level of Service | | | C | | | |
| HCM Volume to Capacity ratio | | | 0.90 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 90.0 | | | Sum of lost time (s) | | | 12.0 | | | |
| Intersection Capacity Utilization | | | 81.9% | | | ICU Level of Service | | | D | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |
























I-85/I-385 Interchange Improvements
2015 No-Build PM

31: I-385 NB Ramps & E Butler Road

| |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | NBR | SBL | SBT | SBR | NWL2 | NWL | NWR |
| Lane Configurations | | |  |  | | |  |  |  | |  |
| Volume (vph) | 0 | 0 | 268 | 874 | 0 | 0 | 1009 | 756 | 42 | 0 | 220 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | 6.0 | 6.0 | | | 6.0 | 6.0 | 6.0 | | 6.0 |
| Lane Util. Factor | | | 1.00 | 0.95 | | | 0.95 | 1.00 | 1.00 | | 1.00 |
| Frt | | | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | | 0.85 |
| Flt Protected | | | 0.95 | 1.00 | | | 1.00 | 1.00 | 0.95 | | 1.00 |
| Satd. Flow (prot) | | | 1719 | 3438 | | | 3438 | 1538 | 1719 | | 1538 |
| Flt Permitted | | | 0.16 | 1.00 | | | 1.00 | 1.00 | 0.95 | | 1.00 |
| Satd. Flow (perm) | | | 281 | 3438 | | | 3438 | 1538 | 1719 | | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 0 | 298 | 971 | 0 | 0 | 1121 | 840 | 47 | 0 | 244 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 317 | 0 | 0 | 149 |
| Lane Group Flow (vph) | 0 | 0 | 298 | 971 | 0 | 0 | 1121 | 523 | 47 | 0 | 95 |
| Turn Type | | | pm+pt | | | | custom | | custom | | custom |
| Protected Phases | | | 5 | 2 | | | | | | | 8 |
| Permitted Phases | | | 2 | | | | 6 | 6 | 8 | | |
| Actuated Green, G (s) | | | 66.6 | 66.6 | | | 47.4 | 47.4 | 11.4 | | 11.4 |
| Effective Green, g (s) | | | 66.6 | 66.6 | | | 47.4 | 47.4 | 11.4 | | 11.4 |
| Actuated g/C Ratio | | | 0.74 | 0.74 | | | 0.53 | 0.53 | 0.13 | | 0.13 |
| Clearance Time (s) | | | 6.0 | 6.0 | | | 6.0 | 6.0 | 6.0 | | 6.0 |
| Vehicle Extension (s) | | | 4.3 | 4.3 | | | 4.3 | 4.3 | 4.3 | | 4.3 |
| Lane Grp Cap (vph) | | | 419 | 2544 | | | 1811 | 810 | 218 | | 195 |
| v/s Ratio Prot | | | c0.10 | 0.28 | | | | | | | c0.06 |
| v/s Ratio Perm | | | c0.42 | | | | 0.33 | 0.34 | 0.03 | | |
| v/c Ratio | | | 0.71 | 0.38 | | | 0.62 | 0.65 | 0.22 | | 0.49 |
| Uniform Delay, d1 | | | 11.4 | 4.2 | | | 15.0 | 15.3 | 35.3 | | 36.6 |
| Progression Factor | | | 0.57 | 0.39 | | | 1.00 | 1.00 | 1.00 | | 1.00 |
| Incremental Delay, d2 | | | 2.7 | 0.2 | | | 1.6 | 4.0 | 0.8 | | 3.0 |
| Delay (s) | | | 9.1 | 1.8 | | | 16.6 | 19.2 | 36.1 | | 39.6 |
| Level of Service | | | A | A | | | B | B | D | | D |
| Approach Delay (s) | 0.0 | | | 3.6 | | | 17.7 | | | 39.0 | |
| Approach LOS | A | | | A | | | B | | | D | |
| Intersection Summary | | | | | | | | | | | |
| HCM Average Control Delay | | | 14.4 | | HCM Level of Service | | | | B | | |
| HCM Volume to Capacity ratio | | | 0.65 | | | | | | | | |
| Actuated Cycle Length (s) | | | 90.0 | | Sum of lost time (s) | | | | 12.0 | | |
| Intersection Capacity Utilization | | | 81.9% | | ICU Level of Service | | | | D | | |
| Analysis Period (min) | | | 15 | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | |




















I-85/I-385 Interchange Improvements
2015 No-Build PM

34: Frontage Road & Roper Mountain Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 25 | 12 | 366 | 592 | 50 | 54 | 174 | 1224 | 189 | 13 | 950 | 25 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | |
| Lane Util. Factor | 1.00 | 1.00 | | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Flt Protected | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | 0.10 | 1.00 | 1.00 | 0.11 | 1.00 | |
| Satd. Flow (prot) | 1719 | 1546 | | 1633 | 1649 | 1538 | 1719 | 3438 | 1538 | 1719 | 3425 | |
| Satd. Flow (perm) | 1719 | 1546 | | 1633 | 1649 | 1538 | 172 | 3438 | 1538 | 201 | 3425 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 28 | 13 | 407 | 658 | 56 | 60 | 193 | 1360 | 210 | 14 | 1056 | 28 |
| RTOR Reduction (vph) | 0 | 130 | 0 | 0 | 0 | 20 | 0 | 0 | 106 | 0 | 2 | 0 |
| Lane Group Flow (vph) | 28 | 290 | 0 | 355 | 359 | 40 | 193 | 1360 | 104 | 14 | 1082 | 0 |
| Turn Type | Split | | | Split | | Perm | pm+pt | | Perm | Perm | | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | 2 | | 2 | 6 | | |
| Actuated Green, G (s) | 18.0 | 18.0 | | 23.0 | 23.0 | 23.0 | 51.0 | 51.0 | 51.0 | 36.0 | 36.0 | |
| Effective Green, g (s) | 18.0 | 18.0 | | 23.0 | 23.0 | 23.0 | 51.0 | 51.0 | 51.0 | 36.0 | 36.0 | |
| Actuated g/C Ratio | 0.16 | 0.16 | | 0.21 | 0.21 | 0.21 | 0.46 | 0.46 | 0.46 | 0.33 | 0.33 | |
| Clearance Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | |
| Vehicle Extension (s) | 4.9 | 4.9 | | 4.9 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 | 4.9 | 4.9 | |
| Lane Grp Cap (vph) | 281 | 253 | | 341 | 345 | 322 | 206 | 1594 | 713 | 66 | 1121 | |
| v/s Ratio Prot | 0.02 | c0.19 | | 0.22 | c0.22 | | 0.08 | c0.40 | | | 0.32 | |
| v/s Ratio Perm | | | | | | 0.03 | c0.36 | | 0.07 | 0.07 | | |
| v/c Ratio | 0.10 | 1.14 | | 1.04 | 1.04 | 0.12 | 0.94 | 0.85 | 0.15 | 0.21 | 0.97 | |
| Uniform Delay, d1 | 39.1 | 46.0 | | 43.5 | 43.5 | 35.3 | 27.3 | 26.2 | 17.0 | 26.7 | 36.4 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.78 | 0.93 | 1.01 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.3 | 101.2 | | 59.8 | 59.4 | 0.4 | 39.7 | 4.9 | 0.3 | 7.2 | 19.7 | |
| Delay (s) | 39.4 | 147.2 | | 103.3 | 102.9 | 35.7 | 61.0 | 29.3 | 17.5 | 33.9 | 56.1 | |
| Level of Service | D | F | | F | F | D | E | C | B | C | E | |
| Approach Delay (s) | | 140.4 | | | 97.9 | | | 31.3 | | | 55.8 | |
| Approach LOS | | F | | | F | | | C | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 62.5 | | | HCM Level of Service | | | E | | | |
| HCM Volume to Capacity ratio | | | 0.99 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 110.0 | | | Sum of lost time (s) | | | 18.0 | | | |
| Intersection Capacity Utilization | | | 115.7% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |













I-85/I-385 Interchange Improvements
2015 No-Build PM

35: I-385 NB Ramps & Roper Mountain Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | |  |  |  |  |  | | |  |  |
| Volume (vph) | 0 | 0 | 0 | 426 | 0 | 470 | 333 | 1117 | 0 | 0 | 1416 | 492 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | | 6.0 | 6.0 |
| Lane Util. Factor | | | | 0.95 | 0.95 | 0.88 | 0.97 | 0.95 | | | 0.95 | 1.00 |
| Frt | | | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 |
| Flt Protected | | | | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (prot) | | | | 1633 | 1633 | 2707 | 3335 | 3438 | | | 3438 | 1538 |
| Flt Permitted | | | | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (perm) | | | | 1633 | 1633 | 2707 | 3335 | 3438 | | | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 0 | 0 | 473 | 0 | 522 | 370 | 1241 | 0 | 0 | 1573 | 547 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 156 | 0 | 0 | 0 | 0 | 0 | 234 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 236 | 237 | 366 | 370 | 1241 | 0 | 0 | 1573 | 313 |
| Turn Type | | | | Perm | | Perm | Prot | | | | | Perm |
| Protected Phases | | | | | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | 8 | | 8 | | | | | | 6 |
| Actuated Green, G (s) | | | | 19.4 | 19.4 | 19.4 | 14.7 | 78.6 | | | 57.9 | 57.9 |
| Effective Green, g (s) | | | | 19.4 | 19.4 | 19.4 | 14.7 | 78.6 | | | 57.9 | 57.9 |
| Actuated g/C Ratio | | | | 0.18 | 0.18 | 0.18 | 0.13 | 0.71 | | | 0.53 | 0.53 |
| Clearance Time (s) | | | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | | 6.0 | 6.0 |
| Vehicle Extension (s) | | | | 4.9 | 4.9 | 4.9 | 4.3 | 4.9 | | | 4.9 | 4.9 |
| Lane Grp Cap (vph) | | | | 288 | 288 | 477 | 446 | 2457 | | | 1810 | 810 |
| v/s Ratio Prot | | | | | | | c0.11 | 0.36 | | | c0.46 | |
| v/s Ratio Perm | | | | 0.14 | 0.15 | 0.14 | | | | | | 0.20 |
| v/c Ratio | | | | 0.82 | 0.82 | 0.77 | 0.83 | 0.51 | | | 0.87 | 0.39 |
| Uniform Delay, d1 | | | | 43.6 | 43.6 | 43.2 | 46.4 | 7.0 | | | 22.7 | 15.5 |
| Progression Factor | | | | 1.00 | 1.00 | 1.00 | 1.18 | 0.52 | | | 0.69 | 1.10 |
| Incremental Delay, d2 | | | | 18.3 | 18.8 | 8.5 | 5.6 | 0.3 | | | 0.6 | 0.1 |
| Delay (s) | | | | 61.9 | 62.4 | 51.6 | 60.3 | 3.9 | | | 16.2 | 17.2 |
| Level of Service | | | | E | E | D | E | A | | | B | B |
| Approach Delay (s) | | 0.0 | | | 56.6 | | | 16.9 | | | 16.5 | |
| Approach LOS | | A | | | E | | | B | | | B | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 25.1 | | | | HCM Level of Service | | | | C | |
| HCM Volume to Capacity ratio | | | 0.85 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 110.0 | | | | Sum of lost time (s) | | | 18.0 | | |
| Intersection Capacity Utilization | | | 112.1% | | | | ICU Level of Service | | | H | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |






















I-85/I-385 Interchange Improvements
2015 No-Build PM

36: Roper Mountain Road & I-385 SB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | | ↑↑↑ | ↑ | ↑ | ↑↑ | | ↑ | ↑ | ↑↑ | | | |
| Volume (vph) | 0 | 1010 | 663 | 1133 | 709 | 0 | 440 | 0 | 331 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.4 | 6.4 | 5.8 | 6.4 | | 6.1 | 6.1 | 6.1 | | | |
| Lane Util. Factor | | 0.91 | 1.00 | 1.00 | 0.95 | | 0.95 | 0.95 | 0.88 | | | |
| Flt | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | | 4940 | 1538 | 1719 | 3438 | | 1633 | 1633 | 2707 | | | |
| Flt Permitted | | 1.00 | 1.00 | 0.15 | 1.00 | | 0.95 | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | | 4940 | 1538 | 275 | 3438 | | 1633 | 1633 | 2707 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 1122 | 737 | 1259 | 788 | 0 | 489 | 0 | 368 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 172 | 0 | 0 | 0 | 0 | 0 | 328 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1122 | 565 | 1259 | 788 | 0 | 244 | 245 | 40 | 0 | 0 | 0 |
| Turn Type | | Perm | | pm+pt | | | Perm | | Perm | | | |
| Protected Phases | | 2 | | 1 | 6 | | | 4 | | | | |
| Permitted Phases | | | 2 | 6 | | | 4 | | 4 | | | |
| Actuated Green, G (s) | | 35.6 | 35.6 | 86.2 | 85.6 | | 11.9 | 11.9 | 11.9 | | | |
| Effective Green, g (s) | | 35.6 | 35.6 | 86.2 | 85.6 | | 11.9 | 11.9 | 11.9 | | | |
| Actuated g/C Ratio | | 0.32 | 0.32 | 0.78 | 0.78 | | 0.11 | 0.11 | 0.11 | | | |
| Clearance Time (s) | | 6.4 | 6.4 | 5.8 | 6.4 | | 6.1 | 6.1 | 6.1 | | | |
| Vehicle Extension (s) | | 4.9 | 4.9 | 4.3 | 4.9 | | 4.9 | 4.9 | 4.9 | | | |
| Lane Grp Cap (vph) | | 1599 | 498 | 796 | 2675 | | 177 | 177 | 293 | | | |
| v/s Ratio Prot | | 0.23 | | c0.64 | 0.23 | | | | | | | |
| v/s Ratio Perm | | | 0.37 | c0.60 | | | 0.15 | 0.15 | 0.01 | | | |
| v/c Ratio | | 0.70 | 1.13 | 1.58 | 0.29 | | 1.38 | 1.38 | 0.14 | | | |
| Uniform Delay, d1 | | 32.6 | 37.2 | 22.2 | 3.5 | | 49.0 | 49.0 | 44.4 | | | |
| Progression Factor | | 0.58 | 0.37 | 0.67 | 0.83 | | 1.00 | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 1.7 | 75.6 | 264.7 | 0.1 | | 201.6 | 203.9 | 0.4 | | | |
| Delay (s) | | 20.6 | 89.3 | 279.5 | 3.1 | | 250.7 | 253.0 | 44.8 | | | |
| Level of Service | | C | F | F | A | | F | F | D | | | |
| Approach Delay (s) | | 47.8 | | | 173.1 | | | 162.9 | | | 0.0 | |
| Approach LOS | | D | | | F | | | F | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 122.4 | | | HCM Level of Service | | | F | | | |
| HCM Volume to Capacity ratio | | | 1.52 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 110.0 | | | Sum of lost time (s) | | | 11.9 | | | |
| Intersection Capacity Utilization | | | 112.1% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |











I-85/I-385 Interchange Improvements
2015 No-Build PM

37: Roper Mountain Road & Congaree Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |  | | |  |  |  |  |  | |  |  |
| Volume (vph) | 104 | 1041 | 1 | 6 | 659 | 375 | 625 | 1 | 322 | 4 | 1 | 7 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.8 | 6.4 | | | 6.4 | 6.4 | 6.1 | 6.1 | | | 6.1 | 6.1 |
| Lane Util. Factor | 1.00 | 0.91 | | | 0.95 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | 0.85 | | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.96 | 1.00 |
| Satd. Flow (prot) | 1719 | 4939 | | | 3436 | 1538 | 1719 | 1539 | | | 1740 | 1538 |
| Flt Permitted | 0.18 | 1.00 | | | 0.94 | 1.00 | 0.75 | 1.00 | | | 0.86 | 1.00 |
| Satd. Flow (perm) | 323 | 4939 | | | 3225 | 1538 | 1365 | 1539 | | | 1554 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 116 | 1157 | 1 | 7 | 732 | 417 | 694 | 1 | 358 | 4 | 1 | 8 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 290 | 0 | 82 | 0 | 0 | 0 | 4 |
| Lane Group Flow (vph) | 116 | 1158 | 0 | 0 | 739 | 127 | 694 | 277 | 0 | 0 | 5 | 4 |
| Turn Type | pm+pt | | | Perm | | Perm | Perm | | | Perm | | Perm |
| Protected Phases | 5 | 2 | | | 6 | | | 4 | | | 8 | |
| Permitted Phases | 2 | | | 6 | | 6 | 4 | | | 8 | | 8 |
| Actuated Green, G (s) | 43.6 | 43.6 | | | 33.6 | 33.6 | 53.9 | 53.9 | | | 53.9 | 53.9 |
| Effective Green, g (s) | 43.6 | 43.6 | | | 33.6 | 33.6 | 53.9 | 53.9 | | | 53.9 | 53.9 |
| Actuated g/C Ratio | 0.40 | 0.40 | | | 0.31 | 0.31 | 0.49 | 0.49 | | | 0.49 | 0.49 |
| Clearance Time (s) | 5.8 | 6.4 | | | 6.4 | 6.4 | 6.1 | 6.1 | | | 6.1 | 6.1 |
| Vehicle Extension (s) | 4.3 | 4.9 | | | 4.9 | 4.9 | 4.9 | 4.9 | | | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 181 | 1958 | | | 985 | 470 | 669 | 754 | | | 761 | 754 |
| v/s Ratio Prot | 0.02 | c0.23 | | | | | | 0.18 | | | | |
| v/s Ratio Perm | 0.23 | | | | c0.23 | 0.08 | c0.51 | | | | 0.00 | 0.00 |
| v/c Ratio | 0.64 | 0.59 | | | 0.75 | 0.27 | 1.04 | 0.37 | | | 0.01 | 0.01 |
| Uniform Delay, d1 | 25.7 | 26.2 | | | 34.4 | 28.9 | 28.1 | 17.5 | | | 14.4 | 14.3 |
| Progression Factor | 1.00 | 1.00 | | | 1.18 | 2.71 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Incremental Delay, d2 | 8.9 | 1.3 | | | 4.9 | 1.3 | 44.8 | 0.6 | | | 0.0 | 0.0 |
| Delay (s) | 34.6 | 27.5 | | | 45.5 | 79.6 | 72.9 | 18.1 | | | 14.4 | 14.3 |
| Level of Service | C | C | | | D | E | E | B | | | B | B |
| Approach Delay (s) | | 28.1 | | | 57.8 | | | 54.2 | | | 14.4 | |
| Approach LOS | | C | | | E | | | D | | | B | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 45.7 | | | HCM Level of Service | | | D | | | |
| HCM Volume to Capacity ratio | | | 0.94 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 110.0 | | | Sum of lost time (s) | | | 18.9 | | | |
| Intersection Capacity Utilization | | | 107.0% | | | ICU Level of Service | | | G | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |










I-85/I-385 Interchange Improvements
2015 No-Build PM

21: Frontage Rd & US 276

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | SEL | SET | NWT | NWR |
| Lane Configurations |  | |  |  |  | |
| Volume (veh/h) | 53 | 119 | 37 | 2967 | 1654 | 53 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 59 | 132 | 41 | 3297 | 1838 | 59 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | 1010 | |
| pX, platoon unblocked | 0.70 | 0.70 | 0.70 | | | |
| vC, conflicting volume | 3598 | 948 | 1897 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 3860 | 50 | 1413 | | | |
| tC, single (s) | 6.9 | 7.0 | 4.2 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 0 | 81 | 87 | | | |
| cM capacity (veh/h) | 1 | 694 | 322 | | | |
| Direction, Lane # | WB 1 | SE 1 | SE 2 | SE 3 | NW 1 | NW 2 |
| Volume Total | 191 | 41 | 1648 | 1648 | 1225 | 671 |
| Volume Left | 59 | 41 | 0 | 0 | 0 | 0 |
| Volume Right | 132 | 0 | 0 | 0 | 0 | 59 |
| cSH | 5 | 322 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 40.32 | 0.13 | 0.97 | 0.97 | 0.72 | 0.39 |
| Queue Length 95th (ft) | Err | 11 | 0 | 0 | 0 | 0 |
| Control Delay (s) | Err | 17.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | F | C | | | | |
| Approach Delay (s) | Err | 0.2 | | | 0.0 | |
| Approach LOS | F | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 352.3 | | | |
| Intersection Capacity Utilization | | | 98.9% | | ICU Level of Service | F |
| Analysis Period (min) | | | 15 | | | |












I-85/I-385 Interchange Improvements
2015 No-Build PM

22: US 276 & St Josephs Dr

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | SET | SER | NWL | NWT | NEL | NER |
| Lane Configurations |  | | |  |  | |
| Volume (veh/h) | 1710 | 410 | 87 | 1340 | 367 | 266 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 1900 | 456 | 97 | 1489 | 408 | 296 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 862 | | |
| pX, platoon unblocked | | | | | 0.68 | |
| vC, conflicting volume | | | 2356 | | 3066 | 1178 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 2356 | | 3096 | 1178 |
| tC, single (s) | | | 4.2 | | 6.9 | 7.0 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 51 | | 0 | 0 |
| cM capacity (veh/h) | | | 196 | | 3 | 179 |
| Direction, Lane # | SE 1 | SE 2 | NW 1 | NW 2 | NE 1 | |
| Volume Total | 1267 | 1089 | 593 | 993 | 703 | |
| Volume Left | 0 | 0 | 97 | 0 | 408 | |
| Volume Right | 0 | 456 | 0 | 0 | 296 | |
| cSH | 1700 | 1700 | 196 | 1700 | 5 | |
| Volume to Capacity | 0.75 | 0.64 | 0.49 | 0.58 | 139.54 | |
| Queue Length 95th (ft) | 0 | 0 | 61 | 0 | Err | |
| Control Delay (s) | 0.0 | 0.0 | 29.9 | 0.0 | Err | |
| Lane LOS | | | D | | F | |
| Approach Delay (s) | 0.0 | | 11.2 | | Err | |
| Approach LOS | | | | | F | |
| Intersection Summary | | | | | | |
| Average Delay | | | 1518.0 | | | |
| Intersection Capacity Utilization | | | 145.8% | ICU Level of Service | | H |
| Analysis Period (min) | | | 15 | | | |














I-85/I-385 Interchange Improvements
2015 No-Build PM

29: Rothwell Dr & E Butler Road

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |
| Volume (veh/h) | 21 | 6 | 1 | 784 | 1081 | 1 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 23 | 7 | 1 | 871 | 1201 | 1 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | 5 | | | | |
| Median type | | | | TWLT | TWLT | |
| Median storage (veh) | | | | 2 | 2 | |
| Upstream signal (ft) | | | | 1175 | 377 | |
| pX, platoon unblocked | 0.89 | 0.89 | 0.89 | | | |
| vC, conflicting volume | 1639 | 601 | 1202 | | | |
| vC1, stage 1 conf vol | 1202 | | | | | |
| vC2, stage 2 conf vol | 438 | | | | | |
| vCu, unblocked vol | 1400 | 293 | 971 | | | |
| tC, single (s) | 6.9 | 7.0 | 4.2 | | | |
| tC, 2 stage (s) | 5.9 | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 91 | 99 | 100 | | | |
| cM capacity (veh/h) | 265 | 616 | 609 | | | |
| Direction, Lane # | EB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 |
| Volume Total | 30 | 1 | 436 | 436 | 801 | 401 |
| Volume Left | 23 | 1 | 0 | 0 | 0 | 0 |
| Volume Right | 7 | 0 | 0 | 0 | 0 | 1 |
| cSH | 341 | 609 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.09 | 0.00 | 0.26 | 0.26 | 0.47 | 0.24 |
| Queue Length 95th (ft) | 7 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 17.9 | 10.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | C | B | | | | |
| Approach Delay (s) | 17.9 | 0.0 | | | 0.0 | |
| Approach LOS | C | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.3 | | | |
| Intersection Capacity Utilization | | | 39.9% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |




















I-85/I-385 Interchange Improvements
2015 No-Build PM

32: New Commerce Ct & E Butler Road

| |  |  |  |  |  |  |
|-----------------------------------|---|---|--|---|--|--|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |   | |   |   |
| Volume (veh/h) | 57 | 65 | 1090 | 4 | 57 | 1708 |
| Sign Control | Stop | | Free | | Free | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 63 | 72 | 1211 | 4 | 63 | 1898 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | 369 | | | |
| pX, platoon unblocked | 0.90 | 0.90 | | | 0.90 | |
| vC, conflicting volume | 2289 | 608 | | | 1216 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 2211 | 344 | | | 1019 | |
| tC, single (s) | 6.9 | 7.0 | | | 4.2 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 0 | 88 | | | 89 | |
| cM capacity (veh/h) | 29 | 579 | | | 594 | |
| Direction, Lane # | WB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
| Volume Total | 136 | 807 | 408 | 63 | 949 | 949 |
| Volume Left | 63 | 0 | 0 | 63 | 0 | 0 |
| Volume Right | 72 | 0 | 4 | 0 | 0 | 0 |
| cSH | 59 | 1700 | 1700 | 594 | 1700 | 1700 |
| Volume to Capacity | 2.31 | 0.47 | 0.24 | 0.11 | 0.56 | 0.56 |
| Queue Length 95th (ft) | 335 | 0 | 0 | 9 | 0 | 0 |
| Control Delay (s) | 749.1 | 0.0 | 0.0 | 11.8 | 0.0 | 0.0 |
| Lane LOS | F | | | B | | |
| Approach Delay (s) | 749.1 | 0.0 | | 0.4 | | |
| Approach LOS | F | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 30.9 | | | |
| Intersection Capacity Utilization | | | 61.0% | | ICU Level of Service | B |
| Analysis Period (min) | | | 15 | | | |

I-85/I-385 Interchange Improvements
2015 No-Build PM
























33: E Butler Road & Brookfield Pkwy

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |  | | |  | | |  |  | |  |  |
| Volume (veh/h) | 17 | 1134 | 4 | 1 | 1557 | 10 | 2 | 0 | 190 | 18 | 0 | 4 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 19 | 1260 | 4 | 1 | 1730 | 11 | 2 | 0 | 211 | 20 | 0 | 4 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage (veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | 939 | | | | | | | | | | |
| pX, platoon unblocked | | | | 0.95 | | | 0.95 | 0.95 | | 0.95 | 0.95 | 0.95 |
| vC, conflicting volume | 1741 | | | 1264 | | | 2410 | 3040 | 871 | 2378 | 3043 | 632 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 1741 | | | 1170 | | | 2378 | 3042 | 871 | 2344 | 3046 | 503 |
| tC, single (s) | 4.2 | | | 4.2 | | | 7.6 | 6.6 | 7.0 | 7.6 | 6.6 | 7.0 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 95 | | | 100 | | | 86 | 100 | 27 | 0 | 100 | 99 |
| cM capacity (veh/h) | 344 | | | 546 | | | 16 | 11 | 289 | 4 | 11 | 480 |
| Direction, Lane # | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SE 1 | SE 2 | NW 1 | NW 2 | | | |
| Volume Total | 19 | 840 | 424 | 866 | 876 | 2 | 211 | 20 | 4 | | | |
| Volume Left | 19 | 0 | 0 | 1 | 0 | 2 | 0 | 20 | 0 | | | |
| Volume Right | 0 | 0 | 4 | 0 | 11 | 0 | 211 | 0 | 4 | | | |
| cSH | 344 | 1700 | 1700 | 546 | 1700 | 16 | 289 | 4 | 480 | | | |
| Volume to Capacity | 0.05 | 0.49 | 0.25 | 0.00 | 0.52 | 0.14 | 0.73 | 4.45 | 0.01 | | | |
| Queue Length 95th (ft) | 4 | 0 | 0 | 0 | 0 | 10 | 132 | Err | 1 | | | |
| Control Delay (s) | 16.1 | 0.0 | 0.0 | 0.1 | 0.0 | 270.6 | 45.2 | Err | 12.6 | | | |
| Lane LOS | C | | | A | | F | E | F | B | | | |
| Approach Delay (s) | 0.2 | | | 0.0 | | 47.5 | | 8183.3 | | | | |
| Approach LOS | | | | | | E | | F | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 64.5 | | | | | | | | | |
| Intersection Capacity Utilization | | | 68.5% | | ICU Level of Service | | | | C | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

I-85/I-385 Interchange Improvements























2035 No-Build AM

1: Woodruff Road & Roper Mountain Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 192 | 614 | 339 | 348 | 362 | 59 | 420 | 1317 | 261 | 263 | 1386 | 149 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frt | 1.00 | 0.95 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3255 | | 1719 | 3438 | 1538 | 1719 | 3438 | 1538 | 3335 | 3438 | 1538 |
| Flt Permitted | 0.31 | 1.00 | | 0.16 | 1.00 | 1.00 | 0.11 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 552 | 3255 | | 285 | 3438 | 1538 | 197 | 3438 | 1538 | 3335 | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 213 | 682 | 377 | 387 | 402 | 66 | 467 | 1463 | 290 | 292 | 1540 | 166 |
| RTOR Reduction (vph) | 0 | 30 | 0 | 0 | 0 | 54 | 0 | 0 | 74 | 0 | 0 | 53 |
| Lane Group Flow (vph) | 213 | 1029 | 0 | 387 | 402 | 12 | 467 | 1463 | 216 | 292 | 1540 | 113 |
| Turn Type | pm+pt | | | pm+pt | | Perm | Perm | | Perm | Prot | | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | 2 | | | 6 |
| Actuated Green, G (s) | 40.6 | 25.0 | | 41.4 | 25.4 | 25.4 | 80.0 | 80.0 | 80.0 | 8.0 | 93.0 | 93.0 |
| Effective Green, g (s) | 40.6 | 25.0 | | 41.4 | 25.4 | 25.4 | 80.0 | 80.0 | 80.0 | 8.0 | 93.0 | 93.0 |
| Actuated g/C Ratio | 0.27 | 0.17 | | 0.28 | 0.17 | 0.17 | 0.53 | 0.53 | 0.53 | 0.05 | 0.62 | 0.62 |
| Clearance Time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 4.3 | 5.5 | | 4.3 | 5.5 | 5.5 | 4.9 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 271 | 543 | | 232 | 582 | 260 | 105 | 1834 | 820 | 178 | 2132 | 954 |
| v/s Ratio Prot | 0.08 | c0.32 | | c0.18 | 0.12 | | | 0.43 | | c0.09 | 0.45 | |
| v/s Ratio Perm | 0.13 | | | 0.28 | | 0.01 | c2.37 | | 0.14 | | | 0.07 |
| v/c Ratio | 0.79 | 1.90 | | 1.67 | 0.69 | 0.05 | 4.45 | 0.80 | 0.26 | 1.64 | 0.72 | 0.12 |
| Uniform Delay, d1 | 46.0 | 62.5 | | 48.2 | 58.6 | 52.2 | 35.0 | 28.4 | 19.0 | 71.0 | 19.6 | 11.7 |
| Progression Factor | 1.00 | 1.00 | | 1.02 | 0.74 | 0.98 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 15.1 | 409.7 | | 317.2 | 4.4 | 0.2 | 1573.2 | 3.7 | 0.8 | 312.1 | 2.2 | 0.3 |
| Delay (s) | 61.1 | 472.2 | | 366.5 | 47.9 | 51.3 | 1608.2 | 32.1 | 19.8 | 383.1 | 21.8 | 11.9 |
| Level of Service | E | F | | F | D | D | F | C | B | F | C | B |
| Approach Delay (s) | | 403.3 | | | 192.4 | | | 362.1 | | | 73.8 | |
| Approach LOS | | F | | | F | | | F | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 256.7 | | | HCM Level of Service | | | | F | | |
| HCM Volume to Capacity ratio | | | 3.43 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | 21.0 | | | |
| Intersection Capacity Utilization | | | 127.0% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |





















I-85/I-385 Interchange Improvements
2035 No-Build AM

2: Woodruff Road & Costco Driveway

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NEL | NET | NER | SWL | SWT | SWR |
| Lane Configurations |  |  | |  |  |  |  |  | |  |  |  |
| Volume (vph) | 29 | 1186 | 40 | 90 | 888 | 46 | 40 | 2 | 86 | 12 | 2 | 18 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3421 | | 1719 | 3438 | 1538 | 1719 | 1544 | | 1719 | 1810 | 1538 |
| Flt Permitted | 0.21 | 1.00 | | 0.20 | 1.00 | 1.00 | 0.76 | 1.00 | | 0.69 | 1.00 | 1.00 |
| Satd. Flow (perm) | 385 | 3421 | | 361 | 3438 | 1538 | 1369 | 1544 | | 1255 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 32 | 1318 | 44 | 100 | 987 | 51 | 44 | 2 | 96 | 13 | 2 | 20 |
| RTOR Reduction (vph) | 0 | 3 | 0 | 0 | 0 | 22 | 0 | 86 | 0 | 0 | 0 | 17 |
| Lane Group Flow (vph) | 32 | 1359 | 0 | 100 | 987 | 29 | 44 | 12 | 0 | 13 | 2 | 3 |
| Turn Type | pm+pt | | | Perm | | Perm | Perm | | | Perm | | pm+ov |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | 4 | 5 |
| Permitted Phases | 2 | | | 6 | | 6 | 8 | | | 4 | | 4 |
| Actuated Green, G (s) | 54.0 | 54.0 | | 42.7 | 42.7 | 42.7 | 8.0 | 8.0 | | 8.0 | 8.0 | 12.8 |
| Effective Green, g (s) | 54.0 | 54.0 | | 42.7 | 42.7 | 42.7 | 8.0 | 8.0 | | 8.0 | 8.0 | 12.8 |
| Actuated g/C Ratio | 0.72 | 0.72 | | 0.57 | 0.57 | 0.57 | 0.11 | 0.11 | | 0.11 | 0.11 | 0.17 |
| Clearance Time (s) | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 |
| Vehicle Extension (s) | 4.3 | 5.5 | | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | | 5.5 | 5.5 | 4.3 |
| Lane Grp Cap (vph) | 363 | 2463 | | 206 | 1957 | 876 | 146 | 165 | | 134 | 193 | 396 |
| v/s Ratio Prot | 0.01 | c0.40 | | | 0.29 | | | 0.01 | | | 0.00 | 0.00 |
| v/s Ratio Perm | 0.06 | | | 0.28 | | 0.02 | c0.03 | | | 0.01 | | 0.00 |
| v/c Ratio | 0.09 | 0.55 | | 0.49 | 0.50 | 0.03 | 0.30 | 0.07 | | 0.10 | 0.01 | 0.01 |
| Uniform Delay, d1 | 4.2 | 4.9 | | 9.6 | 9.8 | 7.1 | 30.9 | 30.2 | | 30.2 | 30.0 | 25.8 |
| Progression Factor | 0.37 | 0.75 | | 0.50 | 0.45 | 0.70 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.0 | 0.1 | | 6.8 | 0.8 | 0.1 | 2.8 | 0.5 | | 0.8 | 0.1 | 0.0 |
| Delay (s) | 1.6 | 3.7 | | 11.6 | 5.2 | 5.0 | 33.8 | 30.6 | | 31.0 | 30.0 | 25.8 |
| Level of Service | A | A | | B | A | A | C | C | | C | C | C |
| Approach Delay (s) | | 3.7 | | | 5.8 | | | 31.6 | | | 28.0 | |
| Approach LOS | | A | | | A | | | C | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 6.3 | | | HCM Level of Service | | | A | | | |
| HCM Volume to Capacity ratio | | | 0.52 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 75.0 | | | Sum of lost time (s) | | | 13.0 | | | |
| Intersection Capacity Utilization | | | 84.2% | | | ICU Level of Service | | | E | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |





















I-85/I-385 Interchange Improvements
2035 No-Build AM

3: Green Heron Road & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | |  | | |  |  |  |  | |  |  |  |
| Volume (vph) | 6 | 2 | 42 | 2 | 2 | 10 | 14 | 909 | 73 | 87 | 1267 | 6 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.0 | | | 5.0 | 5.0 | 6.3 | 6.3 | | 6.3 | 6.3 | 6.3 |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 |
| Frt | | 0.89 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 0.99 | | | 0.98 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | | 1595 | | | 1765 | 1538 | 1719 | 3400 | | 1719 | 3438 | 1538 |
| Flt Permitted | | 0.96 | | | 0.85 | 1.00 | 0.17 | 1.00 | | 0.25 | 1.00 | 1.00 |
| Satd. Flow (perm) | | 1539 | | | 1544 | 1538 | 303 | 3400 | | 453 | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 7 | 2 | 47 | 2 | 2 | 11 | 16 | 1010 | 81 | 97 | 1408 | 7 |
| RTOR Reduction (vph) | 0 | 42 | 0 | 0 | 0 | 10 | 0 | 8 | 0 | 0 | 0 | 2 |
| Lane Group Flow (vph) | 0 | 14 | 0 | 0 | 4 | 1 | 16 | 1083 | 0 | 97 | 1408 | 5 |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | Perm | | Perm |
| Protected Phases | | 8 | | | 4 | | | 2 | | | 6 | |
| Permitted Phases | 8 | | | 4 | | 4 | 2 | | | 6 | | 6 |
| Actuated Green, G (s) | | 7.4 | | | 7.4 | 7.4 | 56.3 | 56.3 | | 56.3 | 56.3 | 56.3 |
| Effective Green, g (s) | | 7.4 | | | 7.4 | 7.4 | 56.3 | 56.3 | | 56.3 | 56.3 | 56.3 |
| Actuated g/C Ratio | | 0.10 | | | 0.10 | 0.10 | 0.75 | 0.75 | | 0.75 | 0.75 | 0.75 |
| Clearance Time (s) | | 5.0 | | | 5.0 | 5.0 | 6.3 | 6.3 | | 6.3 | 6.3 | 6.3 |
| Vehicle Extension (s) | | 4.3 | | | 4.3 | 4.3 | 5.5 | 5.5 | | 5.5 | 5.5 | 5.5 |
| Lane Grp Cap (vph) | | 152 | | | 152 | 152 | 227 | 2552 | | 340 | 2581 | 1155 |
| v/s Ratio Prot | | | | | | | | 0.32 | | | c0.41 | |
| v/s Ratio Perm | | c0.01 | | | 0.00 | 0.00 | 0.05 | | | 0.21 | | 0.00 |
| v/c Ratio | | 0.09 | | | 0.03 | 0.01 | 0.07 | 0.42 | | 0.29 | 0.55 | 0.00 |
| Uniform Delay, d1 | | 30.7 | | | 30.5 | 30.5 | 2.5 | 3.4 | | 3.0 | 3.9 | 2.3 |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 0.38 | 0.59 | | 0.79 | 0.85 | 0.97 |
| Incremental Delay, d2 | | 0.4 | | | 0.1 | 0.0 | 0.5 | 0.4 | | 1.7 | 0.7 | 0.0 |
| Delay (s) | | 31.1 | | | 30.7 | 30.5 | 1.4 | 2.5 | | 4.1 | 4.0 | 2.3 |
| Level of Service | | C | | | C | C | A | A | | A | A | A |
| Approach Delay (s) | | 31.1 | | | 30.6 | | | 2.5 | | | 4.0 | |
| Approach LOS | | C | | | C | | | A | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 4.1 | | | | HCM Level of Service | | | A | | |
| HCM Volume to Capacity ratio | | | 0.49 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 75.0 | | | | Sum of lost time (s) | | | 11.3 | | |
| Intersection Capacity Utilization | | | 83.1% | | | | ICU Level of Service | | | E | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |




















I-85/I-385 Interchange Improvements
2035 No-Build AM

4: Woodruff Industrial Lane & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |  | |  |  | |  |  | |  |  | |
| Volume (vph) | 55 | 7 | 93 | 33 | 7 | 4 | 19 | 811 | 123 | 250 | 1301 | 56 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 0.86 | | 1.00 | 0.95 | | 1.00 | 0.98 | | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 1558 | | 1719 | 1719 | | 1719 | 3370 | | 1719 | 3417 | |
| Flt Permitted | 0.69 | 1.00 | | 0.51 | 1.00 | | 0.14 | 1.00 | | 0.21 | 1.00 | |
| Satd. Flow (perm) | 1249 | 1558 | | 921 | 1719 | | 261 | 3370 | | 381 | 3417 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 61 | 8 | 103 | 37 | 8 | 4 | 21 | 901 | 137 | 278 | 1446 | 62 |
| RTOR Reduction (vph) | 0 | 96 | 0 | 0 | 4 | 0 | 0 | 6 | 0 | 0 | 2 | 0 |
| Lane Group Flow (vph) | 61 | 15 | 0 | 37 | 8 | 0 | 21 | 1032 | 0 | 278 | 1506 | 0 |
| Turn Type | pm+pt | | | pm+pt | | | pm+pt | | | pm+pt | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 8 | | | 4 | | | 2 | | | 6 | | |
| Actuated Green, G (s) | 15.7 | 10.1 | | 14.1 | 9.3 | | 98.8 | 94.9 | | 117.1 | 107.2 | |
| Effective Green, g (s) | 15.7 | 10.1 | | 14.1 | 9.3 | | 98.8 | 94.9 | | 117.1 | 107.2 | |
| Actuated g/C Ratio | 0.10 | 0.07 | | 0.09 | 0.06 | | 0.66 | 0.63 | | 0.78 | 0.71 | |
| Clearance Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 5.5 | | 4.3 | 5.5 | |
| Lane Grp Cap (vph) | 148 | 105 | | 112 | 107 | | 210 | 2132 | | 442 | 2442 | |
| v/s Ratio Prot | c0.02 | 0.01 | | 0.01 | 0.00 | | 0.00 | 0.31 | | c0.07 | c0.44 | |
| v/s Ratio Perm | c0.03 | | | 0.02 | | | 0.06 | | | c0.42 | | |
| v/c Ratio | 0.41 | 0.14 | | 0.33 | 0.08 | | 0.10 | 0.48 | | 0.63 | 0.62 | |
| Uniform Delay, d1 | 62.3 | 65.9 | | 62.9 | 66.3 | | 9.7 | 14.6 | | 8.6 | 10.9 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.54 | 0.46 | | 0.98 | 0.90 | |
| Incremental Delay, d2 | 2.9 | 1.0 | | 2.7 | 0.5 | | 0.3 | 0.7 | | 2.8 | 1.0 | |
| Delay (s) | 65.3 | 66.9 | | 65.7 | 66.8 | | 5.5 | 7.4 | | 11.3 | 10.8 | |
| Level of Service | E | E | | E | E | | A | A | | B | B | |
| Approach Delay (s) | | 66.3 | | | 65.9 | | | 7.4 | | | 10.9 | |
| Approach LOS | | E | | | E | | | A | | | B | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 13.7 | | | HCM Level of Service | | | | B | | |
| HCM Volume to Capacity ratio | | | 0.59 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | 18.0 | | | |
| Intersection Capacity Utilization | | | 67.7% | | | ICU Level of Service | | | C | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |












I-85/I-385 Interchange Improvements
2035 No-Build AM

5: I-85 SB Ramps & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | | | |  | |  | |  |  |  |  |  |
| Volume (vph) | 0 | 0 | 0 | 570 | 0 | 346 | 0 | 813 | 124 | 712 | 1261 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 5.0 | | 5.0 | | 6.3 | 6.3 | 6.5 | 6.1 | |
| Lane Util. Factor | | | | 0.97 | | 0.88 | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frt | | | | 1.00 | | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | | | | 0.95 | | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | | | 3335 | | 2707 | | 3438 | 1538 | 1719 | 3438 | |
| Flt Permitted | | | | 0.95 | | 1.00 | | 1.00 | 1.00 | 0.08 | 1.00 | |
| Satd. Flow (perm) | | | | 3335 | | 2707 | | 3438 | 1538 | 150 | 3438 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 0 | 0 | 633 | 0 | 384 | 0 | 903 | 138 | 791 | 1401 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 126 | 0 | 0 | 77 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 633 | 0 | 258 | 0 | 903 | 61 | 791 | 1401 | 0 |
| Turn Type | | | | custom | | custom | | | Perm | pm+pt | | |
| Protected Phases | | | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | | 4 | | 4 | | | 2 | | 6 | |
| Actuated Green, G (s) | | | | 28.0 | | 28.0 | | 41.7 | 41.7 | 110.9 | 110.9 | |
| Effective Green, g (s) | | | | 28.0 | | 28.0 | | 41.7 | 41.7 | 110.9 | 110.9 | |
| Actuated g/C Ratio | | | | 0.19 | | 0.19 | | 0.28 | 0.28 | 0.74 | 0.74 | |
| Clearance Time (s) | | | | 5.0 | | 5.0 | | 6.3 | 6.3 | 6.5 | 6.1 | |
| Vehicle Extension (s) | | | | 4.3 | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | | | | 623 | | 505 | | 956 | 428 | 765 | 2542 | |
| v/s Ratio Prot | | | | | | | | 0.26 | | c0.43 | 0.41 | |
| v/s Ratio Perm | | | | c0.19 | | 0.10 | | | 0.04 | c0.33 | | |
| v/c Ratio | | | | 1.02 | | 0.51 | | 0.94 | 0.14 | 1.03 | 0.55 | |
| Uniform Delay, d1 | | | | 61.0 | | 54.8 | | 53.0 | 40.7 | 39.0 | 8.6 | |
| Progression Factor | | | | 1.00 | | 1.00 | | 0.47 | 0.26 | 0.87 | 0.82 | |
| Incremental Delay, d2 | | | | 40.1 | | 1.3 | | 17.1 | 0.6 | 36.1 | 0.6 | |
| Delay (s) | | | | 101.1 | | 56.2 | | 42.0 | 11.4 | 70.2 | 7.7 | |
| Level of Service | | | | F | | E | | D | B | E | A | |
| Approach Delay (s) | | 0.0 | | | 84.2 | | | 37.9 | | | 30.2 | |
| Approach LOS | | A | | | F | | | D | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 45.0 | | | HCM Level of Service | | | | D | | |
| HCM Volume to Capacity ratio | | | 1.01 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | 11.5 | | | |
| Intersection Capacity Utilization | | | 94.4% | | | ICU Level of Service | | | F | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2035 No-Build AM

6: I-85 NB Ramps & Woodruff Road

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | NBL | NBR | SET | SER | NWL | NWT |
| Lane Configurations |  |  |  |  | |  |
| Volume (vph) | 489 | 816 | 1128 | 255 | 0 | 1484 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.6 | 5.6 | 6.5 | 6.5 | | 6.5 |
| Lane Util. Factor | 0.97 | 0.88 | 0.95 | 1.00 | | 0.95 |
| Frt | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 3335 | 2707 | 3438 | 1538 | | 3438 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 3335 | 2707 | 3438 | 1538 | | 3438 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 543 | 907 | 1253 | 283 | 0 | 1649 |
| RTOR Reduction (vph) | 0 | 264 | 0 | 107 | 0 | 0 |
| Lane Group Flow (vph) | 543 | 643 | 1253 | 176 | 0 | 1649 |
| Turn Type | | Prot | | Perm | | |
| Protected Phases | 3 | 3 | 2 | | | 2 4 |
| Permitted Phases | | | | 2 | | |
| Actuated Green, G (s) | 26.4 | 26.4 | 93.5 | 93.5 | | 111.5 |
| Effective Green, g (s) | 26.4 | 26.4 | 93.5 | 93.5 | | 104.5 |
| Actuated g/C Ratio | 0.18 | 0.18 | 0.62 | 0.62 | | 0.70 |
| Clearance Time (s) | 5.6 | 5.6 | 6.5 | 6.5 | | |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | | |
| Lane Grp Cap (vph) | 587 | 476 | 2143 | 959 | | 2395 |
| v/s Ratio Prot | 0.16 | c0.24 | 0.36 | | | c0.48 |
| v/s Ratio Perm | | | | 0.11 | | |
| v/c Ratio | 0.93 | 1.35 | 0.58 | 0.18 | | 0.69 |
| Uniform Delay, d1 | 60.8 | 61.8 | 16.7 | 12.0 | | 13.3 |
| Progression Factor | 1.00 | 1.00 | 0.28 | 0.38 | | 1.07 |
| Incremental Delay, d2 | 21.0 | 171.6 | 0.3 | 0.1 | | 0.4 |
| Delay (s) | 81.8 | 233.4 | 5.0 | 4.7 | | 14.7 |
| Level of Service | F | F | A | A | | B |
| Approach Delay (s) | 176.6 | | 5.0 | | | 14.7 |
| Approach LOS | F | | A | | | B |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 62.1 | | HCM Level of Service | E |
| HCM Volume to Capacity ratio | | | 0.82 | | | |
| Actuated Cycle Length (s) | | | 150.0 | | Sum of lost time (s) | 18.6 |
| Intersection Capacity Utilization | | | 69.8% | | ICU Level of Service | C |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

I-85/I-385 Interchange Improvements
2035 No-Build AM

























7: Carolina Point Pkwy & Woodruff Road



| Movement | EBL | EBR | SET | SER | NWL | NWT |
|-----------------------------------|-------|-------|-------|-------|----------------------|-------|
| Lane Configurations | ↰↰ | ↰ | ↰↰ | ↰ | ↰ | ↰↰ |
| Volume (vph) | 176 | 139 | 1683 | 261 | 196 | 2279 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 7.0 | 7.0 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 0.97 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 |
| Frt | 1.00 | 0.85 | 1.00 | 0.85 | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 3335 | 1538 | 3438 | 1538 | 1719 | 3438 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.10 | 1.00 |
| Satd. Flow (perm) | 3335 | 1538 | 3438 | 1538 | 177 | 3438 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 196 | 154 | 1870 | 290 | 218 | 2532 |
| RTOR Reduction (vph) | 0 | 51 | 0 | 46 | 0 | 0 |
| Lane Group Flow (vph) | 196 | 103 | 1870 | 244 | 218 | 2532 |
| Turn Type | Perm | | Perm | | Perm | |
| Protected Phases | 4 | | 2 3 6 | | | 2 3 6 |
| Permitted Phases | 4 | 4 | | 2 3 6 | 2 3 6 | |
| Actuated Green, G (s) | 11.0 | 11.0 | 126.4 | 126.4 | 126.4 | 126.4 |
| Effective Green, g (s) | 11.0 | 11.0 | 126.4 | 126.4 | 126.4 | 126.4 |
| Actuated g/C Ratio | 0.07 | 0.07 | 0.84 | 0.84 | 0.84 | 0.84 |
| Clearance Time (s) | 7.0 | 7.0 | | | | |
| Vehicle Extension (s) | 4.3 | 4.3 | | | | |
| Lane Grp Cap (vph) | 245 | 113 | 2897 | 1296 | 149 | 2897 |
| v/s Ratio Prot | 0.06 | | 0.54 | | | 0.74 |
| v/s Ratio Perm | | c0.07 | | 0.16 | c1.23 | |
| v/c Ratio | 0.80 | 0.91 | 0.65 | 0.19 | 1.46 | 0.87 |
| Uniform Delay, d1 | 68.4 | 69.0 | 4.1 | 2.2 | 11.8 | 7.0 |
| Progression Factor | 1.00 | 1.00 | 0.57 | 1.26 | 0.91 | 0.54 |
| Incremental Delay, d2 | 18.2 | 58.7 | 0.3 | 0.1 | 211.8 | 0.3 |
| Delay (s) | 86.6 | 127.8 | 2.6 | 2.8 | 222.5 | 4.1 |
| Level of Service | F | F | A | A | F | A |
| Approach Delay (s) | 104.7 | | 2.6 | | | 21.4 |
| Approach LOS | F | | A | | | C |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 19.3 | | HCM Level of Service | B |
| HCM Volume to Capacity ratio | | | 1.43 | | | |
| Actuated Cycle Length (s) | | | 150.0 | | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | | | 79.3% | | ICU Level of Service | D |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |
























I-85/I-385 Interchange Improvements
2035 No-Build AM

8: Woodruff Road & Market Point Drive

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 258 | 1417 | 147 | 34 | 2178 | 86 | 100 | 2 | 48 | 39 | 2 | 197 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.1 | 6.1 | 5.8 | 6.1 | 6.1 | 6.1 | 5.8 | 5.8 | 6.1 | 5.8 | 5.8 | 5.8 |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 3335 | 3438 | 1538 | 1719 | 3438 | 1538 | 1719 | 1810 | 1538 | 3335 | 3438 | 1538 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 3335 | 3438 | 1538 | 1719 | 3438 | 1538 | 1719 | 1810 | 1538 | 3335 | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 287 | 1574 | 163 | 38 | 2420 | 96 | 111 | 2 | 53 | 43 | 2 | 219 |
| RTOR Reduction (vph) | 0 | 0 | 43 | 0 | 0 | 20 | 0 | 0 | 46 | 0 | 0 | 123 |
| Lane Group Flow (vph) | 287 | 1574 | 120 | 38 | 2420 | 76 | 111 | 2 | 7 | 43 | 2 | 96 |
| Turn Type | Prot | pm+ov | | Prot | Perm | | Prot | pm+ov | | Prot | Perm | |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | 4 |
| Actuated Green, G (s) | 11.9 | 99.8 | 109.0 | 9.0 | 96.9 | 96.9 | 9.2 | 12.0 | 21.0 | 5.4 | 8.2 | 8.2 |
| Effective Green, g (s) | 11.9 | 99.8 | 109.0 | 9.0 | 96.9 | 96.9 | 9.2 | 12.0 | 21.0 | 5.4 | 8.2 | 8.2 |
| Actuated g/C Ratio | 0.08 | 0.67 | 0.73 | 0.06 | 0.65 | 0.65 | 0.06 | 0.08 | 0.14 | 0.04 | 0.05 | 0.05 |
| Clearance Time (s) | 6.1 | 6.1 | 5.8 | 6.1 | 6.1 | 6.1 | 5.8 | 5.8 | 6.1 | 5.8 | 5.8 | 5.8 |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 265 | 2287 | 1118 | 103 | 2221 | 994 | 105 | 145 | 215 | 120 | 188 | 84 |
| v/s Ratio Prot | c0.09 | 0.46 | 0.01 | 0.02 | c0.70 | | c0.06 | 0.00 | c0.00 | 0.01 | 0.00 | |
| v/s Ratio Perm | | | 0.07 | | | 0.05 | | | 0.00 | | | c0.06 |
| v/c Ratio | 1.08 | 0.69 | 0.11 | 0.37 | 1.09 | 0.08 | 1.06 | 0.01 | 0.03 | 0.36 | 0.01 | 1.14 |
| Uniform Delay, d1 | 69.0 | 15.5 | 6.1 | 67.8 | 26.5 | 9.9 | 70.4 | 63.6 | 55.7 | 70.6 | 67.1 | 70.9 |
| Progression Factor | 0.96 | 1.00 | 2.18 | 0.75 | 0.55 | 0.71 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 71.3 | 1.3 | 0.0 | 1.4 | 44.0 | 0.1 | 104.1 | 0.1 | 0.1 | 2.9 | 0.0 | 142.4 |
| Delay (s) | 137.8 | 16.8 | 13.3 | 52.0 | 58.5 | 7.0 | 174.5 | 63.6 | 55.8 | 73.5 | 67.1 | 213.3 |
| Level of Service | F | B | B | D | E | A | F | E | E | E | E | F |
| Approach Delay (s) | | 33.7 | | | 56.5 | | | 135.3 | | | 189.4 | |
| Approach LOS | | C | | | E | | | F | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 56.9 | | | HCM Level of Service | | | E | | | |
| HCM Volume to Capacity ratio | | | 1.14 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | 29.9 | | | |
| Intersection Capacity Utilization | | | 94.8% | | | ICU Level of Service | | | F | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |


















I-85/I-385 Interchange Improvements
2035 No-Build AM

9: Woodruff Road & Garlington Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Volume (vph) | 314 | 1024 | 166 | 147 | 1539 | 661 | 360 | 346 | 94 | 199 | 160 | 399 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.2 | 6.1 | 6.1 | 5.2 | 6.1 | 6.1 | 5.2 | 5.2 | | 5.2 | 5.2 | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | | 0.97 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 3335 | 3438 | 1538 | 1719 | 3438 | 1538 | 3335 | 1752 | | 3335 | 1810 | 1538 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.14 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 3335 | 3438 | 1538 | 249 | 3438 | 1538 | 3335 | 1752 | | 3335 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 349 | 1138 | 184 | 163 | 1710 | 734 | 400 | 384 | 104 | 221 | 178 | 443 |
| RTOR Reduction (vph) | 0 | 0 | 79 | 0 | 0 | 137 | 0 | 7 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 349 | 1138 | 105 | 163 | 1710 | 597 | 400 | 481 | 0 | 221 | 178 | 443 |
| Turn Type | Prot | | Perm | pm+pt | | Perm | Prot | | | Prot | | Free |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | 6 | | 6 | | | | | | Free |
| Actuated Green, G (s) | 14.8 | 71.2 | 71.2 | 81.4 | 68.9 | 68.9 | 21.0 | 35.8 | | 8.8 | 23.6 | 150.0 |
| Effective Green, g (s) | 14.8 | 71.2 | 71.2 | 81.4 | 68.9 | 68.9 | 21.0 | 35.8 | | 8.8 | 23.6 | 150.0 |
| Actuated g/C Ratio | 0.10 | 0.47 | 0.47 | 0.54 | 0.46 | 0.46 | 0.14 | 0.24 | | 0.06 | 0.16 | 1.00 |
| Clearance Time (s) | 5.2 | 6.1 | 6.1 | 5.2 | 6.1 | 6.1 | 5.2 | 5.2 | | 5.2 | 5.2 | |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | 329 | 1632 | 730 | 258 | 1579 | 706 | 467 | 418 | | 196 | 285 | 1538 |
| v/s Ratio Prot | c0.10 | 0.33 | | 0.05 | c0.50 | | 0.12 | c0.27 | | c0.07 | 0.10 | |
| v/s Ratio Perm | | | 0.07 | 0.29 | | 0.39 | | | | | | c0.29 |
| v/c Ratio | 1.06 | 0.70 | 0.14 | 0.63 | 1.08 | 0.85 | 0.86 | 1.15 | | 1.13 | 0.62 | 0.29 |
| Uniform Delay, d1 | 67.6 | 30.9 | 22.2 | 22.3 | 40.5 | 35.9 | 63.0 | 57.1 | | 70.6 | 59.1 | 0.0 |
| Progression Factor | 1.24 | 0.57 | 0.33 | 1.64 | 0.41 | 0.11 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 59.7 | 1.9 | 0.3 | 3.0 | 43.6 | 6.3 | 15.1 | 92.2 | | 102.7 | 5.1 | 0.5 |
| Delay (s) | 143.8 | 19.5 | 7.7 | 39.6 | 60.3 | 10.3 | 78.1 | 149.3 | | 173.3 | 64.2 | 0.5 |
| Level of Service | F | B | A | D | E | B | E | F | | F | E | A |
| Approach Delay (s) | | 44.1 | | | 45.0 | | | 117.2 | | | 59.3 | |
| Approach LOS | | D | | | D | | | F | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 57.4 | | | HCM Level of Service | | | | E | | |
| HCM Volume to Capacity ratio | | | 1.11 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | 21.7 | | | |
| Intersection Capacity Utilization | | | 99.2% | | | ICU Level of Service | | | F | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |





















I-85/I-385 Interchange Improvements
2035 No-Build AM

10: Woodruff Road & I-385 SB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | |  |  | | | | |  | |  |
| Volume (vph) | 0 | 1105 | 212 | 91 | 1642 | 0 | 0 | 0 | 0 | 1184 | 0 | 705 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.6 | | 6.6 | 6.6 | | | | | 5.7 | | 4.0 |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | | | 0.97 | | 1.00 |
| Frt | | 0.98 | | 1.00 | 1.00 | | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 3355 | | 1719 | 3438 | | | | | 3335 | | 1538 |
| Flt Permitted | | 1.00 | | 0.05 | 1.00 | | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 3355 | | 99 | 3438 | | | | | 3335 | | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 1228 | 236 | 101 | 1824 | 0 | 0 | 0 | 0 | 1316 | 0 | 783 |
| RTOR Reduction (vph) | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1453 | 0 | 101 | 1824 | 0 | 0 | 0 | 0 | 1316 | 0 | 783 |
| Turn Type | | | | pm+pt | | | | | | Prot | | Free |
| Protected Phases | | 2 | | 1 | 6 | | | | | 4 | | |
| Permitted Phases | | | | 6 | | | | | | | | Free |
| Actuated Green, G (s) | | 66.2 | | 79.4 | 79.4 | | | | | 58.3 | | 150.0 |
| Effective Green, g (s) | | 66.2 | | 79.4 | 79.4 | | | | | 58.3 | | 150.0 |
| Actuated g/C Ratio | | 0.44 | | 0.53 | 0.53 | | | | | 0.39 | | 1.00 |
| Clearance Time (s) | | 6.6 | | 6.6 | 6.6 | | | | | 5.7 | | |
| Vehicle Extension (s) | | 4.3 | | 4.3 | 4.3 | | | | | 4.3 | | |
| Lane Grp Cap (vph) | | 1481 | | 124 | 1820 | | | | | 1296 | | 1538 |
| v/s Ratio Prot | | 0.43 | | 0.04 | c0.53 | | | | | c0.39 | | |
| v/s Ratio Perm | | | | 0.39 | | | | | | | | 0.51 |
| v/c Ratio | | 0.98 | | 0.81 | 1.00 | | | | | 1.02 | | 0.51 |
| Uniform Delay, d1 | | 41.3 | | 33.5 | 35.3 | | | | | 45.9 | | 0.0 |
| Progression Factor | | 0.63 | | 2.02 | 0.91 | | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | | 14.0 | | 4.1 | 6.8 | | | | | 28.9 | | 1.2 |
| Delay (s) | | 39.8 | | 71.7 | 39.1 | | | | | 74.8 | | 1.2 |
| Level of Service | | D | | E | D | | | | | E | | A |
| Approach Delay (s) | | 39.8 | | | 40.8 | | | 0.0 | | | 47.4 | |
| Approach LOS | | D | | | D | | | A | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 43.0 | | | HCM Level of Service | | | | D | | |
| HCM Volume to Capacity ratio | | | 1.01 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | | 12.3 | | |
| Intersection Capacity Utilization | | | 171.4% | | | ICU Level of Service | | | | H | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |





















I-85/I-385 Interchange Improvements
2035 No-Build AM

11: Woodruff Road & I-385 NB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |   | | |   |  |  | |  | | | |
| Volume (vph) | 861 | 1428 | 0 | 0 | 989 | 903 | 744 | 0 | 361 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.1 | 6.1 | | | 6.1 | 6.1 | 5.0 | | 5.0 | | | |
| Lane Util. Factor | 1.00 | 0.95 | | | 0.95 | 1.00 | 1.00 | | 1.00 | | | |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | | 0.85 | | | |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | 0.95 | | 1.00 | | | |
| Satd. Flow (prot) | 1719 | 3438 | | | 3438 | 1538 | 1719 | | 1538 | | | |
| Flt Permitted | 0.08 | 1.00 | | | 1.00 | 1.00 | 0.95 | | 1.00 | | | |
| Satd. Flow (perm) | 151 | 3438 | | | 3438 | 1538 | 1719 | | 1538 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 957 | 1587 | 0 | 0 | 1099 | 1003 | 827 | 0 | 401 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 389 | 0 | 0 | 26 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 957 | 1587 | 0 | 0 | 1099 | 614 | 827 | 0 | 375 | 0 | 0 | 0 |
| Turn Type | pm+pt | | | | Perm | | Prot | custom | | | | |
| Protected Phases | 5 | 2 | | | 6 | | 8 | | | | | |
| Permitted Phases | 2 | | | | | 6 | | | 8 | | | |
| Actuated Green, G (s) | 94.9 | 94.9 | | | 41.9 | 41.9 | 44.0 | | 44.0 | | | |
| Effective Green, g (s) | 94.9 | 94.9 | | | 41.9 | 41.9 | 44.0 | | 44.0 | | | |
| Actuated g/C Ratio | 0.63 | 0.63 | | | 0.28 | 0.28 | 0.29 | | 0.29 | | | |
| Clearance Time (s) | 6.1 | 6.1 | | | 6.1 | 6.1 | 5.0 | | 5.0 | | | |
| Vehicle Extension (s) | 4.3 | 4.3 | | | 4.3 | 4.3 | 4.3 | | 4.3 | | | |
| Lane Grp Cap (vph) | 586 | 2175 | | | 960 | 430 | 504 | | 451 | | | |
| v/s Ratio Prot | c0.51 | 0.46 | | | 0.32 | | c0.48 | | | | | |
| v/s Ratio Perm | c0.52 | | | | | 0.40 | | | 0.24 | | | |
| v/c Ratio | 1.63 | 0.73 | | | 1.14 | 1.43 | 1.64 | | 0.83 | | | |
| Uniform Delay, d1 | 44.9 | 18.8 | | | 54.0 | 54.0 | 53.0 | | 49.5 | | | |
| Progression Factor | 1.17 | 1.07 | | | 0.82 | 0.76 | 0.98 | | 0.97 | | | |
| Incremental Delay, d2 | 286.7 | 0.5 | | | 70.7 | 197.9 | 297.2 | | 13.0 | | | |
| Delay (s) | 339.2 | 20.6 | | | 115.0 | 239.2 | 348.9 | | 61.1 | | | |
| Level of Service | F | C | | | F | F | F | | E | | | |
| Approach Delay (s) | | 140.5 | | | 174.3 | | | 254.9 | | | 0.0 | |
| Approach LOS | | F | | | F | | | F | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | 176.5 | | | HCM Level of Service | | | F | | | | |
| HCM Volume to Capacity ratio | | 1.60 | | | | | | | | | | |
| Actuated Cycle Length (s) | | 150.0 | | | Sum of lost time (s) | | | 11.1 | | | | |
| Intersection Capacity Utilization | | 171.4% | | | ICU Level of Service | | | H | | | | |
| Analysis Period (min) | | 15 | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |



















I-85/I-385 Interchange Improvements
2035 No-Build AM

12: Woodruff Road & Commercial Drive

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  | |  |  | |
| Volume (vph) | 165 | 1492 | 132 | 31 | 1683 | 62 | 121 | 7 | 10 | 111 | 29 | 88 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.5 | | 5.5 | 5.5 | | 5.3 | 5.4 | | 5.4 | 5.4 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 0.91 | | 1.00 | 0.89 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 3396 | | 1719 | 3420 | | 1719 | 1652 | | 1719 | 1605 | |
| Flt Permitted | 0.04 | 1.00 | | 0.10 | 1.00 | | 0.34 | 1.00 | | 0.75 | 1.00 | |
| Satd. Flow (perm) | 75 | 3396 | | 181 | 3420 | | 611 | 1652 | | 1348 | 1605 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 183 | 1658 | 147 | 34 | 1870 | 69 | 134 | 8 | 11 | 123 | 32 | 98 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 2 | 0 | 0 | 9 | 0 | 0 | 74 | 0 |
| Lane Group Flow (vph) | 183 | 1801 | 0 | 34 | 1937 | 0 | 134 | 10 | 0 | 123 | 56 | 0 |
| Turn Type | pm+pt | | | Perm | | | pm+pt | | | Perm | | |
| Protected Phases | 5 | 2 | | | 6 | | 3 | 8 | | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 110.5 | 110.5 | | 91.2 | 91.2 | | 28.6 | 28.6 | | 15.5 | 15.5 | |
| Effective Green, g (s) | 110.5 | 110.5 | | 91.2 | 91.2 | | 28.6 | 28.6 | | 15.5 | 15.5 | |
| Actuated g/C Ratio | 0.74 | 0.74 | | 0.61 | 0.61 | | 0.19 | 0.19 | | 0.10 | 0.10 | |
| Clearance Time (s) | 5.3 | 5.5 | | 5.5 | 5.5 | | 5.3 | 5.4 | | 5.4 | 5.4 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | 209 | 2502 | | 110 | 2079 | | 174 | 315 | | 139 | 166 | |
| v/s Ratio Prot | c0.08 | 0.53 | | | c0.57 | | c0.04 | 0.01 | | | 0.04 | |
| v/s Ratio Perm | 0.56 | | | 0.19 | | | c0.11 | | | 0.09 | | |
| v/c Ratio | 0.88 | 0.72 | | 0.31 | 0.93 | | 0.77 | 0.03 | | 0.88 | 0.34 | |
| Uniform Delay, d1 | 52.3 | 11.1 | | 14.2 | 26.6 | | 56.1 | 49.4 | | 66.4 | 62.5 | |
| Progression Factor | 1.46 | 0.38 | | 0.16 | 0.25 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 22.9 | 1.2 | | 5.0 | 6.7 | | 20.3 | 0.1 | | 45.1 | 1.9 | |
| Delay (s) | 99.2 | 5.3 | | 7.2 | 13.5 | | 76.4 | 49.5 | | 111.4 | 64.4 | |
| Level of Service | F | A | | A | B | | E | D | | F | E | |
| Approach Delay (s) | | 14.0 | | | 13.4 | | | 73.0 | | | 87.3 | |
| Approach LOS | | B | | | B | | | E | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 20.0 | | | HCM Level of Service | | | | C | | |
| HCM Volume to Capacity ratio | | | 0.88 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | 16.1 | | | |
| Intersection Capacity Utilization | | | 85.8% | | | ICU Level of Service | | | E | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |




















I-85/I-385 Interchange Improvements
2035 No-Build AM

13: Woodruff Road & Smith Hines Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Volume (vph) | 8 | 1371 | 234 | 177 | 1667 | 2 | 105 | 2 | 148 | 2 | 2 | 4 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 6.0 | 6.0 | | | 5.0 | | | 5.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | | 1.00 | | | 1.00 | |
| Frt | 1.00 | 0.98 | | 1.00 | 1.00 | | | 0.92 | | | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.98 | | | 0.99 | |
| Satd. Flow (prot) | 1719 | 3363 | | 1719 | 3438 | | | 1634 | | | 1667 | |
| Flt Permitted | 0.09 | 1.00 | | 0.10 | 1.00 | | | 0.86 | | | 0.90 | |
| Satd. Flow (perm) | 167 | 3363 | | 185 | 3438 | | | 1438 | | | 1523 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 9 | 1523 | 260 | 197 | 1852 | 2 | 117 | 2 | 164 | 2 | 2 | 4 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 33 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 9 | 1774 | 0 | 197 | 1854 | 0 | 0 | 250 | 0 | 0 | 4 | 0 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | |
| Protected Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 120.7 | 120.7 | | 121.0 | 121.0 | | | 18.0 | | | 18.0 | |
| Effective Green, g (s) | 120.7 | 120.7 | | 121.0 | 121.0 | | | 18.0 | | | 18.0 | |
| Actuated g/C Ratio | 0.80 | 0.80 | | 0.81 | 0.81 | | | 0.12 | | | 0.12 | |
| Clearance Time (s) | 6.3 | 6.3 | | 6.0 | 6.0 | | | 5.0 | | | 5.0 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | | 4.3 | | | 4.3 | |
| Lane Grp Cap (vph) | 134 | 2706 | | 149 | 2773 | | | 173 | | | 183 | |
| v/s Ratio Prot | 0.53 | | | 0.54 | | | | | | | | |
| v/s Ratio Perm | 0.05 | | | c1.06 | | | | c0.17 | | | 0.00 | |
| v/c Ratio | 0.07 | 0.66 | | 1.32 | 0.67 | | | 1.44 | | | 0.02 | |
| Uniform Delay, d1 | 3.0 | 6.1 | | 14.5 | 6.1 | | | 66.0 | | | 58.3 | |
| Progression Factor | 0.16 | 0.12 | | 1.24 | 0.49 | | | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 0.6 | 0.8 | | 149.3 | 0.1 | | | 228.7 | | | 0.1 | |
| Delay (s) | 1.1 | 1.6 | | 167.3 | 3.1 | | | 294.7 | | | 58.3 | |
| Level of Service | A | A | | F | A | | | F | | | E | |
| Approach Delay (s) | 1.6 | | | 18.9 | | | | 294.7 | | | 58.3 | |
| Approach LOS | A | | | B | | | | F | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 30.3 | HCM Level of Service | | | C | | | | | |
| HCM Volume to Capacity ratio | | | 1.34 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | Sum of lost time (s) | | | 11.0 | | | | | |
| Intersection Capacity Utilization | | | 107.2% | ICU Level of Service | | | G | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |























I-85/I-385 Interchange Improvements
2035 No-Build AM

14: Woodruff Road & Walmart Driveway

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  | | |  | |
| Volume (vph) | 31 | 2055 | 24 | 20 | 4623 | 118 | 70 | 4 | 35 | 120 | 2 | 12 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.0 | 5.0 | | | 5.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | | | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.86 | | | 0.99 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | |
| Satd. Flow (prot) | 1719 | 3432 | | 1719 | 3425 | | 1719 | 1563 | | | 1711 | |
| Flt Permitted | 0.04 | 1.00 | | 0.04 | 1.00 | | 0.79 | 1.00 | | | 0.72 | |
| Satd. Flow (perm) | 65 | 3432 | | 69 | 3425 | | 1423 | 1563 | | | 1281 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 34 | 2283 | 27 | 22 | 5137 | 131 | 78 | 4 | 39 | 133 | 2 | 13 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 14 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 34 | 2310 | 0 | 22 | 5267 | 0 | 78 | 29 | 0 | 0 | 145 | 0 |
| Turn Type | pm+pt | | | Perm | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 116.4 | 116.4 | | 105.4 | 105.4 | | 22.3 | 22.3 | | | 22.3 | |
| Effective Green, g (s) | 116.4 | 116.4 | | 105.4 | 105.4 | | 22.3 | 22.3 | | | 22.3 | |
| Actuated g/C Ratio | 0.78 | 0.78 | | 0.70 | 0.70 | | 0.15 | 0.15 | | | 0.15 | |
| Clearance Time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.0 | 5.0 | | | 5.0 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | | | 4.3 | |
| Lane Grp Cap (vph) | 102 | 2663 | | 48 | 2407 | | 212 | 232 | | | 190 | |
| v/s Ratio Prot | 0.01 | c0.67 | | | c1.54 | | | 0.02 | | | | |
| v/s Ratio Perm | 0.25 | | | 0.32 | | | 0.05 | | | | c0.11 | |
| v/c Ratio | 0.33 | 0.87 | | 0.46 | 2.19 | | 0.37 | 0.12 | | | 0.77 | |
| Uniform Delay, d1 | 43.2 | 11.5 | | 9.8 | 22.3 | | 57.5 | 55.4 | | | 61.3 | |
| Progression Factor | 1.31 | 0.70 | | 0.51 | 0.50 | | 1.00 | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 2.6 | 3.6 | | 2.8 | 534.8 | | 1.7 | 0.4 | | | 18.2 | |
| Delay (s) | 59.5 | 11.7 | | 7.8 | 545.9 | | 59.2 | 55.7 | | | 79.5 | |
| Level of Service | E | B | | A | F | | E | E | | | E | |
| Approach Delay (s) | | 12.4 | | | 543.7 | | | 58.0 | | | 79.5 | |
| Approach LOS | | B | | | F | | | E | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 370.0 | | | HCM Level of Service | | | F | | | |
| HCM Volume to Capacity ratio | | | 1.93 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | 17.6 | | | |
| Intersection Capacity Utilization | | | 155.1% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |




















I-85/I-385 Interchange Improvements
2035 No-Build AM

15: Woodruff Road & Verdin Road

| | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  |  |  |  |  |
| Volume (vph) | 58 | 1061 | 29 | 134 | 2960 | 77 | 479 | 352 | 39 | 67 | 285 | 101 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.2 | 5.0 | 5.0 | 5.2 | 5.2 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 3424 | | 1719 | 3425 | | 1719 | 1810 | 1538 | 1719 | 1739 | |
| Flt Permitted | 0.04 | 1.00 | | 0.16 | 1.00 | | 0.15 | 1.00 | 1.00 | 0.53 | 1.00 | |
| Satd. Flow (perm) | 81 | 3424 | | 295 | 3425 | | 276 | 1810 | 1538 | 961 | 1739 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 64 | 1179 | 32 | 149 | 3289 | 86 | 532 | 391 | 43 | 74 | 317 | 112 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 29 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 64 | 1210 | 0 | 149 | 3374 | 0 | 532 | 391 | 14 | 74 | 426 | 0 |
| Turn Type | Perm | | | Perm | | | pm+pt | | | Perm | Perm | |
| Protected Phases | 2 | | | 6 | | | 3 | | 8 | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | 8 | | 4 | |
| Actuated Green, G (s) | 89.7 | 89.7 | | 89.7 | 89.7 | | 49.0 | 49.0 | 49.0 | 20.8 | 20.8 | |
| Effective Green, g (s) | 89.7 | 89.7 | | 89.7 | 89.7 | | 49.0 | 49.0 | 49.0 | 20.8 | 20.8 | |
| Actuated g/C Ratio | 0.60 | 0.60 | | 0.60 | 0.60 | | 0.33 | 0.33 | 0.33 | 0.14 | 0.14 | |
| Clearance Time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.2 | 5.0 | 5.0 | 5.2 | 5.2 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | 48 | 2048 | | 176 | 2048 | | 309 | 591 | 502 | 133 | 241 | |
| v/s Ratio Prot | 0.35 | | | c0.99 | | | c0.26 | | 0.22 | | 0.24 | |
| v/s Ratio Perm | 0.79 | | | 0.51 | | | c0.30 | | 0.01 | 0.08 | | |
| v/c Ratio | 1.33 | 0.59 | | 0.85 | 1.65 | | 1.72 | 0.66 | 0.03 | 0.56 | 1.77 | |
| Uniform Delay, d1 | 30.1 | 18.7 | | 24.5 | 30.1 | | 45.7 | 43.4 | 34.3 | 60.3 | 64.6 | |
| Progression Factor | 1.00 | 1.08 | | 0.65 | 0.67 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 205.6 | 0.6 | | 4.8 | 291.5 | | 338.1 | 3.2 | 0.0 | 6.8 | 361.0 | |
| Delay (s) | 235.8 | 20.9 | | 20.6 | 311.7 | | 383.8 | 46.6 | 34.4 | 67.1 | 425.6 | |
| Level of Service | F | C | | C | F | | F | D | C | E | F | |
| Approach Delay (s) | 31.7 | | | 299.4 | | | 231.8 | | | 372.9 | | |
| Approach LOS | C | | | F | | | F | | | F | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 240.4 | HCM Level of Service | | | F | | | | | |
| HCM Volume to Capacity ratio | | | 1.65 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | Sum of lost time (s) | | | 11.5 | | | | | |
| Intersection Capacity Utilization | | | 172.8% | ICU Level of Service | | | H | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |



















I-85/I-385 Interchange Improvements
2035 No-Build AM

16: Woodruff Road & Butler Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | |  |  | | |  |  |  |  | |
| Volume (vph) | 7 | 1007 | 74 | 759 | 2693 | 2 | 231 | 40 | 555 | 32 | 42 | 12 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.3 | | 6.3 | 6.3 | | | 5.0 | 6.3 | 5.0 | 5.0 | |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.99 | | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 3402 | | 1719 | 3438 | | | 1735 | 1538 | 1719 | 1751 | |
| Flt Permitted | | 0.74 | | 0.07 | 1.00 | | | 0.72 | 1.00 | 0.15 | 1.00 | |
| Satd. Flow (perm) | | 2517 | | 130 | 3438 | | | 1294 | 1538 | 278 | 1751 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 8 | 1119 | 82 | 843 | 2992 | 2 | 257 | 44 | 617 | 36 | 47 | 13 |
| RTOR Reduction (vph) | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 0 | 1206 | 0 | 843 | 2994 | 0 | 0 | 301 | 601 | 36 | 57 | 0 |
| Turn Type | Perm | | | pm+pt | | | Perm | | | pm+ov | | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | 8 | 1 | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | | 62.7 | | 112.7 | 112.7 | | | 26.0 | 69.7 | 26.0 | 26.0 | |
| Effective Green, g (s) | | 62.7 | | 112.7 | 112.7 | | | 26.0 | 69.7 | 26.0 | 26.0 | |
| Actuated g/C Ratio | | 0.42 | | 0.75 | 0.75 | | | 0.17 | 0.46 | 0.17 | 0.17 | |
| Clearance Time (s) | | 6.3 | | 6.3 | 6.3 | | | 5.0 | 6.3 | 5.0 | 5.0 | |
| Vehicle Extension (s) | | 4.3 | | 4.3 | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | | 1052 | | 561 | 2583 | | | 224 | 715 | 48 | 304 | |
| v/s Ratio Prot | | | | c0.44 | 0.87 | | | | 0.25 | | 0.03 | |
| v/s Ratio Perm | | 0.48 | | c0.69 | | | | c0.23 | 0.15 | 0.13 | | |
| v/c Ratio | | 1.15 | | 1.50 | 1.16 | | | 1.34 | 0.84 | 0.75 | 0.19 | |
| Uniform Delay, d1 | | 43.6 | | 45.7 | 18.6 | | | 62.0 | 35.3 | 58.9 | 53.0 | |
| Progression Factor | | 0.76 | | 1.27 | 0.74 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 75.3 | | 227.1 | 72.1 | | | 181.5 | 9.4 | 51.9 | 0.5 | |
| Delay (s) | | 108.6 | | 285.1 | 85.8 | | | 243.5 | 44.7 | 110.8 | 53.4 | |
| Level of Service | | F | | F | F | | | F | D | F | D | |
| Approach Delay (s) | | 108.6 | | | 129.6 | | | 109.8 | | | 74.9 | |
| Approach LOS | | F | | | F | | | F | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 121.6 | | | HCM Level of Service | | | F | | | |
| HCM Volume to Capacity ratio | | | 1.44 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | 11.3 | | | |
| Intersection Capacity Utilization | | | 141.1% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |
























I-85/I-385 Interchange Improvements
2035 No-Build AM

17: Woodruff Road & Bell Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Volume (vph) | 35 | 1572 | 128 | 40 | 3801 | 24 | 198 | 2 | 48 | 20 | 2 | 85 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.2 | 6.2 | | 6.2 | 6.2 | | | 5.4 | | | 5.4 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | | 1.00 | | | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | | | 0.97 | | | 0.89 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | | | 0.99 | |
| Satd. Flow (prot) | 1719 | 3399 | | 1719 | 3435 | | | 1695 | | | 1600 | |
| Flt Permitted | 0.04 | 1.00 | | 0.08 | 1.00 | | | 0.59 | | | 0.95 | |
| Satd. Flow (perm) | 64 | 3399 | | 137 | 3435 | | | 1039 | | | 1531 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 39 | 1747 | 142 | 44 | 4223 | 27 | 220 | 2 | 53 | 22 | 2 | 94 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 39 | 1885 | 0 | 44 | 4250 | 0 | 0 | 269 | 0 | 0 | 118 | 0 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | |
| Protected Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 112.8 | 112.8 | | 112.8 | 112.8 | | | 25.6 | | | 25.6 | |
| Effective Green, g (s) | 112.8 | 112.8 | | 112.8 | 112.8 | | | 25.6 | | | 25.6 | |
| Actuated g/C Ratio | 0.75 | 0.75 | | 0.75 | 0.75 | | | 0.17 | | | 0.17 | |
| Clearance Time (s) | 6.2 | 6.2 | | 6.2 | 6.2 | | | 5.4 | | | 5.4 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | | 4.3 | | | 4.3 | |
| Lane Grp Cap (vph) | 48 | 2556 | | 103 | 2583 | | | 177 | | | 261 | |
| v/s Ratio Prot | 0.55 | | | c1.24 | | | | c0.26 | | | 0.08 | |
| v/s Ratio Perm | 0.61 | | | 0.32 | | | | | | | 0.08 | |
| v/c Ratio | 0.81 | 0.74 | | 0.43 | 1.65 | | | 1.52 | | | 0.45 | |
| Uniform Delay, d1 | 11.9 | 10.4 | | 6.8 | 18.6 | | | 62.2 | | | 55.9 | |
| Progression Factor | 0.89 | 0.86 | | 0.60 | 0.48 | | | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 39.6 | 0.7 | | 1.2 | 290.5 | | | 261.1 | | | 2.0 | |
| Delay (s) | 50.1 | 9.6 | | 5.2 | 299.4 | | | 323.3 | | | 57.9 | |
| Level of Service | D | A | | A | F | | | F | | | E | |
| Approach Delay (s) | 10.4 | | | 296.4 | | | | 323.3 | | | 57.9 | |
| Approach LOS | B | | | F | | | | F | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | 209.9 | | | HCM Level of Service | | | F | | | | | |
| HCM Volume to Capacity ratio | 1.62 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 150.0 | | | Sum of lost time (s) | | | 11.6 | | | | | |
| Intersection Capacity Utilization | 136.2% | | | ICU Level of Service | | | H | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |
























I-85/I-385 Interchange Improvements
2035 No-Build AM

18: Woodruff Road & SC 14

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |  |  |  |  |  |  |
| Volume (vph) | 215 | 851 | 131 | 72 | 2101 | 284 | 525 | 546 | 188 | 188 | 326 | 454 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | 5.0 | 6.3 | 6.3 | | 5.0 | 5.0 | 6.3 | 5.0 | 5.0 | 6.3 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3438 | 1538 | 1719 | 3377 | | 1719 | 1810 | 1538 | 1719 | 1810 | 1538 |
| Flt Permitted | 0.06 | 1.00 | 1.00 | 0.22 | 1.00 | | 0.15 | 1.00 | 1.00 | 0.19 | 1.00 | 1.00 |
| Satd. Flow (perm) | 100 | 3438 | 1538 | 389 | 3377 | | 278 | 1810 | 1538 | 345 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 239 | 946 | 146 | 80 | 2334 | 316 | 583 | 607 | 209 | 209 | 362 | 504 |
| RTOR Reduction (vph) | 0 | 0 | 51 | 0 | 7 | 0 | 0 | 0 | 46 | 0 | 0 | 4 |
| Lane Group Flow (vph) | 239 | 946 | 95 | 80 | 2643 | 0 | 583 | 607 | 163 | 209 | 362 | 500 |
| Turn Type | pm+pt | | pm+ov | pm+pt | | | pm+pt | | pm+ov | pm+pt | | pm+ov |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | 5 |
| Permitted Phases | 2 | | 2 | 6 | | | 8 | | 8 | 4 | | 4 |
| Actuated Green, G (s) | 85.0 | 72.3 | 97.3 | 77.8 | 68.7 | | 51.0 | 36.0 | 45.1 | 31.0 | 21.0 | 33.7 |
| Effective Green, g (s) | 85.0 | 72.3 | 97.3 | 77.8 | 68.7 | | 51.0 | 36.0 | 45.1 | 31.0 | 21.0 | 33.7 |
| Actuated g/C Ratio | 0.57 | 0.48 | 0.65 | 0.52 | 0.46 | | 0.34 | 0.24 | 0.30 | 0.21 | 0.14 | 0.22 |
| Clearance Time (s) | 6.3 | 6.3 | 5.0 | 6.3 | 6.3 | | 5.0 | 5.0 | 6.3 | 5.0 | 5.0 | 6.3 |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 194 | 1657 | 998 | 282 | 1547 | | 335 | 434 | 462 | 163 | 253 | 346 |
| v/s Ratio Prot | 0.10 | 0.28 | 0.02 | 0.02 | c0.78 | | c0.29 | 0.34 | 0.02 | 0.09 | 0.20 | c0.12 |
| v/s Ratio Perm | c0.59 | | 0.05 | 0.13 | | | c0.30 | | 0.08 | 0.18 | | 0.20 |
| v/c Ratio | 1.23 | 0.57 | 0.09 | 0.28 | 1.71 | | 1.74 | 1.40 | 0.35 | 1.28 | 1.43 | 1.45 |
| Uniform Delay, d1 | 50.4 | 27.8 | 9.9 | 19.8 | 40.6 | | 46.2 | 57.0 | 41.0 | 56.1 | 64.5 | 58.1 |
| Progression Factor | 0.90 | 0.92 | 3.32 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 129.5 | 0.9 | 0.0 | 0.9 | 321.6 | | 345.3 | 192.9 | 0.7 | 165.5 | 215.2 | 216.1 |
| Delay (s) | 174.8 | 26.4 | 32.8 | 20.6 | 362.2 | | 391.5 | 249.9 | 41.8 | 221.6 | 279.7 | 274.3 |
| Level of Service | F | C | C | C | F | | F | F | D | F | F | F |
| Approach Delay (s) | | 53.7 | | | 352.2 | | | 277.8 | | | 265.8 | |
| Approach LOS | | D | | | F | | | F | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 261.3 | | | HCM Level of Service | | | F | | | |
| HCM Volume to Capacity ratio | | | 1.76 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | 23.9 | | | |
| Intersection Capacity Utilization | | | 144.1% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2035 No-Build AM

19: E Parkins Mill Road & US 276

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 142 | 135 | 67 | 182 | 31 | 139 | 131 | 1888 | 101 | 114 | 1648 | 120 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 0.97 | 0.91 | 1.00 |
| Frt | 1.00 | 0.95 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3268 | | 3335 | 1810 | 1538 | 1719 | 4940 | 1538 | 3335 | 4940 | 1538 |
| Flt Permitted | 0.73 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1330 | 3268 | | 3335 | 1810 | 1538 | 1719 | 4940 | 1538 | 3335 | 4940 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 158 | 150 | 74 | 202 | 34 | 154 | 146 | 2098 | 112 | 127 | 1831 | 133 |
| RTOR Reduction (vph) | 0 | 67 | 0 | 0 | 0 | 140 | 0 | 0 | 52 | 0 | 0 | 54 |
| Lane Group Flow (vph) | 158 | 157 | 0 | 202 | 34 | 14 | 146 | 2098 | 60 | 127 | 1831 | 79 |
| Turn Type | pm+pt | | | Prot | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | | | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 14.0 | 7.0 | | 8.0 | 8.0 | 8.0 | 11.7 | 48.0 | 48.0 | 6.0 | 42.3 | 42.3 |
| Effective Green, g (s) | 14.0 | 7.0 | | 8.0 | 8.0 | 8.0 | 11.7 | 48.0 | 48.0 | 6.0 | 42.3 | 42.3 |
| Actuated g/C Ratio | 0.16 | 0.08 | | 0.09 | 0.09 | 0.09 | 0.13 | 0.53 | 0.53 | 0.07 | 0.47 | 0.47 |
| Clearance Time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 4.3 | 4.9 | | 4.3 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 237 | 254 | | 296 | 161 | 137 | 223 | 2635 | 820 | 222 | 2322 | 723 |
| v/s Ratio Prot | 0.05 | 0.05 | | c0.06 | 0.02 | | c0.08 | c0.42 | | 0.04 | 0.37 | |
| v/s Ratio Perm | c0.05 | | | | | 0.01 | | | 0.04 | | | 0.05 |
| v/c Ratio | 0.67 | 0.62 | | 0.68 | 0.21 | 0.10 | 0.65 | 0.80 | 0.07 | 0.57 | 0.79 | 0.11 |
| Uniform Delay, d1 | 35.3 | 40.2 | | 39.8 | 38.1 | 37.7 | 37.2 | 17.0 | 10.2 | 40.8 | 20.1 | 13.3 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.03 | 1.04 | 1.86 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 8.0 | 6.2 | | 7.2 | 1.3 | 0.6 | 3.7 | 1.2 | 0.1 | 4.6 | 2.8 | 0.3 |
| Delay (s) | 43.3 | 46.4 | | 47.0 | 39.4 | 38.3 | 41.9 | 18.8 | 19.0 | 45.4 | 22.9 | 13.6 |
| Level of Service | D | D | | D | D | D | D | B | B | D | C | B |
| Approach Delay (s) | | 45.1 | | | 42.9 | | | 20.3 | | | 23.7 | |
| Approach LOS | | D | | | D | | | C | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 25.1 | | | | HCM Level of Service | | | C | | |
| HCM Volume to Capacity ratio | | | 0.69 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 90.0 | | | | Sum of lost time (s) | | 12.0 | | | |
| Intersection Capacity Utilization | | | 69.3% | | | | ICU Level of Service | | C | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2035 No-Build AM
























20: Duvall Drive & US 276



| Movement | EBL | EBR | SET | SER | NWL | NWT |
|-----------------------------------|-------|------|-------|------|----------------------|------|
| Lane Configurations | | | | | | |
| Volume (vph) | 459 | 129 | 1592 | 305 | 138 | 1661 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 6.3 | | 6.3 | 6.3 |
| Lane Util. Factor | 1.00 | 1.00 | 0.91 | | 1.00 | 0.91 |
| Frt | 1.00 | 0.85 | 0.98 | | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1719 | 1538 | 4821 | | 1719 | 4940 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.19 | 1.00 |
| Satd. Flow (perm) | 1719 | 1538 | 4821 | | 350 | 4940 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 510 | 143 | 1769 | 339 | 153 | 1846 |
| RTOR Reduction (vph) | 0 | 4 | 63 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 510 | 139 | 2045 | 0 | 153 | 1846 |
| Turn Type | Perm | | Perm | | Perm | |
| Protected Phases | 8 | | 2 | | | 6 |
| Permitted Phases | | 8 | | | 6 | |
| Actuated Green, G (s) | 12.0 | 12.0 | 20.7 | | 20.7 | 20.7 |
| Effective Green, g (s) | 12.0 | 12.0 | 20.7 | | 20.7 | 20.7 |
| Actuated g/C Ratio | 0.27 | 0.27 | 0.46 | | 0.46 | 0.46 |
| Clearance Time (s) | 6.0 | 6.0 | 6.3 | | 6.3 | 6.3 |
| Vehicle Extension (s) | 4.9 | 4.9 | 4.9 | | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 458 | 410 | 2218 | | 161 | 2272 |
| v/s Ratio Prot | c0.30 | | 0.42 | | | 0.37 |
| v/s Ratio Perm | | 0.09 | | | c0.44 | |
| v/c Ratio | 1.11 | 0.34 | 0.92 | | 0.95 | 0.81 |
| Uniform Delay, d1 | 16.5 | 13.3 | 11.4 | | 11.7 | 10.5 |
| Progression Factor | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 76.8 | 1.0 | 5.1 | | 58.9 | 3.3 |
| Delay (s) | 93.3 | 14.3 | 16.0 | | 70.5 | 13.8 |
| Level of Service | F | B | B | | E | B |
| Approach Delay (s) | 76.0 | | 16.0 | | | 18.1 |
| Approach LOS | E | | B | | | B |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 25.1 | | HCM Level of Service | C |
| HCM Volume to Capacity ratio | | | 1.01 | | | |
| Actuated Cycle Length (s) | | | 45.0 | | Sum of lost time (s) | 12.3 |
| Intersection Capacity Utilization | | | 91.8% | | ICU Level of Service | F |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |





















I-85/I-385 Interchange Improvements
2035 No-Build AM

23: US 276 & Millennium Blvd

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Volume (vph) | 137 | 1603 | 283 | 33 | 2233 | 77 | 96 | 101 | 83 | 6 | 20 | 52 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 6.5 | 6.5 | 4.5 | 6.5 | 6.5 | 6.0 | 6.0 | | 6.0 | 6.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | | 1.00 | 1.00 | 0.88 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3438 | 1538 | 1719 | 3438 | 1538 | 3335 | 3206 | | 1719 | 1810 | 2707 |
| Flt Permitted | 0.04 | 1.00 | 1.00 | 0.08 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.62 | 1.00 | 1.00 |
| Satd. Flow (perm) | 72 | 3438 | 1538 | 141 | 3438 | 1538 | 3335 | 3206 | | 1129 | 1810 | 2707 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 152 | 1781 | 314 | 37 | 2481 | 86 | 107 | 112 | 92 | 7 | 22 | 58 |
| RTOR Reduction (vph) | 0 | 0 | 96 | 0 | 0 | 22 | 0 | 82 | 0 | 0 | 0 | 16 |
| Lane Group Flow (vph) | 152 | 1781 | 218 | 37 | 2481 | 64 | 107 | 122 | 0 | 7 | 22 | 42 |
| Turn Type | pm+pt | | Perm | pm+pt | | Perm | Prot | | | pm+pt | | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | 2 | | 2 | 6 | | 6 | | | | 4 | | 4 |
| Actuated Green, G (s) | 109.1 | 101.1 | 101.1 | 103.2 | 98.4 | 98.4 | 8.0 | 16.2 | | 9.4 | 8.8 | 16.8 |
| Effective Green, g (s) | 109.1 | 101.1 | 101.1 | 103.2 | 98.4 | 98.4 | 8.0 | 16.2 | | 9.4 | 8.8 | 16.8 |
| Actuated g/C Ratio | 0.75 | 0.69 | 0.69 | 0.71 | 0.68 | 0.68 | 0.05 | 0.11 | | 0.06 | 0.06 | 0.12 |
| Clearance Time (s) | 4.0 | 6.5 | 6.5 | 4.5 | 6.5 | 6.5 | 6.0 | 6.0 | | 6.0 | 6.0 | 4.0 |
| Vehicle Extension (s) | 4.3 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 | 4.3 | 6.4 | | 4.3 | 6.4 | 4.3 |
| Lane Grp Cap (vph) | 144 | 2386 | 1067 | 152 | 2322 | 1039 | 183 | 356 | | 75 | 109 | 312 |
| v/s Ratio Prot | c0.06 | 0.52 | | 0.01 | 0.72 | | c0.03 | c0.04 | | 0.00 | 0.01 | 0.01 |
| v/s Ratio Perm | c0.73 | | 0.14 | 0.16 | | 0.04 | | | | 0.01 | | 0.01 |
| v/c Ratio | 1.06 | 0.75 | 0.20 | 0.24 | 1.07 | 0.06 | 0.58 | 0.34 | | 0.09 | 0.20 | 0.13 |
| Uniform Delay, d1 | 54.2 | 14.2 | 8.0 | 12.6 | 23.6 | 8.0 | 67.2 | 59.8 | | 64.0 | 65.1 | 57.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 90.6 | 1.6 | 0.2 | 1.3 | 40.1 | 0.1 | 6.0 | 1.8 | | 0.9 | 2.8 | 0.3 |
| Delay (s) | 144.7 | 15.7 | 8.1 | 13.9 | 63.8 | 8.1 | 73.3 | 61.6 | | 64.9 | 67.9 | 58.2 |
| Level of Service | F | B | A | B | E | A | E | E | | E | E | E |
| Approach Delay (s) | | 23.4 | | | 61.2 | | | 65.6 | | | 61.2 | |
| Approach LOS | | C | | | E | | | E | | | E | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 45.3 | | | HCM Level of Service | | | | D | | |
| HCM Volume to Capacity ratio | | | 0.94 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 145.7 | | | Sum of lost time (s) | | | | 14.0 | | |
| Intersection Capacity Utilization | | | 92.5% | | | ICU Level of Service | | | | F | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2035 No-Build AM

24: Pelham Road & The Parkway

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | |  |  | | | |  |  |  |
| Volume (vph) | 275 | 1294 | 1254 | 0 | 2248 | 1068 | 0 | 0 | 0 | 379 | 695 | 199 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.8 | 5.8 | 5.8 | | 5.8 | 5.3 | | | | 5.3 | 5.3 | 5.3 |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | | 0.95 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 3335 | 3438 | 1538 | | 3438 | 1538 | | | | 1719 | 1810 | 1538 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 3335 | 3438 | 1538 | | 3438 | 1538 | | | | 1719 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 306 | 1438 | 1393 | 0 | 2498 | 1187 | 0 | 0 | 0 | 421 | 772 | 221 |
| RTOR Reduction (vph) | 0 | 0 | 10 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 95 |
| Lane Group Flow (vph) | 306 | 1438 | 1383 | 0 | 2498 | 1186 | 0 | 0 | 0 | 421 | 772 | 126 |
| Turn Type | Prot | | Perm | Perm | | custom | | | | Perm | | Perm |
| Protected Phases | 5 | 2 | | | 6 | 4 | | | | | 4 | |
| Permitted Phases | | | 2 | 6 | | 6 | | | | 4 | | 4 |
| Actuated Green, G (s) | 9.2 | 82.2 | 82.2 | | 67.2 | 103.9 | | | | 36.7 | 36.7 | 36.7 |
| Effective Green, g (s) | 9.2 | 82.2 | 82.2 | | 67.2 | 103.9 | | | | 36.7 | 36.7 | 36.7 |
| Actuated g/C Ratio | 0.07 | 0.63 | 0.63 | | 0.52 | 0.80 | | | | 0.28 | 0.28 | 0.28 |
| Clearance Time (s) | 5.8 | 5.8 | 5.8 | | 5.8 | 5.3 | | | | 5.3 | 5.3 | 5.3 |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | | 4.3 | 4.3 | | | | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 236 | 2174 | 972 | | 1777 | 1229 | | | | 485 | 511 | 434 |
| v/s Ratio Prot | 0.09 | 0.42 | | | 0.73 | 0.27 | | | | | c0.43 | |
| v/s Ratio Perm | | | c0.90 | | | 0.50 | | | | 0.24 | | 0.08 |
| v/c Ratio | 1.30 | 0.66 | 1.42 | | 1.41 | 0.97 | | | | 0.87 | 1.51 | 0.29 |
| Uniform Delay, d1 | 60.4 | 15.1 | 23.9 | | 31.4 | 11.5 | | | | 44.3 | 46.6 | 36.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 0.93 | 1.05 | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 161.1 | 1.6 | 196.4 | | 182.9 | 2.9 | | | | 15.8 | 239.8 | 0.6 |
| Delay (s) | 221.5 | 16.7 | 220.3 | | 212.2 | 15.0 | | | | 60.2 | 286.5 | 37.1 |
| Level of Service | F | B | F | | F | B | | | | E | F | D |
| Approach Delay (s) | | 127.1 | | | 148.7 | | | 0.0 | | | 180.1 | |
| Approach LOS | | F | | | F | | | A | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 145.8 | | HCM Level of Service | | | | | F | | |
| HCM Volume to Capacity ratio | | | 1.45 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 130.0 | | Sum of lost time (s) | | | | | 11.1 | | |
| Intersection Capacity Utilization | | | 190.4% | | ICU Level of Service | | | | | H | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2035 No-Build AM







25: Pelham Road & I-85 SB off ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|------|--------|-------|----------------------|-------|-------|
| Lane Configurations | | ↑↑ | ↑↑ | | ↖ | ↖↖ |
| Volume (vph) | 0 | 1673 | 1531 | 0 | 998 | 1785 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.6 | 5.6 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 0.95 | | 1.00 | 0.88 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3438 | 3438 | | 1719 | 2707 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3438 | 3438 | | 1719 | 2707 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 1859 | 1701 | 0 | 1109 | 1983 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 3 |
| Lane Group Flow (vph) | 0 | 1859 | 1701 | 0 | 1109 | 1980 |
| Turn Type | | | | | Perm | |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | | 53.4 | 53.4 | | 65.7 | 65.7 |
| Effective Green, g (s) | | 53.4 | 53.4 | | 65.7 | 65.7 |
| Actuated g/C Ratio | | 0.41 | 0.41 | | 0.51 | 0.51 |
| Clearance Time (s) | | 5.6 | 5.6 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 4.3 | 4.3 | | 4.3 | 4.3 |
| Lane Grp Cap (vph) | | 1412 | 1412 | | 869 | 1368 |
| v/s Ratio Prot | | c0.54 | 0.49 | | 0.65 | |
| v/s Ratio Perm | | | | | | c0.73 |
| v/c Ratio | | 1.32 | 1.20 | | 1.28 | 1.45 |
| Uniform Delay, d1 | | 38.3 | 38.3 | | 32.1 | 32.1 |
| Progression Factor | | 0.95 | 1.05 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 146.0 | 97.0 | | 133.2 | 205.5 |
| Delay (s) | | 182.3 | 137.1 | | 165.4 | 237.6 |
| Level of Service | | F | F | | F | F |
| Approach Delay (s) | | 182.3 | 137.1 | | 211.7 | |
| Approach LOS | | F | F | | F | |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | 184.4 | | HCM Level of Service | | F |
| HCM Volume to Capacity ratio | | 1.39 | | | | |
| Actuated Cycle Length (s) | | 130.0 | | Sum of lost time (s) | | 10.9 |
| Intersection Capacity Utilization | | 163.4% | | ICU Level of Service | | H |
| Analysis Period (min) | | 15 | | | | |
| c Critical Lane Group | | | | | | |




















I-85/I-385 Interchange Improvements
2035 No-Build AM

26: Pelham Road & I-85 NB off ramp

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑ | | | ↑↑ | ↘↘ | ↗ |
| Volume (vph) | 1540 | 0 | 0 | 782 | 1192 | 1268 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.8 | | | 5.8 | 5.0 | 5.0 |
| Lane Util. Factor | 0.95 | | | 0.95 | 0.97 | 1.00 |
| Frt | 1.00 | | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 1.00 | | | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 3438 | | | 3438 | 3335 | 1538 |
| Flt Permitted | 1.00 | | | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 3438 | | | 3438 | 3335 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 1711 | 0 | 0 | 869 | 1324 | 1409 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 1711 | 0 | 0 | 869 | 1324 | 1409 |
| Turn Type | | | | | Perm | |
| Protected Phases | 2 | | | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Actuated Green, G (s) | 46.2 | | | 46.2 | 73.0 | 73.0 |
| Effective Green, g (s) | 46.2 | | | 46.2 | 73.0 | 73.0 |
| Actuated g/C Ratio | 0.36 | | | 0.36 | 0.56 | 0.56 |
| Clearance Time (s) | 5.8 | | | 5.8 | 5.0 | 5.0 |
| Vehicle Extension (s) | 4.3 | | | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 1222 | | | 1222 | 1873 | 864 |
| v/s Ratio Prot | c0.50 | | | 0.25 | 0.40 | |
| v/s Ratio Perm | | | | | | c0.92 |
| v/c Ratio | 1.40 | | | 0.71 | 0.71 | 1.63 |
| Uniform Delay, d1 | 41.9 | | | 36.1 | 20.7 | 28.5 |
| Progression Factor | 0.99 | | | 0.87 | 1.00 | 1.00 |
| Incremental Delay, d2 | 180.5 | | | 1.8 | 1.4 | 288.9 |
| Delay (s) | 221.9 | | | 33.4 | 22.1 | 317.4 |
| Level of Service | F | | | C | C | F |
| Approach Delay (s) | 221.9 | | | 33.4 | 174.4 | |
| Approach LOS | F | | | C | F | |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | 166.6 | | HCM Level of Service | | F |
| HCM Volume to Capacity ratio | | 1.54 | | | | |
| Actuated Cycle Length (s) | | 130.0 | | Sum of lost time (s) | | 10.8 |
| Intersection Capacity Utilization | | 182.5% | | ICU Level of Service | | H |
| Analysis Period (min) | | 15 | | | | |
| c Critical Lane Group | | | | | | |






















I-85/I-385 Interchange Improvements
2035 No-Build AM

27: Pelham Road & Boland Court

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  |  | |  | |
| Volume (vph) | 45 | 1933 | 830 | 157 | 1185 | 10 | 438 | 2 | 164 | 35 | 3 | 16 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.7 | 6.7 | | 6.7 | 6.7 | | | 6.3 | 6.3 | | 6.3 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | | 1.00 | 1.00 | | 1.00 | |
| Flt | 1.00 | 0.95 | | 1.00 | 1.00 | | | 1.00 | 0.85 | | 0.96 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.95 | 1.00 | | 0.97 | |
| Satd. Flow (prot) | 1719 | 3283 | | 1719 | 3434 | | | 1724 | 1538 | | 1682 | |
| Flt Permitted | 0.19 | 1.00 | | 0.05 | 1.00 | | | 0.72 | 1.00 | | 0.14 | |
| Satd. Flow (perm) | 352 | 3283 | | 95 | 3434 | | | 1300 | 1538 | | 241 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 50 | 2148 | 922 | 174 | 1317 | 11 | 487 | 2 | 182 | 39 | 3 | 18 |
| RTOR Reduction (vph) | 0 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 85 | 0 | 12 | 0 |
| Lane Group Flow (vph) | 50 | 3033 | 0 | 174 | 1328 | 0 | 0 | 489 | 97 | 0 | 48 | 0 |
| Turn Type | Perm | | | pm+pt | | | Perm | | | Perm | | Perm |
| Protected Phases | | 2 | | 1 | 6 | | | 8 | | | | 4 |
| Permitted Phases | 2 | | | 6 | | | 8 | | 8 | 4 | | |
| Actuated Green, G (s) | 69.3 | 69.3 | | 86.3 | 86.3 | | | 30.7 | 30.7 | | 30.7 | |
| Effective Green, g (s) | 69.3 | 69.3 | | 86.3 | 86.3 | | | 30.7 | 30.7 | | 30.7 | |
| Actuated g/C Ratio | 0.53 | 0.53 | | 0.66 | 0.66 | | | 0.24 | 0.24 | | 0.24 | |
| Clearance Time (s) | 6.7 | 6.7 | | 6.7 | 6.7 | | | 6.3 | 6.3 | | 6.3 | |
| Vehicle Extension (s) | 4.9 | 4.9 | | 4.3 | 4.9 | | | 4.3 | 4.3 | | 4.3 | |
| Lane Grp Cap (vph) | 188 | 1750 | | 192 | 2280 | | | 307 | 363 | | 57 | |
| v/s Ratio Prot | | c0.92 | | c0.07 | 0.39 | | | | | | | |
| v/s Ratio Perm | 0.14 | | | 0.53 | | | | c0.38 | 0.06 | | 0.20 | |
| v/c Ratio | 0.27 | 1.73 | | 0.91 | 0.58 | | | 1.59 | 0.27 | | 0.84 | |
| Uniform Delay, d1 | 16.5 | 30.4 | | 43.1 | 12.0 | | | 49.6 | 40.5 | | 47.3 | |
| Progression Factor | 0.62 | 0.57 | | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 0.3 | 330.2 | | 40.4 | 1.1 | | | 281.7 | 0.6 | | 66.8 | |
| Delay (s) | 10.6 | 347.5 | | 83.5 | 13.1 | | | 331.3 | 41.1 | | 114.1 | |
| Level of Service | B | F | | F | B | | | F | D | | F | |
| Approach Delay (s) | | 342.1 | | | 21.2 | | | 252.6 | | | 114.1 | |
| Approach LOS | | F | | | C | | | F | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 238.3 | | | HCM Level of Service | | | | F | | |
| HCM Volume to Capacity ratio | | | 1.62 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 130.0 | | | Sum of lost time (s) | | | 19.7 | | | |
| Intersection Capacity Utilization | | | 136.1% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |


















I-85/I-385 Interchange Improvements
2035 No-Build AM

28: Forsythia Dr & E Butler Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  | |  | |  |  |  |  |  |  |
| Volume (vph) | 27 | 0 | 22 | 22 | 0 | 166 | 3 | 1372 | 16 | 58 | 1240 | 14 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.0 | 6.0 | | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | | 1.00 | 0.85 | | 0.88 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | | 0.99 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1719 | 1538 | | 1584 | | 1719 | 3432 | | 1719 | 3432 | |
| Flt Permitted | | 0.51 | 1.00 | | 0.96 | | 0.15 | 1.00 | | 0.12 | 1.00 | |
| Satd. Flow (perm) | | 914 | 1538 | | 1529 | | 268 | 3432 | | 210 | 3432 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 30 | 0 | 24 | 24 | 0 | 184 | 3 | 1524 | 18 | 64 | 1378 | 16 |
| RTOR Reduction (vph) | 0 | 0 | 20 | 0 | 34 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 30 | 4 | 0 | 174 | 0 | 3 | 1541 | 0 | 64 | 1393 | 0 |
| Turn Type | Perm | | Perm | Perm | | | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | 2 | | | 6 | | |
| Actuated Green, G (s) | | 13.5 | 13.5 | | 13.5 | | 49.5 | 49.5 | | 49.5 | 49.5 | |
| Effective Green, g (s) | | 13.5 | 13.5 | | 13.5 | | 49.5 | 49.5 | | 49.5 | 49.5 | |
| Actuated g/C Ratio | | 0.18 | 0.18 | | 0.18 | | 0.66 | 0.66 | | 0.66 | 0.66 | |
| Clearance Time (s) | | 6.0 | 6.0 | | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Vehicle Extension (s) | | 4.3 | 4.3 | | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | | 165 | 277 | | 275 | | 177 | 2265 | | 139 | 2265 | |
| v/s Ratio Prot | | | | | | | | c0.45 | | | | 0.41 |
| v/s Ratio Perm | | 0.03 | 0.00 | | c0.11 | | 0.01 | | | 0.30 | | |
| v/c Ratio | | 0.18 | 0.02 | | 0.63 | | 0.02 | 0.68 | | 0.46 | 0.62 | |
| Uniform Delay, d1 | | 26.1 | 25.3 | | 28.5 | | 4.4 | 7.9 | | 6.2 | 7.3 | |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | | 0.55 | 0.53 | |
| Incremental Delay, d2 | | 0.8 | 0.0 | | 5.6 | | 0.2 | 1.7 | | 8.6 | 1.0 | |
| Delay (s) | | 26.9 | 25.3 | | 34.1 | | 4.6 | 9.5 | | 12.0 | 4.9 | |
| Level of Service | | C | C | | C | | A | A | | B | A | |
| Approach Delay (s) | | 26.2 | | | 34.1 | | | 9.5 | | | 5.2 | |
| Approach LOS | | C | | | C | | | A | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | 9.4 | | | HCM Level of Service | | | A | | | | |
| HCM Volume to Capacity ratio | | 0.67 | | | | | | | | | | |
| Actuated Cycle Length (s) | | 75.0 | | | Sum of lost time (s) | | | 12.0 | | | | |
| Intersection Capacity Utilization | | 74.9% | | | ICU Level of Service | | | D | | | | |
| Analysis Period (min) | | 15 | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |





















I-85/I-385 Interchange Improvements
2035 No-Build AM

30: E Butler Road & I-385 SB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | |  | |  |  | | |  |  | | | |
| Volume (vph) | 0 | 1476 | 91 | 251 | 1003 | 0 | 783 | 0 | 344 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.0 | | 6.0 | 6.0 | | | 6.0 | 6.0 | | | |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | 1.00 | 1.00 | | | |
| Frt | | 0.99 | | 1.00 | 1.00 | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | | 3408 | | 1719 | 3438 | | | 1719 | 1538 | | | |
| Flt Permitted | | 1.00 | | 0.06 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | | 3408 | | 111 | 3438 | | | 1719 | 1538 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 1640 | 101 | 279 | 1114 | 0 | 870 | 0 | 382 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1738 | 0 | 279 | 1114 | 0 | 0 | 870 | 339 | 0 | 0 | 0 |
| Turn Type | | | | pm+pt | | | Perm | | Perm | | | |
| Protected Phases | | | | 1 | 6 | | | 4 | | | | |
| Permitted Phases | | 2 | | 6 | | | 4 | | 4 | | | |
| Actuated Green, G (s) | | 59.0 | | 81.0 | 81.0 | | | 57.0 | 57.0 | | | |
| Effective Green, g (s) | | 59.0 | | 81.0 | 81.0 | | | 57.0 | 57.0 | | | |
| Actuated g/C Ratio | | 0.39 | | 0.54 | 0.54 | | | 0.38 | 0.38 | | | |
| Clearance Time (s) | | 6.0 | | 6.0 | 6.0 | | | 6.0 | 6.0 | | | |
| Vehicle Extension (s) | | 4.3 | | 4.3 | 4.3 | | | 4.3 | 4.3 | | | |
| Lane Grp Cap (vph) | | 1340 | | 231 | 1857 | | | 653 | 584 | | | |
| v/s Ratio Prot | | | | c0.13 | 0.32 | | | | | | | |
| v/s Ratio Perm | | c0.51 | | 0.52 | | | | 0.51 | 0.22 | | | |
| v/c Ratio | | 1.30 | | 1.21 | 0.60 | | | 1.33 | 0.58 | | | |
| Uniform Delay, d1 | | 45.5 | | 50.5 | 23.5 | | | 46.5 | 37.0 | | | |
| Progression Factor | | 0.94 | | 1.73 | 1.20 | | | 0.99 | 0.99 | | | |
| Incremental Delay, d2 | | 137.9 | | 97.4 | 0.1 | | | 159.9 | 1.8 | | | |
| Delay (s) | | 180.7 | | 184.8 | 28.2 | | | 205.9 | 38.4 | | | |
| Level of Service | | F | | F | C | | | F | D | | | |
| Approach Delay (s) | | 180.7 | | | 59.6 | | | 154.8 | | | 0.0 | |
| Approach LOS | | F | | | E | | | F | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 134.8 | | | HCM Level of Service | | | F | | | |
| HCM Volume to Capacity ratio | | | 1.30 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | 18.0 | | | |
| Intersection Capacity Utilization | | | 116.0% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |
























I-85/I-385 Interchange Improvements
2035 No-Build AM

31: E Butler Road & I-385 NB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |   | | |   |  | | | |  | |  |
| Volume (vph) | 580 | 1679 | 0 | 0 | 1229 | 719 | 0 | 0 | 0 | 25 | 0 | 426 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | | | 6.0 | 6.0 | | | | 6.0 | | 6.0 |
| Lane Util. Factor | 1.00 | 0.95 | | | 0.95 | 1.00 | | | | 1.00 | | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | | 1.00 | | 0.85 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | 1719 | 3438 | | | 3438 | 1538 | | | | 1719 | | 1538 |
| Flt Permitted | 0.07 | 1.00 | | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | 123 | 3438 | | | 3438 | 1538 | | | | 1719 | | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 644 | 1866 | 0 | 0 | 1366 | 799 | 0 | 0 | 0 | 28 | 0 | 473 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 294 | 0 | 0 | 0 | 0 | 0 | 19 |
| Lane Group Flow (vph) | 644 | 1866 | 0 | 0 | 1366 | 505 | 0 | 0 | 0 | 28 | 0 | 454 |
| Turn Type | pm+pt | | | | custom | | | | custom | | | custom |
| Protected Phases | 5 | 2 | | | | | | | | | | 8 |
| Permitted Phases | 2 | | | | 6 | 6 | | | | 8 | | |
| Actuated Green, G (s) | 101.0 | 101.0 | | | 53.0 | 53.0 | | | | 37.0 | | 37.0 |
| Effective Green, g (s) | 101.0 | 101.0 | | | 53.0 | 53.0 | | | | 37.0 | | 37.0 |
| Actuated g/C Ratio | 0.67 | 0.67 | | | 0.35 | 0.35 | | | | 0.25 | | 0.25 |
| Clearance Time (s) | 6.0 | 6.0 | | | 6.0 | 6.0 | | | | 6.0 | | 6.0 |
| Vehicle Extension (s) | 4.3 | 4.3 | | | 4.3 | 4.3 | | | | 4.3 | | 4.3 |
| Lane Grp Cap (vph) | 530 | 2315 | | | 1215 | 543 | | | | 424 | | 379 |
| v/s Ratio Prot | c0.34 | 0.54 | | | | | | | | | | c0.30 |
| v/s Ratio Perm | c0.48 | | | | 0.40 | 0.33 | | | | 0.02 | | |
| v/c Ratio | 1.22 | 0.81 | | | 1.12 | 0.93 | | | | 0.07 | | 1.20 |
| Uniform Delay, d1 | 47.5 | 17.5 | | | 48.5 | 46.7 | | | | 43.3 | | 56.5 |
| Progression Factor | 1.49 | 0.64 | | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | 98.5 | 0.3 | | | 67.1 | 24.8 | | | | 0.1 | | 112.1 |
| Delay (s) | 169.2 | 11.4 | | | 115.6 | 71.5 | | | | 43.4 | | 168.6 |
| Level of Service | F | B | | | F | E | | | | D | | F |
| Approach Delay (s) | | 51.9 | | | 99.3 | | | 0.0 | | | 161.6 | |
| Approach LOS | | D | | | F | | | A | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 82.4 | | HCM Level of Service | | | | | F | | |
| HCM Volume to Capacity ratio | | | 1.18 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | Sum of lost time (s) | | | | | 12.0 | | |
| Intersection Capacity Utilization | | | 116.0% | | ICU Level of Service | | | | | H | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |




















I-85/I-385 Interchange Improvements
2035 No-Build AM

34: Frontage Road & Roper Mountain Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 4 | 99 | 151 | 111 | 23 | 18 | 848 | 1234 | 1042 | 99 | 1751 | 37 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | |
| Lane Util. Factor | 1.00 | 1.00 | | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frt | 1.00 | 0.91 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 1645 | | 1633 | 1665 | 1538 | 1719 | 3438 | 1538 | 1719 | 3427 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 0.97 | 1.00 | 0.07 | 1.00 | 1.00 | 0.20 | 1.00 | |
| Satd. Flow (perm) | 1719 | 1645 | | 1633 | 1665 | 1538 | 119 | 3438 | 1538 | 358 | 3427 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 4 | 110 | 168 | 123 | 26 | 20 | 942 | 1371 | 1158 | 110 | 1946 | 41 |
| RTOR Reduction (vph) | 0 | 42 | 0 | 0 | 0 | 19 | 0 | 0 | 106 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 4 | 236 | 0 | 74 | 75 | 1 | 942 | 1371 | 1052 | 110 | 1986 | 0 |
| Turn Type | Split | | | Split | | Perm | pm+pt | | Perm | Perm | | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | 2 | | 2 | 6 | | |
| Actuated Green, G (s) | 10.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 98.0 | 98.0 | 98.0 | 55.0 | 55.0 | |
| Effective Green, g (s) | 10.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 98.0 | 98.0 | 98.0 | 55.0 | 55.0 | |
| Actuated g/C Ratio | 0.08 | 0.08 | | 0.03 | 0.03 | 0.03 | 0.75 | 0.75 | 0.75 | 0.42 | 0.42 | |
| Clearance Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | |
| Vehicle Extension (s) | 4.9 | 4.9 | | 4.9 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 | 4.9 | 4.9 | |
| Lane Grp Cap (vph) | 132 | 127 | | 50 | 51 | 47 | 545 | 2592 | 1159 | 151 | 1450 | |
| v/s Ratio Prot | 0.00 | c0.14 | | c0.05 | 0.05 | | c0.49 | 0.40 | | | 0.58 | |
| v/s Ratio Perm | | | | | | 0.00 | c0.81 | | 0.68 | 0.31 | | |
| v/c Ratio | 0.03 | 1.85 | | 1.48 | 1.47 | 0.01 | 1.73 | 0.53 | 0.91 | 0.73 | 1.37 | |
| Uniform Delay, d1 | 55.5 | 60.0 | | 63.0 | 63.0 | 61.1 | 41.1 | 6.6 | 12.5 | 31.3 | 37.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 0.92 | 0.94 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.2 | 413.2 | | 296.8 | 291.8 | 0.2 | 328.5 | 0.1 | 1.3 | 26.3 | 170.8 | |
| Delay (s) | 55.7 | 473.2 | | 359.8 | 354.8 | 61.3 | 369.5 | 6.1 | 13.0 | 57.6 | 208.3 | |
| Level of Service | E | F | | F | F | E | F | A | B | E | F | |
| Approach Delay (s) | | 467.3 | | | 322.3 | | | 107.0 | | | 200.4 | |
| Approach LOS | | F | | | F | | | F | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 162.5 | | | HCM Level of Service | | | F | | | |
| HCM Volume to Capacity ratio | | | 1.68 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 130.0 | | | Sum of lost time (s) | | | 18.0 | | | |
| Intersection Capacity Utilization | | | 134.7% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |




















I-85/I-385 Interchange Improvements
2035 No-Build AM

35: I-385 NB Ramps & Roper Mountain Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | |  |  |  |  |  | | |  |  |
| Volume (vph) | 0 | 0 | 0 | 1061 | 0 | 1506 | 265 | 1618 | 0 | 0 | 1551 | 462 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | | 6.0 | 6.0 |
| Lane Util. Factor | | | | 0.95 | 0.95 | 0.88 | 0.97 | 0.95 | | | 0.95 | 1.00 |
| Frt | | | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 |
| Flt Protected | | | | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (prot) | | | | 1633 | 1633 | 2707 | 3335 | 3438 | | | 3438 | 1538 |
| Flt Permitted | | | | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (perm) | | | | 1633 | 1633 | 2707 | 3335 | 3438 | | | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 0 | 0 | 1179 | 0 | 1673 | 294 | 1798 | 0 | 0 | 1723 | 513 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 173 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 589 | 590 | 1664 | 294 | 1798 | 0 | 0 | 1723 | 340 |
| Turn Type | | | | Perm | | Perm | Prot | | | | | Perm |
| Protected Phases | | | | | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | 8 | | 8 | | | | | | 6 |
| Actuated Green, G (s) | | | | 52.0 | 52.0 | 52.0 | 9.0 | 66.0 | | | 51.0 | 51.0 |
| Effective Green, g (s) | | | | 52.0 | 52.0 | 52.0 | 9.0 | 66.0 | | | 51.0 | 51.0 |
| Actuated g/C Ratio | | | | 0.40 | 0.40 | 0.40 | 0.07 | 0.51 | | | 0.39 | 0.39 |
| Clearance Time (s) | | | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | | 6.0 | 6.0 |
| Vehicle Extension (s) | | | | 4.9 | 4.9 | 4.9 | 4.3 | 4.9 | | | 4.9 | 4.9 |
| Lane Grp Cap (vph) | | | | 653 | 653 | 1083 | 231 | 1745 | | | 1349 | 603 |
| v/s Ratio Prot | | | | | | | 0.09 | c0.52 | | | c0.50 | |
| v/s Ratio Perm | | | | 0.36 | 0.36 | c0.61 | | | | | | 0.22 |
| v/c Ratio | | | | 0.90 | 0.90 | 1.54 | 1.27 | 1.03 | | | 1.28 | 0.56 |
| Uniform Delay, d1 | | | | 36.6 | 36.6 | 39.0 | 60.5 | 32.0 | | | 39.5 | 30.8 |
| Progression Factor | | | | 1.00 | 1.00 | 1.00 | 1.38 | 0.23 | | | 0.42 | 0.11 |
| Incremental Delay, d2 | | | | 16.5 | 16.7 | 246.1 | 125.9 | 16.3 | | | 125.3 | 0.3 |
| Delay (s) | | | | 53.1 | 53.3 | 285.1 | 209.2 | 23.8 | | | 142.0 | 3.7 |
| Level of Service | | | | D | D | F | F | C | | | F | A |
| Approach Delay (s) | | 0.0 | | | 189.2 | | | 49.8 | | | 110.3 | |
| Approach LOS | | A | | | F | | | D | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 124.0 | | | HCM Level of Service | | | | | F | |
| HCM Volume to Capacity ratio | | | 1.41 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 130.0 | | | Sum of lost time (s) | | | 18.0 | | | |
| Intersection Capacity Utilization | | | 146.5% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |






















I-85/I-385 Interchange Improvements
2035 No-Build AM

36: Roper Mountain Road & I-385 SB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | |  |  |  |  | |  |  |  | | | |
| Volume (vph) | 0 | 1065 | 380 | 979 | 1633 | 0 | 818 | 0 | 458 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.4 | 6.4 | 5.8 | 6.4 | | 6.1 | 6.1 | 6.1 | | | |
| Lane Util. Factor | | 0.91 | 1.00 | 1.00 | 0.95 | | 0.95 | 0.95 | 0.88 | | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | | 4940 | 1538 | 1719 | 3438 | | 1633 | 1633 | 2707 | | | |
| Flt Permitted | | 1.00 | 1.00 | 0.11 | 1.00 | | 0.95 | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | | 4940 | 1538 | 190 | 3438 | | 1633 | 1633 | 2707 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 1183 | 422 | 1088 | 1814 | 0 | 909 | 0 | 509 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 221 | 0 | 0 | 0 | 0 | 0 | 45 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1183 | 201 | 1088 | 1814 | 0 | 454 | 455 | 464 | 0 | 0 | 0 |
| Turn Type | | Perm | | pm+pt | | | Perm | | Perm | | | |
| Protected Phases | | 2 | | 1 | 6 | | | 4 | | | | |
| Permitted Phases | | | 2 | 6 | | | 4 | | 4 | | | |
| Actuated Green, G (s) | | 31.6 | 31.6 | 91.2 | 90.6 | | 26.9 | 26.9 | 26.9 | | | |
| Effective Green, g (s) | | 31.6 | 31.6 | 91.2 | 90.6 | | 26.9 | 26.9 | 26.9 | | | |
| Actuated g/C Ratio | | 0.24 | 0.24 | 0.70 | 0.70 | | 0.21 | 0.21 | 0.21 | | | |
| Clearance Time (s) | | 6.4 | 6.4 | 5.8 | 6.4 | | 6.1 | 6.1 | 6.1 | | | |
| Vehicle Extension (s) | | 4.9 | 4.9 | 4.3 | 4.9 | | 4.9 | 4.9 | 4.9 | | | |
| Lane Grp Cap (vph) | | 1201 | 374 | 759 | 2396 | | 338 | 338 | 560 | | | |
| v/s Ratio Prot | | 0.24 | | c0.59 | 0.53 | | | | | | | |
| v/s Ratio Perm | | | 0.13 | c0.42 | | | 0.28 | 0.28 | 0.17 | | | |
| v/c Ratio | | 0.99 | 0.54 | 1.43 | 0.76 | | 1.34 | 1.35 | 0.83 | | | |
| Uniform Delay, d1 | | 49.0 | 42.8 | 32.6 | 12.6 | | 51.5 | 51.5 | 49.3 | | | |
| Progression Factor | | 0.87 | 0.67 | 0.77 | 0.52 | | 1.00 | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 20.5 | 4.6 | 195.8 | 0.2 | | 173.0 | 174.3 | 10.9 | | | |
| Delay (s) | | 63.3 | 33.1 | 220.8 | 6.8 | | 224.6 | 225.8 | 60.2 | | | |
| Level of Service | | E | C | F | A | | F | F | E | | | |
| Approach Delay (s) | | 55.3 | | | 87.0 | | | 166.0 | | | 0.0 | |
| Approach LOS | | E | | | F | | | F | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 97.3 | | | HCM Level of Service | | | F | | | |
| HCM Volume to Capacity ratio | | | 1.39 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 130.0 | | | Sum of lost time (s) | | | 11.9 | | | |
| Intersection Capacity Utilization | | | 146.5% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |











I-85/I-385 Interchange Improvements
2035 No-Build AM

37: Roper Mountain Road & Congaree Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |  | | |  |  |  |  |  | |  |  |
| Volume (vph) | 439 | 1127 | 2 | 6 | 1471 | 614 | 316 | 4 | 325 | 2 | 4 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.8 | 6.4 | | | 6.4 | 6.4 | 6.1 | 6.1 | | | 6.1 | 6.1 |
| Lane Util. Factor | 1.00 | 0.91 | | | 0.95 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | 0.85 | | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.98 | 1.00 |
| Satd. Flow (prot) | 1719 | 4939 | | | 3437 | 1538 | 1719 | 1541 | | | 1780 | 1538 |
| Flt Permitted | 0.06 | 1.00 | | | 0.95 | 1.00 | 0.75 | 1.00 | | | 0.81 | 1.00 |
| Satd. Flow (perm) | 107 | 4939 | | | 3256 | 1538 | 1364 | 1541 | | | 1466 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 488 | 1252 | 2 | 7 | 1634 | 682 | 351 | 4 | 361 | 2 | 4 | 2 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 240 | 0 | 242 | 0 | 0 | 0 | 2 |
| Lane Group Flow (vph) | 488 | 1254 | 0 | 0 | 1641 | 442 | 351 | 123 | 0 | 0 | 6 | 0 |
| Turn Type | pm+pt | | | Perm | | Perm | Perm | | | Perm | | Perm |
| Protected Phases | 5 | 2 | | | 6 | | | 4 | | | 8 | |
| Permitted Phases | 2 | | | 6 | | 6 | 4 | | | 8 | | 8 |
| Actuated Green, G (s) | 90.6 | 90.6 | | | 61.6 | 61.6 | 26.9 | 26.9 | | | 26.9 | 26.9 |
| Effective Green, g (s) | 90.6 | 90.6 | | | 61.6 | 61.6 | 26.9 | 26.9 | | | 26.9 | 26.9 |
| Actuated g/C Ratio | 0.70 | 0.70 | | | 0.47 | 0.47 | 0.21 | 0.21 | | | 0.21 | 0.21 |
| Clearance Time (s) | 5.8 | 6.4 | | | 6.4 | 6.4 | 6.1 | 6.1 | | | 6.1 | 6.1 |
| Vehicle Extension (s) | 4.3 | 4.9 | | | 4.9 | 4.9 | 4.9 | 4.9 | | | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 362 | 3442 | | | 1543 | 729 | 282 | 319 | | | 303 | 318 |
| v/s Ratio Prot | c0.24 | 0.25 | | | | | | 0.08 | | | | |
| v/s Ratio Perm | c0.70 | | | | 0.50 | 0.29 | c0.26 | | | | 0.00 | 0.00 |
| v/c Ratio | 1.35 | 0.36 | | | 1.06 | 0.61 | 1.24 | 0.39 | | | 0.02 | 0.00 |
| Uniform Delay, d1 | 45.2 | 8.0 | | | 34.2 | 25.2 | 51.5 | 44.4 | | | 41.1 | 40.9 |
| Progression Factor | 1.00 | 1.00 | | | 0.88 | 0.47 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Incremental Delay, d2 | 174.0 | 0.3 | | | 37.6 | 2.3 | 136.3 | 1.6 | | | 0.1 | 0.0 |
| Delay (s) | 219.1 | 8.3 | | | 67.6 | 14.1 | 187.9 | 46.0 | | | 41.1 | 40.9 |
| Level of Service | F | A | | | E | B | F | D | | | D | D |
| Approach Delay (s) | | 67.4 | | | 51.9 | | | 115.6 | | | 41.1 | |
| Approach LOS | | E | | | D | | | F | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 67.0 | | | HCM Level of Service | | | | E | | |
| HCM Volume to Capacity ratio | | | 1.28 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 130.0 | | | Sum of lost time (s) | | | 11.9 | | | |
| Intersection Capacity Utilization | | | 105.8% | | | ICU Level of Service | | | G | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |










I-85/I-385 Interchange Improvements
2035 No-Build AM

21: Frontage Rd & US 276

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | SEL | SET | NWT | NWR |
| Lane Configurations |  | |  |  |  | |
| Volume (veh/h) | 166 | 27 | 103 | 2092 | 2557 | 92 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 184 | 30 | 114 | 2324 | 2841 | 102 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | 1010 | |
| pX, platoon unblocked | 0.43 | 0.43 | 0.43 | | | |
| vC, conflicting volume | 4283 | 1472 | 2943 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 5957 | 0 | 2869 | | | |
| tC, single (s) | 6.9 | 7.0 | 4.2 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 0 | 94 | 0 | | | |
| cM capacity (veh/h) | 0 | 466 | 53 | | | |
| Direction, Lane # | WB 1 | SE 1 | SE 2 | SE 3 | NW 1 | NW 2 |
| Volume Total | 214 | 114 | 1162 | 1162 | 1894 | 1049 |
| Volume Left | 184 | 114 | 0 | 0 | 0 | 0 |
| Volume Right | 30 | 0 | 0 | 0 | 0 | 102 |
| cSH | 0 | 53 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | Err | 2.18 | 0.68 | 0.68 | 1.11 | 0.62 |
| Queue Length 95th (ft) | Err | 287 | 0 | 0 | 0 | 0 |
| Control Delay (s) | Err | 709.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | F | F | | | | |
| Approach Delay (s) | Err | 33.3 | | | 0.0 | |
| Approach LOS | F | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | Err | | | |
| Intersection Capacity Utilization | | | 100.2% | | ICU Level of Service | G |
| Analysis Period (min) | | | 15 | | | |












I-85/I-385 Interchange Improvements
2035 No-Build AM

22: US 276 & St Josephs Dr

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | SET | SER | NWL | NWT | NEL | NER |
| Lane Configurations |  | | |  |  | |
| Volume (veh/h) | 1899 | 359 | 342 | 1397 | 610 | 124 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 2110 | 399 | 380 | 1552 | 678 | 138 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 862 | | |
| pX, platoon unblocked | | | | | 0.36 | |
| vC, conflicting volume | | | 2509 | | 3846 | 1254 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 2509 | | 5320 | 1254 |
| tC, single (s) | | | 4.2 | | 6.9 | 7.0 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 0 | | 0 | 13 |
| cM capacity (veh/h) | | | 170 | | 0 | 159 |
| Direction, Lane # | SE 1 | SE 2 | NW 1 | NW 2 | NE 1 | |
| Volume Total | 1407 | 1102 | 897 | 1035 | 816 | |
| Volume Left | 0 | 0 | 380 | 0 | 678 | |
| Volume Right | 0 | 399 | 0 | 0 | 138 | |
| cSH | 1700 | 1700 | 170 | 1700 | 0 | |
| Volume to Capacity | 0.83 | 0.65 | 2.24 | 0.61 | Err | |
| Queue Length 95th (ft) | 0 | 0 | 772 | 0 | Err | |
| Control Delay (s) | 0.0 | 0.0 | 619.6 | 0.0 | Err | |
| Lane LOS | | | F | | F | |
| Approach Delay (s) | 0.0 | | 287.8 | | Err | |
| Approach LOS | | | | | F | |
| Intersection Summary | | | | | | |
| Average Delay | | | Err | | | |
| Intersection Capacity Utilization | | | 163.8% | | ICU Level of Service | H |
| Analysis Period (min) | | | 15 | | | |











I-85/I-385 Interchange Improvements
2035 No-Build AM

29: Rothwell Dr & E Butler Road

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |
| Volume (veh/h) | 8 | 2 | 6 | 1559 | 1310 | 37 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 9 | 2 | 7 | 1732 | 1456 | 41 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | 5 | | | | |
| Median type | | | | TWLT | TWLT | |
| Median storage (veh) | | | | 2 | 2 | |
| Upstream signal (ft) | | | | 1175 | 379 | |
| pX, platoon unblocked | 0.80 | 0.78 | 0.78 | | | |
| vC, conflicting volume | 2356 | 748 | 1497 | | | |
| vC1, stage 1 conf vol | 1476 | | | | | |
| vC2, stage 2 conf vol | 879 | | | | | |
| vCu, unblocked vol | 951 | 107 | 1068 | | | |
| tC, single (s) | 6.9 | 7.0 | 4.2 | | | |
| tC, 2 stage (s) | 5.9 | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 96 | 100 | 99 | | | |
| cM capacity (veh/h) | 223 | 714 | 491 | | | |
| Direction, Lane # | EB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 |
| Volume Total | 11 | 7 | 866 | 866 | 970 | 526 |
| Volume Left | 9 | 7 | 0 | 0 | 0 | 0 |
| Volume Right | 2 | 0 | 0 | 0 | 0 | 41 |
| cSH | 279 | 491 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.04 | 0.01 | 0.51 | 0.51 | 0.57 | 0.31 |
| Queue Length 95th (ft) | 3 | 1 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 19.4 | 12.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | C | B | | | | |
| Approach Delay (s) | 19.4 | 0.0 | | | 0.0 | |
| Approach LOS | C | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.1 | | | |
| Intersection Capacity Utilization | | | 53.1% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |




















I-85/I-385 Interchange Improvements
2035 No-Build AM

32: New Commerce Ct & E Butler Road

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  | |  |  |
| Volume (veh/h) | 75 | 81 | 2075 | 30 | 50 | 1873 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 83 | 90 | 2306 | 33 | 56 | 2081 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | 371 | | | |
| pX, platoon unblocked | 0.58 | 0.58 | | | 0.58 | |
| vC, conflicting volume | 3474 | 1169 | | | 2339 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 3821 | 0 | | | 1855 | |
| tC, single (s) | 6.9 | 7.0 | | | 4.2 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 0 | 85 | | | 69 | |
| cM capacity (veh/h) | 1 | 621 | | | 179 | |
| Direction, Lane # | WB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
| Volume Total | 173 | 1537 | 802 | 56 | 1041 | 1041 |
| Volume Left | 83 | 0 | 0 | 56 | 0 | 0 |
| Volume Right | 90 | 0 | 33 | 0 | 0 | 0 |
| cSH | 2 | 1700 | 1700 | 179 | 1700 | 1700 |
| Volume to Capacity | 81.12 | 0.90 | 0.47 | 0.31 | 0.61 | 0.61 |
| Queue Length 95th (ft) | Err | 0 | 0 | 31 | 0 | 0 |
| Control Delay (s) | Err | 0.0 | 0.0 | 33.9 | 0.0 | 0.0 |
| Lane LOS | F | | | D | | |
| Approach Delay (s) | Err | 0.0 | | 0.9 | | |
| Approach LOS | F | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | 373.2 | | | | |
| Intersection Capacity Utilization | | 74.1% | | ICU Level of Service | | D |
| Analysis Period (min) | | 15 | | | | |
























I-85/I-385 Interchange Improvements
2035 No-Build AM

33: E Butler Road & Brookfield Pkwy

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |  | | |  | | |  |  | |  |  |
| Volume (veh/h) | 134 | 1992 | 30 | 23 | 1876 | 25 | 2 | 0 | 19 | 28 | 0 | 14 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 149 | 2213 | 33 | 26 | 2084 | 28 | 2 | 0 | 21 | 31 | 0 | 16 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage (veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | 939 | | | | | | | | | | |
| pX, platoon unblocked | | | | 0.58 | | | 0.58 | 0.58 | | 0.58 | 0.58 | 0.58 |
| vC, conflicting volume | 2112 | | | 2247 | | | 3569 | 4694 | 1056 | 3642 | 4691 | 1123 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 2112 | | | 1698 | | | 3985 | 5929 | 1056 | 4110 | 5924 | 0 |
| tC, single (s) | 4.2 | | | 4.2 | | | 7.6 | 6.6 | 7.0 | 7.6 | 6.6 | 7.0 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 39 | | | 88 | | | 0 | 100 | 90 | 0 | 100 | 97 |
| cM capacity (veh/h) | 245 | | | 207 | | | 0 | 0 | 217 | 0 | 0 | 622 |
| Direction, Lane # | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SE 1 | SE 2 | NW 1 | NW 2 | | | |
| Volume Total | 149 | 1476 | 771 | 1068 | 1070 | 2 | 21 | 31 | 16 | | | |
| Volume Left | 149 | 0 | 0 | 26 | 0 | 2 | 0 | 31 | 0 | | | |
| Volume Right | 0 | 0 | 33 | 0 | 28 | 0 | 21 | 0 | 16 | | | |
| cSH | 245 | 1700 | 1700 | 207 | 1700 | 0 | 217 | 0 | 622 | | | |
| Volume to Capacity | 0.61 | 0.87 | 0.45 | 0.12 | 0.63 | 9.22 | 0.10 | 176.81 | 0.03 | | | |
| Queue Length 95th (ft) | 89 | 0 | 0 | 10 | 0 | Err | 8 | Err | 2 | | | |
| Control Delay (s) | 40.0 | 0.0 | 0.0 | 8.3 | 0.0 | Err | 23.4 | Err | 10.9 | | | |
| Lane LOS | E | | | A | | F | C | F | B | | | |
| Approach Delay (s) | 2.5 | | | 4.2 | | 973.5 | | 6669.6 | | | | |
| Approach LOS | | | | | | F | | F | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | 75.8 | | | | | | | | | |
| Intersection Capacity Utilization | | | 126.2% | | ICU Level of Service | | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |























I-85/I-385 Interchange Improvements
2035 No-Build PM

1: Woodruff Road & Roper Mountain Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 458 | 515 | 77 | 202 | 889 | 633 | 58 | 755 | 177 | 726 | 755 | 105 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 |
| Flt Protected | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3371 | | 1719 | 3438 | 1538 | 1719 | 3438 | 1538 | 3335 | 3438 | 1538 |
| Satd. Flow (perm) | 226 | 3371 | | 542 | 3438 | 1538 | 608 | 3438 | 1538 | 3335 | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 509 | 572 | 86 | 224 | 988 | 703 | 64 | 839 | 197 | 807 | 839 | 117 |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 0 | 292 | 0 | 0 | 110 | 0 | 0 | 64 |
| Lane Group Flow (vph) | 509 | 648 | 0 | 224 | 988 | 411 | 64 | 839 | 87 | 807 | 839 | 53 |
| Turn Type | pm+pt | | | pm+pt | | Perm | Perm | | Perm | Prot | | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | 2 | | | 6 |
| Actuated Green, G (s) | 54.0 | 35.1 | | 42.9 | 28.0 | 28.0 | 26.0 | 26.0 | 26.0 | 23.0 | 54.0 | 54.0 |
| Effective Green, g (s) | 54.0 | 35.1 | | 42.9 | 28.0 | 28.0 | 26.0 | 26.0 | 26.0 | 23.0 | 54.0 | 54.0 |
| Actuated g/C Ratio | 0.45 | 0.29 | | 0.36 | 0.23 | 0.23 | 0.22 | 0.22 | 0.22 | 0.19 | 0.45 | 0.45 |
| Clearance Time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 5.0 | 6.0 | 6.0 |
| Vehicle Extension (s) | 4.3 | 5.5 | | 4.3 | 5.5 | 5.5 | 4.9 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 375 | 986 | | 340 | 802 | 359 | 132 | 745 | 333 | 639 | 1547 | 692 |
| v/s Ratio Prot | c0.25 | 0.19 | | 0.08 | 0.29 | | | c0.24 | | c0.24 | 0.24 | |
| v/s Ratio Perm | c0.36 | | | 0.15 | | 0.27 | 0.11 | | 0.06 | | | 0.03 |
| v/c Ratio | 1.36 | 0.66 | | 0.66 | 1.23 | 1.14 | 0.48 | 1.13 | 0.26 | 1.26 | 0.54 | 0.08 |
| Uniform Delay, d1 | 36.3 | 37.2 | | 28.8 | 46.0 | 46.0 | 41.1 | 47.0 | 39.0 | 48.5 | 24.0 | 18.8 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 177.3 | 2.3 | | 5.3 | 115.2 | 92.9 | 5.6 | 73.4 | 0.9 | 130.6 | 0.7 | 0.1 |
| Delay (s) | 213.6 | 39.5 | | 34.1 | 161.2 | 138.9 | 46.7 | 120.4 | 39.9 | 179.1 | 24.7 | 18.9 |
| Level of Service | F | D | | C | F | F | D | F | D | F | C | B |
| Approach Delay (s) | | 115.5 | | | 138.1 | | | 101.7 | | | 95.0 | |
| Approach LOS | | F | | | F | | | F | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | 114.1 | | | HCM Level of Service | | | F | | | | |
| HCM Volume to Capacity ratio | | 1.24 | | | | | | | | | | |
| Actuated Cycle Length (s) | | 120.0 | | | Sum of lost time (s) | | | 15.0 | | | | |
| Intersection Capacity Utilization | | 109.0% | | | ICU Level of Service | | | H | | | | |
| Analysis Period (min) | | 15 | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2035 No-Build PM

2: Woodruff Road & Costco Driveway





















| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NEL | NET | NER | SWL | SWT | SWR |
| Lane Configurations |  |  | |  |  |  |  |  | |  |  |  |
| Volume (vph) | 21 | 1239 | 137 | 305 | 1811 | 65 | 151 | 6 | 324 | 59 | 4 | 48 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3387 | | 1719 | 3438 | 1538 | 1719 | 1543 | | 1719 | 1810 | 1538 |
| Flt Permitted | 0.05 | 1.00 | | 0.16 | 1.00 | 1.00 | 0.76 | 1.00 | | 0.28 | 1.00 | 1.00 |
| Satd. Flow (perm) | 94 | 3387 | | 297 | 3438 | 1538 | 1366 | 1543 | | 499 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 23 | 1377 | 152 | 339 | 2012 | 72 | 168 | 7 | 360 | 66 | 4 | 53 |
| RTOR Reduction (vph) | 0 | 5 | 0 | 0 | 0 | 11 | 0 | 106 | 0 | 0 | 0 | 22 |
| Lane Group Flow (vph) | 23 | 1524 | 0 | 339 | 2012 | 61 | 168 | 261 | 0 | 66 | 4 | 31 |
| Turn Type | pm+pt | | | Perm | | Perm | Perm | | | Perm | | pm+ov |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | 4 | 5 |
| Permitted Phases | 2 | | | 6 | | 6 | 8 | | | 4 | | 4 |
| Actuated Green, G (s) | 123.8 | 123.8 | | 110.9 | 110.9 | 110.9 | 14.5 | 14.5 | | 14.5 | 14.5 | 20.9 |
| Effective Green, g (s) | 123.8 | 123.8 | | 110.9 | 110.9 | 110.9 | 14.5 | 14.5 | | 14.5 | 14.5 | 20.9 |
| Actuated g/C Ratio | 0.82 | 0.82 | | 0.73 | 0.73 | 0.73 | 0.10 | 0.10 | | 0.10 | 0.10 | 0.14 |
| Clearance Time (s) | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | | 6.5 | 6.5 | 6.5 |
| Vehicle Extension (s) | 4.3 | 5.5 | | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | | 5.5 | 5.5 | 4.3 |
| Lane Grp Cap (vph) | 146 | 2771 | | 218 | 2520 | 1127 | 131 | 148 | | 48 | 173 | 279 |
| v/s Ratio Prot | 0.01 | c0.45 | | | 0.59 | | | c0.17 | | | 0.00 | 0.00 |
| v/s Ratio Perm | 0.12 | | | c1.14 | | 0.04 | 0.12 | | | 0.13 | | 0.02 |
| v/c Ratio | 0.16 | 0.55 | | 1.56 | 0.80 | 0.05 | 1.28 | 1.76 | | 1.38 | 0.02 | 0.11 |
| Uniform Delay, d1 | 15.1 | 4.5 | | 20.2 | 13.0 | 5.6 | 68.4 | 68.4 | | 68.4 | 62.0 | 57.1 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.8 | 0.8 | | 271.1 | 2.7 | 0.1 | 172.9 | 370.3 | | 258.5 | 0.1 | 0.3 |
| Delay (s) | 15.9 | 5.3 | | 291.3 | 15.7 | 5.7 | 241.3 | 438.7 | | 326.9 | 62.1 | 57.4 |
| Level of Service | B | A | | F | B | A | F | F | | F | E | E |
| Approach Delay (s) | | 5.5 | | | 54.0 | | | 376.7 | | | 202.2 | |
| Approach LOS | | A | | | D | | | F | | | F | |

Intersection Summary

| | | | |
|-----------------------------------|--------|----------------------|------|
| HCM Average Control Delay | 79.0 | HCM Level of Service | E |
| HCM Volume to Capacity ratio | 1.55 | | |
| Actuated Cycle Length (s) | 151.3 | Sum of lost time (s) | 19.5 |
| Intersection Capacity Utilization | 112.3% | ICU Level of Service | H |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

I-85/I-385 Interchange Improvements
2035 No-Build PM





















3: Green Heron Road & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | |  | | |  |  |  |  | |  |  |  |
| Volume (vph) | 35 | 2 | 97 | 20 | 4 | 135 | 113 | 2125 | 18 | 4 | 1656 | 4 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.0 | | | 5.0 | 5.0 | 6.3 | 6.3 | | 6.3 | 6.3 | 6.3 |
| Lane Util. Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 |
| Frt | | 0.90 | | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 0.99 | | | 0.96 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | | 1611 | | | 1736 | 1538 | 1719 | 3434 | | 1719 | 3438 | 1538 |
| Flt Permitted | | 0.90 | | | 0.46 | 1.00 | 0.09 | 1.00 | | 0.06 | 1.00 | 1.00 |
| Satd. Flow (perm) | | 1473 | | | 835 | 1538 | 171 | 3434 | | 102 | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 39 | 2 | 108 | 22 | 4 | 150 | 126 | 2361 | 20 | 4 | 1840 | 4 |
| RTOR Reduction (vph) | 0 | 16 | 0 | 0 | 0 | 43 | 0 | 1 | 0 | 0 | 0 | 1 |
| Lane Group Flow (vph) | 0 | 133 | 0 | 0 | 26 | 107 | 126 | 2380 | 0 | 4 | 1840 | 3 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | Perm |
| Protected Phases | | 8 | | | 4 | | | 2 | | | 6 | |
| Permitted Phases | 8 | | | 4 | | 4 | 2 | | | 6 | | 6 |
| Actuated Green, G (s) | | 8.0 | | | 8.0 | 8.0 | 70.7 | 70.7 | | 70.7 | 70.7 | 70.7 |
| Effective Green, g (s) | | 8.0 | | | 8.0 | 8.0 | 70.7 | 70.7 | | 70.7 | 70.7 | 70.7 |
| Actuated g/C Ratio | | 0.09 | | | 0.09 | 0.09 | 0.79 | 0.79 | | 0.79 | 0.79 | 0.79 |
| Clearance Time (s) | | 5.0 | | | 5.0 | 5.0 | 6.3 | 6.3 | | 6.3 | 6.3 | 6.3 |
| Vehicle Extension (s) | | 4.3 | | | 4.3 | 4.3 | 5.5 | 5.5 | | 5.5 | 5.5 | 5.5 |
| Lane Grp Cap (vph) | | 131 | | | 74 | 137 | 134 | 2698 | | 80 | 2701 | 1208 |
| v/s Ratio Prot | | | | | | | | 0.69 | | | 0.54 | |
| v/s Ratio Perm | | c0.09 | | | 0.03 | 0.07 | c0.74 | | | 0.04 | | 0.00 |
| v/c Ratio | | 1.01 | | | 0.35 | 0.78 | 0.94 | 0.88 | | 0.05 | 0.68 | 0.00 |
| Uniform Delay, d1 | | 41.0 | | | 38.6 | 40.1 | 7.9 | 6.7 | | 2.2 | 4.5 | 2.1 |
| Progression Factor | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 81.9 | | | 4.5 | 26.6 | 63.1 | 4.6 | | 1.2 | 1.4 | 0.0 |
| Delay (s) | | 122.9 | | | 43.1 | 66.7 | 71.1 | 11.3 | | 3.3 | 5.9 | 2.1 |
| Level of Service | | F | | | D | E | E | B | | A | A | A |
| Approach Delay (s) | | 122.9 | | | 63.2 | | | 14.3 | | | 5.8 | |
| Approach LOS | | F | | | E | | | B | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 16.3 | | | | HCM Level of Service | | | B | | |
| HCM Volume to Capacity ratio | | | 0.95 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 90.0 | | | | Sum of lost time (s) | | | 11.3 | | |
| Intersection Capacity Utilization | | | 113.7% | | | | ICU Level of Service | | | H | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements


















2035 No-Build PM

4: Woodruff Industrial Lane & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |  | |  |  | |  |  | |  |  | |
| Volume (vph) | 232 | 52 | 427 | 313 | 47 | 45 | 85 | 2037 | 120 | 346 | 1387 | 374 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 0.87 | | 1.00 | 0.93 | | 1.00 | 0.99 | | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 1568 | | 1719 | 1676 | | 1719 | 3409 | | 1719 | 3328 | |
| Flt Permitted | 0.46 | 1.00 | | 0.23 | 1.00 | | 0.06 | 1.00 | | 0.05 | 1.00 | |
| Satd. Flow (perm) | 837 | 1568 | | 421 | 1676 | | 106 | 3409 | | 98 | 3328 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 258 | 58 | 474 | 348 | 52 | 50 | 94 | 2263 | 133 | 384 | 1541 | 416 |
| RTOR Reduction (vph) | 0 | 94 | 0 | 0 | 24 | 0 | 0 | 3 | 0 | 0 | 17 | 0 |
| Lane Group Flow (vph) | 258 | 438 | 0 | 348 | 78 | 0 | 94 | 2393 | 0 | 384 | 1940 | 0 |
| Turn Type | pm+pt | | | pm+pt | | | pm+pt | | | pm+pt | | |
| Protected Phases | 3 | 8 | | 7 | 4 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 8 | | | 4 | | | 2 | | | 6 | | |
| Actuated Green, G (s) | 44.0 | 25.0 | | 30.2 | 17.2 | | 73.0 | 68.0 | | 89.0 | 78.0 | |
| Effective Green, g (s) | 44.0 | 25.0 | | 30.2 | 17.2 | | 73.0 | 68.0 | | 89.0 | 78.0 | |
| Actuated g/C Ratio | 0.30 | 0.17 | | 0.21 | 0.12 | | 0.50 | 0.47 | | 0.61 | 0.54 | |
| Clearance Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 5.5 | | 4.3 | 5.5 | |
| Lane Grp Cap (vph) | 381 | 270 | | 204 | 199 | | 109 | 1599 | | 228 | 1790 | |
| v/s Ratio Prot | 0.10 | c0.28 | | c0.15 | 0.05 | | 0.03 | 0.70 | | c0.17 | 0.58 | |
| v/s Ratio Perm | 0.11 | | | 0.20 | | | 0.40 | | | c0.86 | | |
| v/c Ratio | 0.68 | 1.62 | | 1.71 | 0.39 | | 0.86 | 1.50 | | 1.68 | 1.08 | |
| Uniform Delay, d1 | 41.6 | 60.0 | | 54.1 | 59.1 | | 33.8 | 38.5 | | 50.7 | 33.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 5.4 | 297.2 | | 337.7 | 2.0 | | 47.9 | 226.7 | | 326.2 | 48.0 | |
| Delay (s) | 47.0 | 357.2 | | 391.8 | 61.1 | | 81.7 | 265.2 | | 376.9 | 81.5 | |
| Level of Service | D | F | | F | E | | F | F | | F | F | |
| Approach Delay (s) | | 255.9 | | | 316.8 | | | 258.3 | | | 130.0 | |
| Approach LOS | | F | | | F | | | F | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 212.8 | | | HCM Level of Service | | | | F | | |
| HCM Volume to Capacity ratio | | | 1.63 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 145.0 | | | Sum of lost time (s) | | | | 18.0 | | |
| Intersection Capacity Utilization | | | 145.7% | | | ICU Level of Service | | | | H | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |












I-85/I-385 Interchange Improvements
2035 No-Build PM

5: I-85 SB Ramps & Woodruff Road

| |  |  |  |  |  |  |  |  |  |  |  | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|--|--|--|--|--|--|--|
| Movement | WBL2 | WBL | WBR | SEL | SET | SER | NWL | NWT | NWR | NEL | NER | | | | | | | |
| Lane Configurations |  | |  | |  |  |  |  | | | | | | | | | | |
| Volume (vph) | 541 | 0 | 340 | 0 | 2366 | 411 | 1007 | 1767 | 0 | 0 | 0 | | | | | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | | | | | | | |
| Total Lost time (s) | 5.0 | | 5.0 | | 6.3 | 6.3 | 6.5 | 6.1 | | | | | | | | | | |
| Lane Util. Factor | 0.97 | | 0.88 | | 0.95 | 1.00 | 1.00 | 0.95 | | | | | | | | | | |
| Frt | 1.00 | | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | | | | | | | | | | |
| Flt Protected | 0.95 | | 1.00 | | 1.00 | 1.00 | 0.95 | 1.00 | | | | | | | | | | |
| Satd. Flow (prot) | 3335 | | 2707 | | 3438 | 1538 | 1719 | 3438 | | | | | | | | | | |
| Flt Permitted | 0.95 | | 1.00 | | 1.00 | 1.00 | 0.05 | 1.00 | | | | | | | | | | |
| Satd. Flow (perm) | 3335 | | 2707 | | 3438 | 1538 | 96 | 3438 | | | | | | | | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | | | | | | | |
| Adj. Flow (vph) | 601 | 0 | 378 | 0 | 2629 | 457 | 1119 | 1963 | 0 | 0 | 0 | | | | | | | |
| RTOR Reduction (vph) | 0 | 0 | 71 | 0 | 0 | 87 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| Lane Group Flow (vph) | 601 | 0 | 307 | 0 | 2629 | 370 | 1119 | 1963 | 0 | 0 | 0 | | | | | | | |
| Turn Type | custom | | custom | | Perm | | pm+pt | | | | | | | | | | | |
| Protected Phases | | | | | 2 | | 1 | | 6 | | | | | | | | | |
| Permitted Phases | 4 | | 4 | | 2 | | 6 | | | | | | | | | | | |
| Actuated Green, G (s) | 15.0 | | 15.0 | | 68.7 | | 123.9 | | 123.9 | | | | | | | | | |
| Effective Green, g (s) | 15.0 | | 15.0 | | 68.7 | | 123.9 | | 123.9 | | | | | | | | | |
| Actuated g/C Ratio | 0.10 | | 0.10 | | 0.46 | | 0.83 | | 0.83 | | | | | | | | | |
| Clearance Time (s) | 5.0 | | 5.0 | | 6.3 | | 6.5 | | 6.1 | | | | | | | | | |
| Vehicle Extension (s) | 4.3 | | 4.3 | | 4.3 | | 4.3 | | 4.3 | | | | | | | | | |
| Lane Grp Cap (vph) | 334 | | 271 | | 1575 | | 604 | | 2840 | | | | | | | | | |
| v/s Ratio Prot | | | | | 0.76 | | c0.60 | | 0.57 | | | | | | | | | |
| v/s Ratio Perm | c0.18 | | 0.11 | | | | 0.24 | | c0.93 | | | | | | | | | |
| v/c Ratio | 1.80 | | 1.13 | | 1.67 | | 0.53 | | 1.85 | | 0.69 | | | | | | | |
| Uniform Delay, d1 | 67.5 | | 67.5 | | 40.6 | | 29.0 | | 46.6 | | 5.3 | | | | | | | |
| Progression Factor | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | | | | | | |
| Incremental Delay, d2 | 371.5 | | 95.2 | | 304.0 | | 2.8 | | 390.1 | | 1.4 | | | | | | | |
| Delay (s) | 439.0 | | 162.7 | | 344.6 | | 31.8 | | 436.6 | | 6.7 | | | | | | | |
| Level of Service | F | | F | | F | | C | | F | | A | | | | | | | |
| Approach Delay (s) | | | 332.3 | | | | | | 162.8 | | 0.0 | | | | | | | |
| Approach LOS | | | F | | | | | | F | | A | | | | | | | |
| Intersection Summary | | | | | | | | | | | | | | | | | | |
| HCM Average Control Delay | | | 244.5 | | HCM Level of Service | | F | | | | | | | | | | | |
| HCM Volume to Capacity ratio | | | 1.80 | | | | | | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | Sum of lost time (s) | | 11.5 | | | | | | | | | | | |
| Intersection Capacity Utilization | | | 150.3% | | ICU Level of Service | | H | | | | | | | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2035 No-Build PM

6: I-85 NB Ramps & Woodruff Road

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | NBL | NBR | SET | SER | NWL | NWT |
| Lane Configurations |  |  |  |  | |  |
| Volume (vph) | 753 | 823 | 1359 | 1548 | 0 | 2021 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.6 | 5.6 | 6.5 | 6.5 | | 6.5 |
| Lane Util. Factor | 0.97 | 0.88 | 0.95 | 1.00 | | 0.95 |
| Frt | 1.00 | 0.85 | 1.00 | 0.85 | | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | | 1.00 |
| Satd. Flow (prot) | 3335 | 2707 | 3438 | 1538 | | 3438 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | | 1.00 |
| Satd. Flow (perm) | 3335 | 2707 | 3438 | 1538 | | 3438 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 837 | 914 | 1510 | 1720 | 0 | 2246 |
| RTOR Reduction (vph) | 0 | 251 | 0 | 462 | 0 | 0 |
| Lane Group Flow (vph) | 837 | 663 | 1510 | 1258 | 0 | 2246 |
| Turn Type | | Prot | | Perm | | |
| Protected Phases | 3 | 3 | 2 | | | 2 4 |
| Permitted Phases | | | | 2 | | |
| Actuated Green, G (s) | 30.4 | 30.4 | 86.5 | 86.5 | | 107.5 |
| Effective Green, g (s) | 30.4 | 30.4 | 86.5 | 86.5 | | 100.5 |
| Actuated g/C Ratio | 0.20 | 0.20 | 0.58 | 0.58 | | 0.67 |
| Clearance Time (s) | 5.6 | 5.6 | 6.5 | 6.5 | | |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | | |
| Lane Grp Cap (vph) | 676 | 549 | 1983 | 887 | | 2303 |
| v/s Ratio Prot | c0.25 | 0.24 | 0.44 | | | c0.65 |
| v/s Ratio Perm | | | | c0.82 | | |
| v/c Ratio | 1.24 | 1.21 | 0.76 | 1.42 | | 0.98 |
| Uniform Delay, d1 | 59.8 | 59.8 | 24.0 | 31.8 | | 23.6 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | | 0.91 |
| Incremental Delay, d2 | 119.6 | 109.6 | 2.8 | 194.9 | | 2.2 |
| Delay (s) | 179.4 | 169.4 | 26.8 | 226.7 | | 23.8 |
| Level of Service | F | F | C | F | | C |
| Approach Delay (s) | 174.2 | | 133.2 | | | 23.8 |
| Approach LOS | F | | F | | | C |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 109.1 | | HCM Level of Service | F |
| HCM Volume to Capacity ratio | | | 1.32 | | | |
| Actuated Cycle Length (s) | | | 150.0 | | Sum of lost time (s) | 18.6 |
| Intersection Capacity Utilization | | | 101.3% | | ICU Level of Service | G |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |

I-85/I-385 Interchange Improvements
2035 No-Build PM

























7: Carolina Point Pkwy & Woodruff Road



| Movement | EBL | EBR | SET | SER | NWL | NWT |
|-----------------------------------|-------|------|--------|-------|----------------------|-------|
| Lane Configurations | | | | | | |
| Volume (vph) | 324 | 119 | 2035 | 147 | 30 | 3362 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 7.0 | 7.0 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lane Util. Factor | 0.97 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 |
| Frt | 1.00 | 0.85 | 1.00 | 0.85 | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 3335 | 1538 | 3438 | 1538 | 1719 | 3438 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.05 | 1.00 |
| Satd. Flow (perm) | 3335 | 1538 | 3438 | 1538 | 90 | 3438 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 360 | 132 | 2261 | 163 | 33 | 3736 |
| RTOR Reduction (vph) | 0 | 24 | 0 | 29 | 0 | 0 |
| Lane Group Flow (vph) | 360 | 108 | 2261 | 134 | 33 | 3736 |
| Turn Type | Perm | | Perm | | Perm | |
| Protected Phases | 4 | | 2 3 6 | | | 2 3 6 |
| Permitted Phases | 4 | 4 | | 2 3 6 | 2 3 6 | |
| Actuated Green, G (s) | 14.0 | 14.0 | 123.4 | 123.4 | 123.4 | 123.4 |
| Effective Green, g (s) | 14.0 | 14.0 | 123.4 | 123.4 | 123.4 | 123.4 |
| Actuated g/C Ratio | 0.09 | 0.09 | 0.82 | 0.82 | 0.82 | 0.82 |
| Clearance Time (s) | 7.0 | 7.0 | | | | |
| Vehicle Extension (s) | 4.3 | 4.3 | | | | |
| Lane Grp Cap (vph) | 311 | 144 | 2828 | 1265 | 74 | 2828 |
| v/s Ratio Prot | c0.11 | | 0.66 | | | c1.09 |
| v/s Ratio Perm | | 0.07 | | 0.09 | 0.36 | |
| v/c Ratio | 1.16 | 0.75 | 0.80 | 0.11 | 0.45 | 1.32 |
| Uniform Delay, d1 | 68.0 | 66.3 | 6.9 | 2.6 | 3.7 | 13.3 |
| Progression Factor | 1.00 | 1.00 | 0.50 | 0.44 | 1.00 | 1.00 |
| Incremental Delay, d2 | 100.8 | 21.5 | 0.7 | 0.0 | 6.6 | 147.1 |
| Delay (s) | 168.8 | 87.8 | 4.2 | 1.2 | 10.4 | 160.4 |
| Level of Service | F | F | A | A | B | F |
| Approach Delay (s) | 147.1 | | 4.0 | | | 159.0 |
| Approach LOS | F | | A | | | F |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 101.9 | | HCM Level of Service | F |
| HCM Volume to Capacity ratio | | | 1.31 | | | |
| Actuated Cycle Length (s) | | | 150.0 | | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | | | 113.4% | | ICU Level of Service | H |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |
























I-85/I-385 Interchange Improvements
2035 No-Build PM

8: Woodruff Road & Market Point Drive

| |  |  |  |  |  |  |  |  |  |  |  |  | |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  | |
| Volume (vph) | 742 | 1260 | 152 | 109 | 2612 | 233 | 239 | 42 | 107 | 336 | 42 | 541 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | 6.1 | 6.1 | 5.8 | 6.1 | 6.1 | 6.1 | 5.8 | 5.8 | 6.1 | 5.8 | 5.8 | 5.8 | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.95 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 3335 | 3438 | 1538 | 1719 | 3438 | 1538 | 1719 | 1810 | 1538 | 3335 | 3438 | 1538 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 3335 | 3438 | 1538 | 1719 | 3438 | 1538 | 1719 | 1810 | 1538 | 3335 | 3438 | 1538 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | |
| Adj. Flow (vph) | 824 | 1400 | 169 | 121 | 2902 | 259 | 266 | 47 | 119 | 373 | 47 | 601 | |
| RTOR Reduction (vph) | 0 | 0 | 50 | 0 | 0 | 45 | 0 | 0 | 22 | 0 | 0 | 199 | |
| Lane Group Flow (vph) | 824 | 1400 | 119 | 121 | 2902 | 214 | 266 | 47 | 97 | 373 | 47 | 402 | |
| Turn Type | Prot | pm+ov | | Prot | Perm | | Prot | pm+ov | | Prot | Perm | | |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | 3 | | 8 | 1 | 7 | 4 | | |
| Permitted Phases | 2 | | | 6 | | | | | | 8 | | | 4 |
| Actuated Green, G (s) | 20.9 | 77.2 | 91.4 | 18.6 | 74.9 | 74.9 | 14.2 | 10.4 | 29.0 | 20.0 | 16.2 | 16.2 | |
| Effective Green, g (s) | 20.9 | 77.2 | 91.4 | 18.6 | 74.9 | 74.9 | 14.2 | 10.4 | 29.0 | 20.0 | 16.2 | 16.2 | |
| Actuated g/C Ratio | 0.14 | 0.51 | 0.61 | 0.12 | 0.50 | 0.50 | 0.09 | 0.07 | 0.19 | 0.13 | 0.11 | 0.11 | |
| Clearance Time (s) | 6.1 | 6.1 | 5.8 | 6.1 | 6.1 | 6.1 | 5.8 | 5.8 | 6.1 | 5.8 | 5.8 | 5.8 | |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | 465 | 1769 | 937 | 213 | 1717 | 768 | 163 | 125 | 297 | 445 | 371 | 166 | |
| v/s Ratio Prot | c0.25 | 0.41 | 0.01 | 0.07 | c0.84 | c0.15 | | 0.03 | 0.04 | 0.11 | 0.01 | | |
| v/s Ratio Perm | 0.07 | | | 0.14 | | | | 0.02 | | | c0.26 | | |
| v/c Ratio | 1.77 | 0.79 | 0.13 | 0.57 | 1.69 | 0.28 | 1.63 | 0.38 | 0.33 | 0.84 | 0.13 | 2.42 | |
| Uniform Delay, d1 | 64.5 | 29.8 | 12.4 | 61.9 | 37.5 | 21.8 | 67.9 | 66.7 | 52.1 | 63.4 | 60.5 | 66.9 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 356.1 | 3.7 | 0.1 | 4.6 | 313.1 | 0.9 | 310.5 | 3.0 | 1.0 | 13.8 | 0.2 | 658.0 | |
| Delay (s) | 420.6 | 33.5 | 12.5 | 66.5 | 350.7 | 22.8 | 378.4 | 69.7 | 53.1 | 77.2 | 60.7 | 724.9 | |
| Level of Service | F | C | B | E | F | C | F | E | D | E | E | F | |
| Approach Delay (s) | 165.3 | | 314.3 | | | 255.2 | | 457.7 | | | | | |
| Approach LOS | F | | F | | | F | | F | | | | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM Average Control Delay | 281.3 | | | HCM Level of Service | | | | | F | | | | |
| HCM Volume to Capacity ratio | 1.79 | | | | | | | | | | | | |
| Actuated Cycle Length (s) | 150.0 | | | Sum of lost time (s) | | | | | 23.8 | | | | |
| Intersection Capacity Utilization | 133.7% | | | ICU Level of Service | | | | | H | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2035 No-Build PM

9: Woodruff Road & Garlington Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Volume (vph) | 259 | 1184 | 260 | 238 | 2315 | 234 | 379 | 214 | 169 | 478 | 395 | 260 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.2 | 6.1 | 6.1 | 5.2 | 6.1 | 6.1 | 5.2 | 5.2 | | 5.2 | 5.2 | 4.0 |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 1.00 | | 0.97 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 3335 | 3438 | 1538 | 1719 | 3438 | 1538 | 3335 | 1690 | | 3335 | 1810 | 1538 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.07 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 3335 | 3438 | 1538 | 130 | 3438 | 1538 | 3335 | 1690 | | 3335 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 288 | 1316 | 289 | 264 | 2572 | 260 | 421 | 238 | 188 | 531 | 439 | 289 |
| RTOR Reduction (vph) | 0 | 0 | 112 | 0 | 0 | 51 | 0 | 19 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 288 | 1316 | 177 | 264 | 2572 | 209 | 421 | 407 | 0 | 531 | 439 | 289 |
| Turn Type | Prot | | Perm | pm+pt | | Perm | Prot | | | Prot | | Free |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | 6 | | 6 | | | | | | Free |
| Actuated Green, G (s) | 9.8 | 69.9 | 69.9 | 93.9 | 78.9 | 78.9 | 12.8 | 23.8 | | 15.8 | 26.8 | 150.0 |
| Effective Green, g (s) | 9.8 | 69.9 | 69.9 | 93.9 | 78.9 | 78.9 | 12.8 | 23.8 | | 15.8 | 26.8 | 150.0 |
| Actuated g/C Ratio | 0.07 | 0.47 | 0.47 | 0.63 | 0.53 | 0.53 | 0.09 | 0.16 | | 0.11 | 0.18 | 1.00 |
| Clearance Time (s) | 5.2 | 6.1 | 6.1 | 5.2 | 6.1 | 6.1 | 5.2 | 5.2 | | 5.2 | 5.2 | |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | 218 | 1602 | 717 | 281 | 1808 | 809 | 285 | 268 | | 351 | 323 | 1538 |
| v/s Ratio Prot | c0.09 | 0.38 | | 0.12 | c0.75 | | 0.13 | c0.24 | | c0.16 | c0.24 | |
| v/s Ratio Perm | | | 0.12 | 0.47 | | 0.14 | | | | | | 0.19 |
| v/c Ratio | 1.32 | 0.82 | 0.25 | 0.94 | 1.42 | 0.26 | 1.48 | 1.52 | | 1.51 | 1.36 | 0.19 |
| Uniform Delay, d1 | 70.1 | 34.7 | 24.2 | 45.7 | 35.5 | 19.5 | 68.6 | 63.1 | | 67.1 | 61.6 | 0.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 172.9 | 4.9 | 0.8 | 37.9 | 193.4 | 0.8 | 232.8 | 251.1 | | 245.0 | 180.5 | 0.3 |
| Delay (s) | 243.0 | 39.5 | 25.0 | 83.5 | 229.0 | 20.3 | 301.4 | 314.2 | | 312.1 | 242.1 | 0.3 |
| Level of Service | F | D | C | F | F | C | F | F | | F | F | A |
| Approach Delay (s) | | 68.3 | | | 199.1 | | | 307.8 | | | 216.1 | |
| Approach LOS | | E | | | F | | | F | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 180.2 | | | HCM Level of Service | | | F | | | |
| HCM Volume to Capacity ratio | | | 1.51 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | 26.9 | | | |
| Intersection Capacity Utilization | | | 124.7% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |



















I-85/I-385 Interchange Improvements
2035 No-Build PM

10: Woodruff Road & I-385 SB Ramps

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|------|-------|--------|-------|-------|----------------------|------|------|------|-------|-------|-------|
| Lane Configurations | | ↑↑ | | ↑ | ↑↑ | | | | | ↑↑ | | ↑ |
| Volume (vph) | 0 | 1209 | 622 | 261 | 2060 | 0 | 0 | 0 | 0 | 1187 | 0 | 727 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.6 | | 6.6 | 6.6 | | | | | 5.7 | | 4.0 |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | | | 0.97 | | 1.00 |
| Flt | | 0.95 | | 1.00 | 1.00 | | | | | 1.00 | | 0.85 |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | | 3263 | | 1719 | 3438 | | | | | 3335 | | 1538 |
| Flt Permitted | | 1.00 | | 0.05 | 1.00 | | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | | 3263 | | 92 | 3438 | | | | | 3335 | | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 1343 | 691 | 290 | 2289 | 0 | 0 | 0 | 0 | 1319 | 0 | 808 |
| RTOR Reduction (vph) | 0 | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1991 | 0 | 290 | 2289 | 0 | 0 | 0 | 0 | 1319 | 0 | 808 |
| Turn Type | | | | pm+pt | | | | | | Prot | | Free |
| Protected Phases | | 2 | | 1 | 6 | | | | | 4 | | |
| Permitted Phases | | | | 6 | | | | | | | | Free |
| Actuated Green, G (s) | | 72.4 | | 94.4 | 94.4 | | | | | 43.3 | | 150.0 |
| Effective Green, g (s) | | 72.4 | | 94.4 | 94.4 | | | | | 43.3 | | 150.0 |
| Actuated g/C Ratio | | 0.48 | | 0.63 | 0.63 | | | | | 0.29 | | 1.00 |
| Clearance Time (s) | | 6.6 | | 6.6 | 6.6 | | | | | 5.7 | | |
| Vehicle Extension (s) | | 4.3 | | 4.3 | 4.3 | | | | | 4.3 | | |
| Lane Grp Cap (vph) | | 1575 | | 225 | 2164 | | | | | 963 | | 1538 |
| v/s Ratio Prot | | 0.61 | | 0.13 | c0.67 | | | | | c0.40 | | |
| v/s Ratio Perm | | | | c0.68 | | | | | | | | 0.53 |
| v/c Ratio | | 1.26 | | 1.29 | 1.06 | | | | | 1.37 | | 0.53 |
| Uniform Delay, d1 | | 38.8 | | 53.3 | 27.8 | | | | | 53.4 | | 0.0 |
| Progression Factor | | 1.00 | | 1.00 | 1.00 | | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | | 124.0 | | 159.2 | 36.8 | | | | | 173.0 | | 1.3 |
| Delay (s) | | 162.8 | | 212.5 | 64.6 | | | | | 226.4 | | 1.3 |
| Level of Service | | F | | F | E | | | | | F | | A |
| Approach Delay (s) | | 162.8 | | | 81.2 | | | 0.0 | | | 140.9 | |
| Approach LOS | | F | | | F | | | A | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 124.6 | | | HCM Level of Service | | | | F | | |
| HCM Volume to Capacity ratio | | | 1.28 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | 12.3 | | | |
| Intersection Capacity Utilization | | | 192.2% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |









I-85/I-385 Interchange Improvements
2035 No-Build PM

11: Woodruff Road & I-385 NB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | | |  |  |  | |  | | | |
| Volume (vph) | 686 | 1710 | 0 | 0 | 1559 | 963 | 762 | 0 | 361 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.1 | 6.1 | | | 6.1 | 6.1 | 5.0 | | 5.0 | | | |
| Lane Util. Factor | 1.00 | 0.95 | | | 0.95 | 1.00 | 1.00 | | 1.00 | | | |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | | 0.85 | | | |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | 0.95 | | 1.00 | | | |
| Satd. Flow (prot) | 1719 | 3438 | | | 3438 | 1538 | 1719 | | 1538 | | | |
| Flt Permitted | 0.08 | 1.00 | | | 1.00 | 1.00 | 0.95 | | 1.00 | | | |
| Satd. Flow (perm) | 139 | 3438 | | | 3438 | 1538 | 1719 | | 1538 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 762 | 1900 | 0 | 0 | 1732 | 1070 | 847 | 0 | 401 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 383 | 0 | 0 | 14 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 762 | 1900 | 0 | 0 | 1732 | 687 | 847 | 0 | 387 | 0 | 0 | 0 |
| Turn Type | pm+pt | | | | | Perm | Prot | | custom | | | |
| Protected Phases | 5 | 2 | | | 6 | | 8 | | | | | |
| Permitted Phases | 2 | | | | | 6 | | | 8 | | | |
| Actuated Green, G (s) | 76.9 | 76.9 | | | 45.9 | 45.9 | 32.0 | | 32.0 | | | |
| Effective Green, g (s) | 76.9 | 76.9 | | | 45.9 | 45.9 | 32.0 | | 32.0 | | | |
| Actuated g/C Ratio | 0.64 | 0.64 | | | 0.38 | 0.38 | 0.27 | | 0.27 | | | |
| Clearance Time (s) | 6.1 | 6.1 | | | 6.1 | 6.1 | 5.0 | | 5.0 | | | |
| Vehicle Extension (s) | 4.3 | 4.3 | | | 4.3 | 4.3 | 4.3 | | 4.3 | | | |
| Lane Grp Cap (vph) | 417 | 2203 | | | 1315 | 588 | 458 | | 410 | | | |
| v/s Ratio Prot | c0.38 | 0.55 | | | 0.50 | | c0.49 | | | | | |
| v/s Ratio Perm | c0.79 | | | | | 0.45 | | | 0.25 | | | |
| v/c Ratio | 1.83 | 0.86 | | | 1.32 | 1.17 | 1.85 | | 0.94 | | | |
| Uniform Delay, d1 | 39.2 | 17.3 | | | 37.1 | 37.1 | 44.0 | | 43.1 | | | |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | | 1.00 | | | |
| Incremental Delay, d2 | 381.6 | 4.8 | | | 148.2 | 93.2 | 390.6 | | 30.8 | | | |
| Delay (s) | 420.8 | 22.1 | | | 185.2 | 130.2 | 434.6 | | 73.9 | | | |
| Level of Service | F | C | | | F | F | F | | E | | | |
| Approach Delay (s) | | 136.2 | | | 164.2 | | | 318.7 | | | 0.0 | |
| Approach LOS | | F | | | F | | | F | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | 181.8 | | | HCM Level of Service | | | F | | | | |
| HCM Volume to Capacity ratio | | 1.78 | | | | | | | | | | |
| Actuated Cycle Length (s) | | 120.0 | | | Sum of lost time (s) | | | 11.1 | | | | |
| Intersection Capacity Utilization | | 192.2% | | | ICU Level of Service | | | H | | | | |
| Analysis Period (min) | | 15 | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |













I-85/I-385 Interchange Improvements
2035 No-Build PM

12: Woodruff Road & Commercial Drive

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|---|---|--------|---|---|----------------------|--|---|------|---|---|------|
| Lane Configurations |  |  | |  |  | |  |  | |  |  | |
| Volume (vph) | 240 | 1767 | 64 | 15 | 2066 | 78 | 296 | 28 | 15 | 134 | 18 | 160 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.5 | | 5.5 | 5.5 | | 5.3 | 5.4 | | 5.4 | 5.4 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 0.99 | | 1.00 | 0.95 | | 1.00 | 0.87 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 3420 | | 1719 | 3419 | | 1719 | 1713 | | 1719 | 1566 | |
| Flt Permitted | 0.05 | 1.00 | | 0.05 | 1.00 | | 0.21 | 1.00 | | 0.73 | 1.00 | |
| Satd. Flow (perm) | 83 | 3420 | | 89 | 3419 | | 383 | 1713 | | 1313 | 1566 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 267 | 1963 | 71 | 17 | 2296 | 87 | 329 | 31 | 17 | 149 | 20 | 178 |
| RTOR Reduction (vph) | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 13 | 0 | 0 | 138 | 0 |
| Lane Group Flow (vph) | 267 | 2032 | 0 | 17 | 2381 | 0 | 329 | 35 | 0 | 149 | 60 | 0 |
| Turn Type | pm+pt | | | Perm | | | pm+pt | | | Perm | | |
| Protected Phases | 5 | 2 | | | 6 | | 3 | 8 | | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 101.5 | 101.5 | | 81.5 | 81.5 | | 37.6 | 37.6 | | 13.6 | 13.6 | |
| Effective Green, g (s) | 101.5 | 101.5 | | 81.5 | 81.5 | | 37.6 | 37.6 | | 13.6 | 13.6 | |
| Actuated g/C Ratio | 0.68 | 0.68 | | 0.54 | 0.54 | | 0.25 | 0.25 | | 0.09 | 0.09 | |
| Clearance Time (s) | 5.3 | 5.5 | | 5.5 | 5.5 | | 5.3 | 5.4 | | 5.4 | 5.4 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | 216 | 2314 | | 48 | 1858 | | 263 | 429 | | 119 | 142 | |
| v/s Ratio Prot | c0.12 | 0.59 | | | c0.70 | | c0.16 | 0.02 | | | 0.04 | |
| v/s Ratio Perm | 0.71 | | | 0.19 | | | c0.16 | | | 0.11 | | |
| v/c Ratio | 1.24 | 0.88 | | 0.35 | 1.28 | | 1.25 | 0.08 | | 1.25 | 0.42 | |
| Uniform Delay, d1 | 54.7 | 19.3 | | 19.4 | 34.2 | | 51.6 | 43.0 | | 68.2 | 64.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 139.5 | 5.1 | | 19.3 | 131.0 | | 140.4 | 0.1 | | 165.1 | 3.2 | |
| Delay (s) | 194.2 | 24.5 | | 38.7 | 165.2 | | 192.0 | 43.1 | | 233.3 | 67.6 | |
| Level of Service | F | C | | D | F | | F | D | | F | E | |
| Approach Delay (s) | | 44.2 | | | 164.3 | | | 173.0 | | | 138.8 | |
| Approach LOS | | D | | | F | | | F | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 112.3 | | | HCM Level of Service | | | | F | | |
| HCM Volume to Capacity ratio | | | 1.25 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | 16.1 | | | |
| Intersection Capacity Utilization | | | 118.0% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |




















I-85/I-385 Interchange Improvements
2035 No-Build PM

13: Woodruff Road & Smith Hines Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 15 | 1812 | 89 | 86 | 1904 | 2 | 240 | 2 | 190 | 7 | 2 | 15 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 6.0 | 6.0 | | | 5.0 | | | 5.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | | 1.00 | | | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | | | 0.94 | | | 0.92 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.97 | | | 0.99 | |
| Satd. Flow (prot) | 1719 | 3414 | | 1719 | 3438 | | | 1656 | | | 1632 | |
| Flt Permitted | 0.06 | 1.00 | | 0.06 | 1.00 | | | 0.81 | | | 0.90 | |
| Satd. Flow (perm) | 107 | 3414 | | 106 | 3438 | | | 1383 | | | 1494 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 17 | 2013 | 99 | 96 | 2116 | 2 | 267 | 2 | 211 | 8 | 2 | 17 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 0 | 13 | 0 |
| Lane Group Flow (vph) | 17 | 2108 | 0 | 96 | 2118 | 0 | 0 | 465 | 0 | 0 | 14 | 0 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | |
| Protected Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 67.7 | 67.7 | | 68.0 | 68.0 | | | 21.0 | | | 21.0 | |
| Effective Green, g (s) | 67.7 | 67.7 | | 68.0 | 68.0 | | | 21.0 | | | 21.0 | |
| Actuated g/C Ratio | 0.68 | 0.68 | | 0.68 | 0.68 | | | 0.21 | | | 0.21 | |
| Clearance Time (s) | 6.3 | 6.3 | | 6.0 | 6.0 | | | 5.0 | | | 5.0 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | | 4.3 | | | 4.3 | |
| Lane Grp Cap (vph) | 72 | 2311 | | 72 | 2338 | | | 290 | | | 314 | |
| v/s Ratio Prot | 0.62 | | | 0.62 | | | | | | | | |
| v/s Ratio Perm | 0.16 | | | c0.90 | | | | c0.34 | | | 0.01 | |
| v/c Ratio | 0.24 | 0.91 | | 1.33 | 0.91 | | | 1.60 | | | 0.05 | |
| Uniform Delay, d1 | 6.2 | 13.6 | | 16.0 | 13.3 | | | 39.5 | | | 31.5 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 7.6 | 6.9 | | 218.6 | 6.4 | | | 287.1 | | | 0.1 | |
| Delay (s) | 13.8 | 20.5 | | 234.6 | 19.8 | | | 326.6 | | | 31.6 | |
| Level of Service | B | C | | F | B | | | F | | | C | |
| Approach Delay (s) | 20.5 | | | 29.1 | | | 326.6 | | | 31.6 | | |
| Approach LOS | C | | | C | | | F | | | C | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | 54.8 | | | HCM Level of Service | | | D | | | | | |
| HCM Volume to Capacity ratio | 1.40 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 100.0 | | | Sum of lost time (s) | | | 11.0 | | | | | |
| Intersection Capacity Utilization | 112.3% | | | ICU Level of Service | | | H | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |






















I-85/I-385 Interchange Improvements
2035 No-Build PM

14: Woodruff Road & Walmart Driveway

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  | | |  | |
| Volume (vph) | 32 | 2216 | 195 | 32 | 3306 | 61 | 530 | 10 | 8 | 56 | 2 | 53 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.0 | 5.0 | | | 5.0 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | | | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | | 1.00 | 0.93 | | | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.98 | |
| Satd. Flow (prot) | 1719 | 3396 | | 1719 | 3429 | | 1719 | 1687 | | | 1651 | |
| Flt Permitted | 0.04 | 1.00 | | 0.05 | 1.00 | | 0.66 | 1.00 | | | 0.85 | |
| Satd. Flow (perm) | 79 | 3396 | | 84 | 3429 | | 1188 | 1687 | | | 1432 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 36 | 2462 | 217 | 36 | 3673 | 68 | 589 | 11 | 9 | 62 | 2 | 59 |
| RTOR Reduction (vph) | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 4 | 0 | 0 | 22 | 0 |
| Lane Group Flow (vph) | 36 | 2675 | 0 | 36 | 3740 | 0 | 589 | 16 | 0 | 0 | 101 | 0 |
| Turn Type | pm+pt | | | Perm | | | Perm | | | Perm | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 97.0 | 97.0 | | 85.9 | 85.9 | | 43.0 | 43.0 | | | 43.0 | |
| Effective Green, g (s) | 97.0 | 97.0 | | 85.9 | 85.9 | | 43.0 | 43.0 | | | 43.0 | |
| Actuated g/C Ratio | 0.64 | 0.64 | | 0.57 | 0.57 | | 0.28 | 0.28 | | | 0.28 | |
| Clearance Time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.0 | 5.0 | | | 5.0 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | | | 4.3 | |
| Lane Grp Cap (vph) | 103 | 2177 | | 48 | 1947 | | 338 | 479 | | | 407 | |
| v/s Ratio Prot | 0.01 | c0.79 | | | c1.09 | | | 0.01 | | | | |
| v/s Ratio Perm | 0.22 | | | 0.43 | | | c0.50 | | | | 0.07 | |
| v/c Ratio | 0.35 | 1.23 | | 0.75 | 1.92 | | 1.74 | 0.03 | | | 0.25 | |
| Uniform Delay, d1 | 36.2 | 27.2 | | 24.6 | 32.7 | | 54.2 | 39.1 | | | 41.7 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 3.2 | 107.1 | | 69.5 | 416.4 | | 346.2 | 0.0 | | | 0.5 | |
| Delay (s) | 39.4 | 134.3 | | 94.1 | 449.1 | | 400.4 | 39.2 | | | 42.2 | |
| Level of Service | D | F | | F | F | | F | D | | | D | |
| Approach Delay (s) | | 133.0 | | | 445.7 | | | 388.5 | | | 42.2 | |
| Approach LOS | | F | | | F | | | F | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 316.5 | | | HCM Level of Service | | | | F | | |
| HCM Volume to Capacity ratio | | | 1.87 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 151.3 | | | Sum of lost time (s) | | | 17.6 | | | |
| Intersection Capacity Utilization | | | 138.8% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |




















I-85/I-385 Interchange Improvements
2035 No-Build PM

15: Woodruff Road & Verdin Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  |  |  |  | |
| Volume (vph) | 144 | 2702 | 61 | 90 | 1748 | 105 | 363 | 292 | 179 | 77 | 311 | 239 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.2 | 5.0 | 5.0 | 5.2 | 5.2 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 3427 | | 1719 | 3409 | | 1719 | 1810 | 1538 | 1719 | 1692 | |
| Flt Permitted | 0.05 | 1.00 | | 0.05 | 1.00 | | 0.13 | 1.00 | 1.00 | 0.56 | 1.00 | |
| Satd. Flow (perm) | 85 | 3427 | | 85 | 3409 | | 240 | 1810 | 1538 | 1021 | 1692 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 160 | 3002 | 68 | 100 | 1942 | 117 | 403 | 324 | 199 | 86 | 346 | 266 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 12 | 0 |
| Lane Group Flow (vph) | 160 | 3069 | 0 | 100 | 2056 | 0 | 403 | 324 | 198 | 86 | 600 | 0 |
| Turn Type | Perm | | | Perm | | | pm+pt | | | Perm | Perm | |
| Protected Phases | 2 | | | 6 | | | 3 | | 8 | | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | 8 | | 4 | |
| Actuated Green, G (s) | 84.7 | 84.7 | | 84.7 | 84.7 | | 44.0 | 44.0 | 44.0 | 24.8 | 24.8 | |
| Effective Green, g (s) | 84.7 | 84.7 | | 84.7 | 84.7 | | 44.0 | 44.0 | 44.0 | 24.8 | 24.8 | |
| Actuated g/C Ratio | 0.61 | 0.61 | | 0.61 | 0.61 | | 0.31 | 0.31 | 0.31 | 0.18 | 0.18 | |
| Clearance Time (s) | 6.3 | 6.3 | | 6.3 | 6.3 | | 5.2 | 5.0 | 5.0 | 5.2 | 5.2 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | 51 | 2073 | | 51 | 2062 | | 221 | 569 | 483 | 181 | 300 | |
| v/s Ratio Prot | | 0.90 | | | 0.60 | | c0.18 | 0.18 | | | 0.35 | |
| v/s Ratio Perm | c1.87 | | | 1.17 | | | c0.39 | | 0.13 | 0.08 | | |
| v/c Ratio | 3.14 | 1.48 | | 1.96 | 1.00 | | 1.82 | 0.57 | 0.41 | 0.48 | 2.00 | |
| Uniform Delay, d1 | 27.6 | 27.6 | | 27.6 | 27.5 | | 41.1 | 40.1 | 37.8 | 51.8 | 57.6 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1011.0 | 218.8 | | 495.2 | 19.1 | | 387.8 | 1.8 | 0.9 | 3.1 | 462.4 | |
| Delay (s) | 1038.7 | 246.5 | | 522.9 | 46.7 | | 428.9 | 41.8 | 38.7 | 54.8 | 520.0 | |
| Level of Service | F | F | | F | D | | F | D | D | D | F | |
| Approach Delay (s) | | 285.7 | | | 68.7 | | | 209.6 | | | 462.7 | |
| Approach LOS | | F | | | E | | | F | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | 226.5 | | | HCM Level of Service | | | F | | | | | |
| HCM Volume to Capacity ratio | 2.64 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 140.0 | | | Sum of lost time (s) | | | 11.5 | | | | | |
| Intersection Capacity Utilization | 171.7% | | | ICU Level of Service | | | H | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |







I-85/I-385 Interchange Improvements
2035 No-Build PM

16: Woodruff Road & Butler Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | |  |  | | |  |  |  |  | |
| Volume (vph) | 29 | 2394 | 167 | 528 | 1677 | 26 | 264 | 28 | 652 | 443 | 552 | 144 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.3 | | 6.3 | 6.3 | | | 5.0 | 6.3 | 5.0 | 5.0 | |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 0.99 | | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | 0.97 | |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 3403 | | 1719 | 3430 | | | 1731 | 1538 | 1719 | 1753 | |
| Flt Permitted | | 0.83 | | 0.08 | 1.00 | | | 0.18 | 1.00 | 0.29 | 1.00 | |
| Satd. Flow (perm) | | 2830 | | 145 | 3430 | | | 328 | 1538 | 528 | 1753 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 32 | 2660 | 186 | 587 | 1863 | 29 | 293 | 31 | 724 | 492 | 613 | 160 |
| RTOR Reduction (vph) | 0 | 6 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 11 | 0 |
| Lane Group Flow (vph) | 0 | 2872 | 0 | 587 | 1891 | 0 | 0 | 324 | 724 | 492 | 762 | 0 |
| Turn Type | Perm | | | pm+pt | | | Perm | | pm+ov | | Perm | |
| Protected Phases | | 2 | | 1 | 6 | | | 8 | 1 | | | 4 |
| Permitted Phases | 2 | | | 6 | | | 8 | | 8 | | 4 | |
| Actuated Green, G (s) | | 43.7 | | 57.7 | 57.7 | | | 21.0 | 28.7 | 21.0 | 21.0 | |
| Effective Green, g (s) | | 43.7 | | 57.7 | 57.7 | | | 21.0 | 28.7 | 21.0 | 21.0 | |
| Actuated g/C Ratio | | 0.49 | | 0.64 | 0.64 | | | 0.23 | 0.32 | 0.23 | 0.23 | |
| Clearance Time (s) | | 6.3 | | 6.3 | 6.3 | | | 5.0 | 6.3 | 5.0 | 5.0 | |
| Vehicle Extension (s) | | 4.3 | | 4.3 | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | | 1374 | | 228 | 2199 | | | 77 | 490 | 123 | 409 | |
| v/s Ratio Prot | | | | c0.22 | 0.55 | | | | 0.13 | | 0.43 | |
| v/s Ratio Perm | | 1.01 | | c1.44 | | | | c0.99 | 0.34 | 0.93 | | |
| v/c Ratio | | 2.09 | | 2.57 | 0.86 | | | 4.21 | 1.48 | 4.00 | 1.86 | |
| Uniform Delay, d1 | | 23.1 | | 27.7 | 12.9 | | | 34.5 | 30.6 | 34.5 | 34.5 | |
| Progression Factor | | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 493.2 | | 721.2 | 4.7 | | | 1473.5 | 225.7 | 1369.2 | 398.0 | |
| Delay (s) | | 516.4 | | 748.9 | 17.6 | | | 1508.0 | 256.4 | 1403.7 | 432.5 | |
| Level of Service | | F | | F | B | | | F | F | F | F | |
| Approach Delay (s) | | 516.4 | | | 190.8 | | | 643.3 | | | 810.2 | |
| Approach LOS | | F | | | F | | | F | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 476.9 | | HCM Level of Service | | | | | F | | |
| HCM Volume to Capacity ratio | | | 2.91 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 90.0 | | Sum of lost time (s) | | | | | 11.3 | | |
| Intersection Capacity Utilization | | | 192.3% | | ICU Level of Service | | | | | H | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |
























I-85/I-385 Interchange Improvements
2035 No-Build PM

17: Woodruff Road & Bell Road

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|---|---|--------|---|---|------|-------|---|------|------|---|------|
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Volume (vph) | 96 | 3418 | 156 | 53 | 2464 | 16 | 209 | 2 | 58 | 21 | 2 | 88 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.2 | 6.2 | | 6.2 | 6.2 | | | 5.4 | | | 5.4 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | | 1.00 | | | 1.00 | |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | | | 0.97 | | | 0.89 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | | | 0.99 | |
| Satd. Flow (prot) | 1719 | 3416 | | 1719 | 3435 | | | 1691 | | | 1600 | |
| Flt Permitted | 0.04 | 1.00 | | 0.04 | 1.00 | | | 0.61 | | | 0.95 | |
| Satd. Flow (perm) | 76 | 3416 | | 76 | 3435 | | | 1064 | | | 1530 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 107 | 3798 | 173 | 59 | 2738 | 18 | 232 | 2 | 64 | 23 | 2 | 98 |
| RTOR Reduction (vph) | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 5 | 0 |
| Lane Group Flow (vph) | 107 | 3969 | 0 | 59 | 2756 | 0 | 0 | 297 | 0 | 0 | 118 | 0 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | |
| Protected Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Actuated Green, G (s) | 95.8 | 95.8 | | 95.8 | 95.8 | | | 22.6 | | | 22.6 | |
| Effective Green, g (s) | 95.8 | 95.8 | | 95.8 | 95.8 | | | 22.6 | | | 22.6 | |
| Actuated g/C Ratio | 0.74 | 0.74 | | 0.74 | 0.74 | | | 0.17 | | | 0.17 | |
| Clearance Time (s) | 6.2 | 6.2 | | 6.2 | 6.2 | | | 5.4 | | | 5.4 | |
| Vehicle Extension (s) | 4.3 | 4.3 | | 4.3 | 4.3 | | | 4.3 | | | 4.3 | |
| Lane Grp Cap (vph) | 56 | 2517 | | 56 | 2531 | | | 185 | | | 266 | |
| v/s Ratio Prot | 1.16 | | | 0.80 | | | | | | | | |
| v/s Ratio Perm | c1.42 | | | 0.78 | | | c0.28 | | | 0.08 | | |
| v/c Ratio | 1.91 | 1.58 | | 1.05 | 1.09 | | | 1.61 | | | 0.44 | |
| Uniform Delay, d1 | 17.1 | 17.1 | | 17.1 | 17.1 | | | 53.7 | | | 48.1 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | 468.8 | 261.5 | | 136.1 | 47.3 | | | 296.6 | | | 1.9 | |
| Delay (s) | 485.9 | 278.6 | | 153.2 | 64.4 | | | 350.3 | | | 49.9 | |
| Level of Service | F | F | | F | E | | | F | | | D | |
| Approach Delay (s) | 284.0 | | | 66.3 | | | 350.3 | | | 49.9 | | |
| Approach LOS | F | | | E | | | F | | | D | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 199.0 | | HCM Level of Service | | | F | | | | |
| HCM Volume to Capacity ratio | | | 1.85 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 130.0 | | Sum of lost time (s) | | | 11.6 | | | | |
| Intersection Capacity Utilization | | | 131.0% | | ICU Level of Service | | | H | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |
























I-85/I-385 Interchange Improvements
2035 No-Build PM

18: Woodruff Road & SC 14

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |  |  |  |  |  |  |
| Volume (vph) | 223 | 1837 | 517 | 142 | 1214 | 105 | 264 | 393 | 77 | 288 | 586 | 167 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.3 | 6.3 | 5.0 | 6.3 | 6.3 | | 5.0 | 5.0 | 6.3 | 5.0 | 5.0 | 6.3 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3438 | 1538 | 1719 | 3397 | | 1719 | 1810 | 1538 | 1719 | 1810 | 1538 |
| Flt Permitted | 0.06 | 1.00 | 1.00 | 0.07 | 1.00 | | 0.11 | 1.00 | 1.00 | 0.11 | 1.00 | 1.00 |
| Satd. Flow (perm) | 112 | 3438 | 1538 | 123 | 3397 | | 196 | 1810 | 1538 | 196 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 248 | 2041 | 574 | 158 | 1349 | 117 | 293 | 437 | 86 | 320 | 651 | 186 |
| RTOR Reduction (vph) | 0 | 0 | 20 | 0 | 4 | 0 | 0 | 0 | 9 | 0 | 0 | 15 |
| Lane Group Flow (vph) | 248 | 2041 | 554 | 158 | 1462 | 0 | 293 | 437 | 77 | 320 | 651 | 171 |
| Turn Type | pm+pt | | pm+ov | pm+pt | | | pm+pt | | pm+ov | pm+pt | | pm+ov |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | 5 |
| Permitted Phases | 2 | | 2 | 6 | | | 8 | | 8 | 4 | | 4 |
| Actuated Green, G (s) | 79.4 | 64.7 | 81.7 | 67.4 | 58.7 | | 54.0 | 37.0 | 45.7 | 54.0 | 37.0 | 51.7 |
| Effective Green, g (s) | 79.4 | 64.7 | 81.7 | 67.4 | 58.7 | | 54.0 | 37.0 | 45.7 | 54.0 | 37.0 | 51.7 |
| Actuated g/C Ratio | 0.53 | 0.43 | 0.54 | 0.45 | 0.39 | | 0.36 | 0.25 | 0.30 | 0.36 | 0.25 | 0.34 |
| Clearance Time (s) | 6.3 | 6.3 | 5.0 | 6.3 | 6.3 | | 5.0 | 5.0 | 6.3 | 5.0 | 5.0 | 6.3 |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 217 | 1483 | 838 | 148 | 1329 | | 243 | 446 | 469 | 243 | 446 | 530 |
| v/s Ratio Prot | c0.11 | c0.59 | 0.08 | 0.06 | 0.43 | | 0.14 | 0.24 | 0.01 | c0.15 | c0.36 | 0.03 |
| v/s Ratio Perm | 0.49 | | 0.29 | 0.42 | | | 0.30 | | 0.04 | 0.33 | | 0.08 |
| v/c Ratio | 1.14 | 1.38 | 0.66 | 1.07 | 1.10 | | 1.21 | 0.98 | 0.16 | 1.32 | 1.46 | 0.32 |
| Uniform Delay, d1 | 49.9 | 42.6 | 24.3 | 41.6 | 45.6 | | 45.3 | 56.1 | 38.2 | 45.2 | 56.5 | 36.2 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 104.9 | 173.6 | 2.3 | 93.1 | 56.8 | | 124.8 | 37.1 | 0.3 | 168.6 | 218.9 | 0.6 |
| Delay (s) | 154.8 | 216.3 | 26.6 | 134.8 | 102.4 | | 170.1 | 93.2 | 38.4 | 213.8 | 275.4 | 36.8 |
| Level of Service | F | F | C | F | F | | F | F | D | F | F | D |
| Approach Delay (s) | | 172.9 | | | 105.6 | | | 115.1 | | | 220.0 | |
| Approach LOS | | F | | | F | | | F | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 157.1 | | | HCM Level of Service | | | F | | | |
| HCM Volume to Capacity ratio | | | 1.41 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | 22.6 | | | |
| Intersection Capacity Utilization | | | 122.9% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

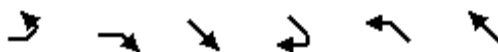
I-85/I-385 Interchange Improvements
2035 No-Build PM

19: E Parkins Mill Road & US 276

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 146 | 162 | 90 | 137 | 98 | 112 | 210 | 1553 | 266 | 115 | 1940 | 316 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Lane Util. Factor | 1.00 | 0.95 | | 0.97 | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 0.97 | 0.91 | 1.00 |
| Frt | 1.00 | 0.95 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3254 | | 3335 | 1810 | 1538 | 1719 | 4940 | 1538 | 3335 | 4940 | 1538 |
| Flt Permitted | 0.69 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1243 | 3254 | | 3335 | 1810 | 1538 | 1719 | 4940 | 1538 | 3335 | 4940 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 162 | 180 | 100 | 152 | 109 | 124 | 233 | 1726 | 296 | 128 | 2156 | 351 |
| RTOR Reduction (vph) | 0 | 76 | 0 | 0 | 0 | 114 | 0 | 0 | 127 | 0 | 0 | 111 |
| Lane Group Flow (vph) | 162 | 204 | 0 | 152 | 109 | 10 | 233 | 1726 | 169 | 128 | 2156 | 240 |
| Turn Type | pm+pt | | | Prot | | Perm | Prot | | Perm | Prot | | Perm |
| Protected Phases | 3 | 8 | | 7 | 4 | | 1 | 6 | | 5 | 2 | |
| Permitted Phases | 8 | | | | | 4 | | | 6 | | | 2 |
| Actuated Green, G (s) | 14.0 | 8.0 | | 6.0 | 8.0 | 8.0 | 15.6 | 57.2 | 57.2 | 7.8 | 49.4 | 49.4 |
| Effective Green, g (s) | 14.0 | 8.0 | | 6.0 | 8.0 | 8.0 | 15.6 | 57.2 | 57.2 | 7.8 | 49.4 | 49.4 |
| Actuated g/C Ratio | 0.14 | 0.08 | | 0.06 | 0.08 | 0.08 | 0.16 | 0.57 | 0.57 | 0.08 | 0.49 | 0.49 |
| Clearance Time (s) | 4.0 | 6.0 | | 4.0 | 6.0 | 6.0 | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 4.3 | 4.9 | | 4.3 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 203 | 260 | | 200 | 145 | 123 | 268 | 2826 | 880 | 260 | 2440 | 760 |
| v/s Ratio Prot | c0.05 | 0.06 | | 0.05 | 0.06 | | c0.14 | 0.35 | | 0.04 | c0.44 | |
| v/s Ratio Perm | c0.06 | | | | | 0.01 | | | 0.11 | | | 0.16 |
| v/c Ratio | 0.80 | 0.78 | | 0.76 | 0.75 | 0.08 | 0.87 | 0.61 | 0.19 | 0.49 | 0.88 | 0.32 |
| Uniform Delay, d1 | 41.0 | 45.1 | | 46.3 | 45.0 | 42.6 | 41.2 | 14.1 | 10.3 | 44.2 | 22.7 | 15.2 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.06 | 1.28 | 3.13 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 20.8 | 16.2 | | 16.9 | 22.6 | 0.6 | 13.1 | 0.4 | 0.2 | 2.3 | 5.1 | 1.1 |
| Delay (s) | 61.8 | 61.3 | | 63.2 | 67.6 | 43.2 | 56.7 | 18.4 | 32.4 | 46.5 | 27.8 | 16.3 |
| Level of Service | E | E | | E | E | D | E | B | C | D | C | B |
| Approach Delay (s) | | 61.5 | | | 58.0 | | | 24.2 | | | 27.2 | |
| Approach LOS | | E | | | E | | | C | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 30.7 | | | HCM Level of Service | | | C | | | |
| HCM Volume to Capacity ratio | | | 0.84 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 100.0 | | | Sum of lost time (s) | | | 19.0 | | | |
| Intersection Capacity Utilization | | | 79.9% | | | ICU Level of Service | | | D | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2035 No-Build PM
























20: Duvall Drive & US 276



| Movement | EBL | EBR | SET | SER | NWL | NWT |
|-----------------------------------|-------|------|--------|------|----------------------|------|
| Lane Configurations | | | | | | |
| Volume (vph) | 520 | 205 | 1668 | 499 | 190 | 1509 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | 6.3 | | 6.3 | 6.3 |
| Lane Util. Factor | 1.00 | 1.00 | 0.91 | | 1.00 | 0.91 |
| Frt | 1.00 | 0.85 | 0.97 | | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1719 | 1538 | 4769 | | 1719 | 4940 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.14 | 1.00 |
| Satd. Flow (perm) | 1719 | 1538 | 4769 | | 261 | 4940 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 578 | 228 | 1853 | 554 | 211 | 1677 |
| RTOR Reduction (vph) | 0 | 9 | 108 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 578 | 219 | 2299 | 0 | 211 | 1677 |
| Turn Type | Perm | | | | Perm | |
| Protected Phases | 8 | | 2 | | | 6 |
| Permitted Phases | | 8 | | | 6 | |
| Actuated Green, G (s) | 10.0 | 10.0 | 27.7 | | 27.7 | 27.7 |
| Effective Green, g (s) | 10.0 | 10.0 | 27.7 | | 27.7 | 27.7 |
| Actuated g/C Ratio | 0.20 | 0.20 | 0.55 | | 0.55 | 0.55 |
| Clearance Time (s) | 6.0 | 6.0 | 6.3 | | 6.3 | 6.3 |
| Vehicle Extension (s) | 4.9 | 4.9 | 4.9 | | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 344 | 308 | 2642 | | 145 | 2737 |
| v/s Ratio Prot | c0.34 | | 0.48 | | | 0.34 |
| v/s Ratio Perm | | 0.14 | | | c0.81 | |
| v/c Ratio | 1.68 | 0.71 | 0.87 | | 1.46 | 0.61 |
| Uniform Delay, d1 | 20.0 | 18.7 | 9.6 | | 11.2 | 7.5 |
| Progression Factor | 1.00 | 1.00 | 1.02 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 318.5 | 9.1 | 2.0 | | 238.9 | 1.0 |
| Delay (s) | 338.5 | 27.8 | 11.8 | | 250.0 | 8.6 |
| Level of Service | F | C | B | | F | A |
| Approach Delay (s) | 250.6 | | 11.8 | | | 35.5 |
| Approach LOS | F | | B | | | D |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 58.3 | | HCM Level of Service | E |
| HCM Volume to Capacity ratio | | | 1.52 | | | |
| Actuated Cycle Length (s) | | | 50.0 | | Sum of lost time (s) | 12.3 |
| Intersection Capacity Utilization | | | 101.0% | | ICU Level of Service | G |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |





















I-85/I-385 Interchange Improvements
2035 No-Build PM

23: US 276 & Millennium Blvd

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
| Lane Configurations |  |  |  |  |  |  |  |  | |  |  |  |
| Volume (vph) | 126 | 2355 | 157 | 33 | 1711 | 14 | 118 | 71 | 92 | 84 | 28 | 68 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 6.5 | 6.5 | 4.5 | 6.5 | 6.5 | 6.0 | 6.0 | | 6.0 | 6.0 | 4.0 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | | 1.00 | 1.00 | 0.88 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.92 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1719 | 3438 | 1538 | 1719 | 3438 | 1538 | 3335 | 3147 | | 1719 | 1810 | 2707 |
| Flt Permitted | 0.06 | 1.00 | 1.00 | 0.04 | 1.00 | 1.00 | 0.95 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 100 | 3438 | 1538 | 70 | 3438 | 1538 | 3335 | 3147 | | 1810 | 1810 | 2707 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 140 | 2617 | 174 | 37 | 1901 | 16 | 131 | 79 | 102 | 93 | 31 | 76 |
| RTOR Reduction (vph) | 0 | 0 | 33 | 0 | 0 | 4 | 0 | 67 | 0 | 0 | 0 | 38 |
| Lane Group Flow (vph) | 140 | 2617 | 141 | 37 | 1901 | 12 | 131 | 114 | 0 | 93 | 31 | 38 |
| Turn Type | pm+pt | | Perm | pm+pt | | Perm | Prot | | | pm+pt | | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | 2 | | 2 | 6 | | 6 | | | | 4 | | 4 |
| Actuated Green, G (s) | 118.3 | 109.1 | 109.1 | 107.4 | 102.7 | 102.7 | 8.0 | 7.0 | | 9.0 | 4.0 | 15.6 |
| Effective Green, g (s) | 118.3 | 109.1 | 109.1 | 107.4 | 102.7 | 102.7 | 8.0 | 7.0 | | 9.0 | 4.0 | 15.6 |
| Actuated g/C Ratio | 0.80 | 0.73 | 0.73 | 0.72 | 0.69 | 0.69 | 0.05 | 0.05 | | 0.06 | 0.03 | 0.10 |
| Clearance Time (s) | 4.0 | 6.5 | 6.5 | 4.5 | 6.5 | 6.5 | 6.0 | 6.0 | | 6.0 | 6.0 | 4.0 |
| Vehicle Extension (s) | 4.3 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 | 4.3 | 6.4 | | 4.3 | 6.4 | 4.3 |
| Lane Grp Cap (vph) | 206 | 2521 | 1128 | 103 | 2373 | 1062 | 179 | 148 | | 106 | 49 | 284 |
| v/s Ratio Prot | c0.05 | c0.76 | | 0.01 | 0.55 | | c0.04 | c0.04 | | 0.03 | 0.02 | 0.01 |
| v/s Ratio Perm | 0.49 | | 0.09 | 0.25 | | 0.01 | | | | 0.02 | | 0.00 |
| v/c Ratio | 0.68 | 1.04 | 0.13 | 0.36 | 0.80 | 0.01 | 0.73 | 0.77 | | 0.88 | 0.63 | 0.14 |
| Uniform Delay, d1 | 35.4 | 19.9 | 5.8 | 39.3 | 16.0 | 7.2 | 69.3 | 70.1 | | 69.4 | 71.7 | 60.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 9.8 | 28.7 | 0.1 | 3.4 | 2.3 | 0.0 | 15.7 | 27.3 | | 52.1 | 39.1 | 0.3 |
| Delay (s) | 45.2 | 48.6 | 5.9 | 42.7 | 18.3 | 7.2 | 85.0 | 97.4 | | 121.5 | 110.8 | 60.8 |
| Level of Service | D | D | A | D | B | A | F | F | | F | F | E |
| Approach Delay (s) | | 45.9 | | | 18.7 | | | 92.2 | | | 96.8 | |
| Approach LOS | | D | | | B | | | F | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 40.6 | | | HCM Level of Service | | | | D | | |
| HCM Volume to Capacity ratio | | | 1.02 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 148.8 | | | Sum of lost time (s) | | | | 22.5 | | |
| Intersection Capacity Utilization | | | 98.8% | | | ICU Level of Service | | | | F | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2035 No-Build PM

24: Pelham Road & The Parkway

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | |  |  | | | |  |  |  |
| Volume (vph) | 240 | 1117 | 877 | 0 | 1264 | 1009 | 0 | 0 | 0 | 395 | 643 | 355 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.8 | 5.8 | 5.8 | | 5.8 | 5.3 | | | | 5.3 | 5.3 | 5.3 |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | | 0.95 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | | | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 3335 | 3438 | 1538 | | 3438 | 1538 | | | | 1719 | 1810 | 1538 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 3335 | 3438 | 1538 | | 3438 | 1538 | | | | 1719 | 1810 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 267 | 1241 | 974 | 0 | 1404 | 1121 | 0 | 0 | 0 | 439 | 714 | 394 |
| RTOR Reduction (vph) | 0 | 0 | 12 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 179 |
| Lane Group Flow (vph) | 267 | 1241 | 962 | 0 | 1404 | 1110 | 0 | 0 | 0 | 439 | 714 | 215 |
| Turn Type | Prot | | Perm | Perm | | custom | | | | Perm | | Perm |
| Protected Phases | 5 | 2 | | | 6 | 4 | | | | | 4 | |
| Permitted Phases | | | 2 | 6 | | 6 | | | | 4 | | 4 |
| Actuated Green, G (s) | 6.0 | 33.2 | 33.2 | | 21.4 | 37.1 | | | | 15.7 | 15.7 | 15.7 |
| Effective Green, g (s) | 6.0 | 33.2 | 33.2 | | 21.4 | 37.1 | | | | 15.7 | 15.7 | 15.7 |
| Actuated g/C Ratio | 0.10 | 0.55 | 0.55 | | 0.36 | 0.62 | | | | 0.26 | 0.26 | 0.26 |
| Clearance Time (s) | 5.8 | 5.8 | 5.8 | | 5.8 | 5.3 | | | | 5.3 | 5.3 | 5.3 |
| Vehicle Extension (s) | 4.3 | 4.3 | 4.3 | | 4.3 | 4.3 | | | | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 334 | 1902 | 851 | | 1226 | 951 | | | | 450 | 474 | 402 |
| v/s Ratio Prot | 0.08 | 0.36 | | | 0.41 | 0.31 | | | | | c0.39 | |
| v/s Ratio Perm | | | c0.63 | | | 0.42 | | | | 0.26 | | 0.14 |
| v/c Ratio | 0.80 | 0.65 | 1.13 | | 1.15 | 1.17 | | | | 0.98 | 1.51 | 0.54 |
| Uniform Delay, d1 | 26.4 | 9.4 | 13.4 | | 19.3 | 11.4 | | | | 22.0 | 22.1 | 19.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.27 | 0.73 | | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 13.6 | 1.8 | 73.3 | | 66.4 | 76.2 | | | | 36.0 | 238.6 | 2.0 |
| Delay (s) | 40.0 | 11.1 | 86.7 | | 90.9 | 84.5 | | | | 57.9 | 260.8 | 21.0 |
| Level of Service | D | B | F | | F | F | | | | E | F | C |
| Approach Delay (s) | | 43.9 | | | 88.1 | | | 0.0 | | | 142.1 | |
| Approach LOS | | D | | | F | | | A | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 84.1 | | HCM Level of Service | | | | | F | | |
| HCM Volume to Capacity ratio | | | 1.25 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 60.0 | | Sum of lost time (s) | | | | | 11.1 | | |
| Intersection Capacity Utilization | | | 137.2% | | ICU Level of Service | | | | | H | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

I-85/I-385 Interchange Improvements
2035 No-Build PM







25: Pelham Road & I-85 SB off ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|-----------------------------------|------|------|--------|------|----------------------|------|
| Lane Configurations | | ↑↑ | ↑↑ | | ↘ | ↘↘ |
| Volume (vph) | 0 | 1512 | 1816 | 0 | 681 | 457 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.6 | 5.6 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 0.95 | | 1.00 | 0.88 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3438 | 3438 | | 1719 | 2707 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3438 | 3438 | | 1719 | 2707 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 1680 | 2018 | 0 | 757 | 508 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 4 |
| Lane Group Flow (vph) | 0 | 1680 | 2018 | 0 | 757 | 504 |
| Turn Type | | | | | Perm | |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | | 29.4 | 29.4 | | 19.7 | 19.7 |
| Effective Green, g (s) | | 29.4 | 29.4 | | 19.7 | 19.7 |
| Actuated g/C Ratio | | 0.49 | 0.49 | | 0.33 | 0.33 |
| Clearance Time (s) | | 5.6 | 5.6 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 4.3 | 4.3 | | 4.3 | 4.3 |
| Lane Grp Cap (vph) | | 1685 | 1685 | | 564 | 889 |
| v/s Ratio Prot | | 0.49 | c0.59 | | c0.44 | |
| v/s Ratio Perm | | | | | | 0.19 |
| v/c Ratio | | 1.00 | 1.20 | | 1.34 | 0.57 |
| Uniform Delay, d1 | | 15.3 | 15.3 | | 20.1 | 16.6 |
| Progression Factor | | 1.16 | 0.77 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 17.1 | 89.5 | | 165.6 | 1.1 |
| Delay (s) | | 34.8 | 101.3 | | 185.8 | 17.7 |
| Level of Service | | C | F | | F | B |
| Approach Delay (s) | | 34.8 | 101.3 | | 118.3 | |
| Approach LOS | | C | F | | F | |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 83.1 | | HCM Level of Service | F |
| HCM Volume to Capacity ratio | | | 1.26 | | | |
| Actuated Cycle Length (s) | | | 60.0 | | Sum of lost time (s) | 10.9 |
| Intersection Capacity Utilization | | | 142.1% | | ICU Level of Service | H |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |




















I-85/I-385 Interchange Improvements
2035 No-Build PM

26: Pelham Road & I-85 NB off ramp

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑ | | | ↑↑ | ↔↔ | ↔ |
| Volume (vph) | 812 | 0 | 0 | 815 | 1791 | 983 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.8 | | | 5.8 | 5.0 | 5.0 |
| Lane Util. Factor | 0.95 | | | 0.95 | 0.97 | 1.00 |
| Frt | 1.00 | | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 1.00 | | | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 3438 | | | 3438 | 3335 | 1538 |
| Flt Permitted | 1.00 | | | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 3438 | | | 3438 | 3335 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 902 | 0 | 0 | 906 | 1990 | 1092 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 5 |
| Lane Group Flow (vph) | 902 | 0 | 0 | 906 | 1990 | 1087 |
| Turn Type | | | | | Perm | |
| Protected Phases | 2 | | | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Actuated Green, G (s) | 16.2 | | | 16.2 | 33.0 | 33.0 |
| Effective Green, g (s) | 16.2 | | | 16.2 | 33.0 | 33.0 |
| Actuated g/C Ratio | 0.27 | | | 0.27 | 0.55 | 0.55 |
| Clearance Time (s) | 5.8 | | | 5.8 | 5.0 | 5.0 |
| Vehicle Extension (s) | 4.3 | | | 4.3 | 4.3 | 4.3 |
| Lane Grp Cap (vph) | 928 | | | 928 | 1834 | 846 |
| v/s Ratio Prot | 0.26 | | | c0.26 | 0.60 | |
| v/s Ratio Perm | | | | | | c0.71 |
| v/c Ratio | 0.97 | | | 0.98 | 1.09 | 1.28 |
| Uniform Delay, d1 | 21.7 | | | 21.7 | 13.5 | 13.5 |
| Progression Factor | 0.75 | | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 4.5 | | | 24.3 | 48.2 | 137.2 |
| Delay (s) | 20.7 | | | 46.1 | 61.7 | 150.7 |
| Level of Service | C | | | D | E | F |
| Approach Delay (s) | 20.7 | | | 46.1 | 93.2 | |
| Approach LOS | C | | | D | F | |
| Intersection Summary | | | | | | |
| HCM Average Control Delay | | | 71.1 | | HCM Level of Service | E |
| HCM Volume to Capacity ratio | | | 1.18 | | | |
| Actuated Cycle Length (s) | | | 60.0 | | Sum of lost time (s) | 10.8 |
| Intersection Capacity Utilization | | | 181.2% | | ICU Level of Service | H |
| Analysis Period (min) | | | 15 | | | |
| c Critical Lane Group | | | | | | |






















I-85/I-385 Interchange Improvements
2035 No-Build PM

27: Pelham Road & Boland Court

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  |  | |  | |
| Volume (vph) | 77 | 1169 | 549 | 368 | 1580 | 26 | 321 | 23 | 362 | 36 | 16 | 40 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.7 | 6.7 | | 6.7 | 6.7 | | | 6.3 | 6.3 | | 6.3 | |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | | 1.00 | 1.00 | | 1.00 | |
| Frt | 1.00 | 0.95 | | 1.00 | 1.00 | | | 1.00 | 0.85 | | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | | 0.96 | 1.00 | | 0.98 | |
| Satd. Flow (prot) | 1719 | 3273 | | 1719 | 3430 | | | 1729 | 1538 | | 1671 | |
| Flt Permitted | 0.10 | 1.00 | | 0.06 | 1.00 | | | 0.66 | 1.00 | | 0.40 | |
| Satd. Flow (perm) | 174 | 3273 | | 103 | 3430 | | | 1200 | 1538 | | 675 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 86 | 1299 | 610 | 409 | 1756 | 29 | 357 | 26 | 402 | 40 | 18 | 44 |
| RTOR Reduction (vph) | 0 | 39 | 0 | 0 | 1 | 0 | 0 | 0 | 221 | 0 | 20 | 0 |
| Lane Group Flow (vph) | 86 | 1870 | 0 | 409 | 1784 | 0 | 0 | 383 | 181 | 0 | 82 | 0 |
| Turn Type | Perm | | | pm+pt | | | Perm | | | Perm | Perm | |
| Protected Phases | 2 | | | 1 | | 6 | 8 | | | 8 | | 4 |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 8 | 4 | |
| Actuated Green, G (s) | 63.3 | 63.3 | | 92.3 | 92.3 | | | 34.7 | 34.7 | | 34.7 | |
| Effective Green, g (s) | 63.3 | 63.3 | | 92.3 | 92.3 | | | 34.7 | 34.7 | | 34.7 | |
| Actuated g/C Ratio | 0.45 | 0.45 | | 0.66 | 0.66 | | | 0.25 | 0.25 | | 0.25 | |
| Clearance Time (s) | 6.7 | 6.7 | | 6.7 | 6.7 | | | 6.3 | 6.3 | | 6.3 | |
| Vehicle Extension (s) | 4.9 | 4.9 | | 4.3 | 4.9 | | | 4.3 | 4.3 | | 4.3 | |
| Lane Grp Cap (vph) | 79 | 1480 | | 325 | 2261 | | | 297 | 381 | | 167 | |
| v/s Ratio Prot | 0.57 | | | c0.20 | | 0.52 | c0.32 | | 0.12 | 0.12 | | |
| v/s Ratio Perm | 0.49 | | | c0.63 | | | c0.32 | | 0.12 | 0.12 | | |
| v/c Ratio | 1.09 | 1.26 | | 1.26 | 0.79 | | | 1.29 | 0.47 | | 0.49 | |
| Uniform Delay, d1 | 38.4 | 38.4 | | 49.2 | 16.9 | | | 52.6 | 44.9 | | 45.1 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | |
| Incremental Delay, d2 | 127.5 | 124.0 | | 138.9 | 2.9 | | | 153.3 | 1.5 | | 3.6 | |
| Delay (s) | 165.8 | 162.4 | | 188.0 | 19.8 | | | 205.9 | 46.4 | | 48.7 | |
| Level of Service | F | F | | F | B | | | F | D | | D | |
| Approach Delay (s) | 162.5 | | | 51.2 | | | 124.2 | | | 48.7 | | |
| Approach LOS | F | | | D | | | F | | | D | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | 106.2 | | | HCM Level of Service | | | F | | | | | |
| HCM Volume to Capacity ratio | 1.23 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 140.0 | | | Sum of lost time (s) | | | 13.0 | | | | | |
| Intersection Capacity Utilization | 112.3% | | | ICU Level of Service | | | H | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |


















I-85/I-385 Interchange Improvements
2035 No-Build PM

28: Forsythia Dr & E Butler Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  | |  | |  |  |  |  |  |  |
| Volume (vph) | 17 | 0 | 6 | 48 | 0 | 139 | 9 | 947 | 23 | 111 | 1392 | 23 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.0 | 6.0 | | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Lane Util. Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | | 1.00 | 0.85 | | 0.90 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | | 0.99 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1719 | 1538 | | 1607 | | 1719 | 3426 | | 1719 | 3430 | |
| Flt Permitted | | 0.50 | 1.00 | | 0.91 | | 0.12 | 1.00 | | 0.24 | 1.00 | |
| Satd. Flow (perm) | | 906 | 1538 | | 1475 | | 213 | 3426 | | 435 | 3430 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 19 | 0 | 7 | 53 | 0 | 154 | 10 | 1052 | 26 | 123 | 1547 | 26 |
| RTOR Reduction (vph) | 0 | 0 | 6 | 0 | 101 | 0 | 0 | 2 | 0 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 0 | 19 | 1 | 0 | 106 | 0 | 10 | 1076 | 0 | 123 | 1572 | 0 |
| Turn Type | Perm | | Perm | Perm | | | Perm | | | Perm | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | | 2 | | | 6 | | |
| Actuated Green, G (s) | | 11.4 | 11.4 | | 11.4 | | 51.6 | 51.6 | | 51.6 | 51.6 | |
| Effective Green, g (s) | | 11.4 | 11.4 | | 11.4 | | 51.6 | 51.6 | | 51.6 | 51.6 | |
| Actuated g/C Ratio | | 0.15 | 0.15 | | 0.15 | | 0.69 | 0.69 | | 0.69 | 0.69 | |
| Clearance Time (s) | | 6.0 | 6.0 | | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Vehicle Extension (s) | | 4.3 | 4.3 | | 4.3 | | 4.3 | 4.3 | | 4.3 | 4.3 | |
| Lane Grp Cap (vph) | | 138 | 234 | | 224 | | 147 | 2357 | | 299 | 2360 | |
| v/s Ratio Prot | | | | | | | | 0.31 | | | c0.46 | |
| v/s Ratio Perm | | 0.02 | 0.00 | | c0.07 | | 0.05 | | | 0.28 | | |
| v/c Ratio | | 0.14 | 0.00 | | 0.47 | | 0.07 | 0.46 | | 0.41 | 0.67 | |
| Uniform Delay, d1 | | 27.5 | 27.0 | | 29.1 | | 3.8 | 5.3 | | 5.1 | 6.7 | |
| Progression Factor | | 1.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | | 0.99 | 0.98 | |
| Incremental Delay, d2 | | 0.7 | 0.0 | | 2.5 | | 0.9 | 0.6 | | 2.7 | 1.0 | |
| Delay (s) | | 28.3 | 27.0 | | 31.5 | | 4.7 | 6.0 | | 7.7 | 7.6 | |
| Level of Service | | C | C | | C | | A | A | | A | A | |
| Approach Delay (s) | | 27.9 | | | 31.5 | | | 6.0 | | | 7.6 | |
| Approach LOS | | C | | | C | | | A | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | 8.8 | | | HCM Level of Service | | | A | | | | |
| HCM Volume to Capacity ratio | | 0.63 | | | | | | | | | | |
| Actuated Cycle Length (s) | | 75.0 | | | Sum of lost time (s) | | | 12.0 | | | | |
| Intersection Capacity Utilization | | 75.4% | | | ICU Level of Service | | | D | | | | |
| Analysis Period (min) | | 15 | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |





















I-85/I-385 Interchange Improvements
2035 No-Build PM

30: E Butler Road & I-385 SB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | |  | |  |  | | |  |  | | | |
| Volume (vph) | 0 | 1026 | 105 | 545 | 931 | 0 | 578 | 0 | 589 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.0 | | 6.0 | 6.0 | | | 6.0 | 6.0 | | | |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | 1.00 | 1.00 | | | |
| Flt | | 0.99 | | 1.00 | 1.00 | | | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | | 3390 | | 1719 | 3438 | | | 1719 | 1538 | | | |
| Flt Permitted | | 1.00 | | 0.08 | 1.00 | | | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | | 3390 | | 137 | 3438 | | | 1719 | 1538 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 1140 | 117 | 606 | 1034 | 0 | 642 | 0 | 654 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 79 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1252 | 0 | 606 | 1034 | 0 | 0 | 642 | 575 | 0 | 0 | 0 |
| Turn Type | | | | pm+pt | | | Perm | | Perm | | | |
| Protected Phases | | | | 1 | 6 | | | 4 | | | | |
| Permitted Phases | | 2 | | 6 | | | 4 | | 4 | | | |
| Actuated Green, G (s) | | 47.0 | | 91.0 | 91.0 | | | 47.0 | 47.0 | | | |
| Effective Green, g (s) | | 47.0 | | 91.0 | 91.0 | | | 47.0 | 47.0 | | | |
| Actuated g/C Ratio | | 0.31 | | 0.61 | 0.61 | | | 0.31 | 0.31 | | | |
| Clearance Time (s) | | 6.0 | | 6.0 | 6.0 | | | 6.0 | 6.0 | | | |
| Vehicle Extension (s) | | 4.3 | | 4.3 | 4.3 | | | 4.3 | 4.3 | | | |
| Lane Grp Cap (vph) | | 1062 | | 484 | 2086 | | | 539 | 482 | | | |
| v/s Ratio Prot | | | | c0.32 | 0.30 | | | | | | | |
| v/s Ratio Perm | | 0.37 | | c0.44 | | | | 0.37 | c0.37 | | | |
| v/c Ratio | | 1.18 | | 1.25 | 0.50 | | | 1.19 | 1.19 | | | |
| Uniform Delay, d1 | | 51.5 | | 48.0 | 16.6 | | | 51.5 | 51.5 | | | |
| Progression Factor | | 0.91 | | 1.24 | 0.21 | | | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 89.5 | | 122.6 | 0.5 | | | 103.3 | 105.8 | | | |
| Delay (s) | | 136.3 | | 182.1 | 4.0 | | | 154.8 | 157.3 | | | |
| Level of Service | | F | | F | A | | | F | F | | | |
| Approach Delay (s) | | 136.3 | | | 69.8 | | | 156.1 | | | 0.0 | |
| Approach LOS | | F | | | E | | | F | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 116.4 | | | HCM Level of Service | | | F | | | |
| HCM Volume to Capacity ratio | | | 1.20 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | 12.0 | | | |
| Intersection Capacity Utilization | | | 108.9% | | | ICU Level of Service | | | G | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |
























I-85/I-385 Interchange Improvements
2035 No-Build PM

31: E Butler Road & I-385 NB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |   | | |   |  | | | |  | |  |
| Volume (vph) | 376 | 1228 | 0 | 0 | 1417 | 1062 | 0 | 0 | 0 | 59 | 0 | 309 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | | | 6.0 | 6.0 | | | | 6.0 | | 6.0 |
| Lane Util. Factor | 1.00 | 0.95 | | | 0.95 | 1.00 | | | | 1.00 | | 1.00 |
| Flt | 1.00 | 1.00 | | | 1.00 | 0.85 | | | | 1.00 | | 0.85 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (prot) | 1719 | 3438 | | | 3438 | 1538 | | | | 1719 | | 1538 |
| Flt Permitted | 0.05 | 1.00 | | | 1.00 | 1.00 | | | | 0.95 | | 1.00 |
| Satd. Flow (perm) | 94 | 3438 | | | 3438 | 1538 | | | | 1719 | | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 418 | 1364 | 0 | 0 | 1574 | 1180 | 0 | 0 | 0 | 66 | 0 | 343 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 248 | 0 | 0 | 0 | 0 | 0 | 87 |
| Lane Group Flow (vph) | 418 | 1364 | 0 | 0 | 1574 | 932 | 0 | 0 | 0 | 66 | 0 | 256 |
| Turn Type | pm+pt | | | | custom | | | | custom | | | custom |
| Protected Phases | 5 | 2 | | | | | | | | | | 8 |
| Permitted Phases | 2 | | | | 6 | 6 | | | | 8 | | |
| Actuated Green, G (s) | 115.0 | 115.0 | | | 81.0 | 81.0 | | | | 23.0 | | 23.0 |
| Effective Green, g (s) | 115.0 | 115.0 | | | 81.0 | 81.0 | | | | 23.0 | | 23.0 |
| Actuated g/C Ratio | 0.77 | 0.77 | | | 0.54 | 0.54 | | | | 0.15 | | 0.15 |
| Clearance Time (s) | 6.0 | 6.0 | | | 6.0 | 6.0 | | | | 6.0 | | 6.0 |
| Vehicle Extension (s) | 4.3 | 4.3 | | | 4.3 | 4.3 | | | | 4.3 | | 4.3 |
| Lane Grp Cap (vph) | 375 | 2636 | | | 1857 | 831 | | | | 264 | | 236 |
| v/s Ratio Prot | c0.21 | 0.40 | | | | | | | | | | c0.17 |
| v/s Ratio Perm | c0.64 | | | | 0.46 | 0.61 | | | | 0.04 | | |
| v/c Ratio | 1.11 | 0.52 | | | 0.85 | 1.12 | | | | 0.25 | | 1.08 |
| Uniform Delay, d1 | 51.8 | 6.8 | | | 29.3 | 34.5 | | | | 55.9 | | 63.5 |
| Progression Factor | 0.74 | 1.94 | | | 1.00 | 1.00 | | | | 1.00 | | 1.00 |
| Incremental Delay, d2 | 55.5 | 0.1 | | | 5.0 | 70.3 | | | | 0.8 | | 82.7 |
| Delay (s) | 93.8 | 13.2 | | | 34.3 | 104.8 | | | | 56.7 | | 146.2 |
| Level of Service | F | B | | | C | F | | | | E | | F |
| Approach Delay (s) | | 32.1 | | | 64.5 | | | 0.0 | | | 131.8 | |
| Approach LOS | | C | | | E | | | A | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 58.4 | | HCM Level of Service | | | | | E | | |
| HCM Volume to Capacity ratio | | | 1.08 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | Sum of lost time (s) | | | | | 12.0 | | |
| Intersection Capacity Utilization | | | 108.9% | | ICU Level of Service | | | | | G | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |




















I-85/I-385 Interchange Improvements
2035 No-Build PM

34: Frontage Road & Roper Mountain Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 40 | 20 | 590 | 954 | 80 | 88 | 280 | 1973 | 304 | 21 | 1530 | 40 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | |
| Lane Util. Factor | 1.00 | 1.00 | | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frt | 1.00 | 0.85 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1719 | 1547 | | 1633 | 1649 | 1538 | 1719 | 3438 | 1538 | 1719 | 3425 | |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 0.96 | 1.00 | 0.06 | 1.00 | 1.00 | 0.07 | 1.00 | |
| Satd. Flow (perm) | 1719 | 1547 | | 1633 | 1649 | 1538 | 117 | 3438 | 1538 | 129 | 3425 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 44 | 22 | 656 | 1060 | 89 | 98 | 311 | 2192 | 338 | 23 | 1700 | 44 |
| RTOR Reduction (vph) | 0 | 118 | 0 | 0 | 0 | 15 | 0 | 0 | 78 | 0 | 1 | 0 |
| Lane Group Flow (vph) | 44 | 560 | 0 | 572 | 577 | 83 | 311 | 2192 | 261 | 23 | 1743 | 0 |
| Turn Type | Split | | | Split | | Perm | pm+pt | | Perm | Perm | | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | 2 | | 2 | 6 | | |
| Actuated Green, G (s) | 25.0 | 25.0 | | 32.0 | 32.0 | 32.0 | 75.0 | 75.0 | 75.0 | 56.0 | 56.0 | |
| Effective Green, g (s) | 25.0 | 25.0 | | 32.0 | 32.0 | 32.0 | 75.0 | 75.0 | 75.0 | 56.0 | 56.0 | |
| Actuated g/C Ratio | 0.17 | 0.17 | | 0.21 | 0.21 | 0.21 | 0.50 | 0.50 | 0.50 | 0.37 | 0.37 | |
| Clearance Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | |
| Vehicle Extension (s) | 4.9 | 4.9 | | 4.9 | 4.9 | 4.9 | 4.3 | 4.9 | 4.9 | 4.9 | 4.9 | |
| Lane Grp Cap (vph) | 287 | 258 | | 348 | 352 | 328 | 197 | 1719 | 769 | 48 | 1279 | |
| v/s Ratio Prot | 0.03 | c0.36 | | c0.35 | 0.35 | | 0.14 | c0.64 | | | 0.51 | |
| v/s Ratio Perm | | | | | | 0.05 | c0.65 | | 0.17 | 0.18 | | |
| v/c Ratio | 0.15 | 2.17 | | 1.64 | 1.64 | 0.25 | 1.58 | 1.28 | 0.34 | 0.48 | 1.36 | |
| Uniform Delay, d1 | 53.4 | 62.5 | | 59.0 | 59.0 | 49.1 | 48.0 | 37.5 | 22.6 | 35.9 | 47.0 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.5 | 538.8 | | 302.3 | 300.2 | 0.8 | 283.3 | 128.5 | 0.5 | 14.4 | 168.3 | |
| Delay (s) | 54.0 | 601.3 | | 361.3 | 359.2 | 49.9 | 331.4 | 166.0 | 23.1 | 50.3 | 215.3 | |
| Level of Service | D | F | | F | F | D | F | F | C | D | F | |
| Approach Delay (s) | | 567.9 | | | 335.9 | | | 167.1 | | | 213.1 | |
| Approach LOS | | F | | | F | | | F | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 255.5 | | | HCM Level of Service | | | F | | | |
| HCM Volume to Capacity ratio | | | 1.67 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | 18.0 | | | |
| Intersection Capacity Utilization | | | 161.5% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |













I-85/I-385 Interchange Improvements
2035 No-Build PM

35: I-385 NB Ramps & Roper Mountain Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | |  |  |  |  |  | | |  |  |
| Volume (vph) | 0 | 0 | 0 | 687 | 0 | 757 | 536 | 1800 | 0 | 0 | 2281 | 793 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | | 6.0 | 6.0 |
| Lane Util. Factor | | | | 0.95 | 0.95 | 0.88 | 0.97 | 0.95 | | | 0.95 | 1.00 |
| Frt | | | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 |
| Flt Protected | | | | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (prot) | | | | 1633 | 1633 | 2707 | 3335 | 3438 | | | 3438 | 1538 |
| Flt Permitted | | | | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (perm) | | | | 1633 | 1633 | 2707 | 3335 | 3438 | | | 3438 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 0 | 0 | 763 | 0 | 841 | 596 | 2000 | 0 | 0 | 2534 | 881 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 0 | 0 | 0 | 0 | 175 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 381 | 382 | 807 | 596 | 2000 | 0 | 0 | 2534 | 706 |
| Turn Type | | | | Perm | | Perm | Prot | | | | | Perm |
| Protected Phases | | | | | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | 8 | | 8 | | | | | | 6 |
| Actuated Green, G (s) | | | | 31.0 | 31.0 | 31.0 | 19.0 | 107.0 | | | 82.0 | 82.0 |
| Effective Green, g (s) | | | | 31.0 | 31.0 | 31.0 | 19.0 | 107.0 | | | 82.0 | 82.0 |
| Actuated g/C Ratio | | | | 0.21 | 0.21 | 0.21 | 0.13 | 0.71 | | | 0.55 | 0.55 |
| Clearance Time (s) | | | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | | 6.0 | 6.0 |
| Vehicle Extension (s) | | | | 4.9 | 4.9 | 4.9 | 4.3 | 4.9 | | | 4.9 | 4.9 |
| Lane Grp Cap (vph) | | | | 337 | 337 | 559 | 422 | 2452 | | | 1879 | 841 |
| v/s Ratio Prot | | | | | | | c0.18 | 0.58 | | | c0.74 | |
| v/s Ratio Perm | | | | 0.23 | 0.23 | c0.30 | | | | | | 0.46 |
| v/c Ratio | | | | 1.13 | 1.13 | 1.44 | 1.41 | 0.82 | | | 1.35 | 0.84 |
| Uniform Delay, d1 | | | | 59.5 | 59.5 | 59.5 | 65.5 | 14.7 | | | 34.0 | 28.5 |
| Progression Factor | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Incremental Delay, d2 | | | | 89.2 | 90.3 | 209.5 | 199.2 | 2.5 | | | 160.5 | 8.3 |
| Delay (s) | | | | 148.7 | 149.8 | 269.0 | 264.7 | 17.2 | | | 194.5 | 36.8 |
| Level of Service | | | | F | F | F | F | B | | | F | D |
| Approach Delay (s) | | 0.0 | | | 212.1 | | | 74.0 | | | 153.8 | |
| Approach LOS | | A | | | F | | | E | | | F | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 138.9 | | | HCM Level of Service | | | | F | | |
| HCM Volume to Capacity ratio | | | 1.38 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | 18.0 | | | |
| Intersection Capacity Utilization | | | 178.6% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |





















I-85/I-385 Interchange Improvements
2035 No-Build PM

36: Roper Mountain Road & I-385 SB Ramps

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations | | ↑↑↑ | ↑ | ↑ | ↑↑ | | ↑ | ↑ | ↑↑ | | | |
| Volume (vph) | 0 | 1627 | 1068 | 1825 | 1143 | 0 | 709 | 0 | 533 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 6.4 | 6.4 | 5.8 | 6.4 | | 6.1 | 6.1 | 6.1 | | | |
| Lane Util. Factor | | 0.91 | 1.00 | 1.00 | 0.95 | | 0.95 | 0.95 | 0.88 | | | |
| Frt | | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | | | |
| Flt Protected | | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.95 | 1.00 | | | |
| Satd. Flow (prot) | | 4940 | 1538 | 1719 | 3438 | | 1633 | 1633 | 2707 | | | |
| Flt Permitted | | 1.00 | 1.00 | 0.07 | 1.00 | | 0.95 | 0.95 | 1.00 | | | |
| Satd. Flow (perm) | | 4940 | 1538 | 123 | 3438 | | 1633 | 1633 | 2707 | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 1808 | 1187 | 2028 | 1270 | 0 | 788 | 0 | 592 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 153 | 0 | 0 | 0 | 0 | 0 | 212 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 1808 | 1034 | 2028 | 1270 | 0 | 394 | 394 | 380 | 0 | 0 | 0 |
| Turn Type | | Perm | | pm+pt | | | Perm | | Perm | | | |
| Protected Phases | | 2 | | 1 | 6 | | | 4 | | | | |
| Permitted Phases | | | 2 | 6 | | | 4 | | 4 | | | |
| Actuated Green, G (s) | | 52.6 | 52.6 | 121.2 | 120.6 | | 16.9 | 16.9 | 16.9 | | | |
| Effective Green, g (s) | | 52.6 | 52.6 | 121.2 | 120.6 | | 16.9 | 16.9 | 16.9 | | | |
| Actuated g/C Ratio | | 0.35 | 0.35 | 0.81 | 0.80 | | 0.11 | 0.11 | 0.11 | | | |
| Clearance Time (s) | | 6.4 | 6.4 | 5.8 | 6.4 | | 6.1 | 6.1 | 6.1 | | | |
| Vehicle Extension (s) | | 4.9 | 4.9 | 4.3 | 4.9 | | 4.9 | 4.9 | 4.9 | | | |
| Lane Grp Cap (vph) | | 1732 | 539 | 761 | 2764 | | 184 | 184 | 305 | | | |
| v/s Ratio Prot | | 0.37 | | c1.10 | 0.37 | | | | | | | |
| v/s Ratio Perm | | | 0.67 | c1.05 | | | c0.24 | 0.24 | 0.14 | | | |
| v/c Ratio | | 1.04 | 1.92 | 2.66 | 0.46 | | 2.14 | 2.14 | 1.25 | | | |
| Uniform Delay, d1 | | 48.7 | 48.7 | 39.4 | 4.6 | | 66.5 | 66.5 | 66.5 | | | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | | |
| Incremental Delay, d2 | | 34.1 | 419.9 | 753.0 | 0.2 | | 531.3 | 531.3 | 135.0 | | | |
| Delay (s) | | 82.8 | 468.6 | 792.4 | 4.8 | | 597.9 | 597.9 | 201.6 | | | |
| Level of Service | | F | F | F | A | | F | F | F | | | |
| Approach Delay (s) | | 235.7 | | | 489.1 | | | 427.9 | | | 0.0 | |
| Approach LOS | | F | | | F | | | F | | | A | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 379.2 | | | HCM Level of Service | | | F | | | |
| HCM Volume to Capacity ratio | | | 2.56 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 150.0 | | | Sum of lost time (s) | | | 11.9 | | | |
| Intersection Capacity Utilization | | | 178.6% | | | ICU Level of Service | | | H | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |












I-85/I-385 Interchange Improvements
2035 No-Build PM

37: Roper Mountain Road & Congaree Road

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |  | | |  |  |  |  | | |  |  |
| Volume (vph) | 167 | 1677 | 2 | 10 | 1061 | 605 | 1006 | 2 | 519 | 6 | 2 | 12 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.8 | 6.4 | | | 6.4 | 6.4 | 6.1 | 6.1 | | | 6.1 | 6.1 |
| Lane Util. Factor | 1.00 | 0.91 | | | 0.95 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | 0.85 | | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.96 | 1.00 |
| Satd. Flow (prot) | 1719 | 4939 | | | 3437 | 1538 | 1719 | 1539 | | | 1742 | 1538 |
| Flt Permitted | 0.08 | 1.00 | | | 0.86 | 1.00 | 0.75 | 1.00 | | | 0.79 | 1.00 |
| Satd. Flow (perm) | 153 | 4939 | | | 2968 | 1538 | 1360 | 1539 | | | 1421 | 1538 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 186 | 1863 | 2 | 11 | 1179 | 672 | 1118 | 2 | 577 | 7 | 2 | 13 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 354 | 0 | 58 | 0 | 0 | 0 | 2 |
| Lane Group Flow (vph) | 186 | 1865 | 0 | 0 | 1190 | 318 | 1118 | 521 | 0 | 0 | 9 | 11 |
| Turn Type | pm+pt | | | Perm | | Perm | Perm | | | Perm | | Perm |
| Protected Phases | 5 | 2 | | | 6 | | | 4 | | | 8 | |
| Permitted Phases | 2 | | | 6 | | 6 | 4 | | | 8 | | 8 |
| Actuated Green, G (s) | 51.6 | 51.6 | | | 41.6 | 41.6 | 55.9 | 55.9 | | | 55.9 | 55.9 |
| Effective Green, g (s) | 51.6 | 51.6 | | | 41.6 | 41.6 | 55.9 | 55.9 | | | 55.9 | 55.9 |
| Actuated g/C Ratio | 0.43 | 0.43 | | | 0.35 | 0.35 | 0.47 | 0.47 | | | 0.47 | 0.47 |
| Clearance Time (s) | 5.8 | 6.4 | | | 6.4 | 6.4 | 6.1 | 6.1 | | | 6.1 | 6.1 |
| Vehicle Extension (s) | 4.3 | 4.9 | | | 4.9 | 4.9 | 4.9 | 4.9 | | | 4.9 | 4.9 |
| Lane Grp Cap (vph) | 121 | 2124 | | | 1029 | 533 | 634 | 717 | | | 662 | 716 |
| v/s Ratio Prot | c0.05 | 0.38 | | | | | | 0.34 | | | | |
| v/s Ratio Perm | c0.61 | | | | 0.40 | 0.21 | c0.82 | | | | 0.01 | 0.01 |
| v/c Ratio | 1.54 | 0.88 | | | 1.16 | 0.60 | 1.76 | 0.73 | | | 0.01 | 0.02 |
| Uniform Delay, d1 | 33.9 | 31.3 | | | 39.2 | 32.3 | 32.0 | 25.9 | | | 17.2 | 17.2 |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Incremental Delay, d2 | 278.7 | 4.8 | | | 81.6 | 2.6 | 350.0 | 4.4 | | | 0.0 | 0.0 |
| Delay (s) | 312.5 | 36.1 | | | 120.8 | 34.9 | 382.0 | 30.3 | | | 17.2 | 17.3 |
| Level of Service | F | D | | | F | C | F | C | | | B | B |
| Approach Delay (s) | | 61.2 | | | 89.8 | | | 262.0 | | | 17.3 | |
| Approach LOS | | E | | | F | | | F | | | B | |
| Intersection Summary | | | | | | | | | | | | |
| HCM Average Control Delay | | | 131.0 | | HCM Level of Service | | | F | | | | |
| HCM Volume to Capacity ratio | | | 1.61 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 120.0 | | Sum of lost time (s) | | | 11.9 | | | | |
| Intersection Capacity Utilization | | | 140.2% | | ICU Level of Service | | | H | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |










I-85/I-385 Interchange Improvements
2035 No-Build PM

21: Frontage Rd & US 276

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | SEL | SET | NWT | NWR |
| Lane Configurations |  | |  |  |  |  |
| Volume (veh/h) | 69 | 160 | 50 | 2770 | 2206 | 71 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 77 | 178 | 56 | 3078 | 2451 | 79 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | 1009 | |
| pX, platoon unblocked | 0.58 | 0.58 | 0.58 | | | |
| vC, conflicting volume | 4141 | 1265 | 2530 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 4977 | 0 | 2185 | | | |
| tC, single (s) | 6.9 | 7.0 | 4.2 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 0 | 71 | 58 | | | |
| cM capacity (veh/h) | 0 | 620 | 132 | | | |
| Direction, Lane # | WB 1 | SE 1 | SE 2 | SE 3 | NW 1 | NW 2 |
| Volume Total | 254 | 56 | 1539 | 1539 | 1634 | 896 |
| Volume Left | 77 | 56 | 0 | 0 | 0 | 0 |
| Volume Right | 178 | 0 | 0 | 0 | 0 | 79 |
| cSH | 0 | 132 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 634.92 | 0.42 | 0.91 | 0.91 | 0.96 | 0.53 |
| Queue Length 95th (ft) | Err | 46 | 0 | 0 | 0 | 0 |
| Control Delay (s) | Err | 50.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | F | F | | | | |
| Approach Delay (s) | Err | 0.9 | | | 0.0 | |
| Approach LOS | F | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | 430.4 | | | | |
| Intersection Capacity Utilization | | 96.9% | | ICU Level of Service | | F |
| Analysis Period (min) | | 15 | | | | |












I-85/I-385 Interchange Improvements
2035 No-Build PM

22: US 276 & St Josephs Dr

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | SET | SER | NWL | NWT | NEL | NER |
| Lane Configurations |  | | |  |  | |
| Volume (veh/h) | 2290 | 549 | 113 | 1784 | 493 | 348 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 2544 | 610 | 126 | 1982 | 548 | 387 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 861 | | |
| pX, platoon unblocked | | | | | 0.55 | |
| vC, conflicting volume | | | 3154 | | 4092 | 1577 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 3154 | | 4988 | 1577 |
| tC, single (s) | | | 4.2 | | 6.9 | 7.0 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 0 | | 0 | 0 |
| cM capacity (veh/h) | | | 92 | | 0 | 95 |
| Direction, Lane # | SE 1 | SE 2 | NW 1 | NW 2 | NE 1 | |
| Volume Total | 1696 | 1458 | 786 | 1321 | 934 | |
| Volume Left | 0 | 0 | 126 | 0 | 548 | |
| Volume Right | 0 | 610 | 0 | 0 | 387 | |
| cSH | 1700 | 1700 | 92 | 1700 | 0 | |
| Volume to Capacity | 1.00 | 0.86 | 1.36 | 0.78 | Err | |
| Queue Length 95th (ft) | 0 | 0 | 231 | 0 | Err | |
| Control Delay (s) | 0.0 | 0.0 | 298.8 | 0.0 | Err | |
| Lane LOS | | | F | | F | |
| Approach Delay (s) | 0.0 | | 111.5 | | Err | |
| Approach LOS | | | | | F | |
| Intersection Summary | | | | | | |
| Average Delay | | | Err | | | |
| Intersection Capacity Utilization | | | 189.5% | | ICU Level of Service | H |
| Analysis Period (min) | | | 15 | | | |














I-85/I-385 Interchange Improvements
2035 No-Build PM

29: Rothwell Dr & E Butler Road

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |
| Volume (veh/h) | 30 | 8 | 2 | 1101 | 1518 | 2 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 33 | 9 | 2 | 1223 | 1687 | 2 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | 5 | | | | |
| Median type | | | | TWLT | TWLT | |
| Median storage (veh) | | | | 2 | 2 | |
| Upstream signal (ft) | | | | 1175 | 377 | |
| pX, platoon unblocked | 0.89 | 0.83 | 0.83 | | | |
| vC, conflicting volume | 2304 | 844 | 1689 | | | |
| vC1, stage 1 conf vol | 1688 | | | | | |
| vC2, stage 2 conf vol | 616 | | | | | |
| vCu, unblocked vol | 1627 | 404 | 1421 | | | |
| tC, single (s) | 6.9 | 7.0 | 4.2 | | | |
| tC, 2 stage (s) | 5.9 | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 77 | 98 | 99 | | | |
| cM capacity (veh/h) | 148 | 488 | 382 | | | |
| Direction, Lane # | EB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 |
| Volume Total | 42 | 2 | 612 | 612 | 1124 | 564 |
| Volume Left | 33 | 2 | 0 | 0 | 0 | 0 |
| Volume Right | 9 | 0 | 0 | 0 | 0 | 2 |
| cSH | 187 | 382 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.23 | 0.01 | 0.36 | 0.36 | 0.66 | 0.33 |
| Queue Length 95th (ft) | 21 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 31.3 | 14.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | D | B | | | | |
| Approach Delay (s) | 31.3 | 0.0 | | | 0.0 | |
| Approach LOS | D | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.5 | | | |
| Intersection Capacity Utilization | | | 52.0% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |




















I-85/I-385 Interchange Improvements
2035 No-Build PM

32: New Commerce Ct & E Butler Road

| |  |  |  |  |  |  |
|-----------------------------------|---|---|--|---|--|--|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |   | |   |   |
| Volume (veh/h) | 80 | 91 | 1531 | 6 | 80 | 2399 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 89 | 101 | 1701 | 7 | 89 | 2666 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | 369 | | | |
| pX, platoon unblocked | 0.84 | 0.84 | | | 0.84 | |
| vC, conflicting volume | 3215 | 854 | | | 1708 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 3255 | 450 | | | 1465 | |
| tC, single (s) | 6.9 | 7.0 | | | 4.2 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 0 | 78 | | | 76 | |
| cM capacity (veh/h) | 4 | 461 | | | 372 | |
| Direction, Lane # | WB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
| Volume Total | 190 | 1134 | 574 | 89 | 1333 | 1333 |
| Volume Left | 89 | 0 | 0 | 89 | 0 | 0 |
| Volume Right | 101 | 0 | 7 | 0 | 0 | 0 |
| cSH | 9 | 1700 | 1700 | 372 | 1700 | 1700 |
| Volume to Capacity | 21.18 | 0.67 | 0.34 | 0.24 | 0.78 | 0.78 |
| Queue Length 95th (ft) | Err | 0 | 0 | 23 | 0 | 0 |
| Control Delay (s) | Err | 0.0 | 0.0 | 17.7 | 0.0 | 0.0 |
| Lane LOS | F | | | C | | |
| Approach Delay (s) | Err | 0.0 | | 0.6 | | |
| Approach LOS | F | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | 408.7 | | | | |
| Intersection Capacity Utilization | | 83.0% | | ICU Level of Service | | E |
| Analysis Period (min) | | 15 | | | | |

I-85/I-385 Interchange Improvements
2035 No-Build PM

33: E Butler Road & Brookfield Pkwy

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
| Lane Configurations |  |  | | |  | | |  |  | |  |  |
| Volume (veh/h) | 23 | 1593 | 6 | 2 | 2187 | 14 | 3 | 0 | 267 | 25 | 0 | 6 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 26 | 1770 | 7 | 2 | 2430 | 16 | 3 | 0 | 297 | 28 | 0 | 7 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage (veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | 939 | | | | | | | | | | |
| pX, platoon unblocked | | | | 0.84 | | | 0.84 | 0.84 | | 0.84 | 0.84 | 0.84 |
| vC, conflicting volume | 2446 | | | 1777 | | | 3385 | 4270 | 1223 | 3341 | 4274 | 888 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 2446 | | | 1542 | | | 3459 | 4514 | 1223 | 3406 | 4519 | 483 |
| tC, single (s) | 4.2 | | | 4.2 | | | 7.6 | 6.6 | 7.0 | 7.6 | 6.6 | 7.0 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 86 | | | 99 | | | 0 | 100 | 0 | 0 | 100 | 98 |
| cM capacity (veh/h) | 180 | | | 346 | | | 2 | 1 | 167 | 0 | 1 | 438 |
| Direction, Lane # | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SE 1 | SE 2 | NW 1 | NW 2 | | | |
| Volume Total | 26 | 1180 | 597 | 1217 | 1231 | 3 | 297 | 28 | 7 | | | |
| Volume Left | 26 | 0 | 0 | 2 | 0 | 3 | 0 | 28 | 0 | | | |
| Volume Right | 0 | 0 | 7 | 0 | 16 | 0 | 297 | 0 | 7 | | | |
| cSH | 180 | 1700 | 1700 | 346 | 1700 | 2 | 167 | 0 | 438 | | | |
| Volume to Capacity | 0.14 | 0.69 | 0.35 | 0.01 | 0.72 | 1.89 | 1.78 | Err | 0.02 | | | |
| Queue Length 95th (ft) | 12 | 0 | 0 | 0 | 0 | 31 | 535 | Err | 1 | | | |
| Control Delay (s) | 28.3 | 0.0 | 0.0 | 0.4 | 0.0 | 3573.0 | 420.1 | Err | 13.4 | | | |
| Lane LOS | D | | | A | | F | F | F | B | | | |
| Approach Delay (s) | 0.4 | | | 0.2 | | 455.1 | | Err | | | | |
| Approach LOS | | | | | | F | | F | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Average Delay | | | | Err | | | | | | | | |
| Intersection Capacity Utilization | | | 90.8% | | ICU Level of Service | | | | E | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |